Does contingent payment enhance foreign target acquirer's value? The optimal entry mode

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Abstract

This paper presents new evidence on the workings and wealth effects of earnouts in international changes of corporate control. It offers compelling evidence suggesting that firms choosing to join a multinational network via the acquisition of a foreign target firm outperform (a) their domestic counterparts and (b) the remaining foreign target acquirers only when they use earnouts in the deal's financing process. This is further explored by relying on a quasi-experimental design through which the *earnout effect* is evaluated in isolation. The findings offer direct evidence on the superiority of deferred payments in the form of earnouts in foreign target deals announced by acquirers without any international business experience. The results reflect the ability of earnouts to (a) reduce the excessive valuation risk faced by acquirers that attempt to access a foreign market for the first time and, (b) enhance the benefits of operating within a multinational network by securing higher merger payoffs. The results extend existing debate on the wealth effects of foreign acquirers, especially when entering a market for the first time, which provides further support for the Multinational Network Hypothesis introduced by Doukas and Travlos (1988).

Keywords: foreign acquisitions; cross-border acquisitions; earnout financing; asymmetric information; abnormal returns; Multinational Network Hypothesis.

JEL Classifications: G34, F23, F21, G15.

EFM Classifications: 160, 150.

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1. Introduction

Since the mid-1980s the world economy has witnessed a surge of foreign direct investments (FDI), primarily channelled through Cross-Border Acquisitions (CBA). [1] Historically, 1-in-3 (and almost 1-in-2 during more recent times) of UK firms involved in Mergers and Acquisitions (M&A) acquire a foreign target firm, making the UK the most active market in CBA worldwide.[2] CBA activities have increased from nearly 18% of total merger volume in 1987 to over 47% in 2011. This has triggered a voluminous literature tracing the wealth effects for foreign acquirers' shareholders by analysing the impact of several firm, deal, and country specific factors.[3] The studies tend to highlight that foreign acquirers are exposed to additional risks compared to those undertaking domestic deals (Moeller and Schlingemann, 2005), and the majority find that CBAs are associated with lower acquirer abnormal returns than their domestic counterparts.[4] While this challenges the traditional claim of the financial economic theory, Doukas and Travlos (1988) in their important contribution argue that firms entering a foreign market for the first time (first time cross-border acquirers, or FTA), regardless of whether they already have operations in *other* foreign markets, enjoy significant abnormal returns. This is attributed to the enhancement of their multinational network, which permits them to increase their valuations from lower cost of production, further global diversification, and perhaps more favourable tax schemes and growth opportunities that are unique to those markets. FTA, however, are exposed to much higher valuation ambiguities, given their lack of experience in acquiring and integrating targets beyond their national borders (Doukas and Travlos, 1988), particularly given the type of firms representing the average FTA.

More recently, studies show that the risk exposure of acquirers in M&A can be effectively controlled, or even significantly mitigated, through earnout-financing. [5] This financing mechanism allows acquirers to reap higher abnormal returns, if it addresses both

[1] In 2007 the value of CBA worldwide reached $1,197bn, compared to only $39bn in 1987 (UNCTAD, 2009).
[2] Healy and Palepu (1993) portray the UK as a leader in CBA, accounting for roughly 30% of global activity in the late 1980s. This is further confirmed by UNCTAD (2000) for the late 1990s.
[3] Earlier scholars show that foreign acquirers' abnormal returns are sensitive to managerial motives (managers' enhanced job security (Amihud and Lev, 1981)), agency costs (Seth, Song, and Pettit, 2002), national pride of acquiring targets based in developed countries (Hope, Thomas, and Vyas, 2011), market access (Doukas and Travlos, 1988), industry affiliation (Denis, Denis, and Yost, 2002), accounting quality (Bris and Cabolis, 2008), intangibility of assets (Chari et al., 2010), shareholders protection (Rossi and Volpin, 2004), international taxation (Huizinga, Voget, and Wagner, 2012), and other related firm- or deal-specific factors (Eckbo, 2009).
[4] A notable exception is Danbolt and Maciver (2012) who find domestic bidders to have significantly lower abnormal returns than bidders in cross-border acquisitions into and out of the UK.
[5] Earnouts constitute a contingent payment device in which payment is made to the seller of the acquired firm in at least two stages: an up-front payment in the form of cash, stock, or a mixture of cash and stock, and one or more future (deferred) payment(s), often in the form of cash, that is conditional upon the target achieving pre-agreed performance goals within a pre-determined period (Cain et al. 2011).

adverse selection and moral hazard considerations more effectively than single up-front payments in cash or stock (Kohers and Ang, 2000). Although the designated properties of earnouts seem, ceteris paribus, to be more suitable in CBA than in domestic M&A, given at least the larger degree of adverse selection and moral hazard considerations embedded in CBA, there is limited evidence with regard to (a) the valuation effects of earnouts in CBA and, (b) the abnormal returns earned by FTA or non-FTA acquirers (NFTA) in CBA when using earnout-financing.[6] It therefore remains an open empirical question whether the benefits of international business expansion are influenced by whether payment is made through earnouts once we account for the previous international experience of the acquiring firm.

This paper presents evidence suggesting that earnout-financed CBAs have significant positive impact on acquirer abnormal returns, yet *only* when the acquirer has no previous experience in foreign target acquisitions as opposite to those that have, and continue to expand, into either a familiar or a new market. To overcome potential identification issues that may distort our findings, a quasi-experimental design is employed via which the *earnout effect* is evaluated in isolation. The findings offer direct evidence on the superiority of earnouts in CBA announced by acquirers without any international business experience.

The main argument in this paper builds on simple theoretical predictions. Because the earnout-financing is itself the outcome of large disagreements between the merging firms over the payoff of the merger, we predict that the impact of earnout in eliminating merger valuation-risk will vary considerably across mergers rather than affect all abnormal returns equally. In particular, the demand for earnout-financing is anticipated to vary with the acquirer's experience in undertaking international M&A.[7] In practice, FTA, and earnout-financing separately, should lead to similar predictions, because mergers that are likely to be most sensitive to earnout-financing are those that also tend to be the riskiest and costliest to implement, which are likely to be those announced by FTA. Along these lines, theory suggests that smaller or younger acquiring firms, those involved in diversified deals, those that merge with targets operating in highly intangible-rich sectors, or those that enjoy extreme growth potential, and perhaps expanding into emerging markets, are likely to be more

[6] While single up-front payments in stock could similarly serve a comparable device to earnouts in addressing adverse selection and moral hazard considerations (Hansen, 1987), foreign targets are rarely willing to accept foreign equity as the payment currency, which ultimately leaves acquirers only with the cash payment currency option (Gaughan, 2002; Moeller and Schligemann, 2005). To this end, Fishman (1989) argues that, in cases of valuation disagreement, cash-financing offers a sub-optimal contract design.

[7] The sample shows that contingent payments are on average more frequently used in CBA announced by FTA than by NFTA.

sensitive to earnout financing. These characteristics often apply to firms acquiring abroad for the first time. Thus, whether earnouts in CBA involving acquirers without any international experience affect acquirer abnormal returns, or perhaps more precisely, enhance the economic benefits of such mergers, motivates the focus of this paper.

This issue remains important for several reasons. First, it adds to evidence suggesting that the costs and benefits of international business expansion are not uniform across all CBA. Therefore, the expansion of the firm's operations on a global scale accomplishes the investors' international diversification objectives. Yet, FTA face significant valuation uncertainties, due to the intrinsic ambiguities faced when exiting their home country for the first time and entering a new, and often less developed, foreign market (Doukas, 1995).[8] A failure to properly accommodate the inherent uncertainties embedded in the merger can ultimately offset its anticipated benefits, as discussed by Doukas and Travlos (1988). The contingent risk-mitigating properties offered through earnouts, however, arguably provide a reliable solution. Yet, the wealth effects associated with the choice of earnout-financing, conditional on the extent of the acquiring firm's existing multinational network, remains an unanswered but important issue.

Second, this paper contributes to the literature on the determinants of value creation in CBA and, in particular, earnout-financed international changes of corporate control. Moeller and Schlingemann (2005) illustrate that deals leading to an increase in global diversification are associated with lower abnormal returns relative to their domestic counterparts. Denis, Denis and Yost (2002) find a significant discount for globally diversified firms, which are closely related to agency problems and free-cash-flow considerations (Jensen, 1986).[9] Mantecon (2009) shows that the use of earnouts benefits predominately domestic acquirers and not cross-border ones.[10] In this paper we argue that these results are specific to deals announced by NFTA in a new country to them (NFTA_NEW) or in a country where they already have operations (NFTA_SAME), where earnouts are less likely to add significant value to acquirers. This is due to (a) earnout's limited impact in reducing merger valuation-risk when the acquirer has international experience in identifying, negotiating and integrating

[8] These include unfamiliar institutions and cultural values, disparate accounting practices, capital restrictions, tax policies and disclosure requirements, divergent contract enforceability due to legal and regulatory differences, as well as unpredictable future cash flows due to unforeseen exchange rate movements.

[9] The increase in the acquiring firm's global diversification is reflected by the increase in its proportion of sales from foreign operations to total sales (Denis, Denis and Yost, 2002).

[10] Mantecon focuses on mitigating adverse selection through alternative foreign investment models including full acquisition with earnout, partial or minority acquisition and joint venture. By contrast, our paper focuses on adverse selection arising from alternative payment methods for the majority control of target firms.

targets across their national borders (foreign target acquisition experience), an argument that is expected to be even stronger in NFTA_SAME given the acquirer local market knowledge and, (b) the limited merger abnormal returns as the acquiring firm is exposed to no further (the case of NFTA_SAME) or limited (the case of NFTA_NEW) multinational network expansion. However, in the case of CBA initiated by FTA, where neither (a) nor (b) holds, earnout finance may be much more valuable. Put simply, while higher gains are expected to be realised through CBA announced by FTA compared to NFTA_SAME or NFTA_NEW given the acquiring firm's multinational network expansion, as discussed by Doukas and Travlos (1988), FTA are also likely to be highly sensitive to valuation-risk, as the acquirer lacks experience in undertaking cross-border acquisitions or in entering, expanding or managing a multinational network.[11] The valuation risk is also likely to be exacerbated by FTA acquirers usually sharing several of the features listed earlier in the paper which may make acquisitions more risky, such as commonly being much smaller than firms engaged in NFTA. Failure to properly manage such risks may lead to significant costs that may exceed the expected benefits of the FTA merger. Therefore, earnout-financing should have a much stronger impact on FTA than on NFTA_SAME or NFTA_NEW abnormal returns, given its ability to accommodate merger valuation-risk more effectively. There appears to be no prior literature on whether the role of earnout financing in CBA varies with the extent of the acquirer existing multinational network. This study addresses this gap.

The UK market for corporate control offers a useful setting to gain robust insights into the workings of earnouts in CBA, given that UK acquirers are frequently involved in CBA deals,[12] and earnout financing is common in the UK, being used in more than 30% of domestic M&A and CBA.[13] The latter sets the UK apart from other takeover markets, being not only one of the most CBA-active markets worldwide, but also the most earnout-active market worldwide.

A three-stage approach is employed to analysing the impact of earnout-financing in cross-border and domestic acquisitions. The first stage comprises a standard univariate analysis of the abnormal returns earned by acquirers. Secondly, we perform a multiple

[11] CBA consists of the sum of all FTA, all NFTA in a new country (NFTA_NEW) and all NFTA in a country where the acquiring firm has already engaged in a CBA deal in the past (NFTA_SAME), i.e., CBA = (FTA + NFTA_NEW + NFTA_SAME).

[12] Healy and Palepu (1993) portray the UK as a leader in CBA, accounting for roughly 30% of global activity in the late 1980s. Similarly, data available from the UN (UNCTAD, 2000) portray the UK as holding the same proportion of CBA activity by the late 1990s.

[13] The rate of earnout use in our study (UK-based) is much higher than the 3.9% in Cain et al. (2011), the 4.1% in Datar, Frankel and Wolfson (2001) and the 5.6% in Kohers and Ang (2000), all based on US data.

regression analysis wherein we also control for the impact of several other deal- and merging firm-specific features on acquirer abnormal returns. Thirdly, to deal with potential selection bias concerns that may distort the impact of earnout-financing within deals announced by FTA or NFTA in CBA, the initial results are revisited by adopting a quasi-experimental design through which the *earnout effect* is evaluated in isolation. This is done using the Propensity Score Matching (PSM) method, wherein, in order to ensure that our propensity score estimator (i.e., the logit model) produces estimates that are as free as possible of omitted variable bias, the Rosenbaum-bounds (RB) sensitivity analysis method is also employed. This allows to identify the extent to which the accuracy of each of our matching sequences is affected by the impact of unobserved covariates.

The results show that earnouts are used in almost 1-in-3 foreign-target acquisitions, and in nearly 1-in-4 of acquisitions announced by FTA. In CBA, whether by FTA or NFTA, single up-front payments in cash (stock) is the most (least) frequent financing method. When turning the focus to the wealth effects of earnouts in domestic M&A and CBA (and sub-groups of FTA, NFTA_NEW and NFTA_SAME), the results show that foreign deals announced by firms without any international merger experience (i.e., FTA) and financed with earnouts significantly outperform domestic deals financed either with earnouts or single up-front payments in cash or stock. Within the CBA context alone, FTA acquirers using earnouts outperform: (a) FTA financed with cash, (b) NFTA_NEW, irrespective of the payment method, and (c) NFTA_SAME, again irrespective of the payment method. This is further verified within a multivariate framework. Moreover, FTA employing earnout enjoy higher gains when expanding internationally into emerging markets. Among other, this provides an important contribution regarding the workings of earnouts on the wealth effects of FTA that enter an emerging market for the first time in their business history. The evidence extends the results presented in earlier studies, such as Chari et al. (2010), who show that the gains of developed-market acquirers are positive only when they acquire emerging-market targets, yet without controlling for the earnout effect. Using a quasi-experimental design to isolate the *earnout effect*, the findings show that FTA using earnout earn significantly higher announcement-period abnormal returns than their matched non-earnout FTA counterparts, of about 2.20 percentage points.

Regarding the impact of earnout-financing in deals announced by experienced cross-border acquirers, for acquirers into new markets (NFTA_NEW) using earnout, the gains are not economically and statistically significantly different from those of acquirers involved in domestic deals. On the contrary, NFTA_SAME using earnout underperform their domestic

counterparts. We extend the quasi-experimental analysis to evaluate the *earnout effect* within the NFTA_NEW and NFTA_SAME portfolio of deals separately. The results suggest that our treated earnout-financed NFTA_NEW and NFTA_SAME deals yield gains that are no different to those of their matched non-earnout-financed NFTA_NEW or NFTA_SAME counterparts, respectively. We argue that this is due to earnout's trivial impact in addressing merger valuation-risk in NFTA_NEW or NFTA_SAME deals where the acquirer has prior experience in identifying, negotiating and integrating targets across national borders. While we might have expected some, if modest, benefits of earnout in addressing valuation risk in NFTA_NEW (as opposed to NFTA_SAME where the acquirer has prior local market knowledge), we do not find this to be the case. This may be due to the characteristics of NFTA_NEW deals, with the acquirers generally being large (and the transactions relatively small compared to the acquirer's market capitalisation), suggesting the valuation risk is much less of an issue in NFTA_NEW than in FTA deals. Moreover, with NFTA_SAME and NFTA_NEW) offering no or only modest expansion of multinational networks, such deals have only limited impact on bidder abnormal returns. We find the use of earnout financing to have no significant impact on the wealth effects of such deals.

