

## **Will investors' excitement last?**

### **Determinants of investors' responses to cross-border acquisitions by Chinese firms**

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**Keywords:** behavioral perspective; contextual cues; cross-border acquisitions; emerging countries; investor reactions

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**ABSTRACT**

Previous studies have found that in the short term, investors in emerging economies tend to react optimistically to cross-border acquisitions. However, studies in both financial economics and strategic management have acknowledged that there may be short-term abnormal returns in the stock market. As such, based on a behavioral perspective on investor valuation, we examine whether and when investors' initial reactions are sustained using a sample of cross-border acquisitions by Chinese firms from 1998 to 2018. We find that the investor's initial positive reactions are more likely to be sustained in the long term when (1) a cash payment is used for the acquisition, (2) the acquiring firm has more international acquisition experience, (3) the target firm's country has a large economy, and (4) the target firm's country has a culture of high uncertainty avoidance. Our findings extend the behavioral perspective on market reactions to cross-border acquisitions, and we contend that investors' market valuations are a complex process that relies on various contextual cues. We contribute to an improved understanding of how investors evaluate a firm's cross-border acquisitions over time.

**Keywords:** behavioral perspective; contextual cues; cross-border acquisitions; emerging countries; investor reactions

## **1. INTRODUCTION**

Increasingly, firms from emerging countries use cross-border mergers and acquisitions (M&As) to enter foreign countries. This surge in the number of cross-border M&As has received increasing attention from both academics and practitioners (e.g., Kumar, Singh, Purkayastha, Popli, & Gaur, 2020; Liu, Liu, Li, & Wu, 2021). The impact of cross-border M&As on an acquirer's market value has been widely discussed, but with inclusive empirical results. Based on short-term abnormal returns, the emerging literature suggests that market reactions to cross-border M&As by emerging countries may differ from market reactions to M&As initiated by developed countries. For instance, prior M&A studies, which have been mostly based on samples from developed-country markets, suggest that there were negative reactions from the acquirer's investors around the time of the acquisition (Haleblian, Devers, McNamara, Carpenter, & Davison, 2009). However, previous research has also shown that investors are optimistic about cross-border M&As by emerging market firms around the time of the announcement, as shown in the positive short-term stock market reactions (Gubbi, Aulakh, Ray, Sarkar, & Chittoor, 2010; Tao, Liu, Gao, & Xia, 2017). At the same time, some studies (e.g., Aybar & Ficici, 2009) pointed out that markets react negatively to these cross-border M&As. The inconsistent results of the aggregate short-term market reactions towards the cross-border M&As may be related to fundamental assumptions about the abnormal returns.

Studies of abnormal returns treat an M&A announcement as an event that prompts investors to fully assess the expected return on the focal firm's stocks relative to the market return (Lewis & Bozos, 2019; Li, Wang, Ren, & Zhao, 2020; Liu et al., 2021). The assumption underpinning these studies is that the stock market reflects the actual economic value in an unbiased manner through investors' collective actions. However, a behavioral perspective (Costa, Carvalho, & Moreira, 2019) on investor reactions suggests that investors may have an inaccurate assessment when they face complex strategic events, even if all relevant information is available around the time of event

announcement (e.g., Oler, Harrison, & Allen, 2008; Schijven & Hitt, 2012). Cross-border M&As are events of considerable ambiguity, complexity, and uncertainty (Haleblian et al., 2009). In the context of cross-border M&As, it is more difficult for investors to assess the economic value of the event accurately by connecting various pieces of relevant information (Schijven & Hitt, 2012). The risk of investors or markets misrepresenting or misunderstanding all relevant information is high (Zajac & Westphal, 2004). The short-term market abnormal returns may reflect only the sentiments of investors rather than the long-term economic value of a cross-border acquisition.

However, there is evidence, albeit limited, of an inconsistency between the short-term and long-term market reactions to M&As (King, Wang, Samimi, & Cortes, 2021; Schijven & Hitt, 2012; Zhu & Malhotra, 2008). It is likely that investors engage in a social construction process in their market valuations (Zajac & Westphal, 2004), rectify the short-term interpretation (Oler et al., 2008), and validate the initial reaction (Schijven & Hitt, 2012), especially as they have more time to interpret the same complex information and reflect on the implications and temper their initial optimism or pessimism. Behavioral perspectives have been observed in ambiguous strategic decisions such as stock repurchases (Zajac & Westphal, 2004), multiparty alliances (Ozcan & Overby, 2008), horizontal acquisitions (De Groote, Kleindienst, Hoegl, Schweizer, & Laamanen, 2021) and initial public offerings (IPOs) (Li & Zhang, 2021). Nonetheless, to our knowledge, there has been limited research on cross-border M&A taking both short-term and long-term stock market reactions into account. We know surprisingly little about the correlation between short-term and long-term market evaluations of cross-border M&As by emerging economy firms or what factors influence the relationships between them.

The call for more research into financial markets in emerging economies (Jacoby, Liu, Wang, Wu, & Zhang, 2019) sheds light on a research gap, based on the behavioral perspective, in our understanding of financial market reactions to acquisition announcements in emerging economies.

In particular, studies on the relationship between short-term abnormal returns and long-term abnormal returns for cross-border M&As by emerging market firms are even more needed as the number of M&As by these firms has been surging (Liu et al., 2021). Among emerging economies, Chinese firms illustrate a 'perverse risk preference' because of their various policies and the financial support they receive from the state encouraging them to go global (Buckley et al., 2018; Schweizer, Walker, & Zhang, 2019). Herd behavior in cross-border M&As has also been observed among Chinese firms (Liu et al., 2021). As a result, the deviation of short-term market reactions from long-term market reactions may be easier to observe. Thus, this study attempts to fill this gap in the knowledge by examining the contextual cues that impact the relationship between short-term reactions and long-term valuations for the case of cross-border acquisitions by Chinese firms.

We used a sample of cross-border acquisitions by Chinese firms from 1998 to 2018 to compare short-term and long-term stock market reactions to cross-border acquisitions and investigate whether investors' initial reactions were rationalized based on salient contextual cues. We found that investors adjusted their initial positive reactions over time, as the relationship between their short-term and long-term market reactions depended on deal-specific (i.e., payment method), firm-specific (i.e., prior acquisition experience), and country-specific (i.e., economic and cultural characteristics in the target firm's country) contextual cues. These findings suggest that investors engage in the evaluation process over the longer term by rectifying their initial positive reactions. Investors' short-term reactions are more likely to be sustained in the long term in cross-border acquisitions that are made using cash payments, are conducted by an acquirer with more international acquisition experience, take place in a country with a large economy, or take place in a country with a culture of high uncertainty avoidance. Our findings suggest that investors' initial excitement is more likely to be sustained in certain types of cross-border acquisitions with these salient contextual cues that reduce uncertainty about the post-acquisition performance.

Our study is one of the few that empirically examines the factors that contribute to the consistency between a short-term stock market reaction and long-term stock market reaction. We believe this study contributes to the literature on investor reactions and M&As. First, we extend the behavioral perspective on investor reactions (e.g., Schijven & Hitt, 2012) by examining how the collective perception of various investors evolves. There has been limited evidence of how investors adjust their initial reactions to acquisition announcements (De Groote et al., 2021). This paper provides clearer insights into the behavioral perspective by showing that the investor's valuation of a cross-border acquisition can evolve (e.g., discrepancy between short-term and long-term reactions) over time if contextual cues do not support the investor's initial reaction. Our findings support the behavioral perspective of social construction in valuing a particular organizational decision (Zajac & Westphal, 2004). We particularly contribute to an improved understanding of how investors evaluate a firm's cross-border acquisitions over time.

Second, we contribute to the literature on cross-border M&As in particular. Our study advances the existing literature by applying the behavioral perspective to cross-border M&As. The study illustrates the importance of contextual cues in the relationship between investors' short-term reactions and long-term valuations, thereby deepening our insights into the behavioral perspective on the M&A literature (Schijven & Hitt, 2012). Previous studies on cross-border M&As have been polarized — examining either short-term reactions (e.g., Gubbi et al., 2010; Tao et al., 2017) or long-term valuations (e.g., Popli, Ladkani, & Gaur, 2017). By testing the linkage between the stock market's short-term reaction and long-term valuation, our study provides an improved understanding of the salient signals that shape how investors perform market valuations of cross-border acquisitions over time.

Our findings also contribute to the cross-border acquisition research by providing empirical evidence based on cross-border acquisitions by Chinese firms. The M&A literature, especially

studies that adopt the behavioral perspective, are mostly based on the evidence from developed economies (Capron & Pistre, 2002; De Groote et al., 2021; Haleblan et al., 2009). In contrast, our study shows that investors show a distinctive pattern of an *initial positive reaction* (i.e., over-reaction) and *subsequent adjustment* (i.e., rationalization) in the valuation of emerging market acquirers. Given that studies focusing on acquisitions initiated by multinational enterprises (MNEs) from emerging countries are relatively scarce (Jacoby et al., 2019; Lebedev, Peng, Xie, & Stevens, 2015), and that there has been increasing attention to cross-border M&As by Chinese firms (Li et al., 2020), our study makes an empirical contribution to the cross-border acquisitions literature by extending the behavioral perspective to illustrate how emerging market MNEs' internationalization via acquisition is evaluated by investors.

## **2. THEORETICAL BACKGROUND**

### **2.1 Investors' bounded rationality in their initial reactions**

According to the rationality-based financial economic perspective, stock prices reflect all available information and are related to economic value in an unbiased manner. In other words, the market is efficient. Event studies are based on the premise of some form of market efficiency, whether the efficiency is semi-strong or weak (Summers, 1986). If a market is strongly efficient and investors make decisions rationally, stock prices reflect all the public and private information and there should be no long-term abnormal returns after the initial market reaction to the new public information (Fama & French, 1988). However, the market efficiency hypothesis has been challenged by scholars from the fields of behavioral finance and strategic management (e.g., Daniel, Hirshleifer, & Subrahmanyam, 1998; De Bondt & Thaler, 1985). They have argued that investors tend to under-react or over-react to unexpected or dramatic events, thereby questioning the stock market efficiency assumption. Such behaviors often stem from investors' psychological and behavioral factors such as over-confidence or biased self-attribution (Daniel et al., 1998).

