Cross-Border versus Domestic Acquisitions and the Impact on Shareholder Wealth

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Abstract

We analyse the impact on targets and bidders from cross-border acquisitions into and out of the UK, in comparison to companies involved in similar domestic acquisitions. We find *both* targets *and* bidders to gain more in cross-border than in comparable domestic acquisitions, with target and bidder cross-border effects of 10.1 and 1.5 percentage points, respectively. The cross-border effect is significantly higher for targets acquired by companies from countries with superior governance systems to their own and for targets where the bidder already operates in the target country. There is weak evidence to suggest bidders gain from entering new markets.

***Keywords**:* domestic and cross-border acquisitions; shareholder wealth effects; cross-border effect; acquisition experience; market access hypothesis; exchange rate hypothesis; corporate governance.

***JEL Classification**:* G34, H14, G15

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1. INTRODUCTION

Deregulation and increased globalisation has resulted in substantial increases in the level of cross-border acquisitions throughout the world. Indeed, cross-border acquisitions now account for more than 80% of all foreign direct investment in industrialised markets (Conn *et al*., 2005). With the UK's open economy and relatively few restrictions on takeover activity, UK companies play an important part in this process, and are increasingly involved as either targets or bidders in cross-border acquisitions. Indeed, as discussed by Conn *et al*. (2005, p. 816), UNCTAD[1] data show that "By 2000, the UK was the largest acquiring country worldwide, accounting for 31% of the total value of all cross-border acquisitions". Cross-border acquisitions on average account for almost a quarter of all acquisitions *of* UK companies, while almost 40% of all acquisitions *by* UK companies are of companies located abroad.[2] Cross-border acquisitions play an even larger role in value terms, with the value of cross-border acquisitions regularly exceeding the value of domestic UK acquisitions in recent years, as detailed in Figure 1.

Figure 1 about here

While a considerable amount of literature has been published on the impact of mergers and acquisitions, our understanding of "the specific characteristics of cross-border mergers that affect firm value" is, as argued by Bris and Cabolis (2008, pp. 642-647), still limited, necessitating further research "documenting the differences between domestic and cross-border mergers". Despite the significant scale of cross-border acquisitions into and out of the UK, little is known regarding the impact of such acquisitions and how they compare to domestic acquisitions. Our study aims to address this by analysing the impact on both targets and bidders of cross-border acquisitions, comparing this to the wealth effects for companies involved in similar domestic acquisitions. We also study how the cross-border effects differ between acquisitions into and out of the UK and which factors may account for the cross-border effects to vary with the location of the overseas bidders and targets.

While prior studies, such as Harris and Ravenscraft (1991) have found US targets to gain more in

[1] United Nations Conference on Trade and Development (UNCTAD) (2000), *World Investment Report 2000* (New York and Geneva: United Nations), as cited in Conn *et al*. (2005).
[2] UK Office for National Statistics, *Mergers and Acquisitions Involving UK Companies* series (statistics.gov.uk)

cross-border than in domestic acquisitions, the evidence for the UK is weaker, with Danbolt (2004) finding no significant residual cross-border effect for UK targets once bid characteristics are controlled for. The location of the target thus appears to have a significant impact on target cross-border effects, but the cause of such differences still largely eludes us. In addition, there is limited evidence of whether bidder abnormal returns differ between cross-border and domestic acquisitions, and thus on the relative merit of cross-border and domestic acquisitions. In this paper we address these issues. While the majority of prior studies on cross-border acquisitions tend to restrict their analyses to either targets *or* bidders, or to focus purely on cross-border acquisitions and not discuss how they compare to similar domestic acquisitions, we study the cross-border effects in both target and bidder abnormal returns, in acquisitions both into and out of the UK. This allows us to ascertain whether the wealth effects are systematically different in cross-border and domestic acquisitions, whether acquisitions create or merely transfer wealth between the two parties involved, whether acquisitions *of* UK companies differ systematically from acquisitions *by* UK firms, and what may account for any international variation in target or bidder cross-border effects. Given the large scale of cross-border acquisition activity, these are crucial questions not least for shareholders, but also for managers and regulators.[3]

We base our analysis on 251 cross-border targets (of which 174 are targets in cross-border acquisitions into the UK and 77 are overseas targets acquired by UK firms) and 146 cross-border bidders (81 in the UK and 65 overseas), with each cross-border target and bidder matched to a similar company involved in a comparable domestic acquisition, with matching, following Bris and Cabolis (2008), based on country, year, industry and size.

The scope for extracting cost savings or revenue growth can be expected to be systematically different in cross-border and domestic acquisitions. While cross-border acquisitions are likely to be more costly and complex to execute than domestic ones, cross-border transactions may bring additional benefits of

[3] While the UK has had a "...reputation as Europe's most open market for big cross-border deals..." (Sakoui, 2011), the UK Takeover Panel recently proposed changes to the Takeover Code following the highly controversial hostile acquisition by Kraft of Cadbury. If implemented, the revised Takeover Code will make it more difficult to launch takeover bids in the UK (Lucas and Rappeport, 2011).

international diversification and access to new markets. The scope for extracting benefits from cross-border acquisitions may depend on the bidder's prior international experience. Given the complexity of executing cross-border acquisitions, we hypothesise that companies with prior cross-border acquisition experience will perform better than other bidders.

However, if market access is valuable, targets may extract a higher bid premium, while bidder gains may also be expected to be higher when entering new markets (Doukas and Travlos, 1988), although Aybar and Ficici (2009) suggest that bidders may perform better when they have market experience. The expected impact of bidder experience on target returns is unclear. On the one hand, more experienced bidders may negotiate better, potentially resulting in lower target returns. On the other hand, if experienced bidders make better acquisitions and if targets extract most of any wealth creation in acquisitions, targets may gain more from acquisitions by experienced bidders. The impact of bidder experience on bidder and target cross-border effects remains an open empirical question, which we explore in this study. We also analyse the impact of market access on both bidder and target cross-border effects.

Exchange rates may also have an impact on the level of abnormal returns in cross-border acquisitions, if exchange rate movements give foreign bidders a cost of capital advantage (Froot and Stein, 1991). However, prior research (e.g., Harris and Ravenscraft, 1991; Dewenter, 1995) provides mixed evidence regarding the impact of exchange rates on the abnormal returns in cross-border acquisitions. We test the impact of exchange rate movements on target and bidder returns in acquisitions both into and out of the UK.

If the level of accounting quality in a country is low, the complexity and potential for error in the valuation of companies may increase. While this may increase the risk to foreign bidders, it may also result in some companies being undervalued, providing valuable investment opportunities for foreign bidders (Black *et al*., 2007). We would expect both target and bidder abnormal returns to be higher where the accounting quality is low in the target country in comparison to that of the bidder. However, while Black *et al*., (2007) find bidders to gain more, and Bris and Cabolis (2008) find the target bid

premium to be higher where the accounting quality is lower in the target than in the bidder country, Black *et al*., find the target bid premium to be *lower* for targets in countries with lower accounting quality. We extend the prior literature by analysing the impact of accounting quality on both target and bidder cross-border effects in acquisitions both into and out of the UK.

While acquisitions may be motivated by the aim of extracting synergies, the acquisition decision may possibly also be influenced by managerial considerations (Jensen and Mekling, 1976). With the separation of ownership and control, and the significant scope for agency conflict between shareholders and managers in acquisitions (Jensen, 1986), the corporate governance practices in both the bidding and target countries may also be expected to have a significant impact on cross-border acquisitions (La Porta *et al*., 1998; Rossi and Volpin, 2004). Strong corporate governance in the bidder country may restrict the ability of managers to undertake value destroying acquisitions, and firms with better shareholder protection can be expected to make better acquisitions by more carefully identifying profitable investments and possibly also pay lower premia for their targets (Kuipers *et al*., 2009). In a country with weak governance systems, the number of poorly managed and thus potentially undervalued targets may be larger. Targets may benefit from a transfer of good governance practices from the bidder to the target (Bris and Cabolis, 2008). We may therefore expect both bidder and target abnormal returns to be higher in cross-border acquisitions where the corporate governance standards are higher in the bidder than in the target country. In this paper we explore the impact of differences in the governance regimes of the bidder and target countries on the cross-border effects, while also controlling for differences in company and bid characteristics.

There are several important findings of this study. We find *both* target *and* bidding company shareholders to earn significantly higher abnormal returns in cross-border than in domestic acquisitions. The additional gains to targets in cross-border as compared to targets in similar domestic acquisitions, amounts to a highly significant 10.1 percentage points over a 3-day period centred on the day of the bid announcement. However, despite the high gains to cross-border targets, we find that bidding companies *also* perform better – or maybe more accurately, less poorly – in cross-border than in domestic acquisitions. While bidding companies in domestic acquisitions on average suffer negative

abnormal returns of -1.8%, mean abnormal returns to bidders in cross-border acquisitions are insignificantly different from zero. The bidding company cross-border effect amounts to a significant 1.5 percentage points. The overall wealth creation is thus higher in cross-border than in domestic acquisitions, although the gains generally accrue to target rather than to bidding company shareholders. We find the target company cross-border to have increased over time, with bidding company cross-border effects also somewhat higher during the early 2000s than during the 1980s or 1990s.

The levels of the target company cross-border effects do, however, vary significantly with the nationality of the targets and bidders. While the cross-border effect for overseas targets acquired by UK firms averages 22.5 percentage points, the cross-border effect for UK targets is more modest, at 4.6 percentage points, though still highly statistically significant. The cross-border effect is particularly high for US targets, consistent with prior evidence of e.g., Conn and Connell (1990). However, despite the large gains to their overseas targets, UK bidders perform significantly better in cross-border than in similar domestic acquisitions, with the cross-border effect for UK bidders averaging 1.9 percentage points.

We find some evidence of the target cross-border effect to be higher where the bidder already has operations in the target country. If bidders with local market knowledge make better acquisitions (Aybar and Ficici, 2009) and if there is greater scope for synergies if the company already has operations in the market, this may explain the higher gains to targets where the bidder already has operations in the country. However, we find some evidence of bidders performing better when acquiring into new markets, suggesting market access is valuable. The results are, however, weak and not robust to the inclusion of other control variables in the analysis.

Our analysis suggests that national governance characteristics have only a limited, and non-significant, impact on the relative merit of cross-border and domestic acquisitions from the perspective of bidding company shareholders. Differences in the governance characteristics of bidder and target countries do, however, significantly impact on the level of target company cross-border effects. We find target gains

to be higher where the level of anti-director rights and the overall level of shareholder protection in the bidder country are high in comparison to the corporate governance standards in the target country. However, even controlling for governance characteristics, we still find significant national variations in the level of the target company cross-border effect, with particularly large gains to US targets.

Our study makes a number of significant contributions to the mergers and acquisitions literature, and also to the literature on law and regulation. Firstly, analysing both target and bidding company cross-border effects, we find significant cross-border effects for both targets and bidders. We believe our study is the first to document that the overall wealth creation is significantly higher in cross-border acquisitions both into and out of the UK than in comparable domestic acquisitions.

Secondly, we extend the limited prior evidence on target-company cross-border effects in the UK, and document how the abnormal returns differ between cross-border acquisitions into and out of the UK. While we observe significant cross-border effects for UK targets, these are small in comparison to the cross-border effects for overseas companies acquired by UK firms. We find governance characteristics of the target and bidding companies to have a significant impact on target shareholder wealth effects, with target shareholders gaining significantly more from acquisitions when the bidder comes from a country with stronger governance systems than their own. Target shareholders appear to benefit from the high levels of anti-director rights and shareholder protection in the bidder's country. Companies may be less undervalued, and thus be less attractive targets, in countries with strong corporate governance, and targets in countries with weak governance systems seem to benefit more from being acquired by firms from countries with strong shareholder protection.

Thirdly, prior evidence on bidding company cross-border effects is limited, and we believe this study is amongst the first to uncover significant positive cross-border effects in bidder abnormal returns, with bidding companies on average performing significantly better – or at least less poorly – in cross-border than in domestic acquisitions. Consequently, the high abnormal returns to targets in cross-border acquisitions do not generally appear to be the result of higher levels of bidder overpayment, but rather reflect the higher overall wealth creation in cross-border as compared to domestic acquisitions.

Cross-border acquisitions are thus preferable to domestic acquisitions, suggesting there are real benefits from international investment. The bidder cross-border effect is significantly higher where the bidder makes relatively large acquisitions. We do not find differences in the level of shareholder protection or accounting quality between the bidder and target country to have a significant impact on the bidder cross-border effect. However, bidders perform somewhat better when entering new markets. Whilst overall cross-border acquisitions create significant shareholder wealth, bidders in cross-border acquisitions on average only breakeven, with close to zero mean abnormal returns to both UK and overseas cross-border bidders. Thus, while less value destructive for bidders than comparable domestic acquisitions, most cross-border acquisitions do not create value for the acquiring firms' shareholders.

