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## **Context Matters: Institutional Distance in Nordic Cross-Border Acquisitions Across Emerging and Developed Markets**

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**Abstract:** This study investigates how institutional distance influences announcement returns in cross-border acquisitions across emerging and developed markets. Drawing on a sample of cross-border M&As conducted by Nordic acquirers between 2010 and 2024, we apply an event study methodology to estimate cumulative abnormal returns around M&A announcements. We find no evidence that acquisitions in emerging markets generate higher returns than acquisitions in developed markets. Instead, descriptive statistics indicate higher returns for acquisitions of developed-market targets, although this effect appears to be driven by underlying firm and deal characteristics rather than market classification itself. More importantly, our findings suggest that formal institutional distance is more positively associated with announcement returns of acquisitions in emerging markets than in developed markets, whereas no similar pattern is observed for informal institutional distance. Taken together, these findings suggest that market perceptions of institutional distance differ between emerging- and developed-market acquisitions, particularly with respect to formal institutional environments.

**Keywords:** Mergers and Acquisitions (M&A), Cross-border M&A, Emerging Markets (EM), Developed Markets (DM), Institutional Distance

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# 1. Introduction

Cross-border mergers and acquisitions (M&As) can be described as “Mars-Venus Marriages”, where differences rather than similarities dominate (Chakrabarti et al., 2009). These differences extend beyond geography and reflect deeper structural variations in legal systems, governance structures, and societal norms. Such disparities are captured by institutional theory, which argues that countries differ in their underlying “rules of the game”. As firms expand across borders, they must navigate unfamiliar institutional environments, increasing uncertainty and the complexity of realizing expected synergies.

Existing research on institutional distance has primarily focused on transactions between developed markets, particularly in Europe and the United States (Li et al., 2020; Otto et al., 2021). Historically, foreign participation in emerging markets was heavily restricted, but the liberalization of capital markets around 1990 increased openness to foreign investments (Chari et al., 2010). Since then, cross-border M&A activity involving emerging markets has grown rapidly alongside the increasing globalization of the world economy (Li et al., 2020). Despite this development, emerging and developed markets continue to differ in terms of economic conditions, development trajectories, and institutional environments (Li et al., 2020). These structural differences suggest that the role and implications of institutional distance are unlikely to be uniform across contexts.

Institutional environments are inherently multidimensional, yet prior literature frequently treats them as a homogeneous construct. Addressing this limitation, Li et al. (2020) argue that institutions should be separated into two distinct dimensions: formal and informal institutions. Formal institutions refer to codified rules such as laws and regulations, while informal institutions reflect norms, values, and cultural practices (Li et al., 2020). Given that these dimensions operate through different underlying processes, their effects on cross-border M&A outcomes are likely to diverge.

The purpose of this study is to examine whether the *effect* of institutional distance on announcement returns for Nordic acquirers differs between acquisitions in developed and emerging markets. In doing so, we do not compare the magnitude of institutional distance across contexts but rather examine how the market responds to institutional distance in each setting. In particular, the study examines the role of formal and informal institutional distance

in explaining variation in announcement returns. Accordingly, this study aims to answer the following research question:

*For Nordic acquirers, is the impact of institutional distance on announcement returns different between acquisitions in developed and emerging markets?*

Our findings provide no evidence that Nordic acquirers generate higher announcement returns from acquisitions in emerging markets than from acquisitions in developed markets. In fact, descriptive statistics initially indicate higher returns for acquisitions in developed markets, although this difference is no longer statistically significant once firm and deal characteristics are controlled for. When examining formal institutional distance, we find that it has a negative effect on announcement returns in developed-market acquisitions, while the effect is significantly more positive in emerging-market acquisitions. This suggests that market perceptions of formal institutional distance may differ between the two contexts. In contrast, we find no evidence that informal institutional distance has a more positive effect on announcement returns in acquisitions of emerging-market targets compared to developed-market targets.

