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When the Poor Buy the Rich: New Evidence on Wealth Effects of Cross-Border Acquisitions

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Abstract: The growing trend of merging and acquisition (M&A) investments from emerging to developed market economies over the last two decades motivates the question on the long-run effects of M&A on the wealth of emerging markets. This paper contributes to the current literature on cross-border M&A (CBMA) by focusing on the long-term effects of this event on the bidder's stock return in emerging markets. To address the challenges of finding an accurate measure for the effects, this study applies the propensity score matching framework in tandem with difference-in-differences (DID) on a comprehensive dataset over the 1990–2010 period. The analyses show evidence of systematic detrimental impacts of cross-border M&A on shareholders' welfare in the long run, to a certain extent, diverging from the existing literature, which mainly highlights the positive effects for certain types of M&A. The striking finding is that such strong negative effects remain persistent even when various factors previously known as capable of suppressing underperformance are considered. Our study is in line with the growing landscape of cross-border mergers and acquisitions from the "poor" to the "rich" countries.

Keywords: M&A; wealth effects; propensity score matching; emerging markets

1. Introduction

With the arrival of Industry 4.0 and the shifting landscape of entrepreneurial finance in recent years, cross-border mergers and acquisitions (CBMA) have recorded growth in both values, as well as in the number of deals across different regions in recent years (OECD 2017). More impressive in this development is the embedded growth of international acquisitions from emerging to developed countries. By 2013, the number of deals made by emerging-market companies had accounted for 37% of the world market for cross-border deals, having recorded annual double-digit growth from 2000 to 2013 (Cogman et al. 2015). In terms of value, the figure skyrocketed by 929% from US\$17 billion in 2003 to US\$175 billion in 2013 (UNCTAD 2014). The remarkable increase of M&A from emerging countries is often driven by the advanced technology, brand names, and natural resources of target firms

(Cogman et al. 2015; Deng 2013; Deng and Yang 2015; Lebedev et al. 2015). While much of the M&A literature has shed light on various aspects of CBMA (e.g., the motivation, the strategic implication, and the market reaction), it is surprising that little is known about the wealth effects of M&A events on the acquiring firms in emerging markets. Given that firms from emerging and developed markets face asymmetries in corporate governance, institutional environments, and financial practices (Boateng and Huang 2017; Chari et al. 2009; Young et al. 2008), extending the literature on the wealth effects of acquirers from less-developed markets could consolidate the current cross-border M&A trend, especially in the wake of computational entrepreneurship (Vuong 2019).

This paper aims to bridge the gap in the literature concerning the long-term effects of CBMA events on the bidder's stock return in emerging markets. One of the challenges in the long-run study is the accuracy of the measure (Sudarsanam and Mahate 2003). The incremental return as a result of the CBMA event is traditionally measured as the difference between observed return and the estimated return using a market (i.e., single index) model. While such a method is acceptable in the short-run study, as the firm risk is relatively stable, it is fundamentally flawed for long-run investigation, because the genuine effect of the CBMA event cannot be isolated from the organic growth of the firm in the course of months or years, resulting in bias estimates (Jensen and Ruback 1983). Alternatively, Barber and Lyon (1997), Spiess and Affleck-Graves (1995), and Loughran and Ritter (1995) used a matching method that benchmarks the observed return against the return of the *matched firm* (firm having similar size and market-to-book). Essentially, this method trades off the assumption that the firm risk stays unchanged after the M&A event (i.e., market model) with the assumption that firms with similar ex-ante characteristics yield the same ex-post return. It is possible to improve the accuracy of the latter method by matching firms upon several characteristics with a propensity score matching (PSM) model. Even though PSM allows for multi-dimensional matching, it is still vulnerable to temporal time-invariant and unobservable selection bias. Such bias, however, could be fixed when combining PSM with a difference-in-differences (DIDs) estimation technique (Blundell and Dias 2000; Girma et al. 2003). As a result, this paper employs DIDs in tandem with PSM to answer the following research questions:

RQ1: What are the long-term wealth effects of CBMAs on shareholders' return in emerging markets?

RQ2: How would the wealth effects change when controlling for factors such as related industry, payment method, acquisition for control, prior experience, and structure break, which are known to have positive impacts on the outcome of M&As?

The current study is structured as follows: Section 2 explores the agency problem and reviews the literature on CBMA wealth effects and their determinants. Section 3 explains the data and methodology, while Section 4 discusses the findings and their implications. The paper ends with the concluding remarks in Section 5.