The paper makes several important contributions to the M&A literature. Specifically, in contrast to current evidence which tends to suggest acquirers perform worse in CBA than in domestic M&A, it identifies a portfolio of CBA, i.e., earnout-financed FTA deals, that significantly outperform all domestic and other CBA. All the more so, having accounted for potential selection bias considerations within the FTA portfolio, the results set earnout-financing as the optimal payment strategy when firms wish to join a multinational network through the acquisition of a foreign company. This uncertainty-resolution payment strategy is particularly useful in initial international expansions in emerging markets, which exhibit a higher level of investment risk (Doukas, 1995; Chari et al., 2010). The results complement and extend the findings of Mantecon (2009) and Barbopoulos and Sudarsanam (2012), who suggest that earnout-financed CBA yield insignificant acquirer abnormal returns. Specifically, distinguishing between FTA and NFTA deals, the findings show that earnouts are beneficial in FTA deals only. This finding suggests that earnouts present an optimal payment contract for firms intending to expand internationally yet without any international business experience (often smaller or younger firms, those that merge with targets operating in highly intangible-rich sectors, etc), especially when they target a firm based in an emerging market, wherein valuation challenges are particularly pronounced. On the contrary, when the acquirer already has some international operations in the target firm's country, earnout-

financing appears less beneficial to the acquiring firm. Such transactions provide at best modest extensions of multinational networks and have limited valuation effects. Earnout is found to be less beneficial when acquirers have prior CBA experience. This may also be related to the features of NFTA acquirers, being on average larger and older than FTA.

The paper proceeds as follows. Section 2 reviews the salient literature and presents our testable hypotheses. Section 3 outlines the methods used to conduct our empirical analysis. Section 4 provides a description of the data employed and discusses our main findings. Finally, Section 5 provides a conclusion.

2. Theoretical Framework and Hypotheses

CBA, especially those announced by acquirers not operating in the target firm's country (regardless of whether they operate elsewhere internationally), expose acquirers to significant valuation risk (Doukas and Travlos, 1988). This risk is mostly due to asymmetric information between the merging firms for two reasons: firstly, one or both merging firms may hold private knowledge on their valuation which is not *ex ante* transparent to the other – a case of adverse selection or hidden knowledge; and secondly, one or both merging firms can take an action *ex post* that may harm the other – a case of moral hazard or hidden action. Accordingly, information asymmetry, concerning predominantly the financial condition and the performance of the target, gives rise to the adverse selection problem, whereas the future uncertainty about the efforts of the target firm's management to deliver the expected merger payoffs, gives rise to the moral hazard problem.[14]

Studies show that adverse selection risk can be reduced by the judicious choice of the method of payment (Hansen, 1987; Eckbo et al., 1990). For the acquirer in cash-financed deals, and for both the acquirer and target in stock-exchanged deals, information asymmetry creates valuation uncertainty and leads them to demand a discount to the apparent value of the acquiring or the target firm (Travlos, 1987; Eckbo, Giammarino and Henkel, 1990). Thus, announcement period abnormal returns are significantly higher in cash-financed than in stock-financed deals, for both the acquiring and the target firms' shareholders (Chang, 1998; Fuller et al., 2002; Faccio et al., 2006). A cash offer is made by acquirers who attach a high value to the target firm under their control, and by so doing signal their confidence that the target will be of high-value during the post-merger period (Fishman, 1989). Less confident

[14] Moral hazard arises when contractual performance cannot be precisely monitored or enforced due to weak contract formulation, imprecise performance measurement, or weak contract enforcement remedies available to the party exposed to performance failure by the other contracting parties. For a discussion of the adverse selection and moral hazard perspectives of earnouts, see Cain et al. (2011).

acquirers, instead, prefer to use stock as a medium of payment, or an earnout contract.

Neither cash nor stock payment that is delivered in a single up-front component can factor in the post-acquisition performance of the target in the deal value[15] while an earnout does.[16] In an earnout deal the payment is made in two stages: an up-front payment of a large proportion of the deal value at the time of the deal, and a relatively smaller payment (earnout) contingent upon the post-merger performance of the acquired firm.[17] Therefore, earnouts should mitigate the moral hazard problem by incentivising target management's continued involvement in running the target firm. The first stage payment can be in the form of cash, stock or a mixture of these and other securities. The second stage payment is made over the earnout period and on the target reaching agreed milestones.[18] The contingent form of consideration seeks to achieve both the avoidance of the adverse selection problem (i.e., *ex ante* overvaluation of the target firm due to target firm's managers hiding 'bad' information regarding the 'intrinsic' value of the firm), and the *ex post* moral hazard problem (i.e., contract failure due to shirking or inability of a party to enforce contract compliance and performance delivery), thus contribute to the reduction in valuation risk for the acquiring firm.[19]

Evidence relating to the impact of earnout contracts on the short-run gains of acquiring firms is limited. Kohers and Ang (2000) show that earnout financed deals yield positive short- and long-run abnormal returns for acquiring firms' shareholders. These abnormal returns are superior to those realized in transactions financed by cash or stock. Datar, Frankel, and Wolfson (2001) show that foreign acquirers use earnout less frequently than domestic

[15] While cash acquisitions expose acquirers to the full risk of over-valuation of the target, in stock deals the risk is shared between the merging partners (Hansen, 1987). Stock deals, nevertheless, do not always guarantee that the target firm is managed to ensure the realisation of the expected value implied by the acquisition premium, unless the target owners/managers retain sufficient interest through their equity in the combined firm.

[16] Under equity-financing, the target's ownership in the combined firm is usually relatively small, and hence, the acquirer is disproportionately exposed to post-merger price corrections in case of misevaluation error (Kohers and Ang, 2000). Moreover, foreign targets are very rarely willing to accept the stock of a foreign acquirer as the payment currency, which thus usually forces acquirers to pay with cash (Gaughan, 2002). Fishman (1989) argues that, in cases of valuation disagreement, cash-financing offers a sub-optimal contract design.

[17] The average earnout component is about 33% of the total purchase consideration (Cain et al., 2011; Barbopoulos and Sudarsanam, 2012).

[18] Faccio and Masulis (2005, footnote 13) show that the balance is usually paid in cash.

[19] Several other contractual mechanisms are available for enhancing M&A deal success, such as: (a) termination fees, lockups, and material adverse change clauses that are designed to prevent, or raise the cost of, either the acquirer or the target reneging on the deal, (b) collars that are designed to minimize the impact of short term adverse stock price movements and, (c) toeholds that are designed to increase the probability of deal success by the acquirer through buying up chunks of target shares. Unlike earnout contracts that are designed to manage valuation risk, these mechanisms are designed to eliminate transactional risk and not mitigate valuation risk. Hence, our primary objective in this paper is to analyze exclusively the impact of earnout payment mechanism in mitigating valuation risk in the context of domestic versus foreign acquisitions based on both parametric and non-parametric methods.

acquirers. The managers of foreign targets appear to be unwilling to accept deferred payments owing to possible future conflicts arising from the discrepancies in calculations of the payment amount and performance goals, and differences in accounting practices and other corporate governance mechanisms. Barbopoulos and Sudarsanam (2012) show that UK acquirers using earnouts enjoy higher short- and long-run abnormal returns compared to single up-front payments. Cain et al. (2011) examine the determinants of earnout use in deals involving US firms, and show that the size and the length of the earnout contract are greater when the uncertainty surrounding the value of the target is higher. Earnouts often stipulate the retention of the target institution's management team during the post-acquisition period. As such, the retention of valuable human capital can reduce problems associated with integrating the merged entities in the post-acquisition period. This is perhaps particularly relevant in CBA in which the acquirer in entering the target firm's country for the first time.

Along these lines, Doukas and Travlos (1988) postulate the Multinational Network Hypothesis, illustrating that the benefits of international business expansion mainly stem from arbitraging institutional restrictions, capturing informational externalities, and cost saving by joint production in marketing and manufacturing. Consequently, firms should experience greater gains when their multinational network increases, i.e., when firms expand internationally for the first time in their business history, or at a subsequent time into a new country. Moreover, Markides and Ittner (1993) and Doukas (1995) further argue that the benefits associated with an increase of a firm's multinational network should be greater when expanding into less developed countries and, consistent with Jensen's free-cash-flow hypothesis (Jensen, 1986), lower when the acquirer is a highly profitable firm.

Despite allowing the acquiring firm to cross domestic boundaries and gain access to the benefits of operating within a multinational network, CBA announced by FTA also include the inherent complexities of leaving the home country for the first time and entering a new geographic market. FTA are often small or young firms, involved in diversified deals, merge with targets operating in highly intangible-rich sectors, or enjoy extreme growth potential, and perhaps expanding into emerging markets. FTA are therefore likely to be more sensitive to valuation-errors, and failure to account for the implied risks embedded in such deals can ultimately diminish the expected benefits of the merger. To this end, earnout-financing can assist to reduce the acquirer's exposure to the inherent risks, increase information sharing between the involved firms, as well as maintain the target firms' management which, being familiar with the dynamics of its domestic market, is incentivized to maximize performance and receive the deferred payment. This should send a strong signal for value creation to

market participants, reflecting the acquiring firm's successful joining of a multinational network. Therefore, the testable hypotheses in this paper are that:

(H1) *Earnout-financed CBA announced by FTA outperform domestic M&A financed with either earnout or single up-front payments.*

(H2) *Earnout-financed CBA announced by FTA outperform other CBA (i.e., NFTA_NEW and NFTA_SAME) financed with either earnout or single up-front payments.*

3. Methods

3.1. Measurement of Abnormal Returns

The commonly used methods to estimate abnormal returns in response to a corporate event that is announced by an acquiring firm i requires a long time-series, or a window of returns of the acquiring firm i, which needs to be free of the effect of other (similar) events announced from the same firm i within the estimation period. However, the sample employed in this paper is composed of many deals that are announced by frequent acquirers within short periods. Therefore, standard asset pricing methods may not be appropriate. Instead, in line with numerous previous studies accommodating similar concerns (e.g., Fuller et al., 2002; Barbopoulos and Sudarsanam, 2012; Danbolt and Maciver, 2012), the short-run abnormal returns for an acquiring firm i, in response to a merger announcement, are estimated using the market-adjusted returns model, as shown in Equation 1:

$$AR_{it} = R_{it} - R_{mt} \tag{1}$$

where AR_{it}, is the abnormal return to acquirer i on day t, R_{it} is the log stock return of acquirer i on day t, R_{mt} is the value-weighted market log return index (FTSE All Share) on day t. The announcement period Cumulative Abnormal Return (CAR) for acquirer i is the sum of the abnormal returns over a 5-day window ($t-2$ to $t+2$) surrounding the deal's announcement day, $t = 0$, as shown in Equation (2):

$$CAR_i = \sum_{t-2}^{t+2} AR_{it} \tag{2}$$

3.2. Univariate and Multivariate Analysis

At first, the announcement period acquirer abnormal returns are analyzed by method of payment used and type of M&A. To assess the comparative performance of different groups of acquirers, the difference in means is tested using the *t*-test.

We then examine the above interactions in a multivariate framework where several other

factors which may affect the announcement period acquirers' returns are included simultaneously. In particular, the following Equation (3) is estimated in a nested form:

$$CAR_i = \alpha + \sum_{j=1}^{k} \beta_j X_{ij} + \varepsilon_i \qquad i = 1 \dots N \tag{3}$$

where the intercept, α, accounts for the abnormal returns accrued to acquirers' shareholders after accounting for the effects of all the explanatory variables X_{ij}. The dependent variable, CAR_i, is the five-day announcement period acquirer CAR (as in Equation 2). The vector of explanatory variables, X_{ij}, includes several factors that are known to affect acquirers' gains. There variables are presented below into two main categories: first the deal- and firm-specific factors are presented, and second the country-specific ones.

Previous research shows that the gains of acquirers are sensitive to the choice of payment method (Travlos, 1987; Kohers and Ang, 2000; Fuller et al., 2002). Therefore, to account for the implications of methods of payment on acquirers' gains, a dummy variable is included in Equation (3) taking the value of 1 if earnout financing is included in the deal (=Earnout), and 0 otherwise (=single up-front payments in cash, stock, or a mixture of cash and stock). To account for the impact of foreign acquisitions on acquirers' gains, we include in the Equation (3) a dummy variable that takes the value of 1 if the target is a non-UK firm (=CBA), and 0 otherwise (=Domestic). Moreover, to account for the predictions of the Multinational Network Hypothesis (Doukas and Travlos, 1988), dummy variables are included that take the value of 1 if the acquiring firm enters a new market for the first time or it has no international experience before the merger (=FTA), if the acquiring firm that already has foreign operations enters a new market (=NFTA_NEW), or if the acquiring firm that already has operations in a foreign market announces a subsequent deal in the same market (=NFTA_SAME), and zero otherwise, respectively.[20]

Extant literature (e.g., Fuller et al., 2002) shows that acquirer abnormal returns are positively related to the relative size of the deal (measured as the ratio of the deal value over the market value of the acquirer 20 days prior to the M&A announcement). Therefore, the relative size of the deal (=Rel. Size) is included in Equation (3). Moreover, information asymmetry between the merging firms influences heavily the announcement period returns accrued to acquirers' shareholders. Draper and Paudyal (2008) and Zhang (2006) suggest that

[20] While classifying deals as FTA, we ensure that the acquiring firm has not engaged in any prior international acquisitions of assets, such as divestitures, or minority stakes that do not imply a change of corporate control, i.e., the total number of firms remains unchanged after the completion of the deal. In contrast, we do not apply such restrictions in deals initiated by NFTA.

investors tend to have more information on firms with longer trading history, which results in lower information asymmetry. Therefore, the age of the acquirer (measured by the log of the number of days between the announcement day and the first record of the company in Datastream) (=Acq. Age) is included in Equation (3).

Bradley, Desai and Kim (1988) and Barbopoulos and Sudarsanam (2012) point to the wealth effects generated by the industry relatedness of the target firm. Therefore, to control for the potential effect of corporate diversification, a dummy variable taking the value of 1 for cross-industry deals (i.e., where the target and acquirer do not share the same primary 2-digit SIC code) (=Diversified), and =0 otherwise, is included in Equation (3).

Lastly, extant literature illustrates the influence exercised by the target firm's listing status on the distribution of acquirer abnormal returns (Travlos, 1987; Hansen, 1987; Chang, 1998, Fuller et al., 2002). A dummy variable is therefore created for those cases where the target firm is an unlisted one (=Tar. Unlisted). Key financial ratios of the acquiring firm such as its market-to-book value (=Acq. MTBV) and the ratio of net profit over revenue (=Acq. Net Margin) that reveal information about the acquirer's growth opportunities and profitability, respectively, are included in Equation (3).

Numerous country variables have also been found in prior literature to affect bidder returns in CBA, which are added in Equation (3). Extant literature (e.g., Barbopoulos, Paudyal, and Pescetto, 2012) suggests that the target firm's country operating legal system interacts with the target firm's public status and the deal's method of payment in shaping the acquirer abnormal returns. Therefore, a dummy variable is included in Equation (3) taking the value of 1 when the target firm operates in a country under the Common Law legal system (=Tar. in Com. Law), and 0 otherwise (=Civil Law legal system).

Agmon and Lessard (1977) and Baker, Foley, and Wurgler (2009) argue that CBA in countries with higher capital controls are likely to lead to higher corporate wealth creation. Therefore, knowledge of the regulatory provisions on capital mobility is critically important for the managers of acquiring firms. The level of capital control of targets' domiciles is measured by the capital control index developed by Gwartney, Hall, and Lawson (2014) published in the Economic Freedom of the World, 2014 Annual Report. This index covers 141 countries and the value ranges from 1.4 (for the least open economy) to 9.8 (for the most open economy). The index is updated annually, and the Capital Control variable (=Tar. Cap. Control) included in Equation (3) is therefore time-varying.