### **1.1 Contribution**

Our research contributes to the existing M&A literature in two ways. First, this study provides insight from the Nordic market, a setting with limited research on the impact of institutional distance on M&A performance. To the best of our knowledge, no existing study has examined the effects of both formal and informal institutional distance in this setting. Second, while prior studies often treat cross-border acquisitions as a homogeneous setting, we distinguish between different market contexts, which may entail fundamentally different implications for how institutional differences are perceived and priced. As cross-border M&A activity involving emerging markets has grown substantially over the past decade, acquirers from developed markets have increasingly pursued acquisitions in emerging markets alongside their traditional focus on developed-market targets. This trend makes it particularly important for Nordic acquirers to understand how the effect of institutional distance differs across market contexts when navigating increasingly diverse strategic environments.

### **1.2 Delimitation**

This study focuses on cross-border M&As undertaken by publicly listed acquirers from Sweden, Norway, Denmark and Finland. Iceland is excluded, as it is not classified as a

developed market according to the MSCI classification list. To ensure consistency and comparability across observations, several delimitations are applied. First, the analysis is restricted to acquisitions conducted between 2010 and 2024. The sample period begins after the financial crisis, as prior research suggests that M&A performance differs significantly before and after the crisis (Alexandridis et al., 2017). The sample period ends in 2024 due to the unavailability of updated Worldwide Governance Indicators (WGI) data for 2025. Second, the study is limited to completed mergers and acquisitions in which the acquirer obtains a majority stake. Third, transactions involving acquirers or targets classified as financial-sector firms are excluded, as these firms operate under distinct regulatory and capital structures that may reduce comparability and bias the results. Lastly, the analysis focuses specifically on short-term announcement returns, rather than long-term post-acquisition performance.

### **1.3 Disposition**

The remainder of this study is structured as follows. Section two reviews previous research and theoretical frameworks underlying the study, followed by the development of the hypotheses. Section three outlines the research methodology, while section four describes the data used in the analysis. Section five presents descriptive statistics and empirical results, which are subsequently discussed in section six. Finally, section seven concludes the study and offers suggestions for future research.

## **2. Theory and literature review**

In this section, we will present the theoretical framework and review literature underpinning the study. It covers existing literature on cross-border M&As and acquisition performance, the differences between emerging and developed markets and insights from institutional theory. Finally, it outlines the hypotheses to be tested.

### **2.1 Efficient Market Hypothesis**

The efficient market hypothesis provides a framework for understanding how information is incorporated into asset prices, suggesting that prices fully reflect all available information (Fama, 1970). Fama (1970) categorizes market efficiency into three forms: weak, semi-strong and strong. The weak form assumes that all historical price information is reflected in stock prices, implying that past price movements cannot be used to predict future returns. In contrast, the strong form suggests that both public and private information are fully reflected in stock prices, implying that no investor can consistently earn abnormal returns. Positioned between these two forms, the semi-strong form assumes that all publicly available

information is rapidly and accurately incorporated into stock prices. Consequently, when new information such as a merger and acquisition announcement is released, it should be immediately reflected in stock prices.

## **2.2 Mergers & Acquisitions**

Mergers and acquisitions have been extensively researched over the past several decades, reflecting the growing volume of M&A transactions (Cumming et al., 2023). The term mergers and acquisitions broadly refers to corporate consolidations between companies (Bianconi & Tan, 2019). A merger typically involves the combination of two firms into a single entity, often without a clearly identifiable acquirer or target firm (Bianconi & Tan, 2019; Netter et al., 2011). In comparison, an acquisition refers to a transaction in which one firm purchases and obtains control over another, without necessarily forming a new entity (Bianconi & Tan, 2019). Despite these distinctions, mergers and acquisitions are frequently treated jointly in both academic literature and practices under the collective term M&A.