Since the stock market has a wide variety of investors, different investors have different adjustment processes. Some investors make adjustments quickly, while others take time to make adjustments by taking other investors' perceptions into account (Schijven & Hitt, 2012). As a result, market participants form a collective perception through these processes from a heterogeneous group of investors. Therefore, stock prices temporarily deviate from their fundamental values due to investors' optimism or pessimism, and thus "the initial market response may be biased and/or incomplete" (Oler et al., 2008: 151). The initial over-reaction effect deserves more academic attention as it implies a behavior applicable in many different contexts (De Bondt & Thaler, 1985). For instance, this phenomenon has been observed in significant strategic decisions such as stock repurchases, alliances, acquisitions, and IPOs (e.g., Li & Zhang, 2021; Schijven & Hitt, 2012). Event studies using abnormal returns treat an M&A announcement as an event that prompts investors to assess the expected return on a focal firm's stocks relative to the market return (Gaur, Malhotra, & Zhu, 2013; Gubbi et al., 2010; Lebedev et al., 2015). It is likely that the stock market participants may not fully understand the value implications of such a complex strategic investment and overreact initially (Boateng, Du, Bi, & Lodorfos, 2019).

Although many studies have tackled this question over the past decades, it is still not clear whether abnormal returns over longer event windows are consistent with short-term abnormal returns (De Groote et al., 2021; Zhu & Malhotra, 2008). Indeed, "financial phenomena can be better understood by relaxing the assumption of investor rationality" (Schijven & Hitt, 2012: 1248). However, market prices are less likely to remain disconnected from the fundamental economic value for a long period of time (Oler et al., 2008). As such, "boundedly rational" (Cyert & March, 1963) investors react to a firm's strategic decision (i.e., an announcement of a cross-border acquisition) within a relatively short period of time, but later figure out the financial implications of

the strategic decision. Such an adjustment process may lead to a discrepancy or price reversal in evaluation (i.e., investors' long-term evaluations are not consistent with their short-term reactions).

Moreover, in many cases, investors do not expect the acquisition and thus may be confused about the strategic implications of the acquisition decision (Haleblian et al., 2009; Lebedev et al., 2015; Shimizu, Hitt, Vaidyanath, & Pisano, 2004). Consistent with the M&A literature (Capron & Pistre, 2002; Haleblian et al., 2009), we argue that investors tend to temper their reactions over time, as they evaluate cross-border acquisitions for the following reasons. First, the proposed synergies and learning are less likely to be achieved in cross-border M&As because of the higher liability of foreignness (Kostova & Zaheer, 1999) and liability of outsidership (Vahlne & Johanson, 2017). MNEs face such liabilities due to cultural and process differences among various MNE units, and because of the complexity in the organizational structure (Kostova & Zaheer, 1999). Second, a successful post-acquisition integration is a critical task that generates long-term value from the M&A (Lewis & Bozos, 2019; Zollo, 2009). However, since risk, uncertainty, and information deficiencies are greater in cross-border acquisitions, firms face greater difficulties in post-acquisition integration. Due to these challenges, rational investors realize that cross-border M&As bring additional risks to the acquiring firms and increase post-acquisition costs (Vaara, 2003). These risks and costs will influence investors' assessment of the economic value of the cross-border acquisition after the initial reaction subsides, leading them to adjust their perceptions, both individually and collectively.

Since most cross-border M&As are complex in nature, investors tend to rely on heuristics when assessing the potential benefits of the M&A deal near the time of the announcement (Oler et al., 2008). In this paper, we assume that changes in stock market value reflect a collective interpretation of a firm's strategic decisions performed by investors (e.g., Schepker, Oh, & Patel, 2018). In particular, we focus on factors that influence the association between a short-term reaction and

long-term valuation. This is because, in contrast to the traditional financial economic perspective, initially, investors may not be able to fully understand the event based on the available information, given the time constraints they face at the time of the announcement, which leads to the potential problem of misinterpretation (Oler et al., 2008).

## **2.2 Empirical context: Cross-border acquisitions by Chinese MNEs**

In the case of cross-border acquisitions, economic, cultural, political, and physical distances between countries intensify the level of uncertainty, complexity, and information asymmetry of the firm's strategic decision (Cho & Ahn, 2017). Therefore, cross-border acquisitions are likely to create more ambiguity and confusion about the implications for shareholder value compared to domestic acquisitions (Vaara, 2003). As such, investors try to evaluate the economic implications of cross-border acquisitions under the condition of bounded rationality (Barberis, Jin, & Wang, 2021; Cyert & March, 1963), leading to initial stock market over-reaction or under-reaction.

This challenge may be even greater in cross-border M&As by MNEs from emerging economies, as research has shown that investors in emerging economies often react differently to cross-border M&As than do investors in developed economies (e.g., Gubbi et al., 2010; Kumar et al., 2020). Even though the M&A literature suggests that investors do not react optimistically to acquirers' announcements about acquisition deals (Capron & Pistre, 2002; Halebian et al., 2009), studies posit that investors in emerging markets are more likely to be optimistic about M&As (e.g., Gaur et al., 2013; Tao et al., 2017; Zhang, Lyles, & Wu, 2020). Occasionally, firms from emerging economies are even willing to bid for high prices purely based on national pride (Hope, Thomas, & Vyas, 2011).

Among the MNEs from emerging economies, Chinese MNEs have shown the largest economic growth and have engaged in the most extensive international activity. As such, they have received significant attention from both academics and practitioners (Buckley, Yu, Liu, Munjal, & Tao,

2016; Lebedev et al., 2015; Liu et al., 2021). In order to encourage cross-border M&A activities, the Chinese government has provided financial support and reduced institutional constraints for its MNEs as part of its “Go Global” strategy (Buckley et al., 2016). Hence, Chinese firms have a “perverse risk preference” because they are bounded by fewer financial constraints (Buckley et al., 2018) and tend to be more capable of exploiting and exploring opportunities abroad. Especially, if the target firms are located in more developed economies, investors expect that acquisition will lead to economic benefits because it will expose the emerging-market MNEs to higher-quality institutions or offer a springboard for them to acquire strategic assets, which in turn will allow them to compete globally (Gubbi et al., 2010; Kumar et al., 2020).

In addition, prior studies have suggested that Chinese investors tend to value firm size as a virtue and interpret cross-border acquisitions as effective growth options (e.g., Gaur et al., 2013). Some Chinese MNEs even use cross-border M&As to build their empires (Schweizer et al., 2019). The Chinese MNEs' high tolerance of risk and preference for pure size, as well as the Chinese government's policies supportive of “Go[ing] Global,” imbue in Chinese investors strong positive sentiments. Oler et al. (2008) argue that investors may assess a firm's decision incorrectly if they are influenced by “investor sentiment rather than a completely rational assessment of economic impact of the event” (p. 159). As such, when cross-border acquisitions by Chinese MNEs are announced, investors may be excited about the benefits of acquisitions (i.e., opportunities for future growth), initially leading to a positive over-reaction in the stock market.

The market efficiency hypothesis has been challenged by many empirical studies on the Chinese market (e.g., Balsara, Chen, & Zheng, 2007; Chen & Jarrett, 2011). A more recent study by Yuan (2022) also concluded that the Chinese stock market is not even weak form efficient. The above-mentioned sentiments about cross-border acquisitions by Chinese MNEs may give rise to stronger positive initial reactions in the Chinese stock market due to the ambiguities and

complications related to cross-border M&As. However, we have a limited understanding of factors that will influence the persistence or reversal of the initial reactions. Thus, focusing on cross-border M&As by Chinese firms provides a unique opportunity to examine the relationship between an investor's short-term market reaction and long-term valuation.

### **3. THEORY AND HYPOTHESES**

#### **3.1 Contextual cues as signals of uncertainty reduction**

As mentioned above, investors may be confused about the strategic implications of the cross-border acquisition decisions. In addition, post-acquisition integration involves a high level of ambiguity and uncertainty (Lewis & Bozos, 2019) due to the economic, cultural, political, and physical distances between countries and the high risk of acquisition failure (e.g., Meschi & Métais, 2015). We propose that over time in the evaluation process, contextual cues are particularly important (Schepker et al., 2018), as noticing and perceiving salient contextual cues assists investors in their assessments.

Investors try to assess the actual benefits from (e.g., synergy, learning) and costs of (e.g., integration, employee retention) an acquisition when they evaluate the strategic event, both initially and subsequently. We propose that in this collective adjustment process, certain contextual cues are particularly salient (Schepker et al., 2018) in assisting investors in adjusting their assessments.

According to signaling theory, individuals do not immediately react to all signals, as attention is selective (Ozcan & Overby, 2008). Although information is available in the beginning, the sensemaking of the ambiguous event may only be triggered if the signals are salient or familiar to individuals (Weick, Sutcliffe, & Obstfeld, 2005). When noticed, such signals, or contextual cues, receive significant attention from stakeholders. However, this selective attention reflects the saliency and familiarity of the information (Ozcan & Overby, 2008). Cognitive psychologists (e.g., Nisbett & Ross, 1980) have long posited that people allocate more attention to cues that are salient.

The empirical research drawing on the behavioral literature also suggests that the effectiveness of the saliency of certain signals when assessing market responses may depend on the motivation and capability of the acquirer (Schijven & Hitt, 2012).

In complicated events like cross-border M&As, even when all information is already available, investors are initially unlikely to understand clearly the implications of all the information (Oler et al., 2008). Cues that are salient or familiar are more powerful in attracting attention and are helpful in shaping the meaning of an event, especially when they decrease uncertainty and information asymmetries, thus amplifying the diagnosticity of the event (Lu & Wang, 2021; Wu, Yao, Chen, & Jeon, 2020).

Uncertainty, as one of the key determinants of market transaction costs, is seen as playing a critical role in international business decisions (Hofstede, 1983; Shenkar, 2001). In this collective adjustment process, we specifically argue that investors are likely to re-evaluate their initial reactions by considering the roles of contextual cues that may lower uncertainty in the longer term. Uncertainty creates instability in the environment and produces deficits in the information that affect the way firms manage resources to create value (Sirmon, Hitt, & Ireland, 2007). Thus, if the firm faces less uncertainty in the future, investors may be more optimistic about their competence to assess the economic value of the acquisition at the time of the announcement and confident that their initial reaction will prove to be sound in the longer run.