Harris and Ravenscraft (1991) and Kiymaz (2004) suggest that the gains of acquirers from CBA are affected by the strength of their domestic currency, relative to the currency of

the target firm's country. To measure the wealth effects of exchange rate fluctuations, an index is constructed using the procedure outlined in Kiymaz (2004). A positive (negative) value of the index indicates that the Pound Sterling has appreciated (depreciated) relative to the currency of the target's nation. Acquisitions made at the time of stronger domestic currency are expected to generate higher gains. Therefore, the exchange rate (=Exch. Rate) is included in Equation (3).

Doukas and Travlos (1988) and Doukas (1995) suggest that firms should enjoy greater gains when expanding into less developed economies. Therefore, we use country classification offered by the International Monetary Fund, the Organization for Economic Cooperation and Development (OECD) and the World Bank and construct a dummy variable assigned the value of 1 if the target firm resides in a developed country, and 0 otherwise (=Tar. in Dev. Country), which is included in Equation (3).

Lastly, Manzon, Sharp and Travlos (1994) test whether differences in firm-level and target country tax systems explain the cross-section of acquirer abnormal returns in CBA. To account for divergent tax policies across countries, we use data on corporate tax rates offered by the International Monetary Fund, the Organization for Economic Cooperation and Development (OECD) and the World Bank (=Tar. Corp. Tax) in Equation (3).

3.3. Propensity Score Matching (PSM) and Rosenbaum-bounds (RB) methods

It is possible that the results (both univariate as well as multivariate) are affected by the presence of potential selection bias as the observed gains may be because of the characteristics of the acquirers rather than due to the use of earnout *per se*. In experimental studies, where the two samples (the treated and non-treated) are randomly assigned, the assessment of their comparative performance is free of such bias. However, in observational studies such as ours, the assignment is non-random and this may result in biased estimation of the treatment effects. To deal with such a concern (i.e., to reduce the vulnerability of our results to the problem of causal interpretation), the Propensity Score Matching (PSM) method is employed.[21] The PSM allows for a bias-reduced causal inference by pairing treated deals (earnout) with untreated (non-earnout) deals, based on a propensity score that is estimated at the deal level via a logit model using observable pre-treatment features. Following the matching exercise (see Dehejia and Wahba, 2002 for an application of the method), the cumulative abnormal returns of treated and untreated sample deals are compared. The

[21] Behr and Heid (2011) provide a thorough discussion of the PSM methodology along with its application in evaluating the success of German bank mergers in the period 1995-2000.

propensity scores of acquirers that used earnout and those that did not, across all, domestic and CBA samples separately, are estimated, as well as across each type of CBA, including those announced by FTA, NFTA_NEW and NFTA_SAME.

The PSM is employed in three Exercises. In Exercise 1, earnout-financed deals announced by FTA are matched to non-earnout-financed deals announced by FTA. In Exercise 2, earnout-financed deals announced by NFTA_NEW are matched to non-earnout-financed deals announced by NFTA_NEW. Finally, in Exercise 3, earnout-financed deals announced by NFTA_SAME are matched to non-earnout-financed deals announced by NFTA_SAME. The deals are selected from the non-earnout group based on alternative Match Ratios (MR) of 1:1, 3:1, 5:1 and 10:1 within 1% APD. (In the table we only report the results of MR = 1:1 to conserve space but other results, which are qualitatively similar, are available on request from the authors). To check for the accuracy of the matching process, we test whether the distributions of the covariates between the earnout and matched non-earnout groups are similar using the two-sample *t*-test. The test results (also available on request) confirm that the distributions of the logistic model covariates, for all domestic and CBA deals between earnout and non-earnout groups, while significantly different before the matching, are *not* statistically different after the matching (Rosenbaum, 1985). Therefore, effective matching between the treated and untreated samples/variables is achieved. We applied the Rosenbaum-bounds (RB) sensitivity method (Rosenbaum, 2002) to assess the effect of possible omitted variable bias that may affect the propensity score estimation and thus our findings. Specifically, the RB method allows us to investigate the exposure of our derived conclusions from the PSM to the effect of missing covariates from our propensity score estimator (logit model).

3.4. Determinants of Earnout Choice

The PSM method is based on matching treated to counterfactual sample units based on a propensity score predicting the use of the treatment. Therefore, the logistic regression is implemented in order to model the choice of earnouts in deals announced by FTA (Exercise 1), NFTA_NEW (Exercise 2), or NFTA_SAME (Exercise 3), and calculate each deal's propensity to exhibit the treatment (=Earnout). In the estimations, our dependent variable assumes the value of 1 if a deal is earnout-financed, and 0 otherwise. Extant literature on earnout-financing illustrates that earnout provisions are most likely to be observed in acquisitions of unlisted firms, operating in intangible-rich sectors, or unrelated industries, and characterized by substantial risk, mainly sourced from adverse selection and moral hazard

concerns (Kohers and Ang, 2000). Moreover, Datar et al. (2001) illustrate that Common Law countries facilitate, to a great extent, contractual agreements, thus increasing the likelihood of its use. In addition, earnout-financing is hypothesized to be implemented by acquirers expecting high value creation from the acquisition which leads to the need to capture the acquirer's growth opportunities as measured by its market-to-book ratio (Rau and Vermaelen, 1998). Furthermore, as earnout is more likely to be used in relatively riskier private-target deals, the deal relative size is utilized in our analysis to offer a proxy for the deal's riskiness (Kohers and Ang, 2000; Cain et al., 2011). Kohers and Ang (2000), page 459 argue that "*Since the costs of valuation mistakes are increasing with the target's relative size, risk-averse bidders are more likely to seek protection from this misvaluation risk through the use of larger proportions of earnouts*". Lastly, this paper also utilizes certain key financial ratios of the acquiring firm, as further determinants of the decision to engage in an earnout-financed deal. They consist of the acquiring firm's cash ratio (total cash and cash equivalents over total assets), its debt-to-equity ratio (total debt to common equity) and its ratio of net profit over revenue (profit margin). These variables are expected to capture the liquidity, leverage and profitability status of the acquiring firm.

In addition, we also include factors known to influence cross-border takeover activity. They consist of the target country's level of economic development, the capital controls in place in the target country, the corporate tax rate that is in effect in the target country, and the relative strength of the acquiring firm's currency.

When matching within NFTA_NEW and NFTA_SAME deals, we also include the ratio of the acquiring firm's foreign to total sales as these acquirers have sale revenues from previous foreign operations. This allows us to capture, to a great extent, how the acquiring firm's degree of global diversification affects the probability of earnout use, as well as match treated earnout-financed deals to non-earnout-counterfactual M&A involving acquirers that are similarly globally diversified.

4. Data and Results

4.1. The Sample

The sample consists of completed M&A announced by UK public firms between 01/01/1985 and 31/12/2013 and recorded by the Security Data Corporation (SDC).[22] SDC records 31,828 M&A involving UK public acquirers within the sample period covered. In

[22] The starting date of the sample is guided by the comprehensiveness of SDC. Netter, Stegemoller and Wintoki (2011) suggest that SDC offers complete coverage of M&A announcements at least from 1989.

order for a deal to remain in the sample, it must meet the following criteria: The acquirer is a UK public company listed in the London Stock Exchange (LSE) and has a market value of at least $1m, measured four weeks prior to the announcement of the deal. To avoid the insignificant effects of very small deals, the transaction value needs to be at least $1m. Because we wish to study transactions clearly motivated by changes in control, we follow Rossi and Volpin (2004) and focus on mergers and acquisitions of at least 50 percent of the target firm's equity. Targets of all listing statuses (public, private and subsidiary) and domicile (UK or non-UK) are included in the sample. To avoid the confounding effects of multiple deals, deals announced within 5 days surrounding another bid by the same acquirer are excluded from the sample. Furthermore, the daily stock price and market value of the acquirer need to be available from Datastream. Buy-backs, repurchases, exchange offers, recapitalizations, privatizations, self-tender offers, spin-offs and reverse takeovers are excluded from the sample. Cases where either acquirer or target firms are government organizations, are excluded from the sample. The above criteria are satisfied by 5,492 deals and remain in the sample. CBA consist of 1,693 deals, 453 of which are earnout-financed.

4.2. Sample Characteristics

Table 1 illustrates the annual distribution of All, Domestic, and CBA, and sub-groups within CBA based on the extent of the acquiring firm's multinational network (i.e., FTA, NFTA_NEW and NFTA_SAME), as well as the payment method (i.e., earnout-financing, and non-earnout-financing such as single up-front payments in cash, stock or mixed). Figures 1 to 3 also depict the annual distribution of All, Domestic, and CBA, and sub-groups within CBA based on the extent of the acquiring firm's multinational network (i.e., FTA, NFTA_NEW and NFTA_SAME). Both Table 1 and Figures 1 to 3 highlight the three major merger waves across our sample period that are perhaps motivated by the behavioral explanation of Shleifer and Vishny (2003) which argues that the observed clustering in M&A activities is largely driven by stock market miss-valuations. Interestingly, while the merger waves are observed for the total M&A activity, as well as for domestic M&A and CBA separately, CBA announced by FTA are not correlated with the above, suggesting that acquirers entering a foreign market for the first time are motivated by strategic considerations such as those proposed by the neoclassical theory of merger waves and discussed in Andriosopoulos and Barbopoulos (2016).

(Insert Table 1 and Figures 1-to-3 about here)

Table 2 records the descriptive statistics of our sampled M&A. Consistent with Faccio

and Masulis (2005) and Draper and Paudyal (2006), Table 2 shows that the vast majority of UK M&A involve unlisted target firms (86% of all domestic deals and also 86% of all CBA), while cash and mixed payments dominate the acquisitions' financing currencies (38% and 24%, respectively). Regarding the target's domicile, roughly 31% of targets within our sample reside beyond UK borders, while almost 61% (31%) operate within countries under the Common (Civil) Law legal system. One in five CBA (20%) constitutes an acquiring firm's initial international expansion (=FTA). Subsequent international expansions are mostly observed within countries in which the acquiring firm has already engaged in a CBA in the past (50% of all CBA), while non-initial international expansions in a new country account for roughly 30% of all CBA activities. Consistent with previous studies on earnout-financing (Barbopoulos and Sudarsanam, 2012), roughly 28% of all deals and 27% of all CBA within our sample use earnouts. Within CBAs, earnout-financing is observed in 24% of deals announced by FTAs, 30% of NFTA_NEW and 26% of NFTA_SAME. Cash constitutes the most frequent payment method in CBA, consistent with Moeller and Schlingemann (2005). Lastly, roughly half of our sampled M&As are diversifying deals, irrespective of the target firm's domicile.

(Insert Table 2 about here)

Panel B illustrates the large size of most CBAs, being on average more than twice the size of the average domestic deal ($265m and $121m, respectively). CBA also involve larger acquirers, on average, relative to domestic M&A ($3,455m and $944m, respectively). Nevertheless, not all CBA appear to share the above characteristics, as deals announced by FTA are substantially smaller in size (average of $34m), whereas the average size of subsequent international expansions in either a new country or not are almost ten times larger ($334m and $317m, respectively). Similarly, FTA are much smaller than NFTA_NEW or NFTA_SAME firms ($299m compared to $3,122 and $4,913m, respectively). Yet, deals announced by FTA exhibit the greatest average and median relative deal size (0.72 and 0.11) compared to domestic (0.43 and 0.09), NFTA_NEW (0.12 and 0.04) and NFTA_SAME (0.22 and 0.03). The above further corroborates the increased risk faced by acquirers in their initial (=FTA), relative to their subsequent (=NFTA), international takeovers, as well as relative to domestic deals. This re-enforces the arguments raised earlier in the paper suggesting that the impact of earnout in eliminating merger valuation-risk in CBAs announced by FTA (relative size = 0.72) is expected to be much stronger than in CBAs announced by NFTA_NEW (relative size = 0.12) or NFTA_SAME (relative size = 0.22) given that FTA are usually smaller firms, younger firms (reported in Panel C and discussed later), involved in larger

mergers (depicted by the relative size of the deal), and have no prior experience in identifying, negotiating and integrating targets across national borders. Furthermore, the statistics presented above also suggest the potential existence of agency problems in NFTA deals, signalled by the large size of the involved acquirers. Lastly, CBA announced by FTA exhibit the greatest cash-ratio and the lowest debt-to-equity ratio, relative to domestic, NFTA_NEW and NFTA_SAME. The above indicate the relatively higher cash holdings and relatively lower leverage considerations of CBA announced by FTA relative to all remaining portfolios, which could affect positively the likelihood of success of a firm's initial international expansion.

In Panel C we focus on only M&A financed with earnout. As in Panel B, earnout-financed M&A announced by FTA are, on average, (a) smaller in size than earnout-financed CBA announced by NFTA_NEW or NFTA_SAME ($22m compared to $24m and $55m, respectively), (b) involve smaller acquirers ($207m compared to $1,101m and $1,759m, respectively) and, (c) incorporate greater valuation risk, as proxied by their increased relative deal size (0.31 compared to 0.08 and 0.13, respectively). This increased risk is also reflected by the average relative earnout value (=ratio of earnout value to deal value)[23] of earnout-financed deals announced by FTA when compared to their NFTA_NEW and NFTA_SAME counterparts (0.44 compared to 0.36 and 0.37, respectively). In contrast to statistics reported in Panel B, FTA involved in earnout-financed deals exhibit larger average market-to-book value than their counterparts announced by NFTA_NEW or NFTA_SAME (4.10 compared to 3.34 and 2.97, respectively). As earnout-financed M&A regularly involve small acquirers, the above observation indicates their increased growth potential when entering a foreign market for the first time in the business' history (=FTA), relative to similar acquirers in deals financed with non-earnouts (Acq. MTBV = 2.17, Panel B) or relative to similar acquirers in subsequent CBA. Lastly, CBA announced by FTA and financed with earnouts exhibit higher liquidity and lower leverage ratios than their domestic counterparts, further suggesting the absence of concerns that should render target firms, and especially foreign ones, more reluctant towards engaging in a contingent payment structure. Lastly, FTA have the shortest average age of any category of acquirers, with those using earnout financing generally being the youngest.

[23] Cain et al. (2011) illustrate the accuracy of this measure as a further proxy of an earnout-financed deal's implied riskiness.

4.3. Univariate Analysis of Acquirer Abnormal Returns

In Tables 3 and 4, the findings from the univariate analysis are presented according to the method of payment used (Earnout vs. Non-Earnout, with the non-earnout deals further sub-divided according to whether the payment is all Cash, all Stock, or Mixed) and the different types of M&A (Domestic vs. CBA, with the CBA further sub-divided into FTA, NFTA_NEW and NFTA_SAME). Differentials between the gains accruing to acquirers from deals financed with deferred (earnout) versus each of the single up-front payments among all different types of M&A are presented in the four rightmost columns. Differentials between the value gains to acquirers among different types of M&A for a given payment currency are recorded in Panel B of Table 3.

(Insert Table 3 about here)

As indicated by prior research on the wealth effects of earnout vs. non-earnout financing in M&A (Kohers and Ang, 2000; Barbopoulos and Sudarsanam, 2012), Panel A illustrates the superior abnormal returns enjoyed by acquirers' shareholders from earnout-financed deals, relative to their cash or stock counterparts. More evidence highlight that this is driven by domestic M&A rather CBA. Similarly, consistent with Mantecon (2009), choosing earnouts, rather than single up-front payments, does not significantly enhance foreign acquirer abnormal returns relative to domestic acquirers. In contrast, as preliminary evidence in support of H1, earnout-financed deals announced by FTA yield 1.71 percentage points greater abnormal returns to acquirers than cash-financed FTA deals.