For many companies, M&As serve as a primary strategy for growth, restructuring, and diversification (Cumming et al., 2023). A central motive underlying such transactions is the realization of synergies, where the combination of two firms generates greater value than they would independently (Feldman & Hernandez, 2022). These gains arise from combining the assets and capabilities of the merging firms, leading to economies of scale, efficiency improvements, and more effective utilization of resources. Such synergy gains can be realized through both domestic transactions, where the acquirer and target are based in the same country, and cross-border transactions, where they are based in different countries.

## **2.3 Cross-border Mergers & Acquisitions**

Cross-border M&As have become an important strategy for rapid international expansion, allowing firms to access new markets, acquire operational resources, and broaden their customer base, while generating economies of scale (Hitt & Pisano, 2003). Unlike domestic transactions, cross-border M&As are subject to the liability of foreignness, which gives rise to unavoidable costs for firms operating outside their home environment (Hitt & Pisano, 2003). These costs can arise from higher coordination and governance costs, limited familiarity with local market conditions, restricted access to critical networks, and differences in institutional and cultural environments (Hitt & Pisano, 2003). Collectively, these factors contribute to higher levels of information asymmetry in cross-border M&As (Boeh, 2011).

## **2.4 Cross-border versus Domestic M&A Performance**

M&As are driven by a range of strategic motives but are ultimately rooted in value creation (Cumming et al., 2023). The value created from an M&A can be assessed from both a short-term and a long-term perspective. Sharma and Raat (2016) argue that the short-term perspective provides a more reliable approach for assessing value creation in M&A, as the long-term perspective may be misleading due to its sensitivity to sample period selection and risk measurement. A common approach in M&A research is to evaluate the value created by an acquisition based on the stock market's reaction to acquisition announcements, typically measured as abnormal returns around the event date (Andrade et al., 2001).

When comparing announcement returns between cross-border and domestic M&As, the empirical evidence is mixed. Danbolt and Maciver (2012) report that both targets and bidders earn higher announcement returns in cross-border acquisitions than in comparable domestic acquisitions. Similarly, Otto et al. (2021) find that developed-market acquirers generate higher abnormal returns from cross-border M&As than from domestic acquisitions. In contrast, Moeller and Schlingemann (2005) find that cross-border acquisitions by US firms generate announcement returns approximately one percentage point lower than domestic acquisitions, referring to this difference as the cross-border effect. Consistent with these findings, Conn et al. (2005) show that cross-border M&As conducted by UK firms generate lower announcement returns than domestic deals, although the effect becomes weaker in multivariate analyses. Similar evidence is provided by Campa and Hernando (2004), who find that cross-border M&As in the European Union generate lower acquirer returns than domestic M&As. They further show that the negative effect of conducting an M&A in a foreign country is particularly pronounced in heavily regulated industries. Overall, the evidence suggests that cross-border M&As do not systematically outperform domestic acquisitions, with outcomes varying considerably across contexts.

## **2.5 Emerging Markets and Developed Markets**

Economies are commonly classified as either emerging or developed markets to facilitate comparison and improve understanding. The main factors distinguishing these markets relate to economic scale, development trajectory, and institutional environment (Li et al., 2020). Hoskisson et al. (2000) define emerging markets as lower-income economies characterized by rapid growth and increasing reliance on economic liberalization to drive development. The authors further note that these economies are subject to substantial economic and political change. In addition, emerging markets are associated with higher levels of information

asymmetry and weaker property rights protection (Chari et al., 2010). Developed markets, by contrast, are described as more predictable in terms of financial, legal, and economic systems (Zhou et al., 2016).

Chari et al. (2010) show that developed-market acquirers experience significant positive abnormal returns when acquiring majority control of emerging-market targets, a pattern not observed in acquisitions of developed-market targets. Consistent with these findings, Sharma and Raat (2016) find that cross-border M&As involving emerging-market targets in Eastern Europe generate positive and significant shareholder returns for developed-market acquirers, exceeding the returns observed in developed-market transactions. Similarly, Kiyamaz (2004) finds that in cross-border M&As involving financial institutions, US bidders earn higher announcement returns when acquiring targets in emerging markets than in developed markets. Taken together, these findings suggest that developed-market acquirers tend to generate higher announcement returns when acquiring firms in emerging markets than in developed markets.