Thus, we examine certain deal-, firm-, and country-specific contextual cues because these cues may lower uncertainty in the long term. When investors evaluate the strategic implications of cross-border acquisitions, they are likely to rectify their initial reaction if the contextual cues suggest a greater likelihood of future uncertainty. Conversely, investors tend not to adjust their initial reactions when those contextual cues point in the opposite direction.

### **3.2 Roles of contextual cues in investors' adjustments of their reactions**

A number of variables that affect the process of both signal detection and sensemaking might play a role in the relationship between the initial market reaction and the longer-term reaction. In this paper, we focus on payment method, international acquisition experience, the size of the economy, and the level of uncertainty-avoidance of the target firm's country, as these variables are all related to uncertainty or ambiguity aversion.

#### *3.2.1 Payment method*

The information asymmetry between investors and management impacts the former's ability to accurately evaluate the M&A deal at the time of the announcement. For our purposes, the firm's payment decision signals to investors its confidence in the future benefits (Schijven & Hitt, 2012). Thus, investors will consider the acquiring firm's payment method as a salient deal-specific cue since these cues may reduce uncertainty by providing information regarding a firm's current valuation, future prospects, and confidence level.

Investors tend to interpret cash payments as a positive signal that the acquiring firm is confident about the future value of the cross-border acquisition. In contrast, investors are likely to interpret stock-based payments as a negative signal about its future prospects (Liu, Taffler, & John, 2009), because a stock-based payment may imply a lack of confidence or a desire to share risks in the future of the acquisition (Martin, 1996). Consistent with this argument, empirical studies on M&As (e.g., Huang & Walkling, 1987) have reported that a cash-based transaction leads to a positive market reaction, whereas a stock-based transaction leads to a negative market reaction at the time of announcement.

Accordingly, investors take the payment method as an important signal of the target company's future prospects, and in particular, they view cash payments as a cue that lessens uncertainty about the target company's valuation. As such, investors' short-term reactions to cross-border M&A

announcements are more likely to be continuous in the long-term when cash payments are made, because they assume that acquirers expect low uncertainty about the target firm's future prospects. Given this description, we argue that the initial reaction is more likely to be sustained when the acquirers use cash payments, but less likely to be sustained when the acquirers use stock payments.

*Hypothesis 1: Investors' initial positive reactions to cross-border M&A announcements are more likely to be sustained in the long term when a cash payment is used.*

### *3.2.2 Prior acquisition experience*

Regarding the acquirer's capability in the context of acquisitions, its prior acquisition experience is a salient contextual cue on which investors rely (Schijven & Hitt, 2012). Although the empirical evidence is not conclusive to infer clear linkages between acquisition experience and performance outcomes due to the heterogeneity of each acquisition and its causal ambiguity (Zollo, 2009), the subjective perception of the learning effect is quite compelling to investors.

Cross-border M&As involve very complex tasks and processes. Successful cross-border M&As require information processing, control, and coordination capabilities to integrate activities across geographically diverse units. Firms with more prior international M&A experience are usually better at adapting their organizational structure, facilitating the integration process, and mitigating risk (Barkema & Schijven, 2008; Hu, Li, Li, & Wang, 2020). Thus, experienced MNEs are better able to recombine the firm-specific advantages they developed in their home countries with the advantages held by the target firms.

To investors, the acquiring firm's prior acquisition experience is an important cue that investors rely on since these cues reduce uncertainty and risk by providing information about a firm's capability to manage the target selection, transaction process, and post-acquisition integration (Hu et al., 2020). Investors assume that MNEs with prior international acquisition experience are likely to have the skills required to overcome challenges in the host countries. As such, Barkema and

Schijven (2008: 595) specifically note that “learning from prior experience may be crucial in attempting to enhance the performance of acquisitions.”

Hence, for M&A deals whose acquirers have prior international acquisition experience, investors are more likely to maintain their initial positive reaction for a longer period of time. In contrast, investors may perceive the initial positive reaction to the inexperienced acquirer's deal as an over-reaction, thus making them less likely to maintain their initial positive stance.

***Hypothesis 2:** Investors' initial positive reactions to cross-border M&A announcements are more likely to be sustained in the long term when the acquiring firm has more international acquisition experience.*

### *3.2.3 Size of the target country's economy*

Prior studies have argued that a large economy in a foreign country creates new levers of growth for MNEs that are seeking expansion opportunities (Makino, Lau, & Yeh, 2002). A large economy offers more channels for tapping into a large customer base, thus offering host-country location advantages to MNEs. When the size of the economy in the host country is large, the likelihood of creating economies of scale and scope through foreign investment also increases for MNEs (Buckley et al., 2007).

Specifically, a country with a large economy is more suitable for MNEs pursuing market-seeking or resource-seeking internationalization (Makino et al., 2002). Large markets are attractive for market-seeking investments, even mitigating the negative effect of institutional deficiencies (Brouthers, Gao, & McNicol, 2008). In particular, emerging-market firms such as Chinese companies use international expansion to reduce their market constraints at home (Kumar et al., 2020). As such, gaining a market presence in a sizeable foreign market is critical to establishing their competitive position in the global marketplace. Likewise, in countries with large economies,

resources are more likely to be available. Having access to key strategic resources that may not be available in a firm's home country is one of the key objectives of cross-border acquisitions.

Empirical evidence has also suggested that Chinese MNEs prefer to seek internationalization in larger economies (Buckley et al., 2007), which is better for both market-seeking and resource-seeking purposes. As such, when investors evaluate the economic implications of cross-border acquisitions, the size of the host-country economies serves as an important contextual cue. Therefore, when target firms reside in countries with large economies, investors are more likely to remain positive about the future value of the cross-border acquisition, and thus their initial optimism is more likely to be sustained. In contrast, when the acquisition occurs in a country with a small economy, investors are less likely to maintain their initial positive assessment.

***Hypothesis 3:** Investors' initial positive reactions to cross-border M&A announcements are more likely to be sustained in the long term when the target firm's country has a large economy.*

#### *3.2.4 Uncertainty avoidance.*

Successful post-acquisition integration is critical to creating synergies between the acquiring and acquired companies, thereby generating long-term value from the M&A (Lewis & Bozos, 2019; Zollo, 2009). During post-acquisition integration, cultural differences can be major obstacles to achieving the integration benefits (Björkman, Stahl, & Vaara, 2007), particularly during the substantial social interactions that may occur between the acquiring and acquired companies. Cultural distance increases communication costs and makes transferring capabilities more difficult (Buckley & Casson, 1976). Different dimensions of cultural distance matter in different contexts (Shenkar, 2001), but uncertainty avoidance, among the different dimensions in Hofstede's framework (Hofstede, 1983), is the most dynamic and has a high association with indicators of economic, political, and societal problems (Taras, Steel, & Kirkman, 2012). Uncertainty avoidance

refers to the extent to which the members of a society feel comfortable with ambiguous or uncertain situations in international business transactions (Hofstede, 1983; Shenkar, 2001).

Uncertainty avoidance has been documented to be more critical than other cultural dimensions in the success of foreign investments (Shenkar, 2001). As such, when investors evaluate cross-border acquisition decisions, they are likely to consider the level of uncertainty avoidance in the country in which the acquired company operates. In a culture with high uncertainty avoidance, laws, regulations, and rules are more likely to be well-specified and adherence to them is important. Thus, there is less uncertainty from institutional or organizational factors affecting the integration process. Also, the existence of safety and security measures helps to avoid unstructured situations, allowing investors to better predict the financial implications of a cross-border acquisition (Hofstede, 1983). As such, prior studies (e.g., Morosini, Shane, & Singh, 1998) have noted that an uncertainty-avoidance culture could have a positive impact on post-acquisition performance. In contrast, in countries with weak uncertainty avoidance, rules may be adjusted to suit certain situations, thus leaving the resolution of problems to a process of negotiation. As such, an investor's ability to predict the financial outcomes will be significantly reduced.

Therefore, when the target firms reside in countries with low uncertainty avoidance, investors face ambiguity, contingency, and unpredictability, and thus are more likely to question the validity of the initial positive reaction. In contrast, when the target firms reside in countries with high uncertainty avoidance, investors can easily predict the future value of the acquisition, and thus the initial reaction is more likely to be sustained.

***Hypothesis 4:** Investors' initial positive reactions to cross-border M&A announcements are more likely to be sustained in the long term when the host country has a higher uncertainty-avoidance culture.*

## **4. METHODS**

### **4.1 Sample and data collection**

We test our hypotheses with a sample of completed cross-border M&As by Chinese firms from 1998 to 2018, as Chinese cross-border M&As started to grow steadily after the 1990s (Buckley et al., 2016) and dropped sharply as a change of screening policies introduced in many countries and the COVID-19 pandemic (UNCTAD, 2020).

We first collected data on all completed cross-border M&A deals undertaken by Chinese firms as the ultimate parent firms from the *Thomson One* database (previously known as the Thomson SDC Platinum database). The initial search resulted in a total of 7,577 acquisitions. Then, we removed the pending, withdrawn, and rumored deals, leaving 4,974 completed deals in our sample. We define cross-border mergers and acquisitions as deals that result in a change in corporate control (i.e., the acquiring firm becomes the majority shareholder after the acquisition), thereby eliminating any minority ownership acquisitions (where the acquired ownership is less than 50%). To avoid unnecessary noise and potential data errors in deals that were extremely small, we also followed the standard set in many previous M&A studies in requiring the value of each acquisition to be a minimum of US \$1 million (e.g., Du & Zhang, 2018; Gaur et al., 2013). In addition, we removed deals with missing values for key deal-specific variables, such as payment method, offer type, and acquired equity stakes. This resulted in a sample of 2,074 deals, which we used as a full sample to correct for potential sample selection bias.

As we use the event study methodology, we included only deals whose acquiring firms were listed in the *Datastream* database, leaving us with 796 deals. We obtained the daily stock prices for the acquiring firms from the *Datastream* database and calculated the abnormal returns for their shareholders. We then collected the acquirers' annual accounting information from the *Datastream* database. Finally, we collected country-level data from the World Bank and other data sources to

measure country-level differences, resulting in a final sample of 359 deals from 256 acquiring firms. We manually checked each acquisition to make sure there was no confounding event (such as major acquisitions or earning announcements, or corporate releases) taking place within the five-day window around the M&A announcement date.