Consistent with the majority of prior evidence on the performance of CBA relative to domestic M&A (e.g., Moeller and Schlingemann, 2005; Gregory and McCoriston, 2005) although counter to the findings of Danbolt and Maciver (2012), Panel B illustrates that either they yield similar abnormal returns or, in the presence of earnout-financing, domestic target acquirers outperform their CBA counterparts. However, when disentangling the wealth effects of CBA among deals announced by FTA, NFTA_NEW and NFTA_SAME, the analysis uncovers some interesting and novel results. First, deals announced by FTA outperform their domestic counterparts by 0.77 percentage points. While this finding seems to be mostly driven by stock financed deals, it suggests that the enhancement of the Multinational Network of the acquirer significantly affects the level of acquirer abnormal returns, consistent with the findings of Doukas and Travlos (1988). Second, deals announced by domestic target acquirers outperform their NFTA_SAME counterparts by 0.72 percentage points overall, and 1.57 percentage points in earnout-financed deals. This offers further evidence suggesting that the benefits of international business expansion are limited to the

time when the acquirer moves out for the first time, and continuing investing in the same host country does not increase the market valuation of the acquirer. Third, deals announced by FTA outperform their NFTA_NEW or NFTA_SAME counterparts, which is in line with the H2. While this is more pronounced in the latter case, it clearly suggests once again that the gains of the enhancement of the Multinational Network of the acquirer affect the acquirer abnormal returns, consistent with the findings of Doukas and Travlos (1988). As expected (consistent with the H2), earnout-financed M&A announced by FTA significantly outperform their earnout-financed counterparts announced by NFTA_NEW or NFTA_SAME by 2.02 and 2.82 percentage points, respectively.

In Table 4 (Panel C) the aim is to investigate the performance of different earnout-financed CBA portfolios relative to portfolios of domestic and remaining CBA (not financed with earnouts). Consistent with H1, earnout-financed CBA announced by FTA enjoy 1.66 percentage points higher average gains than domestic target deals overall, as well as domestic target deals financed with cash (1.78 percentage points higher gains), stock (2.43 percentage points higher gains) or mixed (1.83 percentage points higher gains) payments. As a result, the documented inferior performance of CBA relative to domestic deals (by e.g., Moeller and Schlingemann, 2005) does not appear to hold in earnout-financed M&A announced by FTA. In contrast, earnout-financed CBA announced by NFTA_NEW match the performance of domestic deals, while those announced by NFTA_SAME and financed with earnout significantly underperform domestic deals, despite the type of single up-front payment.

(Insert Table 4 about here)

Consistent with H2, earnout-financed CBA announced by FTA yield superior gains to acquirers' shareholders, relative to CBA announced by NFTA_NEW or NFTA_SAME across all single up-front payment methods. This is more pronounced in the latter case. Lastly, earnout-financed CBA announced by NFTA_NEW result in greater, yet statistically insignificant, average gains to acquirers than deals announced by NFTA_SAME.

This is supporting our earlier prediction that earnouts in CBAs announced by NFTA_NEW or NFTA_SAME should not significantly benefit acquirers, unlike the case for FTA. When firms have experience in identifying, negotiating and integrating targets across national borders and the acquisition has limited impact on the multinational network on the bidder, earnout seems to offer no real valuation risk reduction advantages to the acquirer. This is even more of the case in NFTA_SAME, given the acquirer has prior local market knowledge.

4.4. Multivariate Analysis of Acquirer Abnormal Returns

Table 5 reports the results from the multiple regression analysis of acquirer abnormal returns. This allows to assess the impact of earnout-financing on acquirer abnormal returns from CBA, while taking into consideration the impact of several other factors influencing them simultaneously. Moreover, in order to capture variation in abnormal returns that is due to the time period over which the deal is announced, all estimations include year fixed effects.

(Insert Table 5 about here)

Models 1 and 2 aim to investigate the impact of earnouts in CBA and also in deals announced by FTA, relative to all domestic and remaining CBA. The estimates indicate that relatively large deals add more value, consistent with Asquith, Bruner and Mullins (1983) and Fuller et al. (2002). In addition, deals involving unlisted targets generate significant value gains for acquirers, consistent with Fuller at al. (2002) and Draper and Paudyal (2006). Consistent with Rau and Vermaelen (1998) and Sudarsanam and Mahate (2003), high market-to-book acquirers suffer losses. Lastly, consistent with the estimates reported by Barbopoulos, Paudyal and Pescetto (2011), the age of the acquiring firm and whether or not it is a diversifying deal has no significant impact on acquirer abnormal returns. In line with current evidence on the performance of CBA (Moeller and Schlingemann, 2005), it can be observed in Model 1 that CBA yield inferior gains to acquirers, relative to domestic deals, regardless of payment method. Nevertheless, as can be seen in Model 2, acquirers reap significant gains when using earnouts to join a multinational network through the acquisition of a foreign firm (coefficient 'FTA × CBA' = 0.028). Moreover, consistent with H1 and H2, such gains appear to be superior, relative to those of both domestic and remaining CBA.

In Models 3 to 8 the focus is turned on factors that are likely to influence the outcome of CBA alone. Specifically, the effects of target country-specific factors such as the level of economic development, the capital controls in place, the level of corporate tax rate in the target country and exchange rate fluctuations are controlled for. Model 3 indicates that earnout-financed CBA announced by FTA yield significant gains to acquirers (coefficient 'FTA × CBA' = 0.031). Model 4 further accounts for the target firm's listing status and the deal's industry relatedness. As in the estimations for all deals (Models 1 and 2), deals involving unlisted targets yield significant gains to acquirers' shareholders, while the positive wealth effect generated by earnout-financed CBA announced by FTA persists (coefficient 'FTA × CBA' = 0.032). Furthermore, reported estimates in Model 5 indicate that the aforementioned effect remains unchanged when further proxying for the impact of the legal

system in the target's country. Highly profitable firms appear to reap significant gains from CBA, though the size of the gains suggests a small economic impact, potentially due to free-cash-flow considerations (Jensen, 1986) by market participants. However, the positive wealth effect generated by earnout-financed CBA announced by FTA persists (coefficient 'FTA × CBA' = 0.029) (Model 6). Models 7 and 8 uncover the wealth effects generated from earnout-financed CBA announced by NFTA_NEW or NFTA_SAME, relative to the remaining CBA. Consistent with the univariate conclusions, the choice of earnouts does not offer significant value gains to such acquirers. This further re-enforces our earlier predictions that the impact of earnout in eliminating merger valuation-risk in CBAs announced by NFTA_NEW or NFTA_SAME relative to FTA is expected to be trivial given that such acquirers have international experience in identifying, negotiating and integrating targets across national borders and are large and mature firms, involved in relatively small mergers (depicted by the relative size of the deal) (Table 2 records these statistics).

Models 9 to 12 aim to identify the factors that influence the acquirer abnormal returns from earnout-financed CBA announced by FTA. As an uncertainty resolution payment mechanism, the choice of earnout-financing should be more value-enhancing as firms with relatively shorter trading histories and, hence, greater information asymmetry (Zhang, 2006), expand internationally for the first time. Moreover, in line with Doukas (1995), acquirer abnormal returns should be greater when employing earnouts in initial international expansions in less developed economies, which incorporate a greater investment risk. Evidently, reported estimates in Models 9 and 10 support the above arguments and indicate the value-increasing properties of the earnout contingent financing method. Lastly, reported estimates in Model 12 illustrate that the abnormal returns accrued to acquirers at the announcement of earnout-financed CBA by FTA decrease as the acquiring firm's profitability increases (coefficient 'Earnout × Acq. Net Margin' = -0.024). Along these lines, Doukas (1995) argues that the gains from initial international expansions should be lower while the acquiring firm is highly profitable.[24]

4.5. Addressing Selection Bias: Propensity Score Matching (PSM) and Rosenbaum-Bounds (RB)

In drawing inferences about the causal impact of a decision (i.e., earnout use) on a performance measure (i.e., acquirer abnormal returns), it is customary to compare the latter in

[24] Jensen (1986) postulates the free-cash-flow hypothesis indicating that highly profitable firms, due to their excess cash flows, tend to expand by accepting marginal investment projects with negative net present values.

pairs of groups of treated and untreated sampled units. In an experimental setting, such groups are selected randomly. However, in a non-experimental setting such as ours, inferences on the causal effect of a treatment (i.e., earnout) may be biased due to systematic sample self-selection. Consequently, as CBA announced by FTA significantly increase the acquiring firm's multinational network, the wealth implications of the choice of earnout-financing on acquirer abnormal returns (i.e., outcome) in such deals may be due to the pre-treatment characteristics of the treated groups, rather than to the treatment per-se (i.e., earnout-financing). The Propensity Score Matching (PSM) can help in reducing such concerns. We employ 1:1, 1:3, 1:5 and 1:10 nearest neighbour matching with replacement. Moreover, in order to avoid the effects of potential omitted variable bias in the propensity score estimators (logit models), the Rosenbaum-bounds (RB) methodology is implemented, which ultimately helps to choose the model least exposed to omitted variable bias model.

4.5.1 PSM and RB Methods for CBA announced by FTA

Table 6 presents the output of the PSM for CBA announced by FTA. Three alternative specifications are used in order to model the choice of earnout as the payment method by FTA. Subsequently, each deal's propensity score is calculated to exhibit the treatment (i.e., earnout-financing) and match earnout-financed CBA announced by FTA to their nearest counterfactual, in terms of propensity score, non-earnout-financed CBA announced by FTA.

(Insert Table 6 about here)

In line with prior research on earnout-financing (Kohers and Ang, 2000; Barbopoulos and Sudarsanam, 2012), reported estimates in Model 1 suggest that the likelihood of earnout-financing increases in deals exposing the acquirer to substantial valuation risk, as reflected by their relative size of the deal (Rel. Size = 0.255). In addition, the probability of earnout-financing increases (decreases) when acquiring firms with substantial growth opportunities (cash holdings) engage in a CBA for the first time. The insignificant effects of country-specific factors suggest that it is mostly deal-specific valuation-related issues that appeal to the use of earnouts in CBA announced by FTA.

In Model 2, the listing status of the target firm and the operating legal framework of the target country is accounted for in the estimation. Consistent with prior research, the likelihood of financing a CBA announced by FTA with earnout increases when involving unlisted targets. On the other hand, Common Law countries impose an insignificant effect. Lastly, Model 3 suggests that diversifying deals are less likely to be financed with earnout, while targets operating in intangible-rich industries impose an insignificant effect. As the vast

majority of acquirers in earnout-financed CBA announced by FTA operate in intangible-rich sectors,[25] the choice of earnout appears to aim at facilitating the acquiring firm's attempt to arbitrage cross-country operational restrictions through the joining of a multinational network.

Panel B shows that the distribution of covariates across all three models does not yield any significant differences between the treated and untreated groups, hence confirming efficient matching. Panel C records the valuation effects (contribution) of earnout-financing in CBA announced by FTA. Evidently, among our three models, earnout-financed deals yield highly statistically significant greater gains to CBA announced by FTA than non-earnout payment FTA deals of 2.18%, 2.26% and 2.22%, respectively. Consequently, once reducing potential selection bias considerations, our results from matching provide robust support for our H2 and, specifically, determine earnout-financing as a superior method of payment when firms choose to engage in a CBA deal for the first time in their business history.[26] To this end, earnout-financing appears to facilitate the acquiring firm's joining of a multinational network through the acquisition of a foreign target firm. This in turn leads to superior gains to FTA compared to single up-front payments. Ultimately, this sets the earnout as the optimal payment mechanism in CBA announced by FTA.

Lastly, Panel D presents the results from the Rosenbaum-bounds (RB) sensitivity analysis, which allows to investigate the exposure of our derived conclusions to the impact of missing covariates from our propensity score estimator (logit model). The estimates confirm that the effect of the treatment on acquirer abnormal returns would be rendered negligible if an unobserved covariate caused the odds of treatment assignment to change in each of the three matching exercise by at least 98%, 47% and 60%, respectively. Hence, the results from matching are robust and insensitive to the impact of a missing or unobserved covariate.[27]

4.5.2 PSM and RB Methods for CBA announced by NFTA_NEW

Table 7 presents the output of our PSM for CBA announced by NFTA_NEW. Two

[25] We observe within our sample that roughly 73% of acquirers operate in industries characterized as highly intangible. These consist of the High-Tech, Consumer Products and Services, Media and Entertainment and Telecommunications sectors.

[26] Univariate results (Table 3, Panel A) illustrate that earnout-financed CBA announced by FTA significantly outperform all cash-financed CBA announced by FTA, yet not all non-earnout financed CBA announced by FTA, thus providing partial support to our H2.

[27] We argue that as the RB critical value of Γ at p=0.10 (=98%, 47% and 60%) *exceeds* the percentage of the treatment's involvement (24%=82/340 in Table 1, Panel A) in a deal, which constitutes the *a-priori* probability of a deal to be included in the treated group, we gain extra confidence regarding the quality and reliability of our PSM process.

alternative specifications are used in order to model the choice of earnout as the payment method of CBA announced by NFTA_NEW. Subsequently, earnout-financed CBA announced by NFTA_NEW are matched to their nearest, in terms of propensity score, non-earnout-financed CBA announced by NFTA_NEW counterfactuals.

(Insert Table 7 about here)

Panel A indicates that relatively riskier deals and cash holding considerations do not appear to influence the probability of earnout-financing in deals announced by NFTA_NEW. Moreover, the acquiring firm's debt-to-equity ratio imposes a negative and significant effect, which indicates that target firms are reluctant in engaging in a contingent payment structure when they have high leverage. As CBA announced by NFTA_NEW prerequisite the existence of at least one prior CBA for the acquiring firm, the firm's foreign-to-total sales is included in the estimation. The proportion of sales attributable to foreign operations of each deal's acquiring firm captures its degree of global diversification and is used as a matching variable in the PSM.[28] The estimates across both models indicate that the degree of prior global diversification exerts a negative, yet marginally insignificant, influence on the probability of earnout financing. The relative strength of the pound sterling at the time of the deal's announcement is found to impose a positive effect on the earnout choice. Assuming that foreign targets and, specifically, unlisted ones that appeal to earnout-financing possess superior bargaining power (Chang, 1998) and require a higher premium, an appreciated currency can assist acquirers using earnout to effectively satisfy the up-front valuation requirements of sellers at a discount (Harris and Ravenscraft, 1991), while still offering them incentives to maximize performance post-merger and receive the deferred payment. Nevertheless, this may also imply a discount in the cash flows generated post-merger due to the relative depreciation of the target firm's home currency. Evidently, this can potentially offset the expected synergy gains from such transactions. Lastly, consistent with prior research (Reuer et al., 2004), targets operating in intangible-rich sectors are more likely to be acquired via the use of earnouts.

Panel B confirms the balance of covariates between treated and control sample units for the two models. Reported differentials indicate that the distribution of covariates in both sequences does not yield any significant differences between the treated and untreated groups, hence confirming efficient matching. Panel C records the valuation effects

[28] Denis Denis and Yost (2002) argue that the observed increase in the prevalence of global diversification over time stems from both an increase in the fraction of firms operating in multiple national markets, and, conditional on the existence of global diversification, the fraction of total firm sales that are attributable to foreign operations.

(contribution) of earnout-financing in CBA announced by NFTA_NEW, and the differences in abnormal returns between treated and control deals are statistically insignificant. This indicates that when acquirers have expanded their operations at least once in the past in a foreign country through a corporate takeover, further international expansion to a new country while using earnouts yields gains indistinguishable from when using single up-front payments. This result would also seem to suggest that the benefits from earnout financing are likely to be much more modest in CBAs announced by NFTA_NEW, possibly due to their limited impact in eliminating valuation-risk where the acquirer has prior experience in acquiring, integrating and managing international, unlike the case in deals announced by FTA, where earnouts seem to play a very important role on merger success (see Section 4.5.1 for more details). Lastly, Panel D illustrates the results from the Rosenbaum-bounds (RB) sensitivity analysis, which suggest that the obtained result from matching is relatively robust to hidden bias considerations.

4.5.3 PSM and RB Methods for CBA announced by NFTA_SAME

Table 8 presents the output of our PSM for CBA announced by NFTA_SAME. Two alternative specifications are used in order to model the choice of earnout as the payment method of CBA announced by NFTA_SAME. Subsequently, earnout-financed CBA announced by NFTA_SAME are matched to the nearest non-earnout-financed CBA announced by NFTA_SAME.