It should be noted that there is no universally agreed-upon classification of emerging and developed markets, as the terms may vary across research contexts (Hoskisson et al., 2000). A commonly used framework is the MSCI market classification framework, applied in recent studies such as Qadeer et al. (2025) and Otto et al. (2021). MSCI categorizes markets as developed, emerging, frontier, or advanced frontier markets (MSCI, n.d.). The classification is based on three main criteria: economic development, market size and liquidity, and market accessibility. Economic Development reflects the sustainability of a country's economic growth and is primarily used to identify developed markets. Size and Liquidity determine whether securities meet the minimum investability thresholds for inclusion in MSCI Global Standard Indexes, while Market Accessibility captures the ease with which international institutional investors can operate in a given market. While the MSCI framework is widely adopted, prior research often defines developed markets as having stronger and more mature institutional environments, particularly relative to emerging markets (Li et al., 2020).

Although this distinction broadly holds, market classifications such as MSCI primarily reflect differences in economic and financial market development rather than institutional conditions alone. Consequently, countries classified within the same market category may still differ in terms of legal systems, governance quality, and cultural norms.

## **2.6 Institutional Theory**

Institutional theory is commonly used in organizational research, particularly in studies of cross-border M&As. In recent years, it has become an important perspective for explaining firm strategy and performance in emerging markets, complementing traditional approaches such as the resource-based view and the industry-based view (Peng et al., 2008). Peng et al. (2008) argue that the institutional environment is more than merely a set of passive background conditions; it plays a central role in how a company implements strategies and competes in a market. Institutions, defined as the “rules of the game” governing social, political, and economic interactions, influence organizational behavior through regulative, normative, and cognitive elements (North, 1991; Scott, 2014). The regulative element consists of rules and laws, the normative encompasses culture, norms and values, and the cognitive includes shared social knowledge and perceptions that are taken for granted (Scott, 2014). According to Hoskisson et al. (2000), government and societal influence are stronger in emerging markets relative to developed markets.

In cross-border acquisitions, firms often face significant differences between home and host institutional environments (Li et al., 2020). Existing research has predominantly examined institutional distance in developed-market contexts, where it is typically found to have a negative impact on cross-border M&A performance (Li et al., 2020). However, the literature also points to potential learning opportunities and institutional arbitrage benefits, suggesting that the effects of institutional distance are not uniformly negative. Beyond these mixed findings, Li et al. (2020) argue that prior M&A literature often treats institutional distance as a homogeneous construct, despite fundamental differences between formal and informal institutions. The authors further note that firms adopt different strategies to navigate these institutional dimensions, as each captures distinct aspects of the institutional environment.

### **2.6.1 Formal institutions**

Formal institutions refer to the mandatory constraints within society, such as laws, regulations, and administrative orders (Li et al., 2020). Existing literature examining the relationship between formal institutional distance and announcement returns in cross-border M&As provides mixed findings, although Li et al. (2020) argue that the majority of prior studies document a negative relationship. This negative effect is commonly attributed to higher transaction costs arising from information asymmetry, the liability of foreignness, and a lack of legitimacy (Li et al., 2020). As formal institutions are mandatory and non-

negotiable, firms must comply with these requirements immediately upon market entry. Consequently, the costs associated with formal institutional distance are imposed directly following the completion of the transaction (Li et al., 2020).