2. Literature Review

2.1. The Wealth Effects of CBMA of an Emerging-Market Acquirer

Within the extant finance literature, findings remain inconclusive over whether such acquisition enhances or decreases the value of the acquiring firm. Martynova and Renneboog (2009) conducted a meta-analysis on M&A and documented series of significant evidence that the value of bidding firms tends to decline over several years after the M&A. However, the evidence of negative long-run abnormal return disappears when certain types of acquisitions are taken into consideration. For instance, Sudarsanam and Mahate (2003) and Mitchell and Stafford (2000) find cash-financed outperforms stock-financed for acquirers with a high market-to-book ratio (Glamour firm). Franks and Harris (1989) show that hostile bids generate better value to acquirers than friendly bids in a three-year event window; consistently, Cosh and Guest (2001) find significant long-run abnormal returns for hostile takeovers. In addition, Bradley and Sundaram (2004) report evidence showing that the acquiring of a listed target yields a higher return than taking over a private target in the long run. Recently, Bhabra and Huang (2013) found strong evidence of improved shareholder value over three years

following the M&A, especially for transactions involving state-owned enterprise, payment in cash, domestic target, and related industry. The mixture of evidence suggests that the wealth effect is contingent on the characteristics of the acquirers, the transactions specifics, and the environment settings. Such conditions vary among groups of acquirers. Therefore, it is unlikely to generalize the findings in developed countries in the emerging counterparts, despite the abundance of studies found in the former nations.

2.2. The Characteristics of M&A from Emerging to Developed Markets

The agency problem arises from moral hazard and information asymmetry, and it is often cited as one of the major drivers of all strategic managerial decisions, including M&A (Jensen and Meckling 1976). In emerging countries, the managerial entrenchment could be more severe because of their particular ownership structure. In China, for example, large bidders are often controlled by the Government, who has the right to assign a chief executive officer (CEO). However, CEOs in the state-owned enterprises are normally rooted from political connection, hence enjoying protection in exchange for offering lucrative opportunities to government agencies (Faccio 2010; Luo 2001; Sheng et al. 2011; Sun et al. 2012). Such a bureaucratic mechanism inflicts damage to creditors and public shareholders (Radelet et al. 1998).

Additionally, Gibson (2003) argues that stock ownership in emerging countries is not well diffused, because a large portion of emerging-market firms is small- and medium-sized, often controlled by founding families (Bhaumik and Gregoriou 2010; Bhaumik and Driffield 2011). A typical family firm often operates on a unique design, which has proven successful in the domestic market for generations. CBMA to more advanced markets dominated by large enterprises might lead to a change in such a business model and potential corporate cultural conflict in the integration phase (Gallo and Sveen 1991). These factors are frequently referred to as detrimental to shareholders' wealth. Thus, given the distinctive state ownership and dominant family holding, the wealth effect might be different between emerging and developed markets.

Dunning et al. (2007) argued that international expansion via M&A requires certain proprietary advantages to create synergies such as ownership, location, and internalization (i.e., eclectic paradigm). While developed-market acquirers normally have access to privileged technology, high-end markets, and superior management skills, an emerging-market counterpart owns a different set of advantages, namely the ability to gather a huge low-cost labor force on short notice or the capability of dealing with political instability (Guillén and García-Canal 2009). Such advantages entail not only different synergies, but also different motivation for emerging-market acquirers. For example, the acquisition of intangible assets such as patents, trademarks, brand name, and distribution network in the developed nation is regularly found in various studies on emerging countries (Antkiewicz and Whalley 2006; Deng 2004; Grimpe and Hussinger 2009; Guillén and García-Canal 2009). The differences in synergy and motivation should reflect in the ex post performance of the CBMA transaction.

2.3. Determinants of CBMA Wealth Effects in Emerging Markets

2.3.1. Industry Relatedness

Industrial relatedness has been widely debated in finance and strategic management literature. Several studies argue that acquiring related target (firms having the same Standard Industrial Classifications (SIC) code to acquirer's) could create both operational synergies by removing duplicates, laying off workers, and enhancing absorptive capacity. Lien and Klein (2008) argue that related acquisition should create higher value to shareholders than unrelated (i.e., conglomerate or diversifying) acquisitions. By contrast, diversification may entail a low cost of borrowing or the flexibility of the internal financial market. Gatzert et al. (2014) conducted a survey of CEOs about the motive of firm diversification and found that a lower level of earnings volatility and financial distress are the most important drivers of CEO diversification decision.