(Insert Table 8 about here)

Panel A indicates that relatively riskier deals influence the probability of earnout-financing in deals announced by NFTA_SAME, but cash holdings do not. The acquiring firm's debt-to-equity and MTBV ratios, and the relative strength of the pound sterling at the time of the deal's announcement, similarly impose insignificant effects on the earnout choice. Panel B confirms efficient matching. Panel C records the valuation effects (contribution) of earnout-financing in CBA announced by NFTA_SAME, and the differences in acquirer abnormal returns between treated and control deals are statistically insignificant. This suggests that when acquirers have expanded their operations in a foreign country through a corporate takeover and continue to acquire targets in the same country using earnouts, abnormal returns are indistinguishable from when using single up-front payments.

4.5.4 PSM and RB Methods for CBA

Overall, the results from PSM suggest a distinction in the wealth effects generated by

earnout-financing in CBA that expand the acquiring firm's multinational network. Specifically, once reducing the effect of potential selection bias, CBA announced by FTA appear to offer a far greater potential for value creation when financed with earnouts than single up-front payments. This provides robust support in favour of the H2, complementing evidence presented in the univariate analysis. In contrast, evidence from subsequent international takeovers in a new country, or continued expansion in a country where they have acquired a target before, suggests a deterioration of the wealth effects generated by earnout-financing. Moreover, as the identification of our counterfactual sample units takes into account acquirers' foreign to total sales, our results suggest a decline in the expected synergy gains from earnout-financing when globally diversified firms choose to further expand and diversify globally.

5. Conclusion

This paper present new insights on the workings and wealth effects of earnout-financing in cross-border acquisitions. Most prior studies on international changes of corporate control (with the notable exception of Danbolt and Maciver, 2012) find lower abnormal returns to acquirers involved in cross-country deals, relative to domestic ones. Similarly, prior research suggests that acquirers at best break even when involved in earnout-financed international takeovers. Yet, this paper identifies a portfolio of earnout-financed international deals – earnout-financed cross-border acquisitions announced by first-time cross-border acquirers– yielding superior announcement period abnormal returns to acquirers' shareholders, relative to all domestic and remaining cross-border acquisitions.

Therefore, in line with the predictions of the Multinational Network Hypothesis (Doukas and Travlos, 1988), the results confirm the superior performance of cross-border acquisitions announced by first-time acquirers and proceed to establish earnout-financing as the optimal financing method when firms choose to expand internationally for the first time in their business history through a corporate takeover. The above suggest that the contingent nature of earnout-financing addresses acquirers' lack of prior international experience and allows them to efficiently accommodate the inherent risks of leaving the home country for the first time and expanding into a new geographic market through a cross-border acquisition. To this end, the uncertainty resolution properties of earnout-financing helps maximize the likelihood of success of the deal. The multivariate results further suggest that the gains from earnout-financed remaining cross-border acquisitions announced by first-time acquirers increase when expanding into less developed countries that exhibit a higher level of investment risk.

To reduce the exposure of the derived conclusions to potential selection bias considerations, a quasi-experimental design is adopted through which the *earnout effect* is evaluated in isolation. The findings offer direct evidence on the superiority of earnouts over non-earnouts (yielding roughly 2.20 percentage points higher bid period abnormal returns) in cross-border deals announced by acquirers without prior international business experience. In contrast, the superior performance of earnouts when used to finance cross-border acquisitions announced by first-time acquirers does not appear to hold for subsequent international acquisitions, whether into a new country (NFTA_NEW) or not (NFTA_SAME).

Overall, this paper offers a thorough examination of the wealth effects generated by earnout-financing in cross-border acquisitions. Specifically, when firms choose to join a multinational network through the acquisition of a foreign firm, earnout-financing offers a major value-enhancing opportunity.

Appendix A: Variable Definitions

The table defines the variables used in the empirical analysis and indicates the data source used. SDC denotes the Thomson-Reuters SDC ONE Banker database. Regarding the use of dummy variables, a sample observation without the value of 1 has the value of 0. AGE, MV, DV, MTBV, REAV, RS and DEBT are log transformed in subsequent regressions.

Variable Type/Name	Description	Source
ALL	Refers to the entire sample analysed in this paper.	SDC
Acquirer's trading history (**AGE**)	Number of days between day the acquirer's first recorded day on Datastream and deal's announcement day.	Datastream
Crossborder (**CBA**)	Dummy = 1 when the deal involves a non-UK target, and = 0 when both acquirer and target are UK institutions (= Domestic).	SDC
CASH	Dummy = 1 when payment is 100% cash.	SDC
Capital Controls (**CAP CTRLS**)	Time varying index covering 141 countries. Its values range from 1.4 (for the least open economy) to 9.8 (for the most open economy).	Economic Freedom of the World (2014)
Corporate Tax Rate (**CORP TAX**)	Time varying percentage of taxation on corporate profits across countries.	IMF, OECD, World Bank
COMMON	Dummy = 1 when the deal is cross-border and the target's nation follows the English Common Law legal system, and = 0 otherwise.	SDC
CASH RATIO	Acquirer's ratio of total cash and cash equivalents to total assets at the quarter prior to the announcement of the deal	Datastream
Diversified (**DVSD**)	Dummy = 1 when acquirer and target do not share the same two-digit primary SIC code and = 0 otherwise.	SDC
Deal Value (**DV**)	Deal's transaction value, in millions dollars.	SDC
DEBT-TO-EQUITY	Acquirer's total debt as a percentage of common equity value during the quarter prior to the announcement of the deal.	Datastream
CIVIL	Dummy = 1 when the deal is cross-border and the target's nation follows a Civil Law legal system (French, German, or Scandinavian) and = 0 otherwise.	SDC
DEVELOPED	Dummy =1 when the deal is cross-border and the target's country is a developed one and =0 otherwise.	IMF, OECD, World Bank
Domestic (**DOM**)	Dummy = 1 when acquirer and target are UK based, and = 0 when target is not a UK company.	SDC
Earnout Contract (**EC**)	Dummy = 1 when payment includes an earnout provision and = 0 otherwise (= Non-Earnout or NEC).	SDC
FRENCH	Dummy = 1 when acquisition is cross-border and target's nation follows a French Civil Law legal system, and = 0 otherwise.	SDC
FOREIGN-TO-TOTAL	Acquirer's foreign sales as a percentage of total sales during the last quarter prior to the deal's announcement.	Datastream
Foreign Exchange Rate (**FX RATE)**	Index constructed using the procedure outlined in Kiymaz (2004). A positive (negative) value of the index indicates that the Pound Sterling has appreciated (depreciated) relative to the currency of the target's nation over the period prior to the acquisition.	Datastream
First Time Acquirer (**FTA**)	Dummy = 1 when the deal constitutes an acquiring firm's first cross-border deal ever, and =0 otherwise.	SDC
GERMAN	Dummy = 1 if the deal is cross-border and target's nation follows a German legal system, and = 0 otherwise.	SDC

Intangible (**INT**)	Dummy = 1 when target belongs to an intangible-rich sector (Media and Entertainment, Consumer Products and Services, High Technology and Telecommunications) and = 0 otherwise.	SDC
Market-to-Book Value (**MTBV**)	Acquirer's ratio of market value over book value of equity (measured 20 days prior to the deal's announcement).	Datastream
Market Value (**MV**)	Acquirer's market value of equity (measured 20 days prior to the deal's announcement).	Datastream
Non-Earnout (**NEC**)	Dummy = 1 for full-cash, or full-stock, or mixed payment without earnout provisions, and = 0 when an earnout provision is included.	SDC
Private (**PRV**)	Dummy = 1 if target is private, and = 0 otherwise.	SDC
Public (**PBL**)	Dummy = 1 if target is publicly listed, and = 0 otherwise.	SDC
Relative Size (**RS**)	Ratio of DV to MV.	SDC & Datastream
Relative earnout value (**REAV**)	Ratio of earnout value to DV.	SDC
STOCK	Dummy = 1 when payment is 100% stock exchange.	SDC
Unlisted (**UNL**)	Dummy = 1 if target is not a listed firm, and = 0 otherwise.	SDC
MIXED	Dummy = 1 when the payment is a mixture of cash, stock and/or other methods of payment, excluding earnout provisions, and = 0 otherwise.	SDC
NET MARGIN	Acquirer's ratio of net profit to revenue during the last quarter prior to the deal's announcement	Datastream
Not First Time New Country (**NFTA_NEW)**	Dummy = 1 when the deal is not the acquirer's first ever cross-border deal but takes place in an unprecedented country, and = 0 otherwise.	SDC
Not First Time Same Country (**NFTA_SAME**)	Dummy =1 when the deal is cross-border and takes place in a country in which the acquirer has already engaged in an M&A deal in the past.	SDC
SCANDINAVIAN	Dummy = 1 when the deal is cross-border and target's nation follows a Scandinavian legal system, and = 0 otherwise.	SDC

References

Agmon, T., and Lessard, D.R., 1977. Investor recognition of corporate international diversification. Journal of Finance 32, 1049–1055.

Barbopoulos, L.G., and Sudarsanam, S., 2012. Determinants of earnout as acquisition payment currency and bidders' value gains. Journal of Banking & Finance 36, 678-694.

Barbopoulos L.G., Paudyal K. and Pescetto, G., 2012. Legal systems and gains from cross-border acquisitions, Journal of Business Research, 65, 1301-1312.

Baker, M., Foley, F. and Wurgler, J., 2009. Multinationals as Arbitrageurs: The Effect of Stock Market Valuations on Foreign Direct Investment, Review of Financial Studies 22, 337-369.

Bodnar, G.M., Tang, C. and Weintrop, J., 1998. NBER working paper #6224.

Behr, A., and Heid, F., 2011. The success of bank mergers revisited. An assessment based on a matching strategy. Journal of Empirical Finance 18, 117-135.

Bradley, M.A., Desai, A. and Kim, E.H., 1988. Synergistic gains from corporate acquisitions and their division between stockholders of target and acquiring firms. Journal of Financial Economics 21, 3–40.

Cain, M. D., Denis, D. J., and Denis, D. K., 2011. Earnouts: A study of financial contracting in acquisition agreements. Journal of Accounting and Economics 51, 151-170.

Cadman, B., Carrizosa, R. and Faurel, L. 2014. Economic Determinants and Information Environment Effects of Earnouts: New Insights from SFAS 141(R). Journal of Accounting Research 52, 37–74.

Chang, S., 1998, Takeovers of privately held targets, methods of payment, and bidder returns. Journal of Finance 53, 773-784.

Conn, R. L., Cosh, A., Guest, P. M. and Hughes, A., 2005. The Impact on UK Acquirers of Domestic, Cross-border, Public and Private Acquisitions. Journal of Business Finance & Accounting 32, 815–870.

Danbolt, J., and Maciver, G., 2012. Cross-Boder versus Domestic Ac quisitions and the Impact on Shareholder Wealth. Journal of Business Finance & Accounting 39, 1028-1067.

Datar, S., Frankel, R., and Wolfson, M., 2001. Earnouts: The effects of adverse selection and agency costs on acquisition techniques. The Journal of Law, Economics and Organization 17, 201-238.

Datta, D. K., and Puia, G., 1995. Cross-border acquisitions: an examination of the influence of related and cultural fit on shareholder value creation in US acquiring firms. Management International Review 35, 337–359.

Dehejia, R.H., and Wahba, S., 2002, Propensity score-matching methods for non-experimental casual studies, Review of Economics and Statistics 84, 151-161.

Denis, D.J., Denis, D.K., and Yost, K., 2002. Global diversification, industrial diversification, and firm value. Journal of Finance 57, 1951–1979.

Doukas, J., 1995. Overinvestment, Tobin's q and gains from foreign acquisitions. Journal of Banking and Finance 19, 1285–1303.

Doukas, J. and Travlos, N.K., 1988. The Effect of Corporate Multinationalism on Shareholder Wealth: Evidence from International Acquisitions. Journal of Finance 43, 1161-1175.

Draper, P. and Paudyal, K., 2006. Acquisitions: Private versus Public. European Financial Management 12, 57-80.

Draper, P. and Paudyal, K. 2008. Information Asymmetry and Bidders' Gains. Journal of Business Finance & Accounting 35, 376–405.

Duhaime, I., and Grant J., 1984. Factors influencing divestment decision-making: evidence from a field study. Strategic Management Journal 5, 301–318.

Eckbo, B.E., Giammarino, R.M., and Heinkel, R.L., 1990. Asymmetric information and the medium oF exchange in takeovers: theory and tests. Review of Financial Studies 3, 651–675.

Faccio, M., and Masulis, R.W., 2005. The choice of payment method in European mergers and acquisitions. Journal of Finance 60, 1345–1388.

Faccio, M., McConnell, J., and Stolin, D. 2006. Returns to acquirers of listed and unlisted targets. Journal of Financial and Quantitative Analysis 41, 197–220.

Fatemi, A., and Furtado, E.P., 1988. An empirical investigation of the wealth effects of foreign acquisitions. Recent Developments in International Banking and Finance, vol. 2. Lexington Books, Lexington, MA, 363–379.

Fishman, M., 1989. Preemptive bidding and the role of the medium of exchange in acquisitions. Journal of Finance 44, 41-58.

Froot, K.F., and Stein, J.C., 1991. Exchange rates and foreign direct investment: An imperfect capital markets approach. Quarterly Journal of Economics 106, 1191–1217.

Fuller, K. P., Netter, J. M. and Stegemoller, M., 2002. What Do Returns to Acquiring Firms Tell Us? Evidence from Firms that Make Many Acquisitions. Journal of Finance 57, 1763-1793.

Gaughan, P.A., 2002. Mergers, Acquisitions, and Corporate Restructurings, third ed. John Wiley and Sons, New York.

Goergen, M. and Renneboog, L., 2004. Shareholder Wealth Effects of European Domestic and Cross-border Takeover Bids. European Financial Management 10, 9–45.

Gregory, A. and McCorriston, S., 2005. Foreign acquisitions by UK limited companies: long-run performance in the US, Continental Europe and the rest of the world. Journal of Empirical Finance 12, 99-125.

Hansen, R. G., 1987. A theory for the choice of exchange medium in mergers and acquisitions." Journal of Business 60, 75-95.

Harris, R.S., and Ravenscraft, D., 1991. The role of acquisitions in foreign direct investment: evidence from the US stock market. Journal of Finance 46, 824– 825.

Healy, P.M., and Palepu, K.G., 1993. International corporate equity acquisitions: who, where and why? Foreign Direct Investment. University of Chicago Press, Chicago, pp. 231– 250.

Hennart, J-F. 1993. Explaining the swollen middle: why most transactions are a mix of 'market' and 'hierarchy'. Organization Science 4, 529–547.

Hite, G. L., Owers, J. and Rogers, R., 1987. The market for interfirm asset sales, partial sell-offs and total liquidations. Journal of Financial Economics 18, 229-252.

Jensen, J.C., 1986. Agency costs of free cash flow, corporate finance, and takeovers. American Economic Review 76, 323–329.

Kiymaz, H., 2004. Cross-Border Acquisitions of US Financial Institutions: Impact of Macroeconomic Factors. Journal of Banking and Finance 28, 1413-1439.

Kohers, N., and Ang, J., 2000. Earnouts in mergers: Agreeing to disagree and agreeing to stay, Journal of Business 73, 445-476.

Kogut, B., 1983. Managing political risk assessment. Sloan Management Review 24, 71–73.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W., 2000. Investor protection and corporate governance. Journal of Financial Economics 58, 3–27.

Mantecon, T., 2009. Mitigating risks in cross-border acquisitions. Journal of Banking and Finance 33, 640-651.