Chari et al. (2010) argue that the announcement returns to a developed-market acquirer targeting an emerging-market firm are positively affected by greater formal institutional distance. The authors attribute this positive effect to institutional arbitrage, where the acquirer can transfer superior governance and legal practices to the target firm, which in turn improves firm value. In line with this, Barbopoulos et al. (2014) analyze foreign direct investments in emerging markets conducted by UK firms and find that high corruption and political risk in the target country have a positive effect on acquirer returns. The authors explain this finding by suggesting that weaker oversight in the target country can lower the cost of acquiring local resources, while limited regulation allows for more efficient resource allocation. Together, these findings suggest that formal institutional distance may create value when developed-market acquirers leverage their institutional advantages in emerging markets.

Worldwide Governance Indicators (WGI) are identified by Kostova et al. (2020) as a commonly used measure of formal institutional distance. Reported annually since 1996, the WGI captures national governance along six dimensions (*Documentation | Worldwide Governance Indicators*, n.d.). Voice and Accountability reflect citizens' ability to influence their government. Political Stability measures the resilience of political power against violent or unconstitutional threats. Government Effectiveness indicates the quality of public services and policy implementation. Regulatory Quality measures the government's capacity to foster private sector growth through regulation. Rule of law reflects the strength of legal institutions and societal compliance with rules. Finally, Control of Corruption indicates the extent to which public power is exercised for private gain. Together, these dimensions provide a multidimensional measure of governance across countries.

### **2.6.2 Informal institutions**

In contrast to formal institutions, informal institutions refer to non-mandatory constraints in the form of cultural traditions, norms, values and routines (Li et al., 2020). Due to their non-binding character, firms can choose whether to follow these informal rules, where societal tolerance for non-compliance is correspondingly higher (Li et al., 2020). In existing research, distance in informal institutions is often referred to as national cultural distance. National

culture largely shapes firms' organizational culture, implying that differences at the national level are likely to translate into differences at the organizational level (Kogut & Singh, 1988; Schneider & de Meyer, 1991).

Similarly to formal institutional distance, cultural distance shows mixed effects on short-term performance of cross-border M&As in prior literature. The role of "cultural clashes" is widely debated: some view them as obstacles to integration, while others see them as a source of synergies that can help the acquirer compete in global markets (Chakrabarti et al., 2009). Li et al. (2020) find a positive effect of informal institutional distance on short-term performance of cross-border M&As conducted by emerging-market acquirers, arguing that integration costs are postponed to the long-run, where the effect turns negative. This positive relationship is supported by Aybar and Ficici (2009). By contrast, Chakrabarti et al. (2009) and J. Li et al. (2016) find that markets react negatively to large cultural distances in the short-run, citing anticipated integration problems related to communication and knowledge transfer. Research explicitly comparing how national cultural distance affects short-term cross-border M&A performance across developed and emerging markets remains limited. Evidence from developed-market contexts points to a negative relationship, as shown by Datta and Puia (1995) using a sample of US acquirers with developed-market targets. The negative effect is attributed to anticipated administrative and consolidation costs arising from cultural differences. Although not examining announcement returns, Depperu et al. (2024) find that greater cultural distance increases the likelihood that Italian firms pursue acquisitions in emerging markets.

In prior literature, national cultural distance (informal institutional distance) is most frequently measured using Hofstede's cultural dimensions (Chakrabarti et al., 2009; Datta & Puia, 1995; Li et al., 2020). Introduced in 1980, the framework originally consisted of four dimensions: Power Distance, Uncertainty Avoidance, Individualism and Masculinity. It was later extended to six dimensions through the inclusion of Long-Term Orientation and Indulgence (Hofstede, n.d.). Power Distance reflects the extent to which less powerful members of society accept and expect unequal distributions of power. Uncertainty Avoidance captures a society's tolerance for ambiguity and uncertainty. Individualism describes the degree to which individuals perceive themselves as independent rather than interdependent within society. Masculinity reflects the extent to which a society values achievement and competitiveness over cooperation and care for others. Long-Term Orientation describes the

degree to which a society values preparation for the future, while Indulgence reflects the degree to which a society allows free gratification of basic human desires.