#### **4.2 Dependent and independent variables**

To test the variables that explain the correlation between the short-term and long-term market reactions, we used short-term and long-term market reactions as independent and dependent variables, respectively. In our main analysis, we define a short-term market reaction as one that happens within a (-1, +1)-day window around the M&A announcement date (i.e., day 0) and a long-term market reaction as one that happens within a (+2, +30)-day window after the announcement date. As robustness checks, we also used various lengths of post-M&A windows (up to 360 days) to make sure our conclusion was not sensitive to the selection of long-term event windows. We adopted the standard event study method to measure the stock market reactions reflected in cumulative abnormal stock returns (CAR) in both the short-term and long-term windows.

Specifically, we chose  $CAR(-1, +1)$  as the independent variable to measure the initial stock reaction, which is consistent with the prior literature on short-window event studies (Gaur et al., 2013). We chose  $CAR(+2, +30)$  to measure the subsequent long-term market reaction to the M&A events. This window does not overlap with the initial short-term market reactions, so we could clearly compare the short-term and long-term market reactions to the M&A announcements. In addition, prior research showed a reversing stock return trend within a 20-day window after the M&A announcements (e.g., Zhu & Malhotra, 2008). We therefore examined a comparable window of (+2, +30) to capture the subsequent stock return trend after the initial reaction to the M&A announcements.

We first gathered the daily stock return data for each acquiring firm from the *Datastream* database. We coded the M&A announcement date as day 0, and specified the estimation window as (-130, -30) days before the announcement date, similar to other studies on this topic (e.g., Gaur et al., 2013; Li & Zhang, 2021). Within the estimation window for each acquisition, we estimated the following market model:

$$R_{j,t} = \bar{\alpha}_j + \bar{\beta}_j \times R_{m,t},$$

where  $R_{j,t}$  is the stock return for acquiring firm  $j$  on day  $t$ , and  $R_{m,t}$  is the return of the Chinese stock market index on day  $t$ .  $\bar{\alpha}_j$  is the estimated intercept of the linear regression for acquiring firm  $j$  during the stated estimation window, and  $\bar{\beta}_j$  is the slope coefficient estimated from the regression during the same window.

Next, we calculated the daily abnormal returns in both the short-term and long-term windows around and after the M&A announcement dates. Specifically, for each acquiring firm on day  $t^*$  during the test window, we calculated the daily abnormal stock returns as follows:

$$AR_{j,t^*} = R_{j,t^*} - (\bar{\alpha}_j + \bar{\beta}_j \times R_{m,t^*}),$$

where  $R_{j,t^*}$  is the stock return for acquiring firm  $j$  on test day  $t^*$ , and  $R_{m,t^*}$  is the corresponding Chinese stock market index return on  $t^*$ .  $\bar{\alpha}_j$  and  $\bar{\beta}_j$  are estimated from the market model in the estimation window mentioned earlier.  $AR_{j,t^*}$  is the abnormal stock return for firm  $j$  on  $t^*$  during the test window.

For each test window, we aggregated the daily abnormal stock returns by calculating CAR between  $t_1$  and  $t_2$ :

$$CAR_j(t_1, t_2) = \sum_{t_1}^{t_2} AR_{j,t^*}$$

where short-term CAR has a test window between  $t_1 = -1$  and  $t_2 = +1$ , which is one day before and after the M&A announcement date. We labeled this initial short-term stock market reaction as *CAR*  $(-1, +1)$ , the key independent variable in our analysis. Long-term CAR has a test window between  $t_1 = +2$  and  $t_2 = +30$ , which is two days to 30 days after the M&A announcement date. We label this long-term stock market reaction as *CAR*  $(+2, +30)$ , the dependent variable in our main analysis.

Generally, a positive CAR signals that investors perceive the acquisition optimistically, while a negative CAR suggests that investors perceive the acquisition pessimistically. To correct for outliers, we winsorized CAR at the 0.01 and 99.9 percentiles, a practice similar to that followed in prior studies (e.g., Gaur et al., 2013; Schweizer et al., 2019). We also use buy-and-hold abnormal returns (BHARs) to measure the stock market performance, especially for long-run performance (Simsir & Simsek, 2022).

### **4.3 Contextual variables**

A binary variable, *cash payment*, was used to measure the form of payment for the M&A deal (1 if the payment involves cash), following the approach used in prior studies (Huang & Walkling, 1987; Schweizer et al., 2019). To capture the acquirer's prior acquisition experience, we used the total number of international M&A deals completed by the acquirer before the year of the focal deal announcement to operationalize *international M&A experience*, following the examples in the extant literature (Hu et al., 2020; Zollo, 2009). The data were obtained and calculated from the *Thomson One* database. We used GDP to measure the market size (Buckley et al., 2016; Li et al., 2020). *Target country GDP* was measured by taking the logarithm of the host country's GDP one year prior to the deal announcement. The data were obtained from the World Bank. *Target country uncertainty avoidance* was measured by taking the logarithm of the target country's uncertainty-avoidance index (UAI) in Hofstede's cultural dimensions (Aybar & Ficici, 2009).

#### **4.4 Control variables**

We included various control variables at the deal-, firm-, and country- levels that are commonly used in cross-border M&As. At the deal level, we controlled for the industry relatedness of the acquiring and acquired firms, the target's status, acquired equity stakes, types of offers, and transaction value. We developed a dummy variable, *business relatedness*, to classify the acquirer and the target as related if they have the same four-digit SIC codes from the *Thomson One* database, in line with the extant literature (e.g., Gaur et al., 2013). We introduced a dummy variable, *target status*, to measure the private vs. public status of the target firm, as this is believed to influence post-acquisition performance (Gubbi et al., 2010). As the percentage of equity stakes acquired is believed to influence the acquirer's ability to exert control and the acquirer's performance after the acquisition (Morck, Shleifer, & Vishny, 1988), we controlled for *ownership*, measured by the percentage of equity owned by the acquirer in the target after the acquisition. Extant studies in the M&A literature suggest that the types of offers and the transaction value of the M&A deal may influence the post-acquisition performance (Schijven & Hitt, 2012; Schweizer et al., 2019). We included the dummy variable of *tender offer* (1 if the acquisition is completed through tender offer) and *deal value* (logarithm of the total transaction value in million dollars) in the statistical analysis.

At the firm level, we controlled for the acquiring firm's market size, financial leverage, past financial performance, and R&D intensity, as previous studies suggest that these variables may affect the acquirer's ability to integrate after the acquisition (Gubbi et al., 2010; Haleblan et al., 2009; Liu et al., 2021). *Acquirer market size* was based on the logarithm of the market capitalization of the acquiring firm. *Acquirer financial leverage* was measured by dividing the acquirer's long-term debt by total assets one year before the acquisition. The past financial performance of the acquirer was operationalized by *acquirer ROA* (i.e., net income divided by total assets) one year prior to the acquisition. *Acquirer R&D intensity* was calculated by taking the acquiring firm's R&D

expenses divided by total sales one year prior to the acquisition. All the financial data of the acquiring firms were obtained from the *Datastream* database.

At the country level, we controlled for the attributes of host countries by using equity market size, economic freedom, and geographical distance. Empirical studies found that the size of the host country's equity market has a strong correlation with cross-border M&As (e.g., Nicholson & Salaber, 2013). We included *target country equity market size* using the ratio of total stock market capitalization of publicly listed companies divided by national GDP in the host country. The *target country economic freedom* measures the quality of the regulations of business behavior in a country, such as licensing requirements, corruption, and labor and environmental regulations. The index is from the Heritage Foundation and is widely used in cross-border acquisition studies (Gubbi et al., 2010). M&A activities are believed to be influenced by geographical distance, as markets being located physically closer to each other implies lower transaction costs after the acquisition (Buckley & Casson, 1976). Following the extant literature, *geographic distance* was operationalized by taking the logarithm of the distance between the geographic centers of the acquirer and target countries (Berry, Guillén, & Zhou, 2010). The data were obtained from the Central Intelligence Agency's (CIA) World Factbook. The descriptions and data sources for each variable are illustrated in Appendix 1.

#### **4.5 Analysis**

We first calculated *CARs* for different windows of time in order to provide a basis for us to test all our hypotheses. We used both a t-test and Wilcoxon signed-rank test to investigate the short-term and longer-term stock market reactions to cross-border acquisitions during different windows of time (see Table 2).

Then, we used regression analysis to test the relationship between the long-term *CAR* and short-term *CAR* around the announcement of cross-border acquisitions. We regressed *CAR* (+2,

+30) on the initial market reaction to the cross-border acquisition announcement, *CAR* (-1, +1). In particular, we were interested in testing the various contextual variables that affect the relationship between the short-term and long-term stock performance measures. The model can be specified as follows:

$$\begin{aligned} \text{CAR (+2, +30)} = & \alpha + \beta_1 * \text{CAR (-1, +1)} + \beta_2 * \text{Contextual variables} + \beta_3 * \text{CAR (-1, +1)} \\ & * \text{Contextual variables} + \beta_i * \text{Control variables} + \epsilon. \end{aligned}$$

We included year dummies to control for the time trend and capture unobserved heterogeneity among different years. To address the collinearity issues, especially resulting from non-linearity and multiplication in our case, we mean-centered all continuous variables following the advice of Cohen, West, and Aiken (2014). To control for the sample selection bias, we used the Heckman selection method (Certo, Busenbark, Woo, & Semadeni, 2016) to include the inverse Mills ratio calculated from a two-stage Probit model in all the regression models.

## **5. RESULTS**

### **5.1 Main results**

The means, standard deviations, and correlations are presented in Table 1. An examination of the variance inflation factors (VIFs), which ranged from 1.15 to 3.23, indicates that multicollinearity is not a major concern.

INSERT TABLE 1 HERE

From Table 1, we can see that the short-term stock market reactions, measured by *CAR* (-1, +1), have the mean value of 0.01. The long-term market reaction measured by *CAR* (+2, +30) has the mean value of -0.05. We conducted the univariate *t* test and Wilcoxon signed ranks test to see whether *CAR* with different time windows is different from zero. *CAR* (-1, +1) is significantly greater than zero ( $p \leq 0.01$ ), suggesting that investors initially react positively to the announcement of cross-border acquisitions. Other short-term *CARs* or *BHARs* are also positive. *CAR* (+2, +30) is significantly lower than zero ( $p \leq 0.01$ ). Other long-term *CARs* and *BHARs* are negative as well.