Manzon, G.B., Sharp, D.J., and Travlos, N.G., 1994. An empirical study of the consequences of U.S. tax rules for international acquisitions by U.S. firms. Journal of Finance 49, 1893–1904.

Markides, C.C. and Ittner, C.D., 1994. Shareholder Benefits from Corporate International Diversification: Evidence from U.S. International Acquisitions. Journal of International Business Studies 25, 343-360.
Moeller, B.S. and Schlingermann, P.F., 2005. Global Diversification and Bidder Gains: A Comparison between Cross-Border and Domestic Acquisitions. Journal of Banking & Finance 29, 533-564.
Morck, R., and Yeung, B., 1991. Why investors value multinationality. Journal of Business 64, 165–188.
Mulherin, J. and Boone, A., 2000. Comparing acquisitions and divestitures. Journal of Corporate Finance 6, 117–39.
Owen, S., Shi, L. and Yawson, A., 2010. Divestitures, wealth effects and corporate governance. Accounting & Finance 50, 389–415.
Ragozzino, R. and Reuer, J. J., 2009. Contingent earnouts in acquisitions of privately-held targets. Journal of Management 35, 857-879.
Rau, P.R. and Vermaelen, T., 1998. Glamour, value and the post-acquisition performance of acquiring firms. Journal of Financial Economics 49, 223–253.
Reuer, J., Shenkar, O., and Ragozzino, R., 2004. Mitigating risk in international mergers and acquisitions: the role of contingent payouts. Journal of International Business Studies 35, 19-32.
Rosenbaum, P.R. and Rubin, D.B., 1985. The Bias Due to Incomplete Matching. Biometrics, 41, 103-116.
Rosenbaum, P.R., 1987, Model-Based Direct Adjustment, Journal of the American Statistical Association, 82, 387–394
Rosenbaum, P.R. 2002. Observational Studies. 2nd ed. New York, NY: Springer
Rosenfeld, J., 1984. Additional evidence on the relation between divestiture announcements and shareholder wealth. Journal of Finance 39, 1437–1448.
Rossi, S., and Volpin, P.F., 2004. Cross-country determinants of mergers and acquisitions. Journal of Financial Economics 74, 277–304.
Shleifer, A. and Vishny, R.W., 2003. Stock Market Driven Acquisitions. Journal of Financial Economics 70, 295-311.
Sudarsanam, S., and Mahate, A.A., 2003. Glamour acquirers, method of payment and post-acquisition performance: the UK evidence. Journal of Business Finance and Accounting, 30, 299–342.
Travlos, N.G., 1987. Corporate takeover bids, method of payment, and bidding firm's stock returns. Journal of Finance 52, 943–963.
Villalonga, B., and McGahan, A.M., 2005. The choice among acquisitions, alliances, and divestitures. Strategic Management Journal 26, 1183–1208.
Williamson O., 1975. Markets and Hierarchies: Analysis and Antitrust Implications. Free Press: New York.
Zhang, X. F., 2006. Information Uncertainty and Stock Returns. The Journal of Finance 61, 105–137.

Table 1: Annual distribution of our sampled deals

	All	Domestic	All CBA	FTA	NFTA All	NTFA New	NFTA Same	Earnout	Non Earnout	Cash	Stock	Mixed
1985	8	6	2	2	0	0	0	0	8	4	3	1
1986	38	27	11	4	7	2	5	0	38	20	13	5
1987	104	84	20	7	13	3	10	12	92	38	36	18
1988	220	168	52	21	31	16	15	49	171	107	28	36
1989	276	205	71	24	47	17	30	67	209	116	36	57
1990	131	85	46	10	36	14	22	29	102	62	13	27
1991	94	72	22	6	16	6	10	18	76	28	20	28
1992	89	64	25	4	21	8	13	20	69	28	13	28
1993	134	97	37	9	28	13	15	28	106	48	15	43
1994	195	146	49	13	36	9	27	45	150	69	21	60
1995	199	148	51	6	45	13	32	50	149	67	18	64
1996	253	185	68	16	52	22	30	63	190	81	30	79
1997	275	186	89	24	65	30	35	63	212	104	26	82
1998	307	197	110	19	91	45	46	65	242	123	28	91
1999	347	239	108	15	93	42	51	78	269	131	29	109
2000	320	210	110	23	87	26	61	93	227	86	48	93
2001	244	161	83	21	62	22	40	90	154	56	29	69
2002	219	166	53	7	46	18	28	71	148	94	15	39
2003	144	99	45	10	35	10	25	38	106	54	18	34
2004	204	143	61	9	52	20	32	59	145	77	18	50
2005	267	189	78	14	64	27	37	88	179	107	19	53
2006	284	189	95	14	81	19	62	99	185	104	12	69
2007	307	211	96	20	76	29	47	101	206	108	16	82
2008	192	119	73	9	64	23	41	75	117	81	13	23
2009	115	74	41	5	36	12	24	41	74	40	13	21
2010	149	91	58	11	47	16	31	52	97	69	13	15
2011	123	65	58	10	48	15	33	44	79	47	10	22
2012	129	85	44	5	39	13	26	42	87	63	13	11
2013	125	88	37	2	35	12	23	44	81	55	5	21
	5,492	3,799	1,693	340	1,353	502	851	1,524	3,968	2,067	571	1,330

Note: The table presents the annual distribution of UK domestic and cross-border (CBA) M&A activities. Information on the definition of each variable can be found in the Appendix A. The sample of All M&A is sub-divided into Domestic and cross-border acquisitions (CBA), with the sample of All CBA further sub-divided into first time cross-border acquirers (FTA), non-first time CBA acquiring into new

markets (NFTA_New) and CBA acquiring in foreign market in which it already has prior operations (NFTA_Same). The method of payment is categorized into Earnout and Non-Earnout deals, with the Non-Earnout deals sub-divided into transactions where the payment is all Cash, all Stock, or a mixture of the two.

Table 2: Descriptive statistics

	All deals		Domestic target deals		All foreign target deals (CBA)		All foreign target deals by acquirer previous CBA activity					
							First-time CB acquirer		Non-first-time CB acq: New country		Non-first-time CB acq: Same country	
Panel A: Distribution of deals by listing status, method of payment, industry relatedness, and target legal system												
	N	% of all in group	N	% of all in group	N	% of all in group	N	% of all in group	N	% of all in group	N	% of all in group
Unlisted target	4,712	86	3,252	86	1,460	86	302	89	439	87	719	84
Public (Listed) target	780	14	547	14	233	14	38	11	63	13	132	16
Earnout only	1,524	28	1,071	28	453	27	82	24	152	30	219	26
Non-earnout only	3,968	72	2,728	72	1,240	73	258	76	350	70	632	74
Cash only	2,067	38	1,249	33	818	48	145	43	234	47	439	52
Stock only	571	10	450	12	121	7	44	13	28	6	49	6
Mixed only	1,330	24	1,029	27	301	18	69	20	88	18	144	17
Diversified deal	2,823	51	1,998	53	825	49	163	48	255	51	407	48
Target in common law country	4,840	88	3,799	100	1,041	61	198	58	202	40	641	75
Target in civil law country	303	6	-	-	303	18	63	19	140	28	100	12
All deals	5,492	-	3,799	-	1,693	-	340	-	502	-	851	-
Percent of All	-	-	69	-	31	-	6	-	9	-	16	-
Percent of all CBA	-	-	-	-	-	-	20	-	30	-	50	-
Panel B: Summary statistics for deal value, relative deal size, and acquirer characteristics (All deals)												
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Deal value	166	10	121	8	265	15	34	9	334	13	317	21
Market value of acquirer	1,718	160	944	106	3,455	394	299	88	3,122	365	4,913	732
Relative size of the deal	0.38	0.07	0.43	0.09	0.29	0.04	0.72	0.11	0.12	0.04	0.22	0.03
Market-to-book value of acquirer	3.27	2.10	2.71	1.90	4.49	2.51	2.17	2.20	4.36	2.58	5.45	2.56
Acquirer age	5,317	3,826	4,930	3,423	6,186	5,054	3,545	1,846	5,940	4,850	7,386	7,330
Cash ratio of acquirer	22	15	19	12	26	20	28	21	26	19	25	20
Debt-to-equity ratio of acquirer	63	39	59	38	70	42	35	20	81	42	77	46
Panel C: Summary statistics for deal value, relative deal size, and acquirer characteristics (Earnout-financed deals only)												
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Deal value	24	9	17	7	38	13	22	9	24	11	55	18
Market value of acquirer	658	115	405	85	1257	278	207	70	1,101	269	1,759	436
Relative size of the deal	0.22	0.07	0.25	0.09	0.15	0.05	0.31	0.12	0.08	0.04	0.13	0.04
Relative Earnout Value	0.42	0.36	0.43	0.39	0.38	0.33	0.44	0.38	0.36	0.31	0.37	0.33
Market-to-book value of acquirer	3.30	2.19	3.31	2.03	3.29	2.63	4.10	2.35	3.34	2.89	2.97	2.57
Acquirer age	4,627	3,105	4,149	2,540	5,760	4,583	3,032	1,809	5,044	4,069	7,278	6,951
Cash ratio of acquirer	23	16	22	15	25	20	26	19	27	22	23	19
Debt-to-equity ratio of acquirer	56	31	60	30	45	35	46	17	26	29	59	42

Note: The table presents the UK domestic and cross-border (CBA) M&A activity. The UK cross-border activity is divided into three groups: *First Time* (FTA) if the deal constitutes the acquirer's first cross-border M&A deal ever, *Not First Time New Country* (NFTA_NEW) if the deal constitutes the acquirer's first M&A deal in a given country but not her first cross-border deal ever and *Not First Time Same Country* (NFTA_SAME) if the deal occurs in a country in which the acquirer has engaged in an M&A deal in the past. Panel A refers to the distribution of deals according to the listing status of the target firm, industry relatedness, method of payment, and legal system of the target firm's home country. Panel B presents deal- and acquirer-specific summary statistics for all deals, while Panel C presents the same summary statistics for earnout-financed deals only. Panel C also reports the relative earnout value of the deal (=contingent earnout value/deal value). Further information on the definition of each variable can be found in the Appendix A.

Table 3: Univariate Analysis of Acquirers' Abnormal Returns

		All	Earnout	Non-Earnout	Cash	Stock	Mixed	Differentials			
		(1)	(2)	(3)	(4)	(5)	(6)	(2)-(3)	(2)-(4)	(2)-(5)	(2)-(6)
Panel A: Portfolios by M&A activity and differentials by method of payment											
All deals	Mean	1.03***	1.32***	0.93***	0.94***	0.45	1.11***	0.39	0.38*	0.87*	0.21
	t-stat	9.17	6.40	6.88	6.63	0.83	4.57	1.55	1.79	1.84	0.64
	N	5,492	1,524	3,968	2,067	571	1,330				
Domestic target (DOM)	Mean	1.14***	1.55***	0.97***	1.02***	0.37	1.18***	0.58*	0.53*	1.18**	0.37
	t-stat	8.02	6.15	5.71	5.59	0.59	4.20	1.83	1.72	2.09	0.99
	N	3,799	1,071	2,728	1,249	450	1,029				
Foreign target (CBA)	Mean	0.80***	0.76**	0.82***	0.80***	0.74	0.90*	-0.06	-0.04	0.02	-0.14
	t-stat	4.44	2.18	3.87	3.62	0.74	1.83	0.14	0.10	0.02	0.23
	N	1,693	453	1,240	818	121	301				
First-Time Acquirer (FTA)	Mean	1.91***	2.80***	1.62***	1.09*	3.56*	1.50	1.18	1.71*	-0.76	1.30
	t-stat	4.03	2.89	3.00	1.97	1.73	1.48	1.07	1.65	0.38	0.92
	N	340	82	258	145	44	69				
Non-First-Time Acquirer in a New country (NFTA_NEW)	Mean	0.71**	0.78	0.68*	1.06***	-1.59	0.38	0.10	-0.28	2.37	0.40
	t-stat	2.31	1.26	1.94	2.81	0.91	0.48	0.15	0.41	1.46	0.41
	N	502	152	350	234	28	88				
Non-First-Time Acquirer in the Same country (NFTA_SAME)	Mean	0.42*	-0.02	0.57*	0.57*	-0.46	0.92	-0.59	-0.59	0.44	-0.94
	t-stat	1.70	0.04	1.94	1.83	0.36	1.21	1.04	1.08	0.40	1.13
	N	851	219	632	439	49	144				
Panel B: Differentials by type of M&A activity and method of payment											
CBA vs. DOM	Mean	-0.34	-0.79*	-0.15	-0.22	0.37	-0.28				
	t-stat	1.36	1.76	0.53	0.77	0.28	0.48				
FTA vs. DOM	Mean	0.77*	1.25	0.65	0.07	3.19*	0.32				
	t-stat	1.76	1.32	1.12	0.11	1.71	0.29				
NFTA_NEW vs. DOM	Mean	-0.43	-0.77	-0.29	0.04	-1.96	-0.80				
	t-stat	1.05	1.09	0.60	0.08	0.76	0.81				
NFTA_SAME vs. DOM	Mean	-0.72**	-1.57***	-0.40	-0.45	-0.83	-0.26				
	t-stat	2.24	2.64	1.06	1.27	0.42	0.32				
FTA vs. NFTA_NEW	Mean	1.20**	2.02*	0.94	0.03	5.15*	1.12				
	t-stat	2.22	1.83	1.53	0.04	1.76	0.89				
FTA vs. NFTA_SAME	Mean	1.49***	2.82***	1.05*	0.52	4.02*	0.58				
	t-stat	3.03	3.00	1.83	0.83	1.71	0.44				
NFTA_NEW vs NFTA_SAME	Mean	0.29	0.80	0.11	0.49	-1.13	-0.54				
	T-stat	0.73	1.07	0.23	0.97	0.53	-0.47				

Note: The table presents mean announcement period 5-day (t-2, t+2) cumulative abnormal returns. Panel A presents portfolios according to the type of M&A (all deals, domestic deals, cross-border deals, FTA corresponding to deals constituting an acquiring firm's first cross-border M&A ever, NFTA_NEW corresponding to deals constituting NFTA cross-border expansions but in unprecedented countries, NFTA_SAME corresponding to deals constituting NFTA cross-border expansions in countries in which the acquiring firm has already engaged in an M&A in the past and method of payment. Panel A also reports portfolio differentials by method of payment across the different types of M&A activity. Panel B presents portfolio differentials between different M&A types for a given method of payment. The statistical significance of differences in returns between groups of acquirers is tested using the *t*-test for equality of means. ***, **, and * indicate significance at 1, 5, and 10 percent respectively. Further information on the definition of each variable can be found in the Appendix A.