Besides, the business model of a diversified firm, organized as a set of interlinked operational units financially controlled by a hub, embeds an internal capital market. Allocation of the fund through such a convenient tunnel reduces financing frictions, enhancing the financial capability, and allowing for a higher level of investment (Stein 2003). However, the privilege of the internal capital market may encourage managers' rent-seeking behavior (Scharfstein and Stein 2000), leading to either overinvestment (Matsusaka and Nanda 2002; Stulz 1990) or sub-optimal allocation of the resources (Lien and Klein 2008).

The existing empirical evidence on the performance of related mergers and acquisitions seems to be mixed. Comment and Jarrell (1995) and Bhagat et al. (1990) provide evidence of optimistic market reaction to the announcement of a firm's plan to refocus, while Servaes (1996) and Lang and Stulz (1994) find that diversified firms are traded at a discount. On the contrary, some studies find evidence rejecting the undervaluation in conglomerate acquisitions. Campa and Kedia (2002) and Graham et al. (2002) find that the causal relationship between diversification and undervaluation is spurred by common factors. Once they are controlled, the discount disappears. Similar evidence is found in Chevalier (2004) and Villalonga (2004).

In an emerging market, Khanna and Palepu (2000) report a prevalence of conglomerate acquisitions, which either favor the internal capital market privilege or indicate that emerging-market acquirers possess limited choice and yet manage to generate incremental value. Kale (2004) argued that the latter case is possible as the markets for corporate control in emerging countries are still in the infant stage, and the pioneer acquirers can still grasp the "low hanging fruits". Nonetheless, such opportunities should soon deplete, given the recent "tsunami" of outward investments from emerging nations.

2.3.2. Method of Payment

Paying for the target with cash or with stock or anything in between is not a concern if the market is theoretically efficient, as all existing information fully reflected in current stock price would eliminate the abnormal return of any news announcement. In effect, the empirical evidence documents the positive impacts of cash financing and underperformance of a stock exchange transaction (Loughran and Vijh 1997; Mitchell and Stafford 2000; Rau and Vermaelen 1998). The underlying signaling theory assumes market inefficiency, and hence each party to the M&A transaction generally seizes private information unavailable to the counterparty and the public. In such an asymmetric environment, the cash-financed acquisition announcement signals the acquirer's share being undervalued, while the stock-financing announcement signals overvaluation (Myers and Majluf 1984). The subsequent market adjustment toward the payment method in the announcement underpins a substantial movement in the market, causing significant abnormal return, not only in the short run, but also several years after the acquisition (Loughran and Vijh 1997).

Also, the classic market microstructure literature establishes that stock price and liquidity are influenced by information asymmetry (O'Hara 2003). In larger and more efficient markets, traders encounter a lower trading cost, and informed traders might extract extra return at the expense of the uninformed trader (Agudelo et al. 2015). Accordingly, acquirers in a weaker institutional setting like that in an emerging country should possess more private information, which helps them extract even more benefit from the less informed targets. Thus, we expect a stronger positive wealth effect in a cash-financing transaction in emerging than in developed countries.

2.3.3. Power of Control

The controlling ownership of target is crucial in cross-border acquisitions, as the target's management would otherwise take advantage of the incomplete contract and refrain from sharing strategic resources such as technology or management expertise. Control rights also entitle acquirers exclusive benefits of which minority shareholders are unaware. Grossman and Hart (1986) postulate that acquirers are likely to be undermined by the target's "opportunistic and distortionary" behavior unless the residual control right is attained. The empirical evidence, indeed, supports this argument,

as [Chari et al. \(2009\)](#) find that control is the key element of positive abnormal return. If the control is not accounted for, the evidence immediately shows detrimental wealth effects. [Dyck and Zingales \(2004\)](#) even attempted to measure the corporate control premium, reporting that such a premium ranges from -4% (in Japan) to $+65\%$ (in Brazil). Such evidence demonstrates that the value of the control is higher in less developed countries. Thus, this paper expects positive effects of control ownership in the long run.