The univariate tests and Wilcoxon signed-rank tests for CARs and BHARs with different time windows are reported in Table 2. We used CAR (-1, +1) as the short-term market reaction and CAR (+2, +30) as the long-term market assessment to test the impact of various contextual cues on the correlation between short-term and long-term market reactions in the main analysis.

INSERT TABLE 2 HERE

We used CAR (+2, +30) as the dependent variable and CAR (-1, +1) as the independent variable and performed OLS regression analyses through several steps to test the effects of contextual cues on their correlation (Table 3). Model 1 only includes control variables, while Model 2 reports the main effect of a short-term market reaction (CAR (-1, +1)) on the long-term market assessment (CAR (+2, +30)). In order to test Hypotheses 1 through 4, we included the interaction terms of short-term market reactions and contextual variables. In addition, in order to show the interactive roles of contextual cues, we also plotted the effects of CAR (-1, +1) on CAR (+2, +30) in our figures at different levels of contextual cues – one standard deviation below the mean ('low' condition) and one standard deviation above the mean ('high' condition).

INSERT TABLE 3 HERE

In Model 3, we examined the role of the payment method. Consistent with Hypothesis 1, the interaction term of a short-term reaction and a payment method is statistically significant ( $\beta = 2.0050, p \leq 0.001$ ). The results suggest that, as shown in Figure 1, investors tend to have more consistent reactions in cash-financed cross-border acquisitions (i.e., the correlation between short-term CAR and long-term CAR is stronger) than in non-cash-financed acquisitions. Economically, this effect is also highly significant. According to the interaction shown in Model 3 in Table 3, the regression coefficient that captures the correlation between short-term CAR and long-term CAR equals 0.03255 in the stock deals, and the coefficient equals 1.03505 in the cash deals. Hence, the association between short-term CAR and long-term CAR can increase many times in the cash deals

compared to non-cash deals, which is an economically significant phenomenon. Thus, Hypothesis 1 is supported.

In Hypothesis 2, we predicted that the association between the short-term investor reaction and long-term investor reaction is stronger when the acquiring firm has more international acquisition experience. In Model 4, the interaction term ( $CAR (-1, +1) \times International\ M\&A\ experiences$ ) is statistically significant ( $\beta = 0.0942, p \leq 0.05$ ). The plot of this interaction is displayed in Figure 2, indicating that investors are more likely to maintain their initial positive reaction when the acquiring firm has more international M&A experience (i.e., positive slope). At the higher level of international experience (i.e., one standard deviation above the mean), the regression coefficient for short-term CAR is 0.3629, while at the lower level of international experience (i.e., one standard deviation below the mean), the regression coefficient for short-term CAR is 0.3497. Therefore, we observe an economically significant effect in this result, where the association between short-term CAR and long-term CAR has increased – moderately (about 3.8% improvement) for more experienced acquirers compared to less experienced acquirers. Thus, we find support for Hypothesis 2.

We examined the effect of  $CAR (-1, +1)$  on  $CAR (+2, +30)$  depending on the size of the target country's economy (Model 5). The interaction term of a short-term market reaction and the target country's GDP is significant ( $\beta = 0.2284, p \leq 0.05$ ). At the higher level of target country GDP (i.e., one standard deviation above the mean), the regression coefficient for short-term CAR is 0.6296, while at the lower level of target country GDP (i.e., one standard deviation below the mean), the regression coefficient for short-term CAR is -0.0694. The absolute difference in the coefficient is 0.699, with opposite signs for each level. Therefore, the association between short-term CAR and long-term CAR is economically much stronger in the target countries with a larger GDP compared with countries with a smaller GDP. As shown in Figure 3, a short-term market reaction is positively

associated with the long-term assessment (i.e., positive slope) when the target country has a high GDP, but is negatively associated with the long-term assessment (i.e., negative slope) when the target country has a low GDP. Thus, Hypothesis 3 is supported.

In Hypothesis 4, we expect that investors are more likely to maintain their initial optimism when the host country has a higher uncertainty-avoidance culture. In Model 6, the interaction term of a short-term market reaction and uncertainty avoidance is statistically significant ( $\beta = 0.5354$ ,  $p \leq 0.05$ ). When the target country is at a higher level on the uncertainty avoidance index or UAI (i.e., one standard deviation above the mean), the regression coefficient for short-term CAR is 0.6860, while at the lower level of target country UAI (i.e., one standard deviation below the mean), the regression coefficient for short-term CAR is -0.0314. Therefore, the association between short-term CAR and long-term CAR is much stronger in the target countries with higher UAI compared with those countries with lower UAI, which is economically significant. As shown in Figure 4, investors tend to maintain their initial positive reaction when the target country has a high level of uncertainty avoidance (i.e., positive slope), but they are likely to reverse their initial assessment when the target country has a low level of uncertainty avoidance (i.e., negative slope). Thus, the results suggest support for Hypothesis 4.

INSERT FIGURES 1, 2, 3 AND 4 HERE

## **5.2 Robustness tests**

We performed several tests to check the robustness of our results. For independent variables, we used alternative event windows to measure short-term market reactions, as there are no clear-cut criteria for short-window event studies (Oler et al., 2008). Specifically, we used CAR (-2, +2) as the alternative independent variable to rerun our analysis. For the dependent variable, we also used a much longer window and adopted an alternative measure of the abnormal stock return, namely, buy-and-hold abnormal returns (BHAR), to measure long-term stock market reaction (Simsir &

Simsek, 2022). BHAR also incorporates the compounding effect in the stock investment, which is not considered in the CAR calculation (Popli et al., 2017). Therefore, as a robustness test, we used BHAR (2, 360) as the dependent variable to rerun our analysis. In addition, to account for the fact that some firms made acquisitions several times in the study period, we used robust standard errors clustered by each acquiring firm in all the regression models as well. The results from these alternative tests are not significantly different from the results reported in Table 3, as could be seen in Appendix 2.

We also included in the analysis additional country-level control variables, such as the legal system, corruption level, and other characteristics of the host country, as previous studies have identified the impact of these factors on cross-border M&As. The findings from these analyses are quite similar to those reported in our main analysis. To preserve the parsimony of the models, we decided to include only the control variables in Appendix 1.

## **6. DISCUSSION**

In 2016, Huangshanghuang Group Co Ltd, acquired a 51% ownership in the Honey Business of Streamland Biological Technology Ltd, in New Zealand. Initially, the stock market reacted positively to this cross-border acquisition (e.g.,  $CAR(-1,+1) = 0.22$ ), but it showed negative long-term valuation (e.g.,  $CAR(+2, 30) = -0.40$ ), suggesting that investors' excitement did not last long. This anecdotal example highlights this study's main research question: Why have these investors changed their assessment of the long-term stock performance from their assessment of the short-term stock performance? Consistent with our hypotheses, the stock market adjusted its valuation based on contextual cues. Huangshanghuang Group did not use a cash payment, had little international M&A experience, and New Zealand has a relatively small GDP (it is the 50<sup>th</sup>-largest economy, according to the World Bank).

Cross-border acquisitions have increased substantially over the past decades even though there is no clear consensus on whether they create economic value for investors (Haleblian et al., 2009; Lebedev et al., 2015; Schweizer et al., 2019; Shimizu et al., 2004). Evaluating the financial implications of a firm's acquisition decision may be difficult for investors to assess. This challenge may be even greater in cross-border M&As. Although MNEs can access valuable resources, knowledge, and information through cross-border acquisitions, thereby developing new capabilities through a recombination with their existing capabilities (Gubbi et al., 2010), cross-border acquisitions present significant challenges and risks that prevent the expected synergies from being realized. Researchers highlight the integration risks, largely stemming from the differences in customer behaviors, institutional forces, and national culture (Barkema & Schijven, 2008; Lewis & Bozos, 2019). Furthermore, information asymmetries, misidentification of asset complementarities, and the excessive premiums paid for the target firms can be detrimental to the acquiring firm's market value (e.g., Harrison, Hitt, Hoskisson, & Ireland, 2001; Kissin & Herrera, 1990).

Due to these contrasting implications for shareholder value, there are mixed empirical findings regarding the short-term and long-term wealth effects for acquiring firms in cross-border acquisitions (e.g., Zhu & Malhotra, 2008). Since the key events are ambiguous, uncertain, and equivocal in nature, investors may not be able to fully understand the economic implications of cross-border acquisitions around the time of the announcement, even when all relevant information is available. As such, investors may re-interpret the implications of the cross-border acquisitions after their initial excitement, as shown in the example of Huangshanghuang Group. Investors tend to pay greater attention to cues that are salient (e.g., Nisbett & Ross, 1980), particularly ones that are related to the level of future uncertainty, and thus the long-term value of M&A deals may be different from what the initial reaction would suggest. Consistent with this argument, our findings show that the stock market adjusts the value of cross-border acquisitions based on various

contextual cues, including deal-specific (i.e., payment method), firm-specific (i.e., prior acquisition experiences), and host country institutions, such as uncertainty avoidance and the size of the economy.

In sum, our findings show that the investor's initial reactions are more likely to be sustained in the long term when there are salient contextual cues that tend to lower uncertainty or ambiguity. Sometimes, investors' market reactions do not necessarily reflect the expected efficiency benefits, but rather more general and simple perceptions. Our study is one of the few that empirically examines the discrepancy between short-term and long-term investor reactions and the contextual cues that play an important role in this discrepancy. To that end, our study makes an important contribution in improving the understanding of the mixed relationships of different patterns of market performance (King et al., 2021).

### **6.1 Theoretical contribution**

Our study contributes to the research on the growing number of M&As, specifically, cross-border acquisitions and stock market reactions. First, it contributes to the behavioral perspective on stock market reactions by examining how investors rationalize their initial evaluation. Prior studies on market reactions have largely focused on the investor's reaction within a short time window. However, these studies paid limited attention to how investors later adjusted their initial reactions, taking into consideration the time pressure and ambiguity around the time of the event's announcement (De Groote et al., 2021). In order to fill this research gap, this study investigates when and how investors' short-term reactions to cross-border acquisitions are sustained in the long term. More importantly, our findings highlight the importance of contextual cues. Investors better understand the economic implications of the events by taking the relevant contextual cues into account, rather than relying solely on the main acquisition events. Our study identifies contextual cues that investors rely on when they evaluate the prospective value of cross-border acquisitions.