## **2.7 Hypothesis development**

Our study investigates whether the effect of institutional distance on short-term announcement returns differs between cross-border M&As involving targets from emerging and developed markets. Drawing on institutional theory and prior literature on cross-border M&As and market differences, we develop three hypotheses.

First, we investigate how short-term abnormal returns differ between acquisitions conducted by Nordic acquirers in emerging and developed markets. Prior literature suggests that acquisitions in emerging markets generate higher announcement returns for developed-market acquirers, driven by growth opportunities and the potential to exploit market inefficiencies. Chari et al. (2010) find that developed-market acquirers experience positive abnormal returns when acquiring targets in emerging markets, a pattern not observed in acquisitions of developed-market targets. Similarly, Kiymaz (2004) and Sharma and Raat (2016) report higher positive announcement effects when developed-market firms acquire emerging-market targets compared to developed-market targets. Since Nordic acquirers belong to developed markets, we expect a similar pattern to hold in our setting. Accordingly, we propose the following hypothesis:

*H1*: Short-term announcement returns to Nordic acquirers are higher in cross-border acquisitions conducted in emerging markets compared to those in developed markets.

For our main hypotheses, we test whether the effect of institutional distance on announcement returns differs across the two market contexts. While emerging markets are generally characterized by weaker institutional environments, we do not test the level itself, but rather whether investors react differently to institutional distance in the two market contexts. Institutional distance has predominantly been examined in developed-market contexts, where it is typically found to have a negative impact on cross-border M&A performance (Li et al., 2020). As suggested by Li et al. (2020), institutions should not be regarded as a homogeneous concept; we therefore separate them into formal and informal institutions.

Despite the commonly documented negative effects of formal institutional distance in cross-border M&As, prior literature suggests that the effect may differ depending on market

context. Hoskisson et al. (2000) argue that government influence is stronger in emerging markets. Both Chari et al. (2010) and Barbopoulos et al. (2014) support the idea that formal institutional distance between a developed-market acquirer and an emerging-market target can positively affect acquirer returns through institutional arbitrage and favorable resource allocation opportunities. For emerging-market targets, a larger distance in formal institutions may therefore allow the developed-market acquirer to generate value by transferring superior governance practices and legal frameworks to target firms. In contrast, and consistent with the negative effect of institutional distance commonly documented in developed-market acquisitions, institutional differences in this context appear to function more as coordination and compliance frictions than as sources of value creation (Li et al., 2020). Building on this reasoning, we propose the following hypothesis:

*H2: Formal institutional distance has a more positive association with announcement returns to Nordic firms acquiring in emerging markets than in developed markets.*

Lastly, we examine how informal institutional distance, commonly proxied by cultural distance, affects short-term announcements returns differently in emerging and developed markets. Prior literature provides mixed evidence, although findings are predominantly negative. Studies in developed-market context document a negative relationship, often explained by integration difficulties and administrative costs (Datta & Puia, 1995). In contrast, evidence from emerging-market contexts suggests that cultural differences increases the likelihood that firms choose to enter emerging markets through acquisitions, suggesting that cultural differences in emerging-market contexts may not necessarily be perceived as barriers (Depperu et al., 2024). Building on this, we suggest the following hypothesis:

*H3: Informal institutional distance has a more positive association with announcement returns to Nordic firms acquiring in emerging markets than in developed markets.*

### **3. Methodology**

This section outlines the methodological approach employed in the study. It begins by describing the event study framework, followed by the construction of variables and the regression specifications, and concludes with a discussion of methodological limitations and robustness checks.

### 3.1 Event Study

To examine the market reaction to acquisition announcements, this study applies the event study methodology outlined by MacKinlay (1997). Event studies are widely used to assess stock price reactions to specific events by estimating abnormal returns around the event date. The methodology rests on the semi-strong form of the efficient market hypothesis, which implies that stock prices rapidly incorporate all publicly available information (Aybar & Ficici, 2009; MacKinlay, 1997). The market reaction is captured through abnormal returns during the event window, calculated relative to a benchmark of expected returns estimated over a preceding estimation window.