The paper is organised as follows. In section 2 we discuss the theoretical arguments as to why the level of abnormal returns may be systematically different in cross-border and domestic acquisitions, as well as prior empirical evidence on shareholder wealth effects in cross-border acquisitions. Section 3 contains a discussion of our research design, including explanation of the sample and methodology. Our results are presented in the following sections, with the abnormal returns discussed in section 4, followed by the results from cross-sectional analyses in section 5. Further analysis of the determinants of cross-border effects follows in section 6, while section 7 concludes.

2. CROSS-BORDER EFFECTS – THEORY AND EVIDENCE

(i) Theoretical Arguments for Acquisition Cross-Border Effects

If international capital and takeover markets are perfectly integrated, one could expect there to be no systematic differences in the abnormal returns to either targets or bidders in cross-border as compared to domestic acquisitions (Harris and Ravenscraft, 1991). However, an assumption of perfectly integrated markets is arguably unrealistic, and there are both theoretical arguments and prior empirical evidence to suggest that the level of abnormal returns may differ systematically between cross-border and domestic acquisitions. The literature is, however, conflicting, with different arguments put forward as to whether cross-border acquisitions can be expected to create or destroy value, and whether the wealth effects of cross-border acquisitions will be greater or smaller than that observed in

domestic acquisitions.

Cross-border acquisitions can be expected to be more complex, and thus more costly and risky to execute, than domestic acquisitions. The potential for valuation error may be a more serious problem in cross-border than domestic acquisitions (Conn *et al.*, 2005) if targets in foreign markets are more difficult to value than domestic targets (due to e.g., less developed capital markets, differences in accounting practices, volatile exchange rates, uncertain cost of capital, or less knowledge of foreign markets). If synergies are forecast with some degree of error, or if managers suffer from hubris and systematically over-estimate their ability to improve the performance of the target firm (Roll, 1986) and the successful bidder is the one with the highest target over-valuation, bidding company shareholders can be expected to lose. If there is greater scope for valuation error in cross-border than in domestic acquisitions, we may expect higher target abnormal returns, but lower bidder returns, in cross-border than in domestic acquisitions. Aybar and Ficici (2009) argue that the problems of cross-border acquisitions, such as limited market knowledge, may be exacerbated if the bidding company has no prior operations in the target country, while Conn and Connell (1990) argue that companies from more competitive takeover markets such as the US can be expected to have more acquisition experience and make better acquisitions.

Not only may managers suffer from hubris and over-estimate potential synergies; with the separation of ownership and control, acquisitions may be driven by managerial and not only shareholder wealth maximisation objectives (Jensen and Mekling, 1976). The scope for agency conflict may be particularly severe in acquisitions, as managers may benefit from such transactions even where they deliver no value to shareholders.[4] If the scope for valuation error or the agency conflict between manages and shareholders is larger in cross-border than in domestic acquisitions, one can expect bidders to perform worse, but targets to gain more, in cross-border than in domestic acquisitions.

With the high cost and risk of cross-border acquisitions, why do managers increasingly pursue such

[4] For example, Harford and Li (2007) find bidding company management on average to receive significantly higher compensation following acquisitions, even where bidding company shareholders suffer negative abnormal returns as a result of the acquisitions.

transactions, and why do shareholders allow them? Unless there are significant *additional* benefits from cross-border as compared to domestic acquisitions, one could expect the added cost and complexity to lead to lower abnormal returns to bidders, as well as the overall wealth creation to be lower in cross-border than in domestic acquisitions.

Increasing the investment universe to also consider cross-border acquisitions may increase the scope for identifying undervalued targets. If corporate governance rules in a country are weak, foreign bidders may add value through improvement in target company management (Bris and Cabolis, 2008). Volatile exchange rates may also provide foreign bidders with a cost of capital advantage over local firms if managers are able to time acquisitions to coincide with a strong home currency compared to that of the target country (Froot and Stein, 1991; Harris and Ravenscraft, 1991).

The internationalisation literature suggests that multinational companies (MNCs) may have the advantage of being able to exploit their intangible assets in a number of markets (Harris and Ravenscraft, 1991). If international diversification or access to new markets (Doukas and Travlos, 1988) is valuable, we may expect bidders to perform better in cross-border than in domestic acquisitions. However, with targets tending to extract most, if not all of any merger benefit, any gains from market access or international diversification can also be expected to be observed in higher target abnormal returns.

While the discussion above relates to domestic vs cross-border acquisitions in general, the abnormal returns can be expected to vary between cross-border acquisitions *into* and *out of* the UK, as well as with the nationality of the overseas targets or bidders. Conn and Connell (1990) argue that target abnormal returns are likely to be especially high in the US, given its highly competitive takeover market, while "…returns to foreign bidders should be relatively high if the market for corporate control is relatively inefficient in [the target country]..." (p. 691). If the US takeover market is the most competitive, we may expect US cross-border targets to gain the most, while US cross-border bidders may also gain from acquiring into the UK if the UK market is less competitive than their own.

If countries within the European Economic Area (EAA)[5] are well integrated, acquisitions within the free trade area may be perceived as having lower risk, but also potentially lower diversification benefits, than other cross-border acquisitions. Indeed, if the EEA is fully integrated, one could expect the abnormal returns to be little different in intra-EEA and domestic acquisitions. Intra-EEA acquisitions may therefore be associated with lower target, and possibly also lower bidder, cross-border effects. We split our sample into UK, US, (non-UK) EEA and the Rest of the World in the empirical analysis to test these predictions.

We further explore whether differences in countries' corporate governance systems may explain any observed variation in cross-border effects with the nationalities of the companies involved. Bidders from countries with strong investor protection can be expected to be less inclined to undertake value-destructive acquisitions than other bidders (Kuipers *et al*., 2009). However, agency conflict may also afflict target company management, and the weaker the corporate governance system, the greater the scope for companies to be poorly managed. In cross-border acquisitions, at least where there is a complete transfer of ownership, "...the target firm becomes a national of the country of the acquiror, and consequently subject to its corporate governance system". (Bris and Cabolis, 2008). Thus, the greater the differences in the legal traditions and level of investor protection of the bidding and target countries, the greater the potential improvements in the governance systems of the target company after a cross-border acquisition. We expect both bidders and targets to gain more from cross-border acquisitions where the difference in the corporate governance systems is large. We explore the impact of country governance systems on cross-border effects in the empirical analysis. First, however, we review some of the prior empirical evidence on target and bidding cross-border effects and their determinants.

(ii) Prior Evidence on Target and Bidder Cross-Border Effects

Studies of domestic acquisitions[6] tend to find target shareholders on average earn significant abnormal returns around the time of the bid announcement, often in the region of 20% to 30%, and prior

[5] The EAA includes the member countries of the European Union (EU, formerly known as the European Community, EC) and the former European Free Trade Area (EFTA) countries.
[6] See e.g., Martynova and Renneboog (2008) for a review of the literature.

literature on cross-border acquisitions[7] tend to find targets gain more in cross-border than in domestic acquisitions. However, not only is the evidence for non-US targets still limited, but more importantly, the cause of the target company cross-border effect still eludes us. While some studies attribute the cross-border effect to differences in bid and company characteristics between cross-border and domestic acquisitions, others find significant cross-border effects even when controlling for bid characteristics. For example, while Wansley *et al.* (1983), Dewenter (1995), Campa and Hernando (2004) and Danbolt (2004) find no significant residual target cross-border effect once differences in bid and company characteristics are controlled for, and Bris and Cabolis (2008) surprisingly find the mean premium to be significantly *lower* for cross-border than for comparable domestic targets, Harris and Ravenscraft (1991) find the residual cross-border effect to exceed 10 percentage points even when controlling for the method of payment and other bid characteristics. There is also some evidence to suggest that the size of the target company cross-border effect varies internationally, and is relatively small in the UK (Danbolt, 2004) and smaller than that of US targets (Conn and Connell, 1990).

The evidence on bidder returns of cross-border acquisitions is even more mixed. While e.g., Doukas and Travlos (1988) and Francis *et al*. (2008), amongst others, find US bidders to gain in at least some cross-border acquisitions, other studies such as Moeller and Schlingemann (2005) find US bidders to lose from cross-border acquisitions. While Kuipers *et al.* (2009) find significant losses to bidders from cross-border acquisitions into the US, Kang (1993) find foreign bidders to gain significantly from acquisitions of US targets. Chari *et al.* (2006) find companies from developed markets gain significantly from acquisitions into emerging markets. The evidence for UK bidders is, however, much more limited. Gregory and McCorriston (2005) and Uddin and Boateng (2009) find insignificant bid-announcement abnormal returns to UK bidders in cross-border acquisitions, while Danbolt (1995) finds overseas bidders into the UK gain insignificantly during the month of the bid announcement.[8] Conn and Connell (1990) find both UK and US bidders to suffer negative abnormal returns following

[7] See e.g., Wansley *et al*. (1983), Harris and Ravenscraft (1991), Shaked *et al*. (1991), Kang (1993), Cheng and Chan (1995), Dewenter (1995), Starks and Wei (2004) and Kuipers *et al*. (2009) for evidence for the US; Danbolt (2004) for evidence from the UK; Campa and Hernando (2004) and Martynova and Renneboog (2008) for evidence from European acquisitions; and Bris and Cabolis (2008) for international evidence on the wealth effect of cross-border acquisitions on targets.

[8] Both Danbolt (1995) and Gregory and McCorriston (2005) find some evidence of negative abnormal returns to bidders *following* the cross-border acquisitions.

cross-border acquisitions between the two markets, with UK bidders on average performing substantially worse than US cross-border acquirers.

However, none of the above studies compare the performance of bidders in cross-border acquisitions to that of domestic acquirers, and therefore do not address the issue of whether there are systematic differences in bidder abnormal returns in domestic and cross-border acquisitions. There are few such comparative studies. Eckbo and Thorburn (2000) find US bidders to gain less than Canadian bidders in acquisitions of Canadian firms, and Starks and Wei (2004) find foreign bidders to gain less than US bidders in acquisitions of US firms. Moeller and Schlingemann (2005) and Black *et al*. (2007) find lower announcement returns to US bidders in cross-border than in domestic acquisitions. Francis *et al*. (2008), overall also find US bidders in general perform better in domestic than in cross-border acquisitions, although the cross-border effects for US bidders turns insignificantly positive during the late 1990s and early 2000s. In a study of European acquisitions, Campa and Hernando (2004) find bidders to perform better in domestic than in cross-border acquisitions, although the difference is only significant for a long *pre*-announcement window. Studying long-run abnormal returns for a small sample of UK acquiring firms in large acquisitions,[9] Aw and Chatterjee (2004) find UK bidders to perform worse following cross-border than domestic acquisitions. Conn *et al*. (2005, p. 815), also studying UK bidders, find "cross-border acquisitions result in lower announcement and long-run returns than domestic acquisitions". However, their sample is dominated by acquisitions of private firms, and in acquisitions of public targets the bidder cross-border effect is reversed.[10]

Market access is commonly argued to be a major motive for cross-border acquisitions, but prior evidence is mixed. While Doukas and Travlos (1988) find higher abnormal returns to US bidders when acquiring into new markets, Danbolt (2004) finds no evidence of market access having a significant impact on target abnormal returns in cross-border acquisitions into the UK. We extend

[9] Aw and Chatterjee (2004) study 36 domestic and 41 cross-border acquisitions. Possibly due to their small sample, their results are often not significant at conventional levels.

[10] Acquisitions of non-listed targets account for 83.7% of Conn *et al*.'s sample, compared to 14.5% in this study. The sample periods are also different, with their study covering the 1984-1998 period, while this study extends the sample period to 1980-2008. Finally, Conn *et al*. do not match domestic and cross-border acquisitions by country, year, industry and size as we will do. We believe our approach provides a clearer test of cross-border effects.

prior literature by studying the impact of market access on both target and bidder cross-border effects. We also explore whether prior bidder cross-border acquisition experience has an impact on target or bidder returns.

Prior research provides mixed evidence regarding the impact of exchange rates on the abnormal returns in cross-border acquisitions. While Harris and Ravencraft (1991) and Kang (1993) find target abnormal returns in cross-border acquisitions to be higher when the bidding country's currency is strong relative to the currency of the target country, Dewenter (1995), Danbolt (2004) and Starks and Wei (2004) find no support for the exchange rate hypothesis on target returns. Gregory and McCorriston (2005) find exchange rates to have a statistically significant impact on bidder returns, while Conn *et al.* (2005) find no significant impact of exchange rate changes on bidder returns.