Second, we contribute to the M&A literature by applying the behavioral perspective (e.g., Costa et al., 2019) on investor reactions in the context of cross-border M&As. We highlight that short-term stock market reactions may not be sustained in the long term, depending on several contextual cues, even if no new information is added. Our findings suggest that, due to investors' bounded rationality (e.g., Barberis et al., 2021), short-term market reactions may not be an accurate interpretation of complicated events, and should be supplemented by longer-term valuation measures (Oler et al., 2008). Contextual cues related to uncertainty induced a shift over time in the stock market's view on a firm's cross-border acquisitions, which shows that an investor's excitement lasts only when the level of uncertainty is low. As such, this study enhances the understanding of when investors' short-term and long-term valuations of M&As are (in)consistent. Therefore, our study advances the behavioral perspective in both the behavioral finance and strategic management literatures (Schijven & Hitt, 2012; Zajac & Westphal, 2004).

Third, our findings also contribute empirically to cross-border acquisition research (e.g., Morosini et al., 1998). Previous findings, largely from samples using developed-market data, indicate that investors have positive reactions to the targets and negative reactions to the acquirers (Capron & Pistre, 2002; Haleblian et al., 2009). In contrast, we found that investors in emerging economies show different market valuation patterns — an initial positive reaction, followed by a valuation adjustment, to the cross-border acquisition. While there have been a number of studies on the cross-border M&As by MNEs from developed economies, studies on acquisitions by MNEs from emerging economies are relatively scarce (Lebedev et al., 2015; Li et al., 2020). Given their significant population size, geographical area, and role in the global economy, emerging markets like China have the potential to become developed markets and should be a greater focus of future research (Jacoby et al., 2019). It is important to understand the differences in terms of investors' behaviors in different markets. In this regard, our study contributes to the cross-border M&A

literature by showing how investors may perceive cross-border M&As by firms from emerging economies differently than they do cross-border M&As by firms from developed economies.

## **6.2 Managerial implications**

Our research also points to practical implications. First, our study suggests that both short-term and long-term windows are needed to evaluate a cross-border acquisition event accurately. Although long-term window market reactions are likely to be confounded by other events, they provide meaningful supplementary information (Oler et al., 2008). In this sense, researchers should be cautious in interpreting and validating short-term investor reactions as an objective performance measure, even though event-study methodology has been widely used and has considerable merit in both academic research and business practices.

Our study shows that an investor's assessment of strategic events evolves over time. As such, it is important to understand the factors that may influence the investors' collective adjustment process. Rather than jumping onto the M&A bandwagon, MNEs need to recognize that investors may show anomalies in stock markets and thus they may consider signaling mechanisms such as the payment method. In addition, firms could use news releases and media interviews (e.g., Jiao, Veiga, & Walther, 2020) to highlight certain factors such as host country characteristics that could help manage investors' perceptions of uncertainty and risk. Such managerial actions related to corporate communication can play an important role in shaping the firm's increased market value for a longer period of time (Brown, Call, Clement, & Sharp, 2019).

Beyond the implications related to cross-border M&As, our study also highlights implications for strategic decision-making. Behavioral perspectives have been evidenced in other ambiguous strategic decisions such as stock repurchases (Zajac & Westphal, 2004), multiparty alliances (Ozcan & Overby, 2008), horizontal acquisitions (De Groote et al., 2021), and IPOs (Li & Zhang, 2021).

Our study could help investors who want to engage in strategic decision-making in the context of M&As by emphasizing the importance of contextual cues.

### **6.3 Policy implications**

Our findings also have implications for policy-makers. First, it is important to establish a reliable corporate disclosure system (e.g., Gelb & Zarowin, 2002), so that stakeholders such as shareholders, debt holders, and potential investors can easily understand complex strategic decisions. Our results suggest that investor reactions to overseas acquisitions may vary depending on the period (i.e., short-term vs. long-term) and a firm's contextual cues. Since the acquisition of foreign companies is an event that may cause information overload for investors, it is necessary for policy-makers and regulators to help stakeholders make accurate judgments through an appropriate disclosure system.

Second, our findings provide implications for the development and implementation of governmental support to encourage foreign expansion. Foreign market expansion and investment can be one of the important strategic actions necessary for the continuous growth of MNEs. Accordingly, there are governmental actions supporting overseas expansion in many developing countries, such as China. However, this study shows that not all overseas expansion is unanimously and positively perceived by investors, and it would thus be desirable to implement these support policies (e.g., tax benefits, and financial aid) selectively and carefully.

### **6.4 Limitations and future research**

Our paper is not without limitations, albeit ones that can help inform future research. First, although the event study is a powerful method for assessing the financial impact of a strategic event, its long-term effects may suffer from confounding effects (McWilliams & Siegel, 1997). Our study is not immune to this limitation. In particular, future studies may benefit from examining how additional information provided by firms (e.g., Graffin, Carpenter, & Boivie, 2011) may affect an investor's

updated interpretation over time. Such an examination may require an in-depth study for each acquisition case.

Second, our sample is composed of cross-border acquisitions by Chinese firms. While our sample provides a unique empirical context that may be generalized to other countries, the results might be different if the sample were to be drawn from different countries. Thus, future studies may benefit from examining how investors' reactions to a firm's cross-border acquisitions evolve in other countries, as behavioral perspectives have been observed in other countries in other ambiguous strategic decisions than cross-border M&As (e.g., De Groote et al., 2021; Ozcan & Overby, 2008).

Third, this study relies on the assumption that the aggregate stock market reactions reflect investors' assessment of a firm's strategic decisions. While this approach has been used in previous studies (e.g., Schepker et al., 2018), we do not use any specific information regarding the investor's interpretation process (i.e., how investors actually interpret a firm's strategic decisions). Thus, we encourage future research to continue to delve into understanding how investors assess a firm's cross-border acquisition with more detailed process data (e.g., investor interviews).

## **7. CONCLUSION**

Based on the behavioral perspective, this study uses cross-border acquisitions by Chinese firms to investigate the contextual cues that influence the relationships between short-term and long-term market reactions. Our paper adds to the emerging behavioral perspective on short-term investor reactions, which suggests that investors adjust their interpretations after their immediate reactions. Our findings provide an improved understanding of deal-, firm-, and country-specific contextual cues that explain the rationalization of investors' initial assessment. This study suggests that, in contrast to the traditional stock market efficiency assumption, investors' market valuations might be a complex process in which investors take contextual cues into account over time.

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Table 1. Descriptive statistics and correlations

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]
1.CAR (+2,+30)	1																			
2.CAR (-1,+1)	0.09	1																		
3.Business relatedness	0.03	0.08	1																	
4.Target status	0.02	0.10	-0.10	1																
5.Ownership	-0.06	-0.04	0.08	-0.14	1															
6.Tender offer	0.10	0.08	-0.10	0.62	-0.02	1														
7.Deal value	-0.03	0.03	0.02	0.12	0.17	0.11	1													
8.Acquirer market size	0.08	-0.16	0.05	0.01	-0.03	0.01	0.43	1												
9.Acquirer financial leverage	0.03	-0.10	-0.12	0.02	0.04	0.04	0.14	0.12	1											
10.Acquirer ROA	0.12	0.04	0.07	0.03	0.03	0.06	0.10	0.31	0.02	1										
11.Acquirer R&D intensity	0.05	-0.05	0.14	-0.09	0.04	-0.05	-0.08	0.05	-0.14	-0.17	1									
12.Target country equity market size	-0.08	0.03	-0.01	0.16	0.07	0.15	0.05	-0.05	-0.04	-0.10	0.00	1								
13.Uncertainty avoidance	0.07	-0.04	0.08	-0.18	-0.05	-0.23	-0.03	0.02	-0.09	0.11	0.09	-0.62	1							
14.Geographical distance	0.10	0.02	0.07	-0.07	0.24	-0.09	0.13	0.05	-0.04	0.08	0.07	-0.01	0.16	1						
15.Target country economic freedom	-0.07	0.00	0.01	0.15	0.20	0.18	0.12	0.07	0.00	-0.10	0.05	0.54	-0.56	0.11	1					
16.Inverse mills ratio	0.07	0.05	0.55	0.00	-0.10	-0.02	-0.73	-0.32	-0.16	-0.03	0.09	0.02	0.01	-0.07	-0.03	1				
17.Cash payment	0.16	-0.08	0.00	0.02	-0.11	0.07	0.07	0.24	0.11	0.23	-0.09	-0.18	0.08	0.00	-0.02	0.03	1			
18.International M&A experience	0.00	-0.09	-0.11	0.08	0.00	0.03	0.19	0.27	0.19	0.01	-0.09	-0.03	-0.07	0.06	0.04	-0.16	-0.04	1		
19.Target country M&A experience	-0.02	-0.08	-0.01	0.12	0.04	0.06	0.08	0.07	0.16	0.00	0.00	0.02	-0.06	0.00	0.07	-0.02	0.03	0.51	1	
20.Target country GDP	0.15	0.02	0.01	-0.07	0.14	-0.13	0.07	0.07	-0.07	0.04	0.17	-0.08	0.36	0.35	0.02	-0.05	-0.11	0.01	0.10	1
Mean	-0.05	0.01	0.25	0.16	92.34	0.07	3.87	13.72	0.11	0.06	0.02	103.16	3.77	8.88	4.29	0.98	0.92	1.66	0.47	28.26
S.D.	0.20	0.06	0.44	0.37	15.02	0.25	1.74	1.87	0.13	0.12	0.04	67.18	0.67	0.54	0.13	0.09	0.25	2.92	0.99	1.53

Note: Correlations greater than |0.10| are significant at  $p \leq 0.05$  and those greater than |0.14| are significant at  $p \leq 0.01$ . (N = 359).