#### 3.1.1 Event Window

The main event window examined, which surrounds and includes the event, is restricted to three days (-1, 1). A short event window reduces the risk of contamination from other unrelated events, while capturing the immediate price effect of the announcement. In this study, the day of the event is defined as the day of the announcement. To account for potential information leakage prior to the announcement and delayed market reactions, two extended event windows of seven days (-3, 3) and eleven days (-5, 5) are also examined as robustness checks.

The abnormal return is defined as the difference between the observed return on a given day and the expected return in absence of the event. The abnormal return for firm  $i$  at time  $t$  is calculated as follows:

$$AR_{i,t} = R_{i,t} - E(R_{i,t}) \quad (1)$$

Where  $AR_{i,t}$  denotes the abnormal return,  $R_{i,t}$  is the actual stock return for firm  $i$  on day  $t$ , and  $E(R_{i,t})$  is the expected stock return for firm  $i$  on day  $t$ .

#### 3.1.2 Estimation Window

The estimation window is the period preceding the event, used to estimate the expected return of each stock in the absence of the event, thereby providing a baseline for comparison. In this study, the estimation window is set to 250 trading days, corresponding to approximately one trading year (MacKinlay, 1997). The estimation window should not overlap with the event window to ensure that it remains unaffected by the market's reaction to the announcement. Therefore, the estimation window ends six days prior to the event.

### 3.1.3 Market model

To estimate the expected return in the absence of the event, MacKinlay (1997) outlines two commonly used models: the constant mean return model and the market model. In this study, the market model is employed. The market model is preferred as it filters out market-wide movements, thereby reducing the variance of abnormal returns and increasing the statistical power to detect event effects, relative to the constant mean return model (MacKinlay, 1997). The market model assumes a stable linear relationship between the return of a security and the market return over the estimation window. The market model is defined as:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t} \quad (2)$$

Where  $R_{i,t}$  is the return for firm  $i$  at time  $t$ ,  $\alpha_i$  represents the intercept for firm  $i$ ,  $\beta_i$  captures the sensitivity of the security's return to the market return,  $R_{m,t}$  is the return of the market portfolio at time  $t$ , and  $\varepsilon_{i,t}$  is the residual term. In this study, each acquirer is matched with the market index of its home country, since the acquirers are listed in four different countries. These indices serve as proxies for the respective market portfolios, ensuring that each acquirer is benchmarked against its relevant home market. The four Nordic indices used are OMXSPI for Sweden, OMXCPI for Denmark, OMXHPI for Finland, and OSEAX for Norway. This approach also ensures that only common trading days are included in the analysis, excluding non-trading days such as country-specific public holidays during which markets are closed.

### 3.2 Dependent variable

The dependent variable in this study is the cumulative abnormal return (CAR), which represents the sum of abnormal returns ( $AR_{i,t}$ ) over the event window. CAR is calculated as follows:

$$CAR_i(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_{i,t} \quad (3)$$

Where  $AR_{i,t}$  is the abnormal return for firm  $i$  at time  $t$ , and  $t_1$  and  $t_2$  denote the start and end of the event window.

### 3.3 Independent variables

*Emerging Market (EM)* is measured as a dummy variable based on the MSCI market classification framework, taking the value one if the target country is classified as an emerging market, and zero if it is classified as a developed market (MSCI, n.d.). Developed

markets therefore serve as a reference category, with the coefficient of *EM* capturing the difference in announcement returns between emerging- and developed-market acquisitions. Based on prior literature (Barbopoulos et al., 2014; Chari et al., 2010; Sharma & Raat, 2016), we expect a positive coefficient, indicating higher announcement returns for emerging-market targets relative to developed-market targets.