Bris and Cabolis (2008) find differences in accounting quality between the bidder and target countries to have a significant impact on the target company bid premium, with target gains higher where the bidder comes from a nation with better accounting quality than the target. Prior literature suggests national differences in country governance characteristics may also have significant impact on the level of cross-border effects. Black *et al.* (2007) and Francis *et al.* (2008) studying US bidders, Starks and Wei (2004) and Kuipers *et al.* (2009) studying foreign bidders acquiring into the US and Martynova and Renneboog (2008) studying European bidders all find higher bidder returns where the bidder comes from a country with better corporate governance standards than those of the target country, although the impact on bidder returns is not significant in the study by Starks and Wei. While their focus is mainly on the impact of international variations of laws and regulations on the volume of mergers and acquisitions activity, Rossi and Volpin (2004) also find the level of the bid premium to be higher in countries with strong shareholder protection, although their results seem to be driven by returns for US and UK targets. Bris and Cabolis (2008) similarly argue that differences between bidder and target countries in terms of investor protection may have a significant impact on the bid premium. Studying cross-border acquisitions in 39 countries, Bris and Cabolis (2008) find the cross-border effect in the target bid premium to increase where the cross-border bidders come from countries with better shareholder protection than those in the target country. Studying European

acquisitions, Martynova and Renneboog (2008) similarly find higher target returns where their country's corporate governance standards are lower than those of the bidder. However, studying cross-border acquisitions by US firms, Black *et al*. (2007) find the foreign targets to gain *less* when they are based in countries with low accounting quality, and Starks and Wei (2004) find US targets to gain less when the foreign acquirer comes from countries with strong corporate governance. The prior evidence is thus mixed.

The evidence on the impact of accounting quality on target returns is mixed, and there is a general lack of evidence on whether differences in the level of shareholder protection in the bidder and target countries also affect the level of bidder returns. Following Bris and Cabolis (2008), we analyse the impact of differences in accounting quality, legal origin, the levels of anti-director rights, the quality of the rule of law, and the level of shareholder protection between the bidder and target countries on the level of abnormal returns. While the prior literature has mostly focused on target shareholders, we analyse the impact of country characteristics on both target and bidder cross-border effects.

We next turn to a discussion of our research design, including a discussion of our data, sample and our model for calculating abnormal returns.

3. RESEARCH DESIGN

(i) Data sources and sample

We obtain information on announcement dates and bid characteristics from the Thomson Financial SDC Mergers Database obtained through Thomson ONE Banker.[11] We focus on changes in control, and therefore limit the sample to successful acquisitions where the bidder held less than 50% of the target prior to the bid announcement, and where the bidder holds more than 50% of the shares in the target after the acquisition. The acquisitions were announced between 1 January 1980 and 31

[11] We identify acquisitions of companies where either the target or bidder comes from the UK, and where either company is listed. We do not include acquisitions of e.g., divisions or assets, and we restrict the sample to where the transaction type is recorded in the ONE Banker database as being an exchange offer, a tender offer, or an acquisition of remaining interest. In order to remove the influence of small acquisitions, which may introduce noise into the measure of equally weighted average abnormal returns, we restrict the sample to where the deal value exceeds $10m.

December 2008, although very few transactions are included in the SDC database prior to 1986. Share and index returns, as well as market value data, are obtained from Thomson Datastream.

A sample of 535 cross-border acquisitions – 305 acquisitions into the UK and 230 cross-border acquisitions out of the UK – match our initial sample criteria. However, returns data is missing for 114 cross-border targets and 154 cross-border bidders, as detailed in Table 1. Following Bris and Cabolis (2008), we match the target and bidding companies in cross-border acquisitions with targets and bidders in comparable domestic acquisitions. Acquisitions are matched based on country, year of acquisition, industry, and size.[12] Our final sample consists of 251 cross-border targets matched to 251 target companies in domestic acquisitions, and 146 cross-border bidders, again matched to bidders in comparable domestic acquisitions. In the final sample of cross-border acquisitions, we have data for 174 UK targets and 77 overseas targets acquired by UK companies, and for 81 UK and 65 overseas cross-border bidders. While the US dominates as the target for UK cross-border acquisition and is the most frequent overseas acquirer of UK companies, our sample also includes companies from a number of other countries. The main countries involved are specified in Table 1. In the analysis we group the countries into the UK, the European Free Trade Area, the US, and the Rest of the World.

Table 1 about here

Table 2 provides further information on the sample and the matching between cross-border and domestic acquisitions. The majority of acquisitions in the sample took place during the merger boom of the late 1990s, and the sample is small in certain years. In order to control for possible time-variation in returns, we match our sample of cross-border acquisitions to comparable companies in domestic acquisitions in the same year. We also use time dummies in the cross-sectional regressions[13] Our third matching criterion is industry. The largest proportion of cross-border acquisitions involves companies in the manufacturing sector, although service firms are also well represented. Finally, we

[12] Targets and bidders are matched separately, with each target company in a cross-border acquisition matched to a target in a comparable domestic acquisition in the same calendar year with the same nationality as the cross-border target. Cross-border bidders are similarly matched to bidding companies in domestic acquisitions in the country of the cross-border bidder, sing the same matching criteria. Size is captured using Total Asset, and Industry classifications are based on primary SIC codes, as explained in the Appendix.

[13] Given the small number of observations in some years, we follow the approach to Sudarsanam and Sorwar (2010) and incorporate dummy variables for each five-year period rather than annual fixed-effects in the cross-sectional regressions.

match cross-border and domestic acquisitions based on total assets, restricting the value of the domestic company to be between 50% and 200% of the size of the cross-border company.

Table 2 about here

(ii) Estimation of abnormal returns

We measure shareholder wealth effects around the period of the bid announcement using standard event study methodology, with abnormal returns estimated using the conventional market model (Brown and Warner, 1985) as specified in equation 1:

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt}) \quad (1)$$

Log returns are calculated from Total Returns Index (TRI) data obtained from Datastream, and R_{it}, capturing the log return on share *i* on day *t*, is estimated as in equation 2:

$$R_{it} = \ln(TRI_{it}/TRI_{it-1}) \quad (2)$$

R_{mt} captures the log return on the market portfolio on day *t*, calculated from the return on the various home country stock market indices. β_i captures the systematic risk of the share, while α_i is the intercept. We estimate the market model parameters over a period of 220 days, from day t-260 to t-41, where t=0 refers to the date of the bid announcement.[14]

While the market model (MM) is the most widely used event study model, we acknowledge that this model has been subject to critique, including possible problems of missing variable bias and other measurement problems. Benchmarking problems can be significant, although focusing on the short-run announcement effect, the choice of benchmark has only a small impact on the estimated abnormal returns (Kothari and Warner, 2007).[15] Still, as a robustness check, we also undertake the analysis using

[14] We restrict the analysis to cases where we have a minimum of 60 observations during the parameter estimation period. We estimate market returns from the various Datastream Total Market Indices.

[15] While some recent studies have analysed long-run abnormal returns after UK acquisitions (e.g., Aw and Chatterjee, 2004; Conn *et al*., 2005; and Gregory and McCorriston, 2005), the choice of benchmark becomes much more problematic in such studies, with benchmarks often suffering from measurement and statistical problems (Barber and Lyon, 1997). As argued by Kothari and Warner (2007, p. 14), "…long-horizon methods are sometimes poorly specified. While much is understood about how to reduce misspecification in long horizon studies…, no procedure in whose specification researchers can have complete confidence has yet been developed". Results from long horizon studies can at times also be difficult to interpret, such as the finding of Gregory and McCorrison (2005) of insignificant short-run abnormal returns, but substantial negative abnormal returns to UK bidders acquiring in the US between months 36 and 60 after the event. The authors offer no explanation as to *why* the market takes 3 to 5 years to fully evaluate the merit of the acquisition, and it is not clear that the performance so long after the event can be directly attributed to the acquisitions. If markets are at

the market adjusted returns model (MAR),[16] with $\alpha = 0$, and $\beta = 1$, as specified in equation 3:

$$AR_{it} = R_{it} - R_{mt} \quad (3)$$

The choice of model has limited impact and the results are consistent. For brevity, we only report market model results in the tables.

Following prior literature, we focus on a short, three-day event window, from day t-1 to day t+1. However, such a short event window, while commonly used in prior literature, may not capture the full impact of acquisitions if there is bid speculation or information leakage prior to the formal bid announcement, or if new price-sensitive information is released after the initial bid announcement.[17] We therefore also analyse CAR over a slightly longer 11-day event period, from t-5 to t+5.[18]

The levels of statistical significance of the cumulative abnormal returns are calculated using a cross-sectional *t*-test of the mean (Strong, 1992). However, to allow for non-normality in the distribution of abnormal returns, we also test the significance using the nonparametric Wilcoxon rank sum test of the median, as well as a simple sign test based on the proportion of sample companies with non-negative abnormal returns (Siegel and Castellan, 1988).

4. ABNORMAL RETURNS

(i) Target abnormal returns

Target abnormal returns are reported in Panel A of Table 3. Target company shareholders on average earn significant positive abnormal returns around the time of the bid announcement, with mean cumulative abnormal returns to targets in cross-border acquisitions amounting to a highly significant 20.9% over the 3-day period from day t-1 to t+1. More than 93% of sample firms earn positive

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least reasonably efficient, market expectations regarding the merit of the acquisitions will be reflected in share prices soon after the time of the bid announcement. In this study we therefore focus on the bid announcement effect of mergers and acquisitions.

[16] While simple, methodological studies (e.g., Brown and Warner, 1985; Strong, 1992) find the model to work as well as more complex event study models. MAR has been used in a number of prior studies (see e.g., Danbolt, 1995; Aw and Chatterjee, 2004; and Conn *et al*. 2005).

[17] This could be information regarding the entry of a competitive bidder, revision of the offer terms, the eventual acceptance and completion of the bid, etc.

[18] We have also analysed abnormal returns during the pre-bid period (t-40, t-2) and post-acquisition (t+2, t+40) periods, as well as over an extended 81-day period, as discussed further below. For brevity we do not report the full results for these extended periods.

cumulative abnormal returns. Target companies in comparable domestic acquisitions on average also earn positive abnormal returns, but the gains are significantly smaller, averaging 10.9%. The difference in target returns between cross-border and matched domestic acquisitions – the target company cross-border effect – amounts to a highly significant 10.1 percentage points, with almost two thirds of the cross-border targets earning higher 3-day CAR than shareholders in comparable domestic acquisitions.

Table 3 about here

A 3-day event window may arguably be too short to capture the full impact of acquisitions, and we also analyse abnormal returns over an 11-day event window, from five days prior to five days after the day of the bid announcement. Over this extended event window, target abnormal returns in cross-border acquisitions are even higher, at 26.4%, and the cross-border effect rises to 13.1 percentage points. Indeed, as can be seen from Figure 2, Panel A, target company share prices on average start rising long before the bid announcement, with cumulative abnormal returns over the time period from t-40 to t-6 averaging 9.4% for cross-border and 9.7% for domestic targets.[19] Over an extended 81-day period centred on the bid announcement, targets on average earn 40.1% cumulative abnormal returns in cross-border acquisitions, compared to 26.8% in domestic acquisitions, leading to a significant cross-border effect of 13.3% – similar to that captured by the 11-day event window.[20] Thus, regardless of what event window we analyse, we find evidence of significant cross-border effects in target company abnormal returns.

Figure 2 about here

As can be seen from Panel C, the level of target abnormal returns in cross-border acquisitions has increased substantially over time, from an average of 14.1% during the 1980s to 26.8% during the 2005-2008 period. The level of target returns in domestic acquisitions have not shown a similar increase, and the target company cross-border effect has been rising substantially over time, from 7.9

[19] Georgen and Renneboog (2004), analysing intra-European takeovers, similarly observe large and highly significant abnormal returns during the pre-bid period (averaging 14.1% over the period from day t-40 to t-2).
[20] In the analysis which follows, we concentrate on results for the 3-day event window. Results for the 11-day event window are consistent.

percentage points during the 1980s (and an insignificant *negative* cross-border effect for the small number of transactions during the early 1990s), to 13.7 and 14.3 percentage points, respectively, for the first and second half of the 2000s.

However, further analysis reveals that the level of the target company cross-border also effect varies significantly with the nationality of the target and bidding companies. As displayed in Panel D of Table 3, while the average 3-day target company cross-border effect for the sample as a whole amounts to 10.1 percentage point, the cross-border effect for UK targets of 4.6 percentage points is substantially smaller than the average cross-border effect of 22.5 percentage points to overseas targets acquired by UK firms. The cross-border effect is particularly high for US and non-EEA targets, at 24.2 and 19.1 percentage points, respectively, although the target company cross-border effect is also high for other overseas targets, averaging 9.9 percentage points. The low cross-border effect to UK targets is particularly pronounced in acquisitions by bidders from other EEA countries, where the target cross-border effect is an insignificant 0.7 percentage points. Indeed, it is only in acquisitions by US bidders that we observe significant cross-border effects for UK targets, at 8.9 percentage points. The target company cross-border effect is thus consistently lower in acquisitions into the UK than in cross-border acquisitions out of the UK. We analyse in section 5 the extent to which the differences in abnormal returns in domestic and cross-border acquisitions are attributable to differences in company and bid characteristics, while in section 6 we explore why the target company cross-border effect varies with target and bidder nationality. The high abnormal returns to targets, particularly in cross-border acquisitions, raise questions as to whether such transactions are valuable investments for the acquiring companies, or whether bidders tend to overpay. We explore this next.