2.3.4. Prior Experience

An acquirer having prior experience in corporate control in developed markets can reduce the transaction and post-integration costs in subsequent attempts. [Barkema et al. \(1996\)](#) argue that knowledge of the foreign country such as institutional characteristics could reduce the cultural barrier on both corporate and national levels. Effectively, [Aggarwal and Samwick \(2003\)](#) find lessons that learned in previous encounters increase the chance of success for serial acquirers. However, it is not necessarily beneficial when the acquirers have a good track record on acquisition performance. [Roll \(1986\)](#) theorizes that historical successes invoke managerial hubris, which clouds the manager's judgments in subsequent transactions and hence value destruction post-acquisition. [Tanna and Yousef \(2019\)](#) find supporting evidence for the hubris hypothesis that experienced acquirers entail higher systematic risk. Consistently, [Al Rahaleh and Wei \(2012\)](#) find that firms undertaking frequent M&A also suffer from declining return. The inconsistent evidence suggests a rather unpredictable behavior of prior acquisition experience in the emerging market.

2.3.5. Structural Break

Mergers and acquisitions appear to occur in waves, each of which is characterized by a different set of conditions ([Martynova and Renneboog 2009](#)). Thus, it is necessary to consider M&A activity at different homogeneous periods ([Jarrell and Bradley 1980](#)). Empirically, [Asquith et al. \(1983\)](#) break their merger sample based on two periods and statistically verify the difference in wealth effects with pairwise *t*-statistics, which supports the necessity for the consideration of structural break in M&A investigations. The growing trend of the M&A market in the emerging country described in [Kale \(2004\)](#) depicts that the M&A market was virtually nonexistent before the 1990s, however, the gradual financial liberalization attracts a rapid growth of participants.

In summary, the widely accepted view on the value destruction of M&A in developed nations appears uncertain in emerging countries, as existing theories and evidence are inconsistent. Some factors affecting acquisition performance such as ownership structure, government involvement, and institutional and corporate governance development in emerging countries behave differently in a different setting, which makes the answer on long-term wealth effects less predictable in the emerging world.

3. Data and Methodology

3.1. Data

3.1.1. Data Sources

The M&A events from emerging to developed countries are collected from the Thomson One database, for 20 years, from 1990 to 2010, a period right before the dawn of Industry 4.0. The data include characteristics of the deal, country, and industry specifics. Initially, the total number of M&A deals reach nearly 140,000. However, the final sample drops to 281 after screening out all the missing data (as shown in Table 1 and Figure 1). To compensate for the lack of recent data on M&As, firm specifics and return data are extracted from World Scope, thereby each acquiring firm is matched against a whole set of all available listed firms in the corresponding country. For example, to find the wealth effects of a cross-border M&A for each Indian acquirer, we collect from WorldScope the data on size, market-to-book, and cash holding level along with Datastream's return indices of all

non-acquirer listed firms in India (more than 5000 firms) in the following five years to yield the optimal result. The total non-acquiring firms used for matching across the sample is 35,651, which makes our sample larger than most samples documented in the literature. These steps are carried out together with 20 years of data on M&A to ensure the reliability and representativeness of the wave of M&As from emerging to developed markets explored in this paper.

Table 1. Full sample overview.

Target Country	Acquirer Country	Number of Deals
All	All	139,895
All	Emerging	13,991
Developed	Emerging	1130
Developed	Emerging	281 *

* 281 is the final sample after screening out the missing data.