Table 2. Short-term and long-term acquirer abnormal returns

Period	Sample	Mean	Std Error.	T test		Wilcoxon	Signed
				T stats	<i>p</i> value	Rank Test	<i>Z</i>
CAR (-1,+1)	359	0.0123	0.0033	3.6641	0.0001	3.163	0.0016
CAR (-2,+2)	359	0.0144	0.0044	3.2693	0.0006	3.146	0.0017
CAR (-5,+5)	359	0.0124	0.0064	1.9378	0.0267	1.494	0.1352
CAR (+2, +30)	359	-0.0495	0.0114	-4.3645	0.0000	-4.166	0.0000
CAR (+2, +180)	359	-0.1720	0.0353	-4.8711	0.0000	-3.905	0.0001
CAR (+2, +360)	359	-0.2670	0.0495	-5.3972	0.0000	-4.424	0.0000
BHAR (-1, +1)	359	0.0150	0.0035	4.2322	0.0000	3.598	0.0003
BHAR (-2, +2)	359	0.0178	0.0045	3.9540	0.0000	3.318	0.0009
BHAR (-5, +5)	359	0.0209	0.0066	3.1371	0.0009	2.049	0.0405
BHAR (+2, +30)	359	-0.0221	0.0086	-2.5754	0.0052	-3.028	0.0025
BHAR (+2, +180)	359	-0.0432	0.0238	-1.8131	0.0353	-1.759	0.0786
BHAR (+2, +360)	359	-0.0459	0.0316	-1.4505	0.0739	-1.824	0.0682

Table 3. Regression analysis results: DV = Long-term CAR (+2, +30)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Business relatedness	-0.0298 (0.050)	-0.0300 (0.049)	-0.0110 (0.049)	-0.0209 (0.050)	-0.0284 (0.046)	-0.0323 (0.047)
Target status	-0.0451 (0.038)	-0.0470 (0.038)	-0.0269 (0.038)	-0.0430 (0.038)	-0.0358 (0.041)	-0.0424 (0.040)
Ownership	-0.0010 (0.001)	-0.0009 (0.001)	-0.0007 (0.001)	-0.0010 (0.001)	-0.0009 (0.001)	-0.0009 (0.001)
Tender offer	0.1295* (0.055)	0.1271* (0.055)	0.1029 <sup>†</sup> (0.055)	0.1212* (0.055)	0.1262* (0.055)	0.1389* (0.055)
Deal value	0.0050 (0.015)	0.0023 (0.015)	-0.0008 (0.015)	0.0002 (0.015)	0.0001 (0.015)	0.0001 (0.015)
Acquirer market size	0.0122 <sup>†</sup> (0.007)	0.0143 <sup>†</sup> (0.007)	0.0131 <sup>†</sup> (0.007)	0.0135 <sup>†</sup> (0.007)	0.0153* (0.007)	0.0147* (0.007)
Acquirer financial leverage	0.0260 (0.083)	0.0355 (0.083)	0.0282 (0.081)	0.0222 (0.083)	0.0307 (0.083)	0.0307 (0.083)
Acquirer ROA	0.0878 (0.096)	0.0727 (0.096)	0.0980 (0.095)	0.0746 (0.096)	0.0468 (0.096)	0.05738 (0.096)
Acquirer R&D intensity	0.1948 (0.297)	0.2160 (0.296)	0.1385 (0.291)	0.2137 (0.295)	0.2273 (0.295)	0.1854 (0.295)
Target country equity market size	-0.0001 (0.000)	-0.0001 (0.000)	-0.0001 (0.000)	-0.0001 (0.000)	-0.0001 (0.000)	-0.0001 (0.000)
Geographical distance	0.0429* (0.021)	0.0420* (0.021)	0.0339 (0.021)	0.0440* (0.021)	0.0429* (0.021)	0.0387 <sup>†</sup> (0.021)
Target country economic freedom	-0.1482 (0.111)	-0.1451 (0.111)	-0.2017 <sup>†</sup> (0.110)	-0.1474 (0.111)	-0.1496 (0.111)	-0.1539 (0.111)
Inverse mills ratio	0.3061 (0.349)	0.2762 (0.348)	0.1533 (0.343)	0.2134 (0.349)	0.2177 (0.347)	0.2678 (0.346)
Cash payment	0.0602 (0.048)	0.0669 (0.048)	0.0136 (0.049)	0.0684 (0.048)	0.0679 (0.048)	0.0626 (0.048)
International M&A experience	-0.0021 (0.004)	-0.0017 (0.004)	-0.0018 (0.004)	-0.0009 (0.004)	-0.0027 (0.004)	-0.0023 (0.004)
Target country GDP	0.0192* (0.008)	0.0182* (0.008)	0.0200* (0.008)	0.0175* (0.008)	0.0140 <sup>†</sup> (0.008)	0.0193* (0.008)
Uncertainty avoidance	-0.0203 (0.025)	-0.0177 (0.025)	-0.0262 (0.024)	-0.0226 (0.025)	-0.0163 (0.025)	-0.0247 (0.025)
CAR(-1, +1)		0.3073 <sup>†</sup> (0.175)	0.5338** (0.183)	0.3328 <sup>†</sup> (0.176)	0.2801 (0.175)	0.3273 <sup>†</sup> (0.175)
H1: CAR(-1, +1) x Cash payment			2.0050*** (0.542)			
H2: CAR(-1, +1) x International M&A experience				0.0942* (0.046)		
H3: CAR(-1, +1) x Target country GDP					0.2284* (0.111)	
H4: CAR(-1, +1) x Target country UAI						0.5354* (0.261)
Constant	-0.2308 (0.376)	-0.1944 (0.375)	-0.0803 (0.369)	-0.1135 (0.377)	-0.1078 (0.376)	-0.1834 (0.373)
Observations	359	359	359	359	359	359
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.174	0.182	0.216	0.190	0.193	0.193

Note: \*\*\* p<0.001, \*\* p<0.01, \* p<0.05, <sup>†</sup>p<0.10 (N=359). Standard errors in parentheses. Dependent variable is CAR (+2, +30).

Figure 1. The role of payment method in the relationship between short-term and long-term CAR

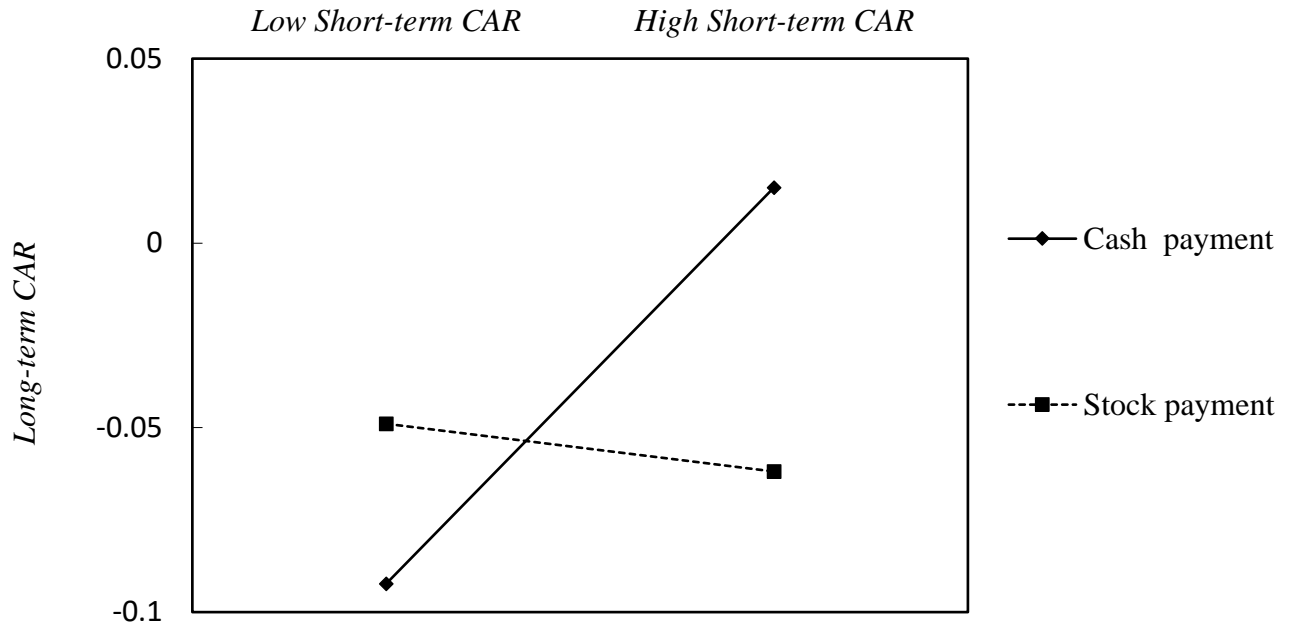


Figure 2. The role of international M&A experience in the relationship between short-term and long-term CAR

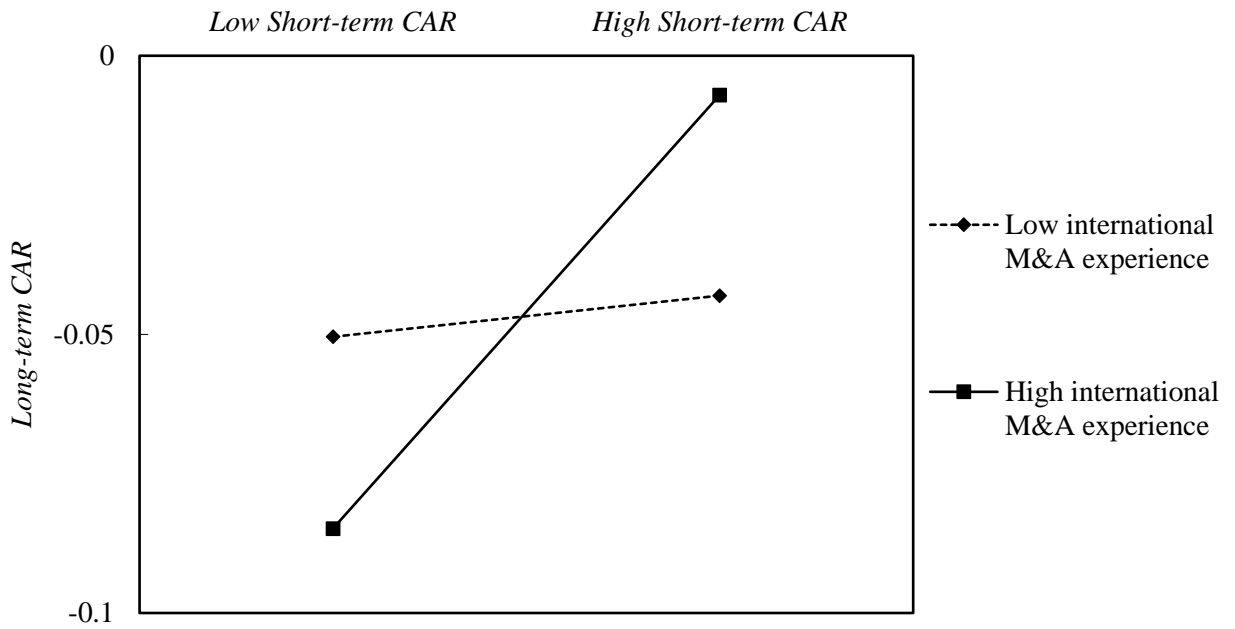


Figure 3. The role of target country GDP in the relationship between short-term and long-term CAR