(ii) Bidder abnormal returns

As reported in Panel B of Table 3, bidders in cross-border acquisitions on average earn abnormal returns close to, and insignificantly different from zero, amounting to -0.3% over both the 3-day and 11-day event windows. However, bidders in comparable domestic acquisitions on average earn significant negative abnormal returns, of -1.8% and -1.3%, respectively, over the two event windows. Thus, while target shareholder gain significantly more from cross-border than from domestic

acquisitions, bidders on average *also* perform significantly better – or maybe more accurately, significantly less badly – in cross-border than in domestic acquisitions. The bidding company cross-border effect amounts to a significant 1.5 percentage points over the 3-day event window, although the cross-border effect, of 1.0 percentage point, is no longer significant for the longer 11-day event window. The movements in bidder abnormal returns over the full period from t-40 to t+40 days is depicted in Figure 2, Panel B. While the abnormal returns to bidders in cross-border acquisitions falls marginally over the post-acquisition period, the bidding company cross-border effect remains positive.

The bidder cross-border effect is further analysed in Panels C and D of Table 3, which splits the results based on time period and the nationality of the targets and bidders, respectively. Bidder returns in cross-border acquisitions are insignificantly different from zero during all time periods, while domestic bidders earn significant negative abnormal returns in three of our five time periods. The bidder cross-border effect is particularly large during the early 2000s, when it reaches a significant 3.8 percentage points. However, the bidding company cross-border effect also varies significantly with the nationality of the firms involved. The cross-border effect is higher for UK cross-border bidders, at a significant 1.9 percentage points, and is particularly high, at 3.8 percentage points, when UK companies acquire into other EEA countries. On the other hand, for US bidders the cross-border effect is only 0.8 percentage points and not statistically significant, and for UK bidders acquiring in the US the cross-border effect is 0.7 percentage points and again not significant. The small number of bidders from EEA and other countries also earn higher abnormal returns in cross-border than in domestic acquisitions, although the bidding company cross-border effects are not significant for the EEA and the Rest of the World regions.

The analysis above suggests that both targets *and* bidders on average perform better in cross-border than in domestic acquisitions. While the target company cross-border effect is particularly high in cross-border acquisitions by UK companies, UK bidders perform significantly better in cross-border than in domestic acquisitions. Prior research suggests bid characteristics may have a significant impact on target and bidder returns, and if there are systematic differences in the characteristics of targets and bidders in cross-border and domestic acquisitions, the cross-border effects observed above may be

attributable to such differences rather than to the different nationalities of the targets or bidders. In the next section we therefore analyse the differences in the characteristics of companies involved in cross-border and domestic acquisitions, and the impact of such differences on the cross-border effects.

5. BID CHARACTERISTICS AND THE IMPACT ON CROSS-BORDER EFFECTS

In this section we investigate whether differences in company and bid characteristics between domestic and cross-border acquisitions can explain the target or bidder cross-border effects. We first explore the sample characteristics and the correlations between the various bid characteristics and 3-day abnormal returns, before presenting the multivariate regression models and results.

(i) Bid characteristics and the impact on abnormal returns

Sample characteristics are reported in Panel A of Table 4, while the Pearson correlation coefficients between the 3-day cumulative abnormal returns and sample characteristics are reported in Panel B. Data sources and detailed variable definitions for the cross-sectional variables are provided in the Appendix.

Table 4 about here

Prior research generally finds both target and bidding shareholders to gain significantly more in cash than in equity offers,[21] and we follow prior literature in controlling for the method of payment. We introduce dummy variables for cash-only and equity-only payment, with mixed payment offers as the residual category. As can be seen from Panel A, significant differences between domestic and cross-border acquisitions are observed in the method of payment. While cash-only is offered in more than 61% of cross-border acquisitions, such payment is used in approximately 52% of domestic acquisitions based on the sample of targets, and 34% based on the bidder sample. The difference between cross-border and domestic acquisitions in the prevalence of cash payment is substantial and statistically significant. Full equity offers are relatively rare, accounting for approximately 10% of domestic and less than 9% of cross-border acquisitions.

[21] See e.g., Franks *et al*. (1988), Danbolt (2004) and Bi and Gregory (2011) for evidence on the payment effect in acquisitions. While most studies find higher abnormal returns in cash acquisitions, Georgen and Renneboog (2004) find bidder abnormal returns to be significantly higher in equity than in all-cash bids.

In Panel B we explore the relationship between the method of payment and cumulative abnormal returns, and our results are generally consistent with the prior literature. We find target abnormal returns to be significantly negatively correlated with equity payment, although the method of payment is not found to have a significant impact on target returns in domestic acquisitions. Domestic bidders also perform significantly better in cash financed acquisitions than in transactions with other forms of payment. The higher proportion of cross-border than domestic acquisitions with cash offers and the higher returns to targets in cash than in equity offers, may contribute to the target company cross-border effect. We explore this further in the cross-sectional regression analysis below.

We next control for the effects of company size and the relative size of the targets and bidders. [22] We measure company size by the market value of the company 41 days prior to the date of the bid announcement. Due to the non-normality of company size, we use a log transformation of market values in the cross-sectional analysis. We measure relative size by the total assets of the target to the total assets of the bidder.[23] While we match cross-border and domestic acquisitions based on total assets, the market values are on average higher for cross-border targets and bidders than their matched domestic counterparts. However, Panel B suggests target abnormal returns are significantly negatively related to firm size, which would seem to work *against* the observed target company cross-border effect. We find no significant differences in the relative size of targets and bidders in cross-border and domestic acquisitions, not does relative size seem to have significant correlation with the cross-border effects in the univariate analysis.

Prior research has suggested the method of acquisition matters, and we control for whether the

[22] Rossi and Volpin (2004) argue there are fewer potential bidders for large targets, leading to less competition and lower target abnormal returns. Peterson and Peterson (1991) find smaller targets to receive greater absolute returns, and Campa and Hernando (2004) find higher target abnormal returns where the target is small relative to the size of the bidder. Danbolt (1995) and Francis *et al.* (2009) find large cross-border bidders to perform better than smaller ones.

[23] As the sample in this study includes acquisitions both of and by non-listed as well as listed companies, relative size is missing for more than half of the sample of target firms. While the cross-sectional analysis in sections 5 and 6 have been undertaken both with and without relative size, we report for brevity bidder results including relative size, but target results excluding this variable, given the significant impact on sample size.

acquisitions are undertaken through a tender offer or a merger,[24] with a dummy variable taking the value 1 in tender offers. As reported in Panel B, the results suggest cross-border targets and domestic bidders perform better in tender offers than in mergers, although the correlation coefficients are insignificant and negative for domestic targets and cross-border bidders. However, as can be seen from Panel A, there are only marginal differences in the proportion of cross-border and domestic acquisitions that are undertaken through tender offers. The variable is thus unlikely to account for the observed target or bidder cross-border effects.

We find target abnormal returns to be significantly negatively related to the size of the stake held by the bidder in the target prior to the acquisition. Bidders on average hold significantly higher pre-bid stakes in the target in domestic than in cross-border acquisitions, and this may contribute to the observed target company cross-border effect. We control for the size of any stake by the bidder in the target prior to the acquisition[25] in the cross-sectional analysis.

Finally, we control for industrial diversification with a dummy variable taking the value 1 where the targets and bidders are operating in different primary industries.[26] A higher proportion of domestic than cross-border acquisitions involve industrial diversification. However, the correlation coefficients in Panel B of Table 4 suggests whether the acquisition is focused or result in diversification appears to have limited impact on the level of either target or bidding company abnormal returns.

We next explore the relationship between bid characteristics and abnormal returns in a multivariate setting.

[24] Prior studies suggest both target and bidder abnormal returns are higher in tender offers than in mergers (Jensen and Ruback, 1983; Franks and Harris, 1989). Other forms of bid attitude often controlled for include whether bids are hostile (e.g., Campa and Hernando, 2004; Georgen and Renneboog, 2004) or competitive (Sudarsanam *et al*., 1996; Georgen and Renneboog, 2004). We have similarly undertaken analysis including dummy variables for whether the bids were hostile or competitive. However, neither variable is found to have an impact on either target nor bidder cross-border effects in either univariate or multivariate analyses, and we do therefore not include these variables in the reported results.

[25] While Franks and Harris (1989) find targets to gain more where bidders hold a large stake in the target prior to the acquisition, Sudarsanam *et al.* (1996) find pre-bid stakes to have a significant negative impact on target abnormal returns.

[26] The analysis has also been undertaken including another measure of industry relatedness, with a dummy variable taking the value 1 where the target and bidder companies have different four-digit primary SIC codes. The correlation between the two diversification dummies is less than 0.5. The four-digit SIC diversification dummy is not statistically significant.

(ii) Cross-sectional analysis of abnormal returns

In order to test whether the cross-border effects are robust to controlling for differences in the characteristics of cross-border and domestic acquisitions, we run cross-sectional regressions of the 3-day cumulative abnormal returns (CAR) for targets and bidders on the combined samples of cross-border and matched domestic acquisitions against a cross-border dummy and controls for the different bid characteristics.[27] Given the cross-border effects appear to vary over time (see Table 1, Panel C), we also include four time dummies in the regressions: Early '90s (1990-1994), Late '90s (1995-1999), Early '00s (2000-2004) and Late '00s (2005-2008), with acquisitions during the 1980s (1981-1989) captured by the intercept. The regression model is as specified in equation 4 below:

$$CAR_{it} = \alpha_i + \beta_1 CB + \beta_2 Cash + \beta_3 Equity + \beta_4 LnCompanySize + (\beta_5 RelSize) + \beta_6 TenderOffer + \beta_7 Stake\% + \beta_8 Diversifying + \beta_9 Early\ '90s + \beta_{10} Late\ '90s + \beta_{11} Early\ '00s + \beta_{12} Late\ '00s + \varepsilon_i \quad (4)$$

Given Relative Size is missing for approximately half the target firms, we do not include this variable in the reported results for target firms.[28] In a second set of regressions, we explore whether the cross-border effects still vary with the nationality of the target or bidding companies once we also control for bid characteristics. The regression model is specified as follows (equation 5):

$$CAR_{it} = \alpha_i + \beta_1 CB\ UK + \beta_2 CB\ EEA + \beta_3 CB\ US + \beta_4 CB\ RoW + \beta_5 Cash + \beta_6 Equity + \beta_7 LnSize + (\beta_8 RelSize) + \beta_9 TenderOffer + \beta_{10} Stake\% + \beta_{11} Diversifying + \beta_{12} Early\ '90s + \beta_{13} Late\ '90s + \beta_{14} Early\ '00s + \beta_{15} Late\ '00s + \varepsilon_i \quad (5)$$

EEA refers to countries within the European Economic Area, and RoW to the Rest of the World.

Regression output from the cross-sectional analysis of target company abnormal returns is presented in columns 1 and 2 of Table 5. We find bid characteristics to have a significant impact on target abnormal returns, with targets gaining less when paid in shares, if their company is large, or where the acquiring company owns shares in the target company prior to the bid. Target returns are also significantly higher 2000s than during the 1980s. However, even when controlling for bid

[27] The results are overall consistent based on the longer 11-day event window. For brevity, we only report results for the 3-day event window.

[28] Incorporating this variable for targets reduces the sample to 288 observations, but the overall conclusions remain unaltered.

characteristics, the target company cross-border effect remains highly significant, at almost 9.5 percentage points. In the second regression we also control for the location of the target firm. We find the cross-border effect still to be higher for US targets than for UK targets, although controlling for bid characteristics the cross-border effect for the small sample of targets from outside Europe turns insignificantly negative. Thus, differences in the bid characteristics of cross-border and domestic acquisitions do not appear to fully explain the target company cross-border effect or why the cross-border effect varies with the location of the target firms.

Table 5 about here

Results for the bidding company shareholders are reported in the last two columns of Table 5. We find bidder CARs to be significantly higher in cash financed acquisitions than in acquisitions with other forms of payment, while none of the other bid characteristics appear to have a significant impact on the level of bidder cross-border effects. Controlling for bid characteristics, the residual bidding company cross-border effect is still above 1 percentage point, but loses statistical significance. In the final regression, we observe that the bidding company cross-border effect is significantly positive for US bidders acquiring into the UK (at 1.8 percentage points), and particularly high for European bidders acquiring into the UK, for whom the mean cross-border effect is a significant 6.2 percentage points. The bidder cross-border effect for UK bidders and for bidders from the Rest of the World are indistinguishable from zero. Thus, differences in bid characteristics – and in particular the method of payment – appears to have a significant impact on the bidding company cross-border effect. However, we still observe differences in the bidder cross-border effect depending on the nationality of the bidder. We next analyse the cross-border acquisitions in more detail, to ascertain whether bidders' international experience, exchange rate effects or national corporate governance characteristics may help explain the cross-border effects.