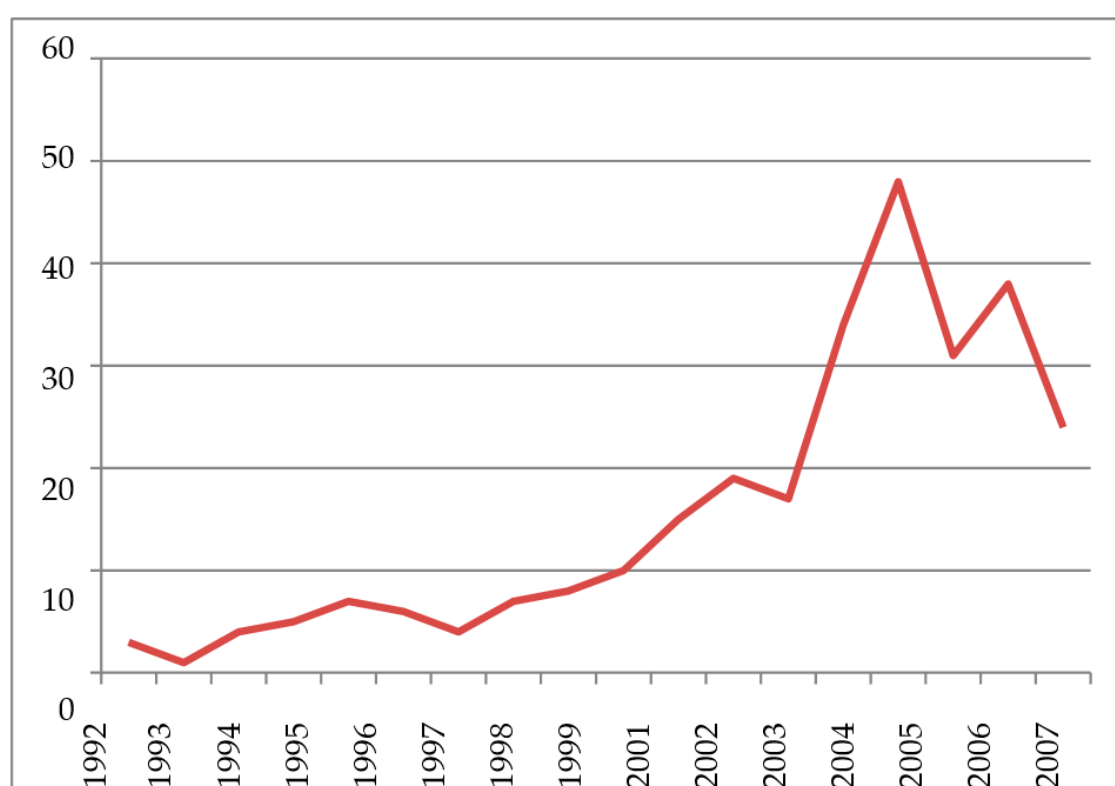


Figure 1. Number of deals by year (Source: study sample).

3.1.2. Sample Description

This section goes into a detailed description of the sample. The breakdown of the sample by emerging and developed countries shown in Table 2 illustrates that India is the most active country in CBMA to developed countries, while the U.S. is the top receiving country, as expected. Outbound M&A from an emerging to a developed country is a new trend, as less than 15 deals have been reported every single year until 2000. The frequency starts to pick up rapidly after 2000 and reaches a peak in 2008. A year after that, deals dropped dramatically, perhaps due to the financial crisis, which supports a view of structure break. Table 3 illustrates more details of the sample structure. It is noted that non-cash payment is dominant to cash payment, even though non-cash payments, as discussed earlier, imply ex-post underperformance. Other than that, the sample structure is consistent with our expectation. More specifically, related acquisition, acquisition for control, and inexperienced bidder are all dominant forces.

Table 2. Distribution of merger and acquisition (M&A) events by country (Source: authors' calculations).

Bidder Country	Frequency	Percent	Target Country	Frequency	Percent
India	96	34.16	USA	86	30.6
Malaysia	51	18.15	UK	52	18.51
South Africa	34	12.1	Australia	47	16.73
Taiwan	25	8.9	Canada	17	6.05
China	20	7.12	Germany	15	5.34
Russia	8	2.85	Italy	10	3.56
Mexico	7	2.49	Netherlands	7	2.49
Philippines	6	2.14	Japan	6	2.14
Poland	6	2.14	Spain	6	2.14
Korea	5	1.78	Denmark	4	1.42
Brazil	4	1.42	Finland	4	1.42
Egypt	3	1.07	Swiss	4	1.42
Hungary	3	1.07	Austria	3	1.07
Thailand	3	1.07	Belgium	3	1.07
Turkey	3	1.07	France	3	1.07
Argentina	2	0.71	Norway	3	1.07
Columbia	2	0.71	Sweden	3	1.07
Indonesia	1	0.36	Iceland	2	0.71
Pakistan	1	0.36	Luxembourg	2	0.71
Peru	1	0.36	Portugal	2	0.71
Total	281	100	Ireland	1	0.36
			New Zealand	1	0.36
			Total	281	100

Table 3. Breakdown of the sample by categories.