Table 4: Univariate Analysis of Acquirers' Abnormal Returns

		All	Cash	Stock	Mixed	Non-Earnout
Panel A: Non-earnout financed deals by the type of M&A						
All (1)	Mean	1.03***	0.94***	0.45***	1.11***	0.93***
	N	5,492	2,067	571	1,330	3,968
Domestic (2)	Mean	1.14***	1.02***	0.37	1.18***	0.97***
	N	3,799	1,249	450	1,029	2,728
CBA (3)	Mean	0.80***	0.80***	0.74	0.90*	0.82***
	N	1,693	818	121	301	1,240
First-time Acquirer (FTA) (4)	Mean	1.91***	1.09*	3.56*	1.50	1.62***
	N	340	145	44	69	258
Non-First-Time Acquirer in a New country (NFTA_NEW) (5)	Mean	0.71**	1.06***	-1.59	0.38	0.68*
	N	502	234	28	88	350
Non-First-Time Acquirer in the Same country (NFTA_SAME) (6)	Mean	0.42*	0.57*	-0.46	0.92	0.57*
	N	851	439	49	144	632
Panel B: Earnout-financed deals by the type of M&A						
All (7)	Mean	1.32***				
	N	1,524				
Domestic (8)	Mean	1.55***				
	N	1,071				
CBA (9)	Mean	0.76**				
	N	453				
First-Time Acquirer (FTA) (10)	Mean	2.80***				
	N	82				
Non First-Time Acquirer in a New country (NFTA_NEW) (11)	Mean	0.78				
	N	152				
Non-First-Time Acquirer in the Same country (NFTA_SAME) (12)	Mean	-0.02				
	N	219				
Panel C: Differentials (Panel B) – (Panel A)						
(9) – (2)	Mean	-0.38	-0.26	0.39	-0.42	-0.21
	t-stat	0.88	0.71	0.54	0.86	0.48
(10) – (2)	Mean	1.66*	1.78**	2.43*	1.62	1.83*
	t-stat	1.71	2.35	1.68	1.57	1.83
(11) – (2)	Mean	-0.36	-0.24	0.41	-0.40	-0.19
	t-stat	0.49	0.43	0.36	0.52	0.26
(12) – (2)	Mean	-1.16*	-1.04**	-0.39	-1.20*	-0.99*
	t-stat	1.92	2.19	0.40	1.86	1.66
(10) – (5)	Mean	2.09**	1.74**	4.39*	2.42*	2.12**
	t-stat	1.83	2.03	2.25	1.95	2.46
(10) – (6)	Mean	2.38***	2.23***	3.26*	1.88	2.23**
	t-stat	2.81	2.69	2.05	1.51	2.52
(11) – (6)	Mean	0.36	0.21	1.24	-0.14	0.21
	t-stat	0.57	0.33	0.95	-0.14	0.32

Note: The table presents mean announcement period 5-day (t-2, t+2) cumulative abnormal returns. Panel A presents portfolios according to the type of M&A (all deals, domestic deals, CBA, FTA, NFTA_NEW, NFTA_SAME) and method of payment. Panel B presents portfolios for earnout-financed deals according to M&A type. Panel C reports differentials for different combinations of M&A portfolios reported in Panel A and Panel B. The statistical significance of differences in returns between groups of acquirers is tested using the *t*-test for equality of means. ***, **, and * indicate significance at 1, 5, and 10 percent respectively. Further information on the definition of each variable can be found in the Appendix A.

Table 5: Multivariate Analysis

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Sample	All	All	CBA	CBA	CBA	CBA	CBA	CBA	FT	FT	FT	FT
Intercept	-0.010	-0.011	0.021	0.009	0.017	0.021	0.031	0.020	-0.034	-0.032	-0.023	-0.021
CBA	-0.002											
FTA		-0.009	-0.005	-0.007	-0.006	-0.008						
NFTA_NEW							0.001					
NFTA_SAME								0.004				
Earnout	0.002	-0.003	-0.008	-0.010	-0.010	-0.010	-0.002	0.002	0.128**	0.059*	0.031	0.001
CBA × Earnout	-0.003											
FTA × Earnout		0.028**	0.031**	0.032**	0.031**	0.029**						
NFTA_NEW x Earnout							-0.005					
NFTA_SAME × Earnout								-0.013				
Earnout × Acquirer AGE									-0.017**			
Earnout × Dev. Country										-0.056		
Earnout × Common Law											-0.038	
Earnout × Net Margin												-0.024**
Tar. in Dev. Country			-0.010	-0.010	-0.007	-0.006	-0.007	-0.005	0.014	0.036*	0.017	0.022
Tar. Cap. Control			0.001	0.001	-0.002	0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
Tar. Corp. Tax			-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	0.001	0.001	0.001	0.001
Exch. Rate			0.007	0.008	0.007	0.003	0.002	0.002	0.001	-0.006	-0.001	0.002
Tar. in Com. Law					-0.013	-0.015	-0.015	-0.013	-0.006	-0.003	0.009	-0.010
Rel. Size	0.004***	0.004***	0.001	0.002	0.002	0.001	0.002	0.002	0.001	-0.001	-0.001	0.001
Acquirer MTBV	-0.004*	-0.004**	-0.004	-0.004	-0.004	-0.002	-0.003	-0.002	0.003	0.002	0.002	0.003
Acquirer AGE	0.001	0.001	-0.001	0.002	0.001	-0.001	-0002	-0.001	0.001	-0.003	-0.003	-0.002
Acquirer Net Margin						0.001**	0.001**	0.001**	0.004***	0.004***	0.004***	0.004***
Unlisted Target	0.032***	0.032***		0.015***	0.015**	0.011*	0.012**	0.012**	0.027**	0.026**	0.028**	0.025*
Diversified	0.002	0.001		-0.002	-0.002	-0.001	-0.001	-0.001	0.001	0.003	0.002	0.001
YFE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-squared (%)	1.97	2.13	1.56	1.88	1.65	1.22	1.13	1.18	2.19	1.14	1.08	2.11
F-stat	8.51***	9.12***	2.50**	2.60**	2.13**	1.61*	1.36	1.44	1.64*	1.38	1.30	1.64*
Mean VIF	2.74	2.04	2.16	2.13	3.14	2.44	2.41	3.12	2.35	2.40	2.58	2.42
N	4,856	4,856	1,418	1,418	1,418	1,372	1,372	1,372	259	259	259	259

Note: The table illustrates the multivariate analysis on the wealth effects of earnouts in international corporate takeovers for the whole sample The dependent variable consists of the announcement period market adjusted 5-day (t-2,t+2) abnormal returns of acquirers which are regressed against a set of explanatory variables. CBA refers to cross-border deals in which the acquirer and target are based in different countries; FTA corresponds to deals constituting an acquiring firm's first cross-border M&A ever; NFTA_NEW corresponds

to deals constituting NFTA cross-border expansions but in unprecedented countries; NFTA_SAME corresponds to deals constituting NFTA cross-border expansions in a countries in which the acquiring firm has already engaged in an M&A in the past; Earnout refers to deals financed with an earnout provision; Tar. in Dev. Country corresponds to international deals in which the target resides in a developed country; Tar. Cap. Control corresponds to the target country's capital controls in place at the time of the deal's announcement; Tar. Corp. Tax corresponds to the target country's corporate tax rate at the time of the deal's announcement; Exch. Rate corresponds to the exchange rate between the pound sterling and the target's home currency (as in Kiymaz, 2004) at the time of the deal's announcement; Tar. in Com. Law refers to deals in which the target operates within a Common Law legal framework; Rel. Size corresponds the deal's relative deal size; MTBV corresponds to the acquiring firm's market-to-book ratio of assets; AGE corresponds to the number of days between the acquirer's first recorded day on Datastream and the deal's announcement day; Net Margin corresponds to the acquirer's ratio of net profits to revenue during the last quarter prior to the deal's announcement; Unlisted refers to deals in which the target is an unlisted firm (private or subsidiary); Diversified refers to deals in which the acquirer and target operate in different industries, i.e. they do not share the same two-digit SIC code; YFE corresponds to year fixed effects. Regression outputs are estimated using ordinary least squares with the coefficients adjusted for possible heteroscedasticity using White heteroscedasticity-consistent standard errors and covariance. The intercept measures the excess returns to acquirers after accounting for the effects of all explanatory variables. VIF is the Variance Inflation Factor, which quantifies the severity of multicollinearity. Variance inflation is the reciprocal of tolerance. ***, **, and * indicate significance at 1, 5, and 10 percent respectively. Further information on the definition of each variable can be found in the Appendix A.

Table 6: Propensity Score Matching on the abnormal returns of first-time-acquirers (FTA)

	Model 1			Model 2			Model 3		
Panel A Logistic Regression Outputs									
Intercept	1.215			-0.867			-0.527		
Relative Size	0.255**			0.303***			0.320***		
Diversified							-0.624**		
Acquirer MTBV	0.361*			0.387**			0.350*		
Acquirer Cash Ratio	-0.013*			-0.014**			-0.015**		
Acquirer Debt-to-Equity	-0.001			-0.002			-0.002		
Acquirer Net Margin	0.001			0.001			0.001		
Exchange Rate	0.146			0.608			0.582		
Unlisted target				2.365**			2.434**		
Target in Intangible Sector							0.324		
Target Capital Control	-0.120			-0.095			-0.067		
Target Corporate Tax	-1.226			-1.217			-1.271		
Target in Developed Country	-0.409			-0.610			-0.925		
Target in Common Law				0.032					
Pseudo R-squared (in %)	5.84			9.25			11.08		
H-L Goodness of Fit test	7.17			6.43			4.09		
Mean VIF	1.21			1.20			1.19		
N	254			254			254		
Panel B: Balance of Covariates									
	Treat.	Control	Diff. Treat. vs. Control	Treat.	Control	Diff. Treat. vs. Control	Treat.	Control	Diff. Treat. vs. Control
Relative Size	-2.27	-2.02	-0.25	-2.27	-2.18	-0.09	-2.27	-2.33	0.05
Diversified	-	-	-	-	-	-	23	16	-
Acquirer MTBV	1.01	0.96	0.05	1.01	1.02	-0.01	1.01	1.16	-0.15
Acquirer Cash Ratio	24.91	25.10	-0.18	24.91	27.73	-2.81	24.91	30.35	-5.44
Acquirer Debt-to-Equity	51.74	84.68	-32.94	51.74	29.50	22.24	51.74	51.57	0.17
Acquirer Net Margin	-13.84	-3.41	-10.43	-13.84	-21.55	7.71	-13.84	-49.85	36.01
Exchange Rate	0.01	0.03	-0.02	0.01	0.03	-0.01	0.01	0.04	-0.03
Unlisted target	-	-	-	59	59	-	59	59	-
Target in Intangible Sector	-	-	-	-	-	-	28	34	-
Target Capital Control	6.32	6.32	0.00	6.32	6.51	-0.20	6.32	6.45	-0.14
Target Corporate Tax	0.37	0.38	-0.01	0.37	0.37	0.00	0.37	0.40	-0.03
Target in Developed Country	57	59	-	57	59	-	57	58	-
Target in Common Law	-	-	-	13	12	-	-	-	-
Panel C: Differentials Treated vs. Control									
Mean CAR Treated	2.17***			2.17***			2.17***		
N	60			60			60		
Mean CAR Control	-0.01			-0.09			-0.05		
N	60			60			60		
Diff. (Treated vs. Control)	2.18***			2.26**			2.22**		
Panel D: Rosenbaum-bounds									
p-value of est. diff. at Γ=1	0.0004			0.0067			0.0003		
Crit. Val. of Γ at cut-off p=0.05	1.73			1.29			1.41		
Crit. Val. of Γ at cut-off p=0.10	1.98			1.47			1.60		

Note: Panel A presents the output of the logistic regression models that were used to estimate the probability of occurrence of an earnout relative to alternative single up-front payment methods within FTA deals (deals that constitute the acquirer's first ever cross-border M&A transaction). Panel B presents the balance of covariates between treated and control deals in our matching sequences. The PSM technique employs 1-to-1 nearest neighbor matching allowing for replacement. Relative Size corresponds the deal's relative deal size; Diversified refers to deals in which the acquirer and target operate in different industries, i.e. they do not share the same two-digit SIC code; Acquirer MTBV corresponds to the acquiring firm's market-to-book ratio of assets; Acquirer Cash Ratio corresponds to the ratio of the acquirer's total cash and cash equivalents to its total assets at the quarter prior to the announcement of the deal; Acquirer Debt-to-Equity corresponds to the acquirer's ratio of total debt over the aggregate value of number of shares outstanding during the quarter prior to the announcement of the deal; Acquirer Net Margin corresponds to the acquirer's ratio of

net profits to revenue during the last quarter prior to the deal's announcement; Exchange Rate corresponds to the exchange rate between the pound sterling and the target's home currency (as in Kiymaz, 2004) at the time of the deal's announcement; Unlisted target refers to deals in which the target is an unlisted firm (private or subsidiary); Target in Intangible Sector refers to deals in which the target operates within an intangible-rich sector (Media and Entertainment, Consumer Products and Services, High Technology and Telecommunications); Target Capital Control corresponds to the target country's capital controls in place at the time of the deal's announcement; Target Corporate Tax corresponds to the target country's corporate tax rate at the time of the deal's announcement; Target in Developed Country corresponds to international deals in which the target resides in a developed country; Target in Common Law refers to deals in which the target operates within a Common Law legal framework. Differences in average covariates are tested using the t-test. Panel C reports mean 5-day announcement period cumulative abnormal returns (CAR) for treated and matched deals. The statistical significance of differences in mean returns between the two groups is tested using the *t*-test for equality of means. Panel D shows the outcome of the Rosenbaum-bounds test. ***, **, and * indicate significance at 1%, 5% and 10% respectively of the mean for each covariate presented. Further information on the definition of each variable can be found in the Appendix A.

Table 7: Propensity Score Matching on the abnormal returns of NFTA in new countries (NFTA_NEW)

	Model 1			Model 2		
Panel A: Logistic Regression Output						
Intercept	-1.229*			-1.553**		
Relative Size	-0.023			-0.059		
Diversified				-0.794		
Acquirer MTBV	0.368**			0.297*		
Acquirer Cash Ratio	0.007			0.007		
Acquirer Debt-to-Equity	-0.003**			-0.003**		
Acquirer Net Margin	0.001			0.001		
Acquirer Foreign Sales/Total Sales	-0.005			-0.005		
Exchange Rate	1.374*			1.390*		
Unlisted target	2.199*					
Target in Intangible Sector				0.438*		
Target Capital Control	-0.006			-0.001		
Target Corporate Tax	-0.012			-0.008		
Target in Developed Country	0.189			0.137		
Target in Common Law				0.258		
Pseudo R-squared (in %)	3.96			5.12		
H-L Goodness of Fit test	3.30			4.44		
Mean VIF	1.18			1.19		
N	373			373		
Panel B: Balance of Covariates						
	Treat.	Control	Diff. Treat. vs. Control	Treat.	Control	Diff. Treat. vs. Control
Relative Size	-3.30	-3.07	-0.23	-3.30	-3.27	-0.04
Diversified	-	-	-	37	32	-
Acquirer MTBV	1.20	1.18	0.01	1.20	1.11	0.09
Acquirer Cash Ratio	27.85	29.38	-1.53	27.85	28.57	-0.72
Acquirer Debt-to-Equity	55.71	63.69	-7.97	55.71	46.95	8.76
Acquirer Net Margin	-7.61	-9.48	1.87	-7.61	2.10	-9.71
Acquirer Foreign Sales/Total Sales	41.73	35.33	6.40	41.73	41.50	0.23
Exchange Rate	0.04	0.03	0.01	0.04	0.03	0.01
Unlisted target	48	48	-	-	-	-
Target in Intangible Sector	-	-	-	43	41	-
Target Capital Control	6.80	6.88	-0.08	6.80	6.45	0.35
Target Corporate Tax	0.55	0.75	-0.19	0.55	0.56	0.00
Target in Developed Country	104	106	-	104	101	-
Target in Common Law	-	-	-	51	53	-
Panel C: Differentials Treated vs. Matched M&A Deals						
Mean CAR Treated	0.23			0.23		
N	109			109		
Mean CAR Control	1.89**			1.01*		
N	109			109		
Diff. (Treated vs. Control)	-1.66			-0.78		
Panel D: Rosenbaum-bounds						
p-value of est. diff. at Γ=1	0.059			0.041		
Crit. Val. of Γ at cut-off p=0.05	1.00			1.03		
Crit. Val. of Γ at cut-off p=0.10	1.08			1.13		

Note: Note: Panel A presents the output of the logistic regression models that were used to estimate the probability of occurrence of an earnout relative to alternative single up-front payment methods within NFTA_NEW deals (deals that constitute non-initial cross-border M&A transactions but in a new country). Panel B presents the balance of covariates between treated and control deals in our matching sequences. The PSM technique employs 1-to-1 nearest neighbor matching allowing for replacement. Relative Size corresponds the deal's relative deal size; Diversified refers to deals in which the acquirer and target operate in different industries, i.e. they do not share the same two-digit SIC code; Acquirer MTBV corresponds to the acquiring firm's market-to-book ratio of assets; Acquirer Cash Ratio corresponds to the ratio of the acquirer's total cash and cash equivalents to its total assets at the quarter prior to the announcement of the deal; Acquirer Debt-to-Equity corresponds to the acquirer's ratio of total debt over the aggregate value of number of shares outstanding during the quarter prior to the announcement of the deal; Acquirer Net Margin corresponds to the acquirer's ratio of

net profits to revenue during the last quarter prior to the deal's announcement; Acquirer Foreign Sales/Total Sales corresponds to the acquirer's ratio of foreign to total sales during the last quarter prior to the announcement of the deal; Exchange Rate corresponds to the exchange rate between the pound sterling and the target's home currency (as in Kiymaz, 2004) at the time of the deal's announcement; Unlisted target refers to deals in which the target is an unlisted firm (private or subsidiary); Target in Intangible Sector refers to deals in which the target operates within an intangible-rich sector (Media and Entertainment, Consumer Products and Services, High Technology and Telecommunications); Target Capital Control corresponds to the target country's capital controls in place at the time of the deal's announcement; Target Corporate Tax corresponds to the target country's corporate tax rate at the time of the deal's announcement; Target in Developed Country corresponds to international deals in which the target resides in a developed country; Target in Common Law refers to deals in which the target operates within a Common Law legal framework. Differences in average covariates are tested using the t-test. Panel C reports mean 5-day announcement period cumulative abnormal returns (CAR) for treated and matched deals. The statistical significance of differences in mean returns between the two groups is tested using the *t*-test for equality of means. Panel D shows the outcome of the Rosenbaum-bounds test. ***, **, and * indicate significance at 1%, 5% and 10% respectively of the mean for each covariate presented. Further information on the definition of each variable can be found in the Appendix A.