6. DETERMINANTS OF ACQUISITION CROSS-BORDER EFFECTS

As discussed in section 2, the legal origin and the quality of the laws and enforcement of shareholder rights as well as the quality of accounting standards in various countries may affect the impact of cross-border acquisitions on shareholder wealth. Market access and exchange rate effects, as well as

whether the bidding company has any prior cross-border acquisition experience can also be expected to have a significant impact on abnormal returns from cross-border acquisitions. In this section we explore the impact of these factors on the target and bidder cross-border effects.

(i) Sample characteristics of cross-border characteristics

Descriptive statistics on the characteristics of the cross-border acquisitions are reported in Table 6. We study the impact of market access on abnormal returns by controlling for whether the bidding company had operations in the target country prior to the acquisition. We hand-collect this data from annual reports from the period prior to the date of the bid announcement. We are able to confirm that 56.2% of bidders (or 46.6% of bidders, based on the target sample) already had operations in the target country prior to the acquisition, while 10.9% (7.6%) of bidders entered a new market through the acquisition. For 32.9% (45.8%) of bidders we are unable to ascertain whether they had operations in the target country prior to the acquisition, and we treat this as a separate, residual, category.

Table 6 about here

We also check whether cross-border bidders have previously undertaken a cross-border acquisition, using data from Thomson ONE Banker. 70.6% (50.6%) of bidders had prior cross-border acquisition experience.

Several prior studies suggest exchange rate volatility may have an impact on abnormal returns from cross-border acquisitions, although the evidence from prior literature, as discussed in section 2, is mixed. While both Harris and Ravenscraft (1991) and Conn *et al*. (2005) "…measure the strength of the buyer's home currency relative to the [target's home currency] as the proportionate deviation from the average exchange rate for the sample period" (Harris and Ravenscraft, 1991, p. 832), we would argue this measure is unsatisfactory. By comparing the exchange rate to the average for the sample period, observations during the early parts of the sample period will be compared to predominately *future* exchange rates, while observations during the later parts of the sample period will be compared to *historic* exchange rates. There is thus an inconsistency in this approach. Furthermore, this approach seems to implicitly assume that managers in the early parts of the sample period are able to forecast

exchange rate movements, and time their acquisitions to when their currency is strong relative to future exchange rates. In order to avoid such look-ahead bias, we use the change in the exchange rate over the 12 months prior to the date of the bid announcement as our measure of exchange rate volatility.[29] Contrary to the predictions of Froot and Stein (1991) of companies acquiring abroad when their currency is strong, for the sample of targets, the currency of the bidder on average *fell* by a significant 1.43% relative to the currency of the target during the year prior to the acquisition. However, for the sample of bidders the mean exchange rate change is marginally positive but not significant.

We next explore the differences in the governance characteristics of the bidder and target countries, analysing the impact of legal origin, the level of anti-director rights, the rule of law, and the overall level of shareholder protection, which combines the level of anti-director rights and the rule of law. Following Bris and Cabolis (2008) and Kuipers *et al.* (2009), we obtain data on international variations in corporate governance regimes from La Porta *et al.* (1998). We also control for the quality of accounting information, using data from La Porta *et al*. (1998), with variable definitions given in the appendix. In the bottom section of Table 6, we report descriptive statistics for the governance characteristics of the main countries. The UK, with its English legal origin, scores 5 (out of 6) on anti-director rights, 8.57 (out of 10) for the rule of law, and 4.29 (out of 10) on shareholder protection. The Centre for International Financial Analysis and Research, as reported in La Porta *et al.* rate the accounting quality in the UK 78 (out of 90).

Descriptive statistics for the *differences* the country corporate governance characteristics between bidder and target countries are reported in the middle section of Table 6. For the target sample we generally find the bidders to have lower levels of anti-director rights and shareholder protection overall, but a higher level of rule of law than the targets, while for the bidder sample the results are reversed. This reflects the sample construction, focusing on cross-border acquisitions into and out of the UK. A large proportion of our cross-border targets are UK companies, and with the UK having high governance standards, it is not surprising that, in our sample, cross-border bidders on average

[29] The results are robust to using a 6 month period for estimating exchange rate volatility.

come from countries with lower governance scores than the targets. The results are reversed for the sample of bidders, where again UK companies account for a large proportion of the sample. As not all overseas target countries have similarly high corporate governance standards, we observe that the cross-border bidders in the sample on average have higher governance scores than the targets. The exception is the rule of law, where the UK score of 8.57 (out of 10) is lower than that of several overseas markets included in the study.

Before analysing the impact of these cross-border characteristics on the target and bidding company cross-border effects, we analyse the correlations between the various variables. The correlation matrices for targets and bidders are reported in Panels A and B of Table 7, respectively. We find no significant correlations between either bidder prior cross-border acquisition experience or exchange rate changes and the cross-border effects for either targets or bidders. We do, however, find target cross-border effects to be higher where the bidder already has operations in the target country. As suggested by Aybar and Ficici (2009), companies may make better acquisitions with local market knowledge, and there may be more scope for synergies if a company already has operations in the market. This may account for the higher target cross-border effects when bidders already have operations in the target country. However, the correlation matrix for bidders in Panel B suggests the bidder cross-border effects are higher when the company enters a new market, consistent with prior evidence of e.g., Doukas and Travlos (1988). Market access thus appears to be valuable to cross-border bidders.

We also find target cross-border effects to be higher in English origin countries and to be positively correlated with the strength of anti-director rights, shareholder protection and accounting quality in the bidder country relative to that of the target country, though targets gain less where the rule of law is stronger in the bidder than in the target country. However, none of the country corporate governance characteristics appear to be significantly correlated with bidder cross-border effects. Not surprisingly, we find the various governance variables to be highly correlated, with several of the correlation coefficients exceeding 0.6. Including all the country variables in the same regression analysis would lead to problems of colinearity. We therefore analyse the impact of the country governance variables

one at a time. The analysis in section 5 suggested bid characteristics significantly affect the level of target and bidder abnormal returns. We therefore control for the same factors in the cross-sectional analysis of the cross-border effects below.

Table 7 about here

(ii) Cross-sectional analysis of the impact of cross-border characteristics on cross-border effects

We analyse the impact of whether the bidder has prior operations in the target country or not, of bidders' prior cross-border acquisition experience, of exchange rate effects and of the differences in the quality of accounting and corporate governance systems in the bidder and target countries using a regression model specified as follows (equation 7):

$$\text{CB Effect}_{it} = \alpha_i + \beta_1 \text{B no ops in T country} + \beta_2 \text{No info B ops in T country} + \beta_3 \text{Prior CB Acq experience} + \beta_4 \Delta\text{Exchange rate} + \beta_5 \text{Company (Non-UK) EEA} + \beta_6 \text{Company US} + \beta_7 \text{Company Rest of World} + \beta_8 \text{Cash} + \beta_9 \text{Equity} + \beta_{10} \text{LnCompanySize} + (\beta_{11} \text{RelativeSize}) + \beta_{12} \text{TenderOffer} + \beta_{13} \text{Stake\%} + \beta_{14} \text{Diversifying} + \beta_{15} \text{Early '90s} + \beta_{16} \text{Late '90s} + \beta_{17} \text{Early '00s} + \beta_{18} \text{Late '00s} + \varepsilon_i \quad (7)$$

Relative Size is missing for a large number of targets (and is not significant in any model for targets), and we therefore report results for targets excluding this variable, in order to maintain a larger sample size. We incorporate dummy variables for the location of the companies (EEA, US or Rest of the World) and time period (Early '90s, Late '90s, Early '00s and Late '00s), with UK companies in acquisitions during and the 1980s captured by the intercept. The other bid characteristics controlled for are as in section 5 above.

In columns 2 to 6 for targets, and columns 8 to 12 for bidders, we expand the model to incorporate Corporate Governance variables, capturing the difference between bidder and target country characteristics in terms of Accounting Quality, English Origin, Anti Director Rights, Rule of Law, and Shareholder Protection, respectively. These variables are introduced one at a time, given the high correlation between the country governance variables.

The results for targets are reported in columns 1 to 6 of Table 8. While the correlation matrix in Table 7 suggested target returns are higher where the bidder has existing operations in the target country prior to the acquisition, the coefficient, while positive, is not statistically significant in the multiple regression. Similarly, neither the bidders' prior cross-border acquisition experience nor exchange rate volatility are found to have a significant impact on target cross-border effects. However, consistent with the results in Table 1, we find target returns to be particularly high for US targets, and to be higher during the 2000-2008 period than in earlier time periods. We also find a significant negative size effect, with large targets earning significantly lower abnormal returns than smaller firms.

Table 8 about here

Bris and Cabolis argue that "...improvements in accounting standards induced by consolidation in cross-border mergers are associated to larger premia" (pp. 631-632). However, while we find the difference in target and bidding country accounting quality to have a significant positive impact on target cross-border effects in the univatiate analysis reported in Table 7, extending the analysis to a multivariate model which incorporates target nationality as well as other company and deal characteristics, the coefficient on accounting quality, reported in column 2 or Table 8, is small and not statistically significant. Thus, the results for the impact of accounting quality on target cross-border effects are not statistically robust.

Turning to the impact of differences in bidder and target country corporate governance systems, we similarly find non-robust results for English origin and the rule of law. As argued by Martynova and Renneboog (2008, p. 206), English legal origin countries provide the highest quality of shareholder protection, and we find in the univariate analysis (Table 7) that target returns are higher if the bidder comes from an English legal origin country. However, the coefficient on legal origin is no longer significant when we control for target nationality (Table 8, column 3). Similarly, the impact of rule of law is not robust to controlling for target nationality, switching from significantly negative correlation with the target company cross-border effect in the correlation matrix, to insignificantly positive in column 5 of Table 8.

We do, however, find strong results for the impact of anti-director rights and the overall level of shareholder protection (which combines the effect of anti-director rights and the rule of law), with target cross-border effects higher where the bidder country offers shareholders stronger rights and protection than what is available in the target country. Our results are consistent with those of Bris and Cabolis (2008), who argue that "If the merger premium incorporates (even if only partly) the value of the target firm under the new controlling shareholders, then the premium will be a function of the improvement in investor protection caused by the cross-border merger" (p. 632). As can be seen from columns 4 and 6 of Table 8, these results hold even when we control for target nationality and other company characteristics. Overall, our model can explain up to 10.3% of the cross-sectional variation in target returns. However, while we find differences in the levels of shareholder protection to have a significant impact on target cross-border effects, we still find large country effects in the abnormal returns. The cross-border effect is significantly higher for US targets than for UK targets (captured by the intercept). Thus, consistent with Conn and Connell (1990) and Rossi and Volpin (2004), we find US targets to be able to extract very high premia from foreign bidders. UK bidders appear to be willing to pay very high prices to acquire US firms.

The cross-sectional regressions of bidder returns are reported in columns 7 to 12 of Table 8. While the univariate analysis suggested a significant positive correlation between the bidder cross-border effect and new market access, the coefficient is small and no longer significant in the multiple regression. Indeed, we find none of the country governance variables to have a significant impact on bidder returns. Our findings are consistent with those of Martynova and Renneboog (2008) who in their study of European acquisitions similarly do not find corporate governance factors to have a significant impact on bidder returns. Our results are consistent with cross-border acquisitions creating more value when the bidder comes from a country with stronger anti-director rights and shareholder protection than that of the target country, but with the additional gains being reflected in target returns, rather than in the abnormal returns to bidders.

We do, however, find the relative size of the target and bidder to have a significant impact on bidder returns, with the bidder cross-border effect higher the larger the target relative to the size of the bidder.

Large cross-border acquisitions thus appears to have a more positive impact on bidder returns. We also find some time variation in the target cross-border effect, with particularly high returns during the early 2000s. However, the results for the bidders are generally weak, with none of the regressions overall statistically significant.

7. CONCLUSIONS

Cross-border acquisitions make up an increasing proportion of takeover activity around the world, but despite the significant scale of international acquisitions, our understanding of the target, bidder and joint company wealth effects of such transactions is still limited. This study aims to address this gap. The UK has been "the largest acquiring country worldwide" (UNCTAD 2000, in Conn *et al*. 2005), and in recent years the value of cross-border acquisitions has exceeded the value of domestic acquisitions in the UK.

Studying 251 targets and 146 bidders in cross-border acquisitions involving UK companies over the 1980-2008 period, and matching the companies in the cross-border acquisitions with the same number of targets and bidders in comparable domestic acquisitions (with matching based on country, year, industry and firm size), we find the abnormal returns to both targets and bidders to be significantly higher in cross-border than in domestic acquisitions. The target company cross-border effect on average amounts to a highly 10.1 percentage points over a 3-day event window.