Category	M&A Type	Freq.	Percent.
Relatedness	Related acquisition	155	55.16
	Conglomerate acquisition	126	44.84
Acquisition for control	Less than 50% of the target's shares acquired	75	27.47
	More than 50% of the target's shares acquired	198	72.53
Payment method	Cash payment only	114	40.57
	Non-cash payment	167	59.43
Prior acquisition experience	Inexperienced bidder	190	67.62
	Experienced bidder	91	32.38

3.2. Methodology

The long-term wealth effect is estimated with the propensity score matching (PSM) model in tandem with differences-in-differences (DIDs), a quasi-experimental method attempted to replicate “randomized trials” in scientific experiments (Guo and Fraser 2014; Rubin 2008). Essentially, the PSM framework finds a counterfactual firm based on an ex-ante set of specific characteristics. In this paper, we assume that firms sharing a similar size, market-to-book, and cash level are subject to the same propensity of undertaking a similar acquisition. Barber and Lyon (1997) advocates for size and market-to-book along with Loughran and Ritter (1995), Spiess and Affleck-Graves (1995), and Fama and French (1993), while Jensen (1986) argues that cash level is a crucial determinant of acquisition decision. Further, Bhaumik and Gregoriou (2010) argue that cash abundance could motivate Indian firms into detrimental acquisitions. Besides the three conditioning variables, we also control for country and industry fixed effects. The PSM model specification is presented in Equation (1).

$$Prob (Acquirer_i = 1) = \alpha_i + \beta_i X_i + \gamma_i + \delta_i + \varepsilon_i, \quad (1)$$

where

$Prob (Acquirer_i = 1)$: The probability of an emerging-market firm engaging in CBMA in developed markets

X_i : Three vectors representing the size, market-to-book, and cash level

γ_i : Control for country fixed effects

δ_i : Control for industry fixed effects

ε_i : The error term

α_i : The intercept

Given its advantage of multidimensional matching, the PSM alone is under scrutiny because it fails to account for the longitudinal nature of the sample where the return is observed at two different time stamps (Heckman et al. 1997). Thus, it needs to coordinate with DID to cope with the dynamics of the event study, thereby capable of reducing selections on observables and “temporal time-invariant” unobservables (Guo and Fraser 2014; Girma et al. 2006; and Blundell and Dias 2000). The final estimator is given in Equation (2).

$$DIDs = \frac{1}{n_1} \sum_{i \in T} \left[(Y_{1t_1i} - Y_{1t_0i}) - \sum_{j \in C} W(i, j) (Y_{0t_1j} - Y_{0t_0j}) \right], \quad (2)$$

where

$DIDs$: The estimated long-term wealth effect

$T = \{i_1, i_2, \dots, i_{n_1}\}$: The set of acquirers

$C = \{j_1, j_2, \dots, j_{n_2}\}$: The set of counterfactual firms

(Y_1, Y_0) : The respective observed return of the acquirer, and its counterfactual

(t_0, t_1) : Lower bound and upper bound of the event window

$(Y_{1t_1i} - Y_{1t_0i})$: The observed return growth of the acquirer in the event window

$(Y_{0t_1j} - Y_{0t_0j})$: The observed return growth of a control firm in the event window

$W(i, j)$: The Kernel weighting function

$\sum_{j \in C} W(i, j) (Y_{0t_1j} - Y_{0t_0j})$: The estimated counterfactual return growth

The weighting kernel function allows for one-to-many matching under two conditions: (1) the counterfactual’s propensity falls within a certain radius of acquirer’s, and (2) the acquirer and control firms must be in the same common support region to ensure a match for each acquirer. With the kernel-based matching mechanism (KBM), the control firm within the radius will be assigned higher weight if its propensity is closer to that of the acquirer. Moreover, trimming levels of 2%, 5%, and 10% are undertaken as a sensitivity check for the acquirer and controls stay within the common support region, a procedure suggested by Heckman et al. (1997) and Guo and Fraser (2014).

In summary, this paper employs PSM and DIDs to estimate the long-run wealth effect, given its advantages in dealing with selections on both observables (e.g., size, market-to-book, and cash level) as well as “temporal time-invariant” unobservables. Such advantages are significant as “the power of event study methodology depends crucially on the quality of the benchmark” (Dimson and Marsh 1986).