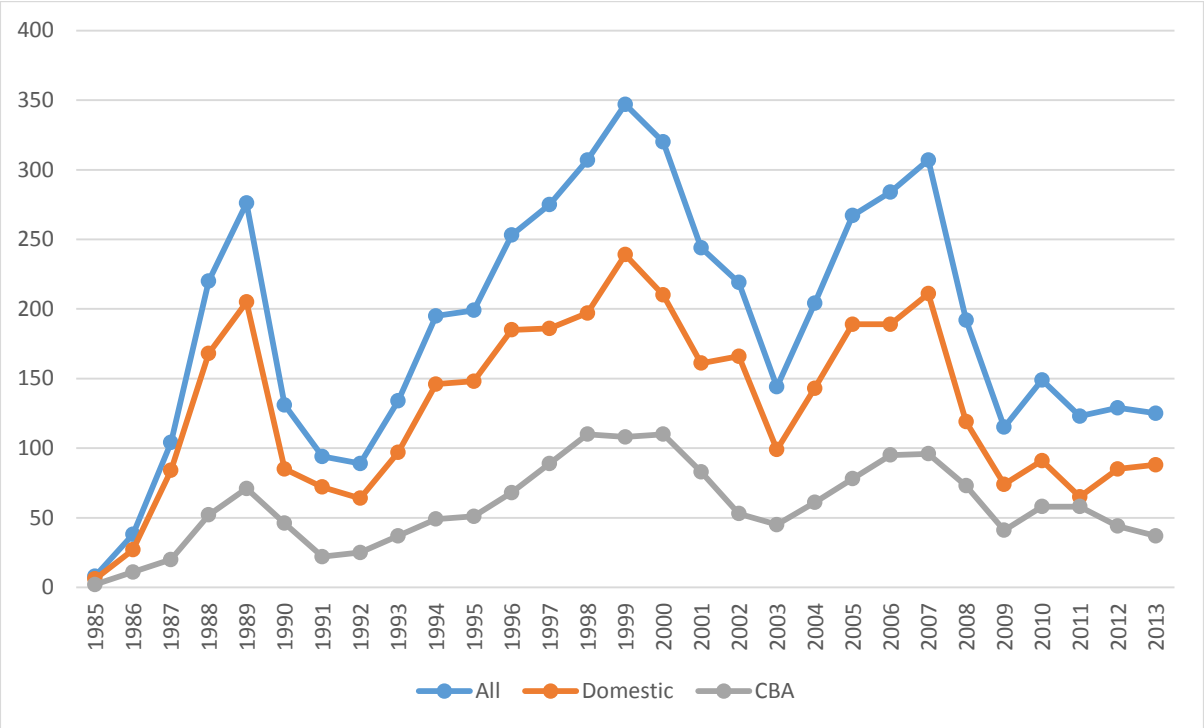
Table 8: Propensity Score Matching on the abnormal returns of NFTA in the same country (NFTA_SAME)

	Model 1			Model 2		
Panel A: Logistic Regression Output						
Intercept	-0.945*			-0.939		
Relative Size	0.131**			0.140**		
Diversified				-0.594		
Acquirer MTBV	0.120			0.097		
Acquirer Cash Ratio	-0.015***			-0.016***		
Acquirer Debt-to-Equity	-0.001			-0.001		
Acquirer Net Margin	0.003			0.002		
Acquirer Foreign Sales/Total Sales				-0.008		
Exchange Rate	-0.195			-0.184		
Unlisted target				1.678*		
Target in Intangible Sector				0.403**		
Target Capital Control	0.010			0.008		
Target Corporate Tax	-0.165			-0.166		
Target in Developed Country				0.111		
Target in Common Law				0.189		
Pseudo R-squared (in %)	2.64			3.22		
H-L Goodness of Fit test	5.67			6.47		
Mean VIF	4.36			3.87		
N	692			692		
Panel B: Balance of Covariates						
	Treat.	Control	Diff. Treat. vs. Control	Treat.	Control	Diff. Treat. vs. Control
Relative Size	-3.261	-3.225	-0.036	-3.261	-3.357	0.095
Diversified	-	-	-	64	64	-
Acquirer MTBV	1.004	1.078	-0.074	1.004	1.063	-0.059
Acquirer Cash Ratio	22.56	20.99	1.564	22.563	21.161	1.402
Acquirer Debt-to-Equity	76.06	95.465	-19.396	76.069	77.938	-1.869
Acquirer Net Margin	-0.092	0.108	-0.200	-0.092	0.0449	-0.137
Acquirer Foreign Sales/Total Sales	-	-	-	38.73	35.33	3.40
Exchange Rate	0.005	0.010	-0.005	0.004	-0.002	0.002
Unlisted target	-	-	-	52	52	-
Target in Intangible Sector	-	-	-	74	74	-
Target Capital Control	6.436	6.45	-0.020	6.436	6.471	-0.035
Target Corporate Tax	0.387	0.388	-0.001	0.387	0.382	0.005
Target in Developed Country	-	-	-	124	110	-
Target in Common Law	-	-	-	39	37	-
Panel C: Differentials Treated vs. Matched M&A Deals						
Mean CAR Treated	0.001			0.001		
N	181			181		
Mean CAR Control	0.009*			0.008*		
N	181			181		
Diff. (Treated vs. Control)	-0.008			-0.007		
Panel D: Rosenbaum-bounds						
p-value of est. diff. at Γ=1	0.07			0.13		
Crit. Val. of Γ at cut-off p=0.05	1.00			1.00		
Crit. Val. of Γ at cut-off p=0.10	1.03			1.00		

Note: Panel A presents the output of the logistic regression models that were used to estimate the probability of occurrence of an earnout relative to alternative single up-front payment methods within NFTA_SAME deals (deals that constitute cross-border M&A transactions, yet not in a new country but in a country where the acquirer has previously announced another merger). Panel B presents the balance of covariates between treated and control deals in our matching sequences. The PSM technique employs 1-to-1 nearest neighbor matching allowing for replacement. Relative Size corresponds the deal's relative deal size; Diversified refers to deals in which the acquirer and target operate in different industries, i.e. they do not share the same two-digit SIC code; Acquirer MTBV corresponds to the acquiring firm's market-to-book ratio of assets; Acquirer Cash Ratio corresponds to the ratio of the acquirer's total cash and cash equivalents to its total assets at the quarter prior to the announcement of the deal; Acquirer Debt-to-Equity corresponds to the acquirer's ratio of total debt over the aggregate value of number of shares outstanding

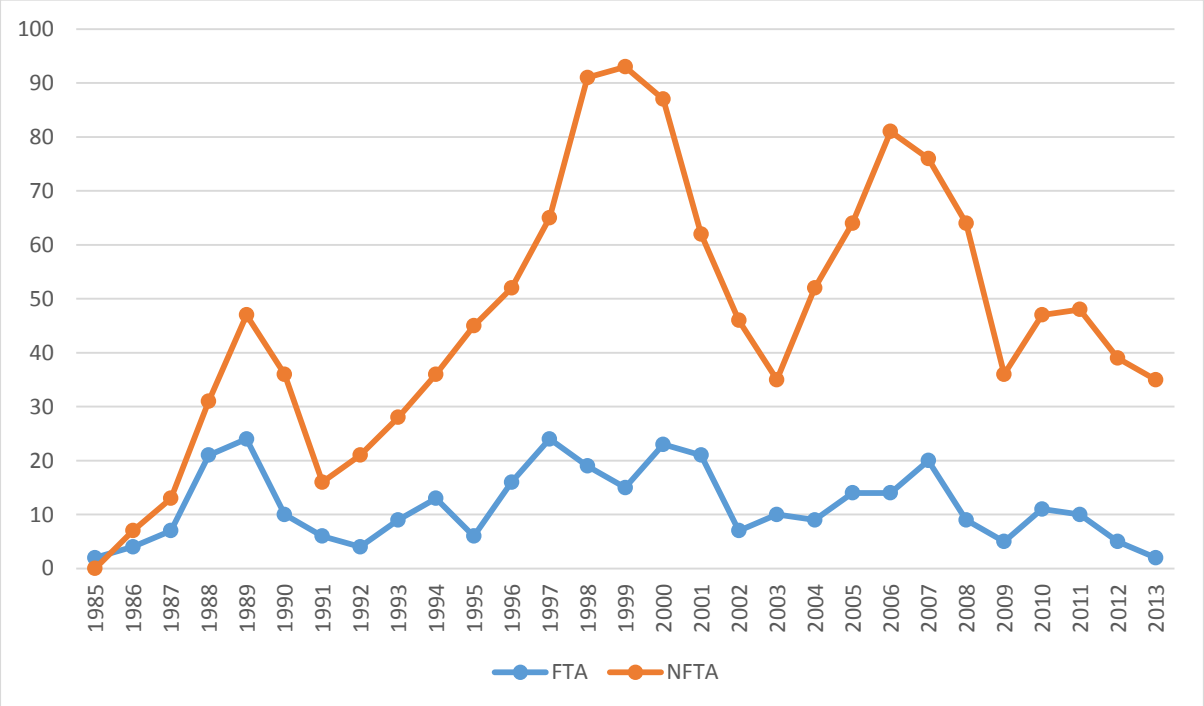
during the quarter prior to the announcement of the deal; Acquirer Net Margin corresponds to the acquirer's ratio of net profits to revenue during the last quarter prior to the deal's announcement; Acquirer Foreign Sales/Total Sales corresponds to the acquirer's ratio of foreign to total sales during the last quarter prior to the announcement of the deal; Exchange Rate corresponds to the exchange rate between the pound sterling and the target's home currency (as in Kiymaz, 2004) at the time of the deal's announcement; Unlisted target refers to deals in which the target is an unlisted firm (private or subsidiary); Target in Intangible Sector refers to deals in which the target operates within an intangible-rich sector (Media and Entertainment, Consumer Products and Services, High Technology and Telecommunications); Target Capital Control corresponds to the target country's capital controls in place at the time of the deal's announcement; Target Corporate Tax corresponds to the target country's corporate tax rate at the time of the deal's announcement; Target in Developed Country corresponds to international deals in which the target resides in a developed country; Target in Common Law refers to deals in which the target operates within a Common Law legal framework. Differences in average covariates are tested using the t-test. Panel C reports mean 5-day announcement period cumulative abnormal returns (CAR) for treated and matched deals. The statistical significance of differences in mean returns between the two groups is tested using the *t*-test for equality of means. Panel D shows the outcome of the Rosenbaum-bounds test. ***, **, and * indicate significance at 1%, 5% and 10% respectively of the mean for each covariate presented. Further information on the definition of each variable can be found in the Appendix A.

Figure 1: Time-series distribution of All, Domestic, and Cross-Border M&A activity



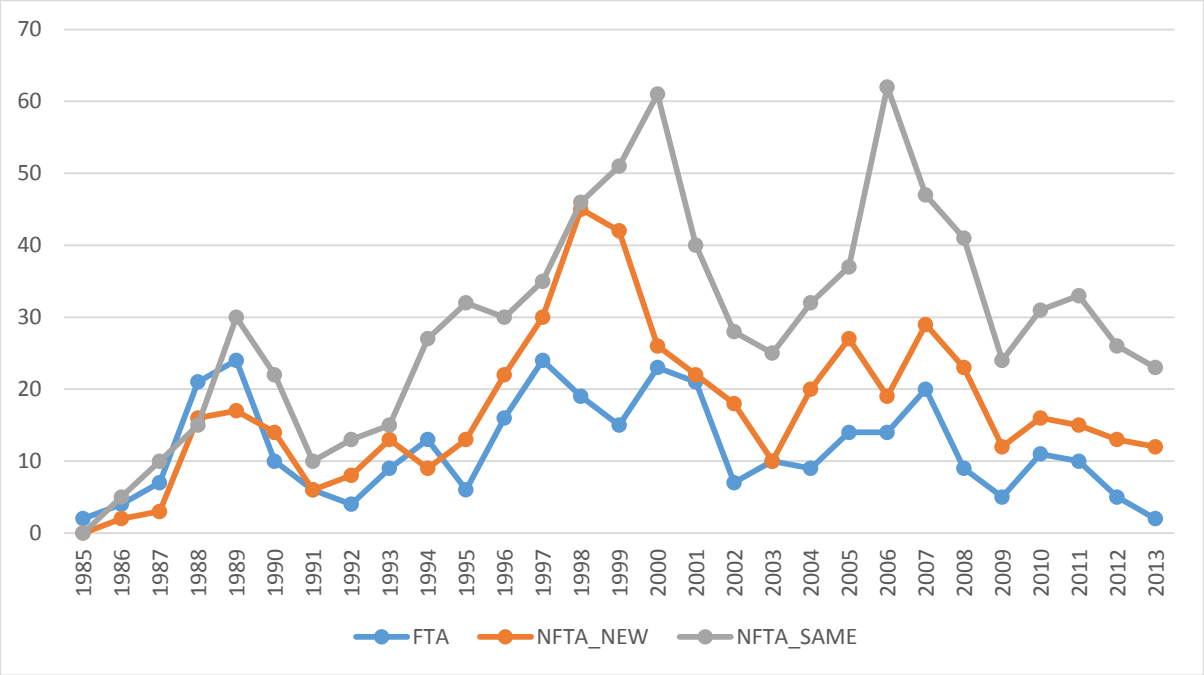
Note: The figure represents All sampled deals, as well as domestic and foreign target ones separately.

Figure 2: Time-series distribution of Cross-Border M&A activity for First time and Non-first time CBA acquirers



Note: The figure represents the sample of CBA only that is split into companies expanding abroad for the first time (FTA) or MNCs continue to expand abroad after they have already expanded abroad (=NFTA).

Figure 3: Time-series distribution of Cross-Border M&A activity by degree of prior international experience



Note: The figure represents the sample sample of CBA is split into companies expanding abroad for the first time (FTA), existing MNCs acquiring firm in a country where they have no prior operations (NFTA_New) and MNCs making acquisition in market where they already have operations (NFTA_Same).