However, despite the high returns to targets in cross-border acquisitions, we find bidding company shareholders, on average, *also* to perform significant better – or rather, less poorly – in cross-border than in comparable domestic acquisitions, with the 3-day bidding company cross-border effect amounting to a significant 1.5 percentage points. Thus, while targets gain substantially more in cross-border than in domestic acquisitions, the target company cross-border effect does not in general appear to be the result of bidder over-payment, but rather reflect the substantially higher overall wealth creation in cross-border as compared to domestic acquisitions. While bidders in domestic acquisitions on average encounter significant negative abnormal returns, cross-border acquisitions on average have only a small, and insignificant, impact on bidding company share prices. Thus, the overall wealth

creation appears to be significantly higher in cross-border than in domestic acquisitions, although the gains normally accrue to target rather than to bidding company shareholders. We believe this is the first study to uncover significant cross-border effects for both targets and bidders.

Bid characteristics have a significant impact on target abnormal returns, with targets generally gaining less when paid in shares, it the target is large, or if the bidder holds shares in the target prior to the acquisition. However, differences in bid characteristics do *not* explain the higher gains to targets of foreign bidders. The target company cross-border effect remains in excess of 9 percentage points over a 3-day event window even after we control for the impact of bid characteristics.

We find significant differences in the level of abnormal returns depending on the nationality of the companies, with target company cross-border effects particularly high for US targets. This may be related to the competitive takeover market in the US and the desire of UK companies to acquire into this large market. However, the national variations in target company cross-border effects also appear to be at least in part related to the differences in governance characteristics of the countries involved. If companies are better managed in countries with good corporate governance systems, bidders from countries with a tradition of affording shareholders strong shareholder rights may be expected to make better acquisitions, and to transfer their superior management to the target. Consistent with such expectations, we find the target company cross-border effect to be higher where the acquisition is undertaken by a bidder from a country with better corporate governance systems than the target, and these effects are significant in the case of the level of anti-director rights and shareholder protection, than those in the target country. However, we find no evidence of differences in target and bidding country governance systems to have a significant impact on bidding company cross-border effects.

We find weak evidence to suggests targets gain more when the cross-border bidders had operations in the target country prior to the acquisition, but that foreign bidders performed somewhat better when entering new markets. However, neither effect is statistically robust. The support for the market access hypothesis is thus weak. We do not find whether the bidder had prior cross-border acquisition experience to have a significant impact on either target or bidder returns, and we similarly find no

support for the exchange rate hypothesis, with exchange rate changes having no significant impact on the announcement period abnormal returns to either target or bidding company shareholders.

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Appendix
Variable Definitions

Sample	Acquisitions are classified as ***Domestic*** where both the target and bidder are located in the same country; as ***Cross-Border into the UK*** where a UK company is acquired by an overseas company; and as ***Cross-Border out of the UK*** where UK companies acquire companies abroad.	Thomson ONE Banker
Payment method offered	The method of payment offered are categorised into ***Cash only; Equity Only*** and ***Mixed Payment***.	Thomson ONE Banker
Company Size	Company size is measured by the market value of equity (in £ million) on day 41 prior to the date of the bid announcement (t_{-41}). In the analysis, a log transformation (***LnCompanySize***) is used.	Datastream and Thomson ONE Banker
Relative Size	**Relative size** is measured as the size of the target to the size of the bidder, with size measured by Total Assets.	Thomson ONE Banker
Tender Offer	Acquisitions are categorised as to whether or not they are conducted through a ***tender offer*** (acquisition form), with a 0-1 dummy variable taking the value 1 in tender offers.	Thomson ONE Banker
Stake %	***Stake %*** captures the size of any pre-bid holding of shares by the bidder in the target prior to the acquisition announcement. (The mean is calculated including cases where the stake was zero).	Thomson ONE Banker
Industry	*Industrial classifications* are based on the primary SIC codes of targets and bidders. We classify companies into the following industries: ***Construction, Mining & Agriculture*** (divisions A, B, and C, with SIC codes between 0000 and 1999); ***Manufacturing*** (division D, SIC codes 2000-3999); ***Transport*** (division E, SIC codes 4000-4999); ***Wholesale & Retail*** (divisions F and G, SIC codes 5000-5999); ***Financials*** (division H, SIC codes 6000-6999); and ***Services*** (division I, SIC codes 7000-9090). We have no observations in divisions J or K.	Thomson ONE Banker
Relatedness	Acquisitions are categorised as ***diversifying*** (with a 0-1 dummy variable taking the value 1) where target and bidding companies operate in different primary industry categories (see industry classifications above).	Thomson ONE Banker
Time Period	We introduce dummy variables to capture the time periods of the acquisitions. **1980s** captures acquisitions during the 1981-1989 period, **Early '90s** the 1990-1994 period, **Late '90s** the 1995-1999 period, **Early '00s** the 2000-2004 period, and **Late '00s** the 2004-2008 period. In the cross-sectional regressions, 1980s is captured by the intercept, with dummy variables for the other time periods introduced.	Thomson ONE Banker
Location of overseas company	Location (of foreign bidder in cross-border acquisitions into the UK and of overseas targets in cross-border acquisitions by UK companies), are categorised according to whether the country (at the time of the bid announcement) was a non-UK member of the **European Economic Area** (**EEA**), whether the company was located in the ***US***, or in the ***Rest of the World***. **UK** companies are captured by the intercept in the cross-sectional regressions. (Note that we include with the EEA countries which at the time of the bid announcement were members of either the European Union (or the precursor, the European Community), as well as countries which are member of either the European Free Trade Area or the European Economic Area).	Thomson ONE Banker

Continued...

Appendix – continued

Prior operations in target country	We search annual reports for evidence of prior operations by cross-border bidders in the target country prior to the date of the bid announcement. We classify bidders into cases where there is evidence of ***No prior operations in target country*** and evidence of ***Prior operations in target country***, with a third, residual category of ***No information regarding bidder prior operations in target country*** where we do not have sufficient data to classify the bidder (e.g., due to missing annual report).	Manual checking of Annual Reports, obtained from Perfect Filings.
Prior cross-border acquisitions	Acquisitions are classified as being undertaken by a company with prior cross-border acquisition experience where there is evidence from Thomson ONE Banker of the bidding company having previously undertaken a cross-border acquisition.	Thomson ONE Banker
Exchange rate change	The change in the exchange rate between the bidder and target country currencies over the twelve months prior to the date of the bid announcement. A positive value of the ***exchange rate change*** variable indicates that the currency of the bidder has strengthened during the year leading up to the date of the bid announcement.	Exchange rates data from Datastream
Accounting Quality	An index (out of 90) of accounting quality created by the Centre for International Financial Analysis and Research, based on an assessment of the country's average quality of annual reports.	La Porta *et al*. (1998)
Anti-Director Rights	Countries are scored on a scale from 0 to 6, with points awarded for whether the country allows shareholders to submit proxy votes by mail; where shareholders are not required to deposit their shares prior to the AGM, where cumulative voting is allowed or where proportional representation by minorities on the board is allowed; where an oppressed minorities mechanism is in place; whether shareholders can call an AGM holding no more than 10% of the shares; and whether shareholders have preemptive rights that can only be waived by shareholder vote.	La Porta *et al*. (1998)
Rule of Law	Countries are scored on a scale from 0 to 10 based on an assessment of the law and order tradition by the country undertaken by the International Country Risk (ICR) risk-rating agency.	La Porta *et al*. (1998)
Shareholder Protection	Countries are scored on a scale from 0 to 6 on the effective rights of minority shareholders, calculated as (Rule of Law * Anti-Director Rights)/10	La Porta *et al*. (1998)

Table 1
Sample

	Total Cross-Border Sample	**Cross-Border *into* UK**	**Cross-Border *out of* UK**
Initial sample:	535	305	230
Targets:			
- Data missing CB target	-114	-39	-75
- No Domestic match	-166	-92	-78
- Final sample CB targets	**251**	**174**	**77**
Bidders:			
- Data missing CB bidder	-154	-112	-42
- No Domestic match	-235	-128	-107
- Final sample CB bidders	**146**	**65**	**81**

	Bidder nationality in Cross-Border Acquisitions* into *UK		***Target nationality in Cross-Border Acquisitions* out of *UK***	
	Overseas Bidder sample	*UK Target sample*	*Overseas Target sample*	*UK Bidder sample*
European free-trade area	***3***	***74***	***7***	***29***
France	*1*	*17*	*1*	*5*
Germany	*0*	*11*	*1*	*3*
Ireland	*0*	*12*	*1*	*1*
Netherlands	*1*	*7*	*1*	*2*
Sweden	*1*	*6*	*2*	*8*
Switzerland	*0*	*8*	*0*	*0*
Other EEA countries	*0*	*13*	*1*	*10*
US	***58***	***72***	***63***	***46***
Rest of World	***4***	***28***	***7***	***6***
Australia	*2*	*6*	*2*	*2*
Canada	*1*	*3*	*5*	*2*
Japan	*1*	*3*	*0*	*0*
Other RoW countries	*0*	*16*	*0*	*2*
	65	***174***	***77***	***81***

Notes:
The table reports the composition of the sample of targets and bidders in cross-border acquisitions into and out of the UK between 1981 and 2008. In the table, we distinguish between cross-border acquisitions *into* the UK (i.e., cross-border acquisition of a UK target) and cross-border acquisitions *out of* the UK (i.e., cross-border acquisitions by UK bidders). The sample is restricted to transactions where a cross-border acquisition can be matched to a comparable domestic acquisition. The matching is based on Country, Year, Industry, and Total Assets (within 50% – 200% range).

Table 2
Matching Criteria

		Targets	Bidders
Year		*251*	*146*
1981-1985		1	1
1986		3	2
1987		3	5
1988		7	14
1989		7	9
1990		5	5
1991		4	3
1992		0	2
1993		0	2
1994		5	6
1995		11	6
1996		4	1
1997		21	12
1998		39	22
1999		38	17
2000		30	9
2001		17	11
2002		10	4
2003		4	6
2004		4	1
2005		6	3
2006		8	3
2007		17	1
2008		7	1
Industry			
Construction		4.8%	0.7%
Manufacturing		49.6%	65.8%
Transport		6.0%	6.2%
Wholesale & Retail		5.2%	2.1%
Financials		9.5%	6.2%
Services		25.0%	19.2%
Total Assets			
Cross-Border	*Mean ($m)*	564.2	10,484.0
	Median	116.3	2,412.83
	Stdev	1,489.0	44,448.6
	Q1	54.3	523.4
	Q3	398.7	5,559.5
Domestic/CB	*Mean*	1.0214	0.9956
	Median	0.9990	0.9706
	Stdev	0.2488	0.3203
	Q1	0.8893	0.7769
	Q3	1.1178	1.1126

Notes:
The table reports descriptive statistics on variables used to match cross-border acquisitions with comparable companies from domestic acquisitions. Each target (bidder) in a cross-border acquisition into or our of the UK during the 1981-2008 period is matched to a target (bidder) in a comparable domestic acquisition, with companies matched based on country, year, industry and total assets. Variables are as defined in the Appendix.

Table 3
Targets and Bidders Cumulative Abnormal Returns

	3-day CAR (t-1, t+1)			*11-day CAR (t-5, t+5)*		
	Cross-Border	**Domestic**	**CB effect**	**Cross-Border**	**Domestic**	**CB effect**
Panel A: Targets (251 obs)						
Mean	0.2092***	0.1086***	0.1006***	0.2638***	0.1324***	0.1314***
Median	0.1705***	0.0612***	0.0618***	0.2220***	0.0822***	0.1178***
Stdev	0.2159	0.1539	0.2839	0.2226	0.2002	0.3140
Q1	0.0561	0.0053	-0.0600	0.1053	0.0018	-0.0377
Q3	0.3135	0.1820	0.2443	0.3963	0.2365	0.3047
Positive	93.2%***	78.9***	65.7%***	93.6%***	76.1%***	70.1%***
Panel B: Bidders (146 obs)						
Mean	-0.0028	-0.0178***	0.0150**	-0.0033	-0.0134**	0.0101
Median	*-0.0019*	-0.0124***	0.0046*	-0.0047**	-0.0116*	0.0041
Stdev	0.0600	0.0601	0.0783	0.0947	0.0794	0.1145
Q1	-0.0286	-0.0401	-0.0266	-0.0373	-0.0569	-0.0473
Q3	0.0323	0.0092	0.0572	0.0328	0.0248	0.0684
Positive	46.6%	32.3%***	54.8%	46.6%	39.7%**	51.4%

Panel C: Mean 3-day CAR by time period

	Targets			*Bidders*		
	Cross-Border	**Domestic**	**CB effect**	**Cross-Border**	**Domestic**	**CB effect**
1980s	0.1411***	0.0617**	0.0794**	-0.0074	-0.0121*	0.0047
Early 90s	0.1606**	0.1774***	-0.0168	-0.0156	-0.0372***	0.0215
Late 90s	0.1988***	0.1150***	0.0837***	0.0061	-0.0048	0.0110
Early 00s	0.2251**	0.0881***	0.1370***	-0.0049	-0.0425**	0.0376**
Late 00s	0.2684***	0.1251***	0.1432***	-0.0127	0.0058	-0.0184