4. Results and Discussion

4.1. Full Sample Analysis

The DIDs’ estimates illustrate significant negative wealth effects in the course of three, four, and five years after the effective date of the CBMA transaction, and the evidence is consistent for all sensitivity analyses on a 2%, 5%, and 10% trimming level. Table 4 clearly shows a higher detrimental effect when the event window is longer. The abnormal return is around 26% in the three-year window but could reach more than 70% in a five-year window. Thus, if the non-acquirer’s stock

return stays unchanged, the acquirer's relatively goes down by 26% after three years and down by approximately 70% after five years. The manifested evidence is strong, but not uncanny in the literature. For example, Agrawal et al. (1992) find that acquirers underperform by 10.26% in a six-year event window, while Sudarsanam and Gao (2003) report 32% underperformance of U.K. high-tech firms in just a one-year event window. Conn et al. (2005) also find a decrease of 19.78% in a three-year event window. The strong evidence of detrimental wealth effect indicates that the potential synergies in CBMA from emerging to developed nations have never been materialized, or the relating frictions outweigh the synergies of the M&A in the long run.

4.2. Subsample Analysis

Further examination of subsamples based on potential factors underpinning the wealth effect demonstrates consistent negative wealth effects across the results (Table 4, Panel B). Related acquisition underperforms by 46.18% to 50.84% after four years, while unrelated acquisition underperforms after five years, ranging from 50.76% to 57.79%. This evidence is not aligned with the prior expectation that either related or unrelated may provide incremental wealth effects.

Also, this paper anticipates that the negative effect may be different in consideration of the payment method. However, we find no evidence of positive long-term adjustment. Moreover, the non-cash demonstrates a powerful value destruction effect after three and especially five years. Specifically, if the return of a counterfactual group increases by 100%, such a return of the acquirer with non-cash financing increases about 10% at best or possibly stays the same after five years. Such strong evidence lends support to the signaling theory because no significant negative abnormal return is observed in the cash-financing subsample.

Furthermore, the power of control is unable to overwhelm the overall negative effect, because significant underperformance evidence is observed in the three- to five-year windows. The level of negative in this subsample is similar to that in the full sample, indicating that taming of the incomplete contract issues or control of strategic assets is insufficient to defeat the post-integration problems.

Finally, similar stories unfold for the experience and the structure break. No sign of positive effects is reported, which again highlights the predominance of ex-post integration issues over acquirer's experience. Similarly, positive change in the business environment during the second period of the merger is not yet adequate to create a positive effect.

Overall, we find strong evidence of the bidder's long-term value destruction in all settings, which is consistent with the previous literature. However, the special finding is that a variety of potential factors previously shown to be capable of undermining difficulties in M&A were all rendered ineffective.

Table 4. Full sample and subsample results.

Sample	Event Window	Spec 1	Spec 2	Spec 3
Panel A: Full sample				
	1	−0.0095	−0.0080	−0.0018
	2	−0.0711	−0.0774	−0.0714
	3	−0.2613 **	−0.2806 **	−0.2592 **
	4	−0.3680 **	−0.3970 **	−0.3538 **
	5	−0.6914 **	−0.7141 **	−0.6167 **
Panel B: Acquirers with no prior experience in developed markets				
No Exp.	1	−0.0276	−0.0287	−0.0287
	2	−0.0875	−0.1063	−0.1063
	3	−0.2354	−0.2506	−0.2506
	4	−0.3992 **	−0.4261 **	−0.4261 **
	5	−0.7816 **	−0.8156 **	−0.8156 **

Table 4. Cont.

Sample	Event Window	Spec 1	Spec 2	Spec 3
Panel C: Related vs. Unrelated				
Related	1	−0.1279	−0.1310	−0.1221
	2	−0.1684	−0.1751	−0.1716
	3	−0.2954	−0.3291	−0.2984
	4	−0.4730 **	−0.5084 **	−0.4618 **
	5	−0.7535	−0.7681	−0.7163
Unrelated	1	0.0867	0.0868	0.0792
	2	0.0029	0.0088	0.0161
	3	−0.2250	−0.2282	−0.2156
	4	−0.2801	−0.2709	−0.2428
	5	−0.5779 **	−0.5718 **	−0.5076 **
Panel D: Acquisitions NOT funded by pure cash				
Non-Cash	1	0.0092	−0.0056	0.0103
	2	−0.0866	−0.1029	−0.0867
	3	−0.3983 **	−0.4259 **	−0.3907 **
	4	−0.5369	−0.5415	−0.4886
	5	−0.9869 **	−0.9705 **	−0.8913 **
Panel E: Acquisitions for control				
Control 50	1	−0.0488	−0.0577	−0.0426
	2	−0.1158	−0.1271	−0.1187
	3	−0.3370 **	−0.3688 **	−0.3464 **
	4	−0.3671 **	−0.3960 **	−0.3753 **
	5	−0.6675 **	−0.6703 **	−0.6148 **
Minority	1	0.0783	0.0963	0.0909
	2	0.0144	0.0260	0.0237
	3	−0.0251	−0.0085	−0.0388
	4	−0.2926	−0.2873	−0.2897
	5	−0.6105 **	−0.6256 **	−0.6242 **
Panel F: Acquisitions in two merger waves				
Before 2003	1	−0.0034	−0.0007	0.0220
	2	−0.0901	−0.1092	−0.0874
	3	−0.3129 **	−0.3513 **	−0.3359 **
	4	−0.4541 **	−0.5226 **	−0.4589 **
	5	−0.7514 **	−0.8739 **	−0.7366 **
After 2003	1	−0.0192	−0.0214	−0.0168
	2	−0.0780	−0.0867	−0.0882
	3	−0.2481	−0.2844	−0.2703
	4	−0.3418 **	−0.3790 **	−0.3664 **
	5	−0.6088 **	−0.6363 **	−0.5980 **