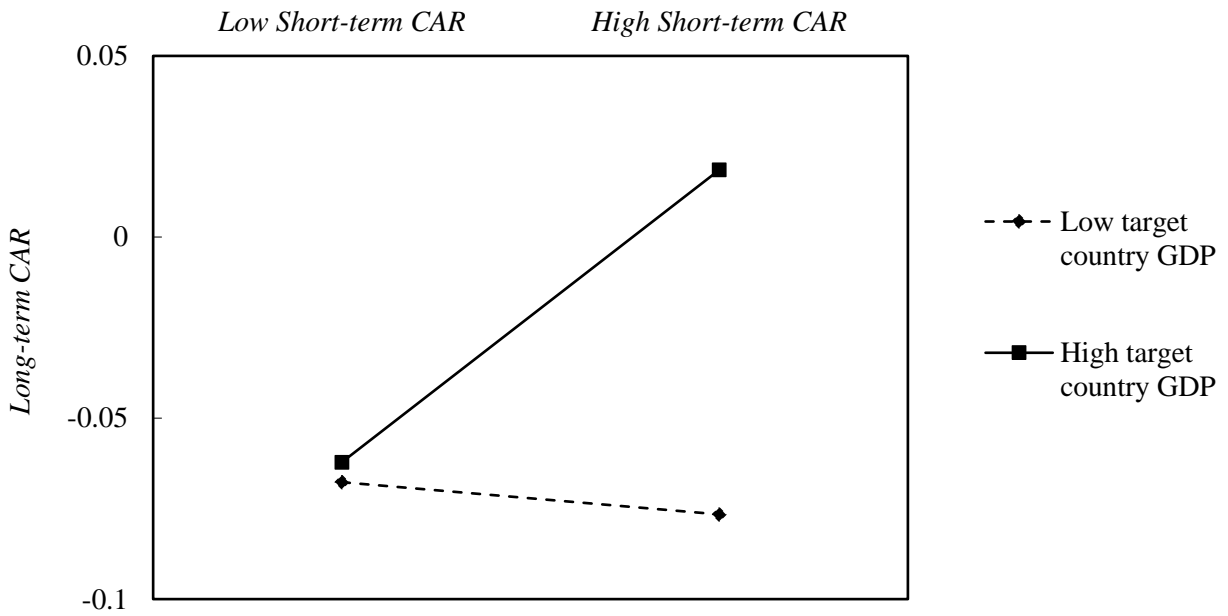
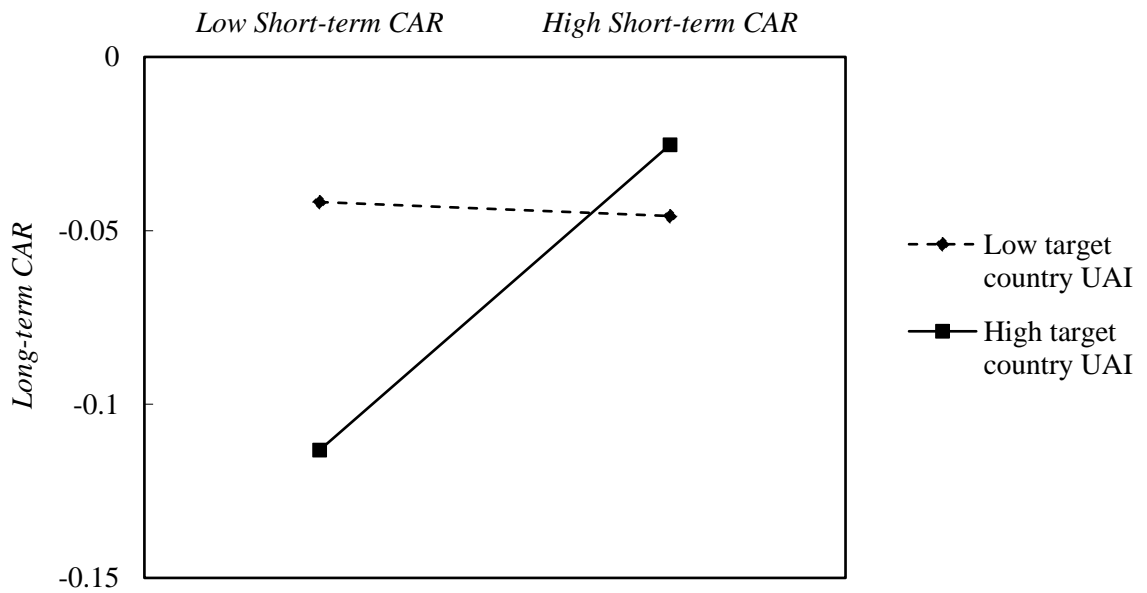


Figure 4. The role of target country UAI in the relationship between short-term and long-term CAR



*Appendix 1 Variables description*

Variables	Description	Data source
CAR( $t_1, t_2$ )	Cumulative abnormal return for the period $t_1$ to $t_2$	Thomson ONE, Datastream
BHAR( $t_1, t_2$ )	Buy and hold abnormal return for the period $t_1$ to $t_2$	Thomson ONE, Datastream
International M&A experience	Number of international M&A deals before the year of the announcement	Thomson ONE
Target country M&A experience	Number of M&A deals in the host country before the year of the announcement	Thomson ONE
Target country GDP	Logarithm of the target country's GDP in the year prior to the announcement	World Bank
Business relatedness	Dummy variable: 1 for related acquisition based on SIC code, 0 for stand-alone assets	Thomson ONE
Target status	Dummy variable: 1 public firm, 0 otherwise	Thomson ONE
Cash payment	Dummy variable: 1 cash in the payment, 0 pure stock in the payment	Thomson ONE
Ownership	% of equity owned in the target after the acquisition	Thomson ONE
Tender offer	Dummy variable: 1 for tender offer, 0 otherwise	Thomson ONE
Deal value	Logarithm of the transaction value	Thomson ONE
Acquirer market size	Logarithm of the market capitalization of the acquirer	Thomson ONE
Acquirer financial leverage	Acquirer's long-term debt divided by total assets 1 year before the acquisition	Datastream
Acquirer ROA	Acquirer's net income divided by total assets 1 year before the acquisition	Datastream
Acquirer R&D intensity	Acquirer's R&D expenses divided by total sales 1 year before the acquisition	Datastream
Target country equity market size	Total market capitalization of publicly listed companies divided by country's GDP	World Bank
Uncertainty avoidance	Logarithm of the uncertainty avoidance value for the target country for the year prior to the announcement	Hofstede
Geographical distance	Logarithm of great circle distance between the acquirer and target countries according to the coordinates of the geographic center of the countries	CIA Factbook
Target country economic freedom	Logarithm of the target country's economic freedom index in the year before the acquisition. Property rights, government integrity, judicial effectiveness, business freedom, and so on are among the dimensions included in the economic freedom index.	Heritage Foundation
Year effect	Dummy variable for each year in the sample period	Thomson ONE

Appendix 2a. Robustness test: Regression analysis results using CAR (-2, +2) as IV

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
CAR(-2, +2)		0.3073 (0.216)	0.4984** (0.213)	0.3420 (0.216)	0.3206 (0.220)	0.2599 (0.176)
H2: CAR(-2, +2) x Cash payment			2.8231*** (0.756)			
H3a: CAR(-2, +2) x International M&A experience				0.1150** (0.053)		
H3b: CAR(-2, +2) x Target country M&A experience					0.1788 (0.249)	
H4: CAR(-2, +2) x Target country GDP						0.1714* (0.089)
Constant	-0.2308 (0.305)	-0.1944 (0.307)	-0.0985 (0.314)	-0.0914 (0.311)	-0.1900 (0.308)	-0.0696 (0.379)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.174	0.182	0.226	0.195	0.186	0.191

Appendix 2b Robustness test: Regression results using BHAR(2, 360) as the DV

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
CAR(-1, +1)		0.2024 (0.420)	0.4346 (0.460)	0.2531 (0.416)	0.3528 (0.424)	0.2336 (0.419)
H2: CAR(-1, +1) x Cash payment			2.2442** (1.125)			
H3a: CAR(-1, +1) x International M&A experience				0.2694** (0.133)		
H3b: CAR(-1, +1) x Target country M&A experience					0.9742** (0.476)	
H4: CAR(-1, +1) x Target country GDP						-0.2049 (0.248)
Constant	-1.0744 (0.910)	-1.0462 (0.920)	-0.9349 (0.925)	-0.8125 (0.922)	-0.9308 (0.902)	-1.1240 (0.911)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.460	0.460	0.464	0.467	0.459	0.461

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.10. (N=339). Robust standard errors in parentheses.

BHAR is calculated as follows:  $BHAR(t1, t2)_j = \prod_{t1}^{t2} (1 + R_{j,t*}) - \prod_{t1}^{t2} (1 + M_{k,t*})$ , where  $BHAR(t1, t2)_j$  is the buy-and-hold-abnormal return for acquiring firm  $j$  during the test window ( $t_1, t_2$ ) after the M&A announcement date;  $R_{j,t*}$  is the daily stock return for firm  $j$  on day  $t^*$ ;  $M_{k,t*}$  is the daily return of the Chinese stock market index on day  $t^*$ .