Panel D: Mean Target CB effect by region

	By Target nationality			*By Bidder nationality*		
	Sample	***3-day CB effect***	***11-day CB effect***	**Sample**	***3-day CB effect***	***11-day CB effect***
All	251	0.1006***	0.1314***	251	0.1006***	0.1314***
UK	174	0.0456**	0.0626***	77	0.2247***	0.2871***
Other EEA	7	0.1912**	0.2403**	74	0.0065	0.0076
US	63	0.2423***	0.3093***	72	0.0893**	0.1239***
RoW	7	0.0993**	0.1338*	28	0.0368	0.0501
Panel E: Bidder CAR by region						
All	146	0.0150**	0.0101	146	0.0150**	0.0101
UK	65	0.0103	-0.0003	81	0.0188*	0.0185
Other EEA	29	0.0376*	0.0393	3	0.0408	-0.0548
US	46	0.0067	0.0054	58	0.0083	0.0078
RoW	6	0.0203	0.0186	4	0.0158	-0.0776

Notes:

The table reports target (Panel A) and bidder (Panel B) company cumulative abnormal returns over 3-day (t-1, t+1) and 11-day (t-5, t+5) event windows for. Companies in cross-border acquisitions into and out of the UK during the 1981-2008 period are compared to companies in comparable domestic acquisitions, with companies matched based on country, year, industry and total assets. Abnormal returns are estimated using the market model. In Panel C the 3-day cumulative abnormal returns are analysed by time period. We split the sample into 5 periods: The 1980s (1981-1989), the early '90s (1990-1994), the late '90s (1995-1999), the early '00s (2000-2004), and the late '00s (2005-2008). In Panel D the cross-border effect is analysed by target region, and in Panel E by bidder region. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively, from a *t*-test of the mean and a Wilcoxon signed rank test of the median. A sign test is used to test whether the proportion of positive abnormal returns is significantly different from 50%. Coefficients which change significance (from significant to insignificant, or from insignificant to significant at the 10% level) under estimation using the market adjusted returns model, are highlighted in italics.

Table 4
Bid Characteristics and Impact on Cumulative Abnormal Returns

	Targets			Bidders		
	Cross-Border	**Domestic**	***P-value***	**Cross-Border**	**Domestic**	***P-value***
Panel A: Bid Characteristics						
Payment						
Cash only	0.6135	0.5219	0.014**	0.6370	0.3425	0.000***
Equity only	0.0518	0.0996	0.039*	0.0890	0.0959	0.842
Company Size						
Ln MV	4.5238	4.2838	0.001***	7.3610	7.0770	0.009***
Relative Size						
TA T/TA B	0.4153	0.4429	0.859	0.3099	0.2869	0.0710
(Sample)	(171)	(117)		(138)	(138)	
Tender Offer						
Tender offer	0.7251	0.7211	0.919	0.8699	0.8493	0.633
Stake						
Stake %	2.99	7.69	0.002***	1.95	12.14	0.000***
Relatedness						
Diversifying	0.2988	0.4303	0.001***	0.1918	0.2543	0.181
Panel B: Correlation Between Cumulative Abnormal Returns and Bid Characteristics						
Payment						
Cash only	0.076	-0.103		0.038	0.197**	
Equity only	-0.128**	-0.062		0.006	-0.048	
Company Size						
Ln MV	-0.163***	-0.241***		-0.020	0.070	
Relative Size						
TA T/TA B	-0.080	-0.060		0.127	-0.241	
Tender Offer						
Tender offer	0.107*	-0.101		-0.0048	0.219***	
Stake						
Stake %	-0.110*	-0.182***		-0.0031	0.055	
Relatedness						
Diversifying	-0.0014	-0.031		0.082	-0.126	

Notes:

The table reports in Panel A the sample characteristics for targets and bidders in cross-border and matched domestic acquisitions into and out of the UK during 1981-2008, and the significance (p-value) of the differences in means. Relative Size of the targets and bidders (measured by their total assets) is not available for all sample firms. The sample size is given in brackets below the variable). Panel B reports Pearson correlations between 3-day (t-1, t+1) market-model cumulative abnormal returns and the various bid characteristics. The analysis is based on the sample of 251 targets and 146 bidders. Variables are as defined in the Appendix.

Table 5
Regression Analysis of Targets' and Bidders' Cumulative Abnormal Returns

	Targets		Bidders	
	(1)	(2)	(3)	(4)
Constant	0.1795***	0.1867***	-0.0275	-0.0247*
Cross-Border	0.0945***		0.0118	
- CB UK		0.0809***		0.0039
- CB EEA		0.1107		0.0622*
- CB US		0.1482***		0.0184*
- CB RoW		-0.0113		0.0055
Cash	-0.0135	-0.0198	0.0166**	0.0191**
Equity	-0.0833**	-0.0797**	0.0016	0.0019
Company Size	-0.0235***	-0.0252***	-0.0009	-0.0015
Relative Size			-0.0064	-0.0070
Tender Offer	0.0135	0.0068	0.0105	0.0105
Stake %	-0.0014***	-0.0014***	0.0001	0.0001
Diversifying	-0.0161	-0.0159	-0.0051	-0.0041
Early '90s	0.0594	0.0665	-0.0118	-0.0115
Late '90s	0.0471	0.0530*	0.0152	0.0151
Early '00s	0.0557*	0.0622*	-0.0090	-0.0091
Late '00s	0.0972***	0.1103***	0.0075	0.0098
Sample	502	502	276	276
Adj R^2	12.4%	13.4%	3.2%	3.5%
F-value	7.44	6.52	1.75	1.67
(*p*-value)	(0.000)	(0.000)	(0.057)	(0.057)

Notes:

The analysis is based on cross-border acquisitions into and out of the UK during the 1981-2008 period, with results for targets in columns 1 and 2 and for bidders in columns 3 and 4. The table reports cross-sectional regression results for the analysis of target and bidder cumulative abnormal returns. Abnormal returns are estimated over a 3-day (t-1, t+1) event window using the market model. Results in columns 1 and 3 are based on the following regression model:

$$CAR_{it} = \alpha_i + \beta_1 CB + \beta_2 Cash + \beta_3 Equity + \beta_4 LnCompanySize + (\beta_5 RelSize) + \beta_6 TenderOffer + \beta_7 Stake\% + \beta_8 Diversifying + \beta_9 Early\ '90s + \beta_{10} Late\ '90s + \beta_{11} Early\ '00s + \beta_{12} Late\ '00s + \varepsilon_i,$$

Due to the significant impact on sample size, we report results for target companies excluding this variable. Incorporating this variable for targets reduces the sample to 288 observations, but the overall conclusions remain unaltered. Results based on the expanded regression model to control for the location of the companies are reported in column 2 for targets and column 4 for bidders. The regression model is specified as follows:

$$CAR_{it} = \alpha_i + \beta_1 CB\ UK + \beta_2 CB\ EEA + \beta_3 CB\ US + \beta_4 CB\ RoW + \beta_5 Cash + \beta_6 Equity + \beta_7 LnSize + (\beta_8 RelSize) + \beta_9 TenderOffer + \beta_{10} Stake\% + \beta_{11} Diversifying + \beta_{12} Early\ '90s + \beta_{13} Late\ '90s + \beta_{14} Early\ '00s + \beta_{15} Late\ '00s + \varepsilon_i$$

Variables are as defined in the Appendix. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively, from two-tailed t-tests with White-adjusted standard errors.

Table 6
Characteristics of Cross-Border Acquisitions

	Targets	Bidders
Bidder pre-acquisition operations in target country		
Yes	46.6%	56.2%
No[♣]	7.6%	11.0%
Bidder previous cross-border acquisition experience		
Yes	50.6%	70.6%
Exchange rate change		
Mean	-0.0143***	0.0057
Stdev	0.0809	0.0769
Accounting Quality[*]		
Mean	-3.3142	0.7083
Stdev	8.2792	8.0764
Differences in Country Governance Characteristics B-T[†]		
English Origin		
Mean	-0.2427	0.1310
Stdev	0.4760	0.4126
Anti-Director Rights		
Mean	-0.7531	0.3655
Stdev	1.3999	1.0396
Rule of Law		
Mean	0.1944	0.0034
Stdev	1.3246	1.4104
Shareholder Protection		
Mean	-0.6002	0.3484
Stdev	1.2819	1.0018

	UK	US	Non-UK EEA		RoW	
			Target Sample	Bidder Sample	Targets Sample	Bidders sample
Accounting Quality	78	71	70.83	72	74.29	72.25
Country governance characteristics						
English Origin	1	1	0.29	0	1	0.75
Anti-Director Rights	5	5	2.86	2.67	4.71	4.25
Rule of Law	8.57	10	9.12	9.66	10	9.75
Shareholder Protection	4.29	5	2.55	2.57	4.71	4.15

Notes:

The table reports sample characteristics (in addition to information contained in Table 4) for the sample of target and bidding companies in cross-border acquisitions into and out of the UK during the 1981-2008 period. Variables are as defined in the Appendix. [♣]Annual reports (from which information in bidding company pre-acquisitions operation in the target country was obtained) were not available for all bidders, and we therefore include a residual category of 'no information'. [*]Data on accounting quality is missing for 24 bidders in the sample of targets, and for 2 targets in the sample of bidders. [†] Data on legal origin and country corporate governance factors is missing for 12 bidders in the sample of targets, and for 1 target in the sample of bidders, thus reducing the samples to 239 targets and 145 bidders, respectively, when the difference in legal origin or country corporate governance variables are included in the analysis.

Table 7
Correlation Matrix Between Cross-Border Effects, Nationality and Country Characteristics

	3-day CB effect	UK	EEA	US	RoW	B prior ops in T country	B no prior ops in T country	B prior CB acq experience	ΔExrate	Acc. Quality	English Origin	Anti-Director Rights	Rule of Law
Panel A: Targets													
T UK	-0.291***												
T EEA	0.054	-0.255***											
T US	0.290***	-0.870***	-0.098										
T RoW	-0.001	-0.255***	-0.029	-0.098									
B prior ops in T country	0.119*	-0.314***	-0.013	0.034***	-0.013								
B no prior ops in T country	-0.012	-0.071	0.134**	-0.027	0.134**	-0.267***							
B prior CB acq experience	0.041	-0.329***	-0.026	0.333***	0.071	0.604***	-0.079						
ΔExrate	0.028	-0.115*	0.024	0.090	0.062	-0.063	-0.062	-0.075					
Accounting Quality	0.303***	-0.864***	0.210***	0.776***	0.152**	0.301***	0.031	0.279***	0.122*				
English Origin	0.184***	-0.466***	0.350***	0.306***	0.089	0.069	0.020	0.231***	0.039	0.582***			
Anti-Director Rights	0.217***	-0.481***	0.360***	0.323***	0.129**	0.016	0.003	0.146**	0.091	0.644***	0.904***		
Rule of Law	-0.186***	0.805***	-0.097	-0.735***	-0.213***	-0.308***	-0.072	-0.322***	-0.052	-0.658***	-0.302***	-0.269***	
Shareholder Protection	0.124*	-0.072	0.317***	-0.054	0.023	-0.147**	-0.035	-0.009	0.069	0.313***	0.779***	0.884***	0.203***
Panel B: Bidders													
B UK	0.054												
B EEA	0.048	-0.162*											
B US	-0.070	-0.906***	-0.118										
B RoW	0.002	-0.187**	-0.024	-0.136									
B prior ops in T country	-0.081	0.431***	0.031	-0.486***	0.064								
B no prior ops in T country	0.137*	0.226***	-0.051	-0.240***	0.075	-0.397***							
B prior CB acq experience	-0.007	0.298***	-0.012	-0.274***	-0.076	0.368***	-0.062						
ΔExrate	-0.011	0.278***	-0.114	-0.271***	0.065	0.067	0.059	0.095					
Accounting Quality	0.038	0.855***	-0.122	-0.787***	-0.136	0.404***	0.199**	0.299***	0.252***				
English Origin	0.097	0.442***	-0.400***	-0.260***	-0.156*	-0.093	0.443***	-0.050	0.089	0.371***			
Anti-Director Rights	0.115	0.452***	-0.379***	-0.288***	-0.181**	-0.040	0.361***	0.025	0.141*	0.466***	0.827***		
Rule of Law	-0.020	-0.895***	0.112	0.829***	0.140*	-0.461***	-0.096	-0.250***	-0.305***	-0.705***	-0.305***	-0.337***	
Shareholder Protection	0.099	-0.182**	-0.301***	0.300***	-0.082	-0.373	0.299***	-0.157*	-0.076	-0.046	0.614***	0.758***	0.356***

Notes:

The table reports in Panel A Pearson correlation coefficients between 3-day (t-1, t+1) market model target company cross-border effect, while Panel B reports correlation coefficients for bidders. Cross-border effects are measured as the difference in cumulative abnormal returns in cross-border and matched domestic acquisitions, with matching based on country, year, industry and total assets. Variables are as defined in the Appendix.