NOTE: The table reports the average treatment effects on the treated (i.e., wealth effect) in the long-run. Specification 1: The default setting where no trimming is made and bandwidth is set to 0.8. Specification 2: 5% of the treated cases are trimmed to drop cases in the off-support region. Specification 3: The bandwidth is set to a smaller value of 0.5, meaning that a smaller number of control cases is used in the calculation of the counterfactual outcome. ** significant at the 5% conventional level, generated by the bias-corrected (BC) method in the bootstrapping procedure.

5. Conclusions

This study sets out to examine the wealth effect of cross-border M&A from emerging to developed countries on the acquiring firm. Using a comprehensive sample from the 1990–2010 period, we find strong, statistically significant evidence for the negative wealth effects of M&A events. The negative wealth effects are consistently estimated in three-, four-, and five-year event windows, and reach approximately −69% after five years. This evidence highlights the difficulty to achieve synergies in

cross-border M&As from emerging to advanced markets, in which, even a time window of five years, would not mitigate the negative effects. This result suggests conflicts that come from differences in culture, institution, market, business practice, and so on (Dunning et al. 2007; Gallo and Sveen 1991; Nguyen et al. 2019; Vuong 2016a, 2016b) present considerable challenges for emerging market acquirers to benefit from M&A deals in mature markets.

More importantly, this study finds that the negative effects remain persistent even when we control for factors presumed to have potentially positive impacts, such as industry relatedness, method of payment (Mitchell and Stafford 2000; Sudarsanam and Mahate 2003), acquisition for control (Cosh and Guest 2001; Franks and Harris 1989), prior experience (Aggarwal and Samwick 2003; Barkema et al. 1996), and structure break (Jarrell and Bradley 1980). We find that M&A with the non-cash financing method show a strong negative wealth effect after three and five years. This observation lends support to the signaling theory (Connelly et al. 2011) that no significant negative abnormal return is revealed in the cash-financing subsample. Furthermore, our study shows the power to control, especially to mitigate the negative impacts of an incomplete contract, or the ability to control strategic assets are not enough to overcome the post-merger problems (Agrawal et al. 1992; Rau and Vermaelen 1998). As for the structure break and prior experience aspects, the analyses indicate similar trends: there is no statistical evidence for positive effects. This result sheds light on the predominance of post-acquisition issues over acquirer's experience and favorable changes in business environment during the second period of the merger.

Our strong evidence highlights the remarkable nature of value destruction of inter-country M&A investments from the emerging to the developed world, which could serve to admonish companies in emerging countries to consider their future M&As deals in advanced markets more carefully.

Future research could choose a particular factor to focus on or replicate the study in a more recent period. As the analysis is based on key assumptions such as “bigger is better,” “heavy bureaucracy,” and dominance of state control in big companies, the results are bound to change if these assumptions change. Another suggestion is to cover further analysis using Bayesian network modeling with the “bayesvl” R package (La and Vuong 2019; Vuong and La 2019). Last, but not least, with the arrival of Industry 4.0 and the rapid change of globalization, the landscape of entrepreneurial finance has shifted remarkably, especially for emerging markets (Block et al. 2018; Nguyen et al. 2019). This shifting business landscape can lead to new findings and possibly positive long-run performance for firms engaged in cross-border M&A. As such, future studies should extend the research period to cover more recent events; further scientific understanding in this area will be vital to prevent policy failure (Vuong 2018; Vuong et al. 2019).

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