Table 8
Company and Country Characteristics and Cross-Border Effects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
				Targets						**Bidders**		
Constant	0.0944	0.1729	0.1006	0.1260	0.0400	0.1064	0.0093	0.0169	0.0125	0.0071	0.0141	0.0087
B prior ops in T country	0.0461	0.0475	0.0568	0.0657	0.0485	0.0712	-0.0194	-0.0126	-0.0195	-0.0192	-0.0187	-0.0189
B no prior ops in T country	-0.0229	-0.0205	-0.0184	-0.0093	-0.0173	-0.0020	0.0016	0.0110	0.0065	0.0013	0.0014	0.0004
B prior CB acq experience	-0.0557	-0.0396	-0.0705	-0.0690	-0.0544	-0.0695	0.0114	0.0131	0.0112	0.0120	0.0115	0.0120
ΔExrate	-0.0714	-0.1502	-0.1450	-0.1595	-0.1572	-0.1738	0.0047	-0.0084	0.0031	0.0043	0.0088	0.0061
Accounting Quality		0.0072						-0.0005				
English Origin			0.0611						-0.0089			
Anti-Director Rights				0.0316**						0.0026		
Rule of Law					0.0331						0.0040	
Shareholder Protection						0.0349**						0.0032
Company EEA	0.1602	0.0907	0.0855	0.0450	0.1979*	0.0638	0.0167	0.0132	0.0067	0.0245	0.0079	0.0224
Company US	0.2054***	0.0846	0.1803***	0.1612***	0.2816***	0.2004***	-0.0115	-0.0112	-0.0136	-0.0092	-0.0213	-0.0128
Company RoW	0.0573	-0.0296	0.0270	-0.0001	0.1321	0.0380	-0.0037	-0.0090	-0.0083	0.0008	-0.0125	-0.0022
Cash	0.0244	0.0111	0.0247	0.0235	0.0231	0.0241	0.0043	0.0017	0.0043	0.0049	0.0043	0.0049
Equity	-0.1251	-0.1287	-0.1229	-0.1303	-0.1289	-0.1355	0.0191	0.0190	0.0204	0.0177	0.0190	0.0174
Company Size	-0.0277**	-0.0313**	-0.0230*	-0.0240*	-0.0243*	-0.0240*	-0.0028	-0.0038	-0.0031	-0.0028	-0.0029	-0.0028
Relative Size							0.0336**	0.0339**	0.0333**	0.0335**	0.0338**	0.0336**
Tender Offer	0.0002	-0.0004	-0.0113	-0.0108	-0.0033	-0.0127	0.0002	-0.0018	-0.0004	0.0012	0.0008	0.0015
Stake %	-0.0034	-0.0024	-0.0034	-0.0035	-0.0029	-0.0033*	-0.0007	-0.0011	-0.0007	-0.0007	-0.0007	-0.0007
Diversifying	-0.0111	0.0121	-0.0121	-0.0126	-0.0080	-0.0112	0.0171	0.0189	0.0168	0.0175	0.0171	0.0176
Early '90s	0.0191	-0.0157	0.0297	0.0236	0.0167	0.0219	0.0310	0.0280	0.0325	0.0300	0.0300	0.0291
Late '90s	0.0749	0.0805	0.0729	0.0688	0.0858	0.0712	0.0144	0.0090	0.0161	0.0134	0.0137	0.0128
Early '00s	0.1213*	0.1169	0.1201	0.1214	0.1240	0.1217	0.0412*	0.0387	0.0431*	0.0389	0.0393	0.0380
Late '00s	0.1324*	0.1256	0.1453	0.1408*	0.1530	0.1443*	-0.0215	-0.0218	-0.0203	-0.0227	-0.0233	-0.0233
Sample	251	226	239	239	239	226	138	136	137	137	137	137
Adj R2	9.7%	9.1%	8.9%	9.8%	8.9%	10.3%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%
F-value	2.58	2.26	2.29	2.44	2.30	2.52	1.01	1.01	0.95	0.95	0.95	0.95
(*p*-value)	(0.001)	(0.003)	(0.003)	(0.001)	(0.003)	(0.001)	(0.453)	(0.451)	(0.523)	(0.527)	(0.524)	(0.524)

Notes:

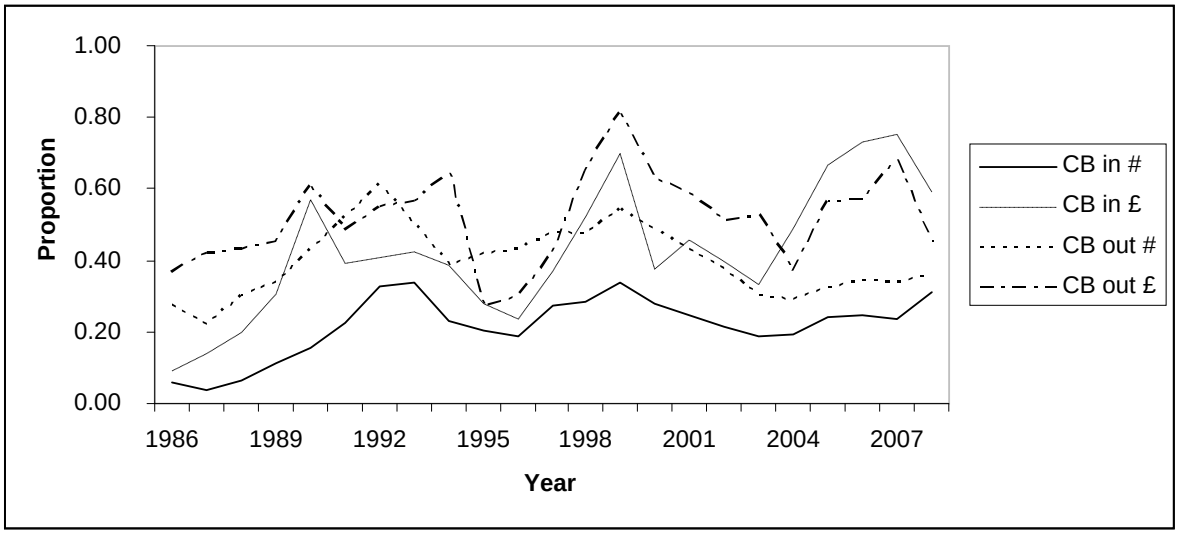
The table reports cross-sectional regression results for the analysis of target (columns 1-6) and bidder (columns 7-12) cross-border effects in acquisitions into and out of the UK during the 1981-2008 period, calculated as the difference in abnormal returns to cross-border and matched domestic companies, with CAR estimated over a 3-day (t-1, t+1) event window using the market model. The basic regression model is specified as follows:

$$\text{CB Effect}_{it} = \alpha_i + \beta_1 \text{ B no ops in T country} + \beta_2 \text{ No info B ops in T country} + \beta_3 \text{ Prior CB Acq experience} + \beta_4 \Delta\text{Exchange rate} + \beta_5 \text{Company (Non-UK) EEA} + \beta_6 \text{Company US} + \beta_7 \text{Company}$$

Rest of World + β_8Cash + β_9Equity + β_{10}LnCompanySize + (β_{11}RelativeSize) + β_{12}TenderOffer + β_{13}Stake% + β_{14}Diversifying + β_{15}Early '90s + β_{16}Late '90s + β_{17}Early '00s + β_{18}Late '00s + ε_i

β_{11}RelativeSize is missing for a large number of targets (and is not significant in any model for targets), and we therefore report results for targets excluding this variable, in order to maintain a larger sample size. In columns 2 to 6 for targets, and columns 8 to 12 for bidders, we expand the model to incorporate the difference between bidder and target country characteristics in terms of Accounting Quality, English Origin, Anti Director Rights, Rule of Law, and Shareholder Protection. These variables are introduced one at a time, given the high correlation between the country governance variables. Variables are as defined in the Appendix. *, **, and *** indicate significance at the 10%, 5% and 1% level, respectively, from two-tailed t-tests with White-adjusted standard errors.

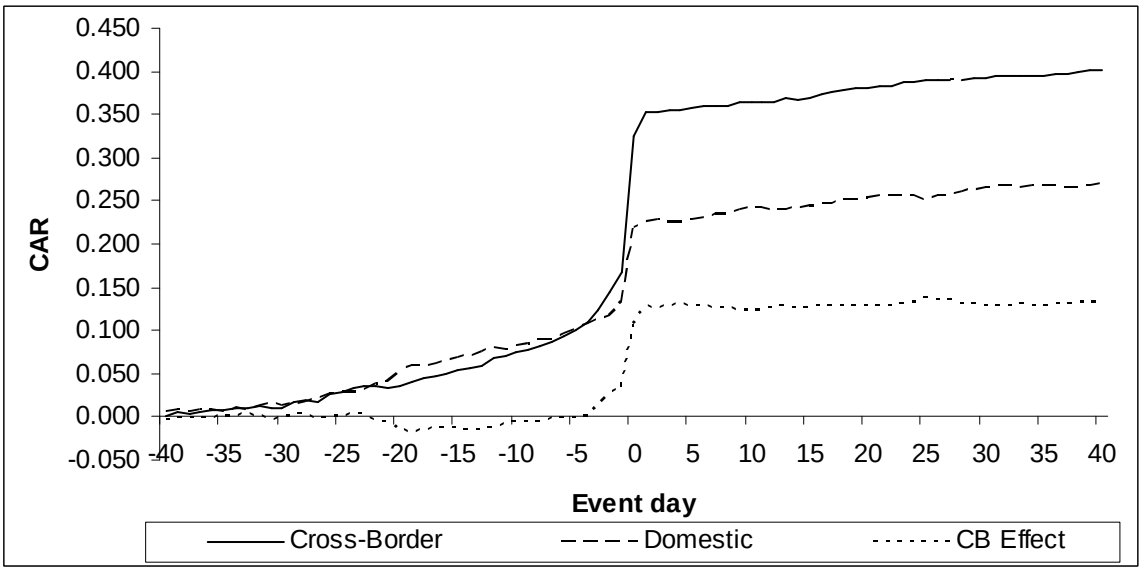
Figure 1
Cross-Border Acquisitions in the UK



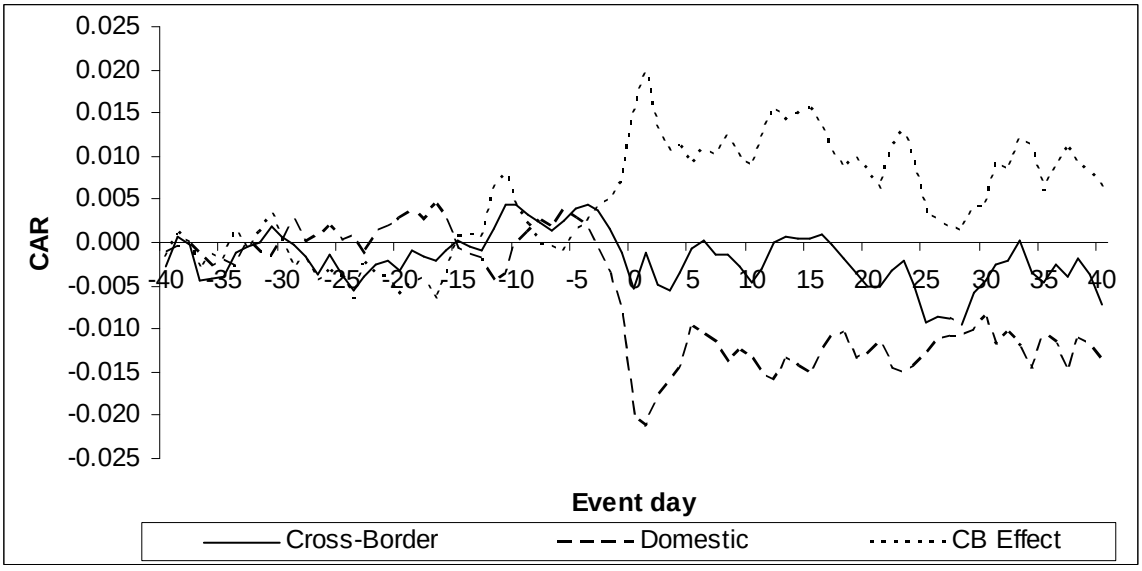
Notes:
The figure displays the proportion of acquisitions in the UK which are cross-border, as a fraction of the total number (#) or value (£) of acquisitions *of* UK companies (C*B in*) or *by* UK companies (CB out). Authors calculations based on data from UK Office for National Statistics, *Mergers and Acquisitions Involving UK Companies* series (statistics.gov.uk), 1986-2008.

Figure 2
Cumulative Abnormal Returns

Panel A: Targets



Panel B. Bidders



Notes:
The figures display the development of target (Panel A) and bidder (Panel B) cumulative abnormal returns over the period from forty days prior, to forty days after, the day of the bid announcement date, day 0. We report data for cross-border acquisitions, for matched domestic acquisitions, and the difference between the two – the cross-border effect.