*Formal Institutional Distance (FID)* is measured using the Worldwide Governance Indicators (*Documentation | Worldwide Governance Indicators*, n.d.). The Worldwide Governance Indicators (WGI) includes six governance dimensions, as discussed in Section 2.6.1, with scores ranging from 0 to 100. Since developed markets serve as the reference category in our regression specification (presented in Section 3.6), the main coefficient of *FID* captures its effect in developed-market acquisitions. While evidence on formal institutional distance in developed-market contexts remains limited, the broader literature on cross-border acquisitions points to a negative relationship between *FID* and announcement returns. Accordingly, we expect a negative coefficient of *FID* in developed-market acquisitions. We calculate the *FID* variable following Li et al. (2020), using the Euclidean version of the Kogut and Singh (1988) index:

$$FID_j = \sqrt{\sum_i^6 \frac{(I_{ij} - I_{ic})^2}{V_i}} \quad (4)$$

Here,  $FID_j$  represents the formal institutional distance between the target's country  $j$  and acquirer's country  $C$ .  $I_{ij}$  represents the score for target country  $j$  in dimension  $i$  of the WGI, while  $I_{ic}$  denotes the score for the acquiring country  $C$  in the same dimension  $i$ .  $V_i$  is the variance of dimension  $i$  across all countries. All scores are taken from the year of the M&A announcement.

*Informal Institutional Distance (IID)* is measured as the cultural distance between the target country and the acquirer's home country using Hofstede's cultural dimensions (Hofstede, n.d.). The framework consists of six dimensions, as discussed in Section 2.6.2, with country scores ranging from 0 to 100 for each dimension. Unlike the WGI, Hofstede's dimensions are not updated annually and instead rely on the most recent available data, last updated in 2015. Since developed markets serve as the reference category in our regression specification (presented in Section 3.6), the main coefficient of *IID* captures its effect in developed-market

acquisitions. Based on prior literature documenting a negative relationship between cultural distance and announcement returns in developed-market acquisitions, we expect a negative coefficient of *IID* (Datta & Puia, 1995). The cultural distance between the target country and the acquirer's home country is calculated using the Euclidean version of the Kogut and Singh (1988) index, consistent with previous studies (Du & Boateng, 2015; Li et al., 2020):

$$IID_j = \sqrt{\sum_i^6 \frac{(I_{ij} - I_{ic})^2}{V_i}} \quad (5)$$

The *IID* formula follows the same structure as *FID*, with  $I_j$  and  $I_c$  now representing the scores of target country  $j$  and acquirer country  $C$  on Hofstede's dimension  $i$ , respectively. Since Hofstede's dimensions are time invariant, the scores are constant across years.

### 3.4 Control variables

*Cash* is included as a control variable to account for performance differences associated with the chosen payment method, following Danbolt & Maciver (2012). Cash-financed deals are generally associated with higher acquirer announcement returns than stock or mixed payment deals (Danbolt & Maciver, 2012). Accordingly, we expect cash-financed deals to be associated with higher announcement returns. The variable is constructed as a dummy variable equal to one if the deal is entirely cash-financed, and zero otherwise.

*RelativeSize* is included to capture the economic significance of the transaction for the acquirer. It is defined as the transaction value divided by the book value of total assets of the acquirer in the fiscal year prior to the acquisition, following Li et al. (2020). Previous literature identifies relative deal size as an important determinant of announcement returns, with several studies documenting a positive relationship (King et al., 2008; Sharma & Raat, 2016). Accordingly, we expect a positive coefficient of *RelativeSize*. To account for the typically right-skewed distribution of relative size and to reduce the influence of extreme observations, the variable is winsorized at the 1st and 99th percentiles and subsequently transformed using the natural logarithm.

*AcquirerSize* is included as a control variable, as prior research suggests that smaller firms experience higher short-term abnormal returns than larger firms (Moeller et al., 2004). Accordingly, we expect *AcquirerSize* to be negatively associated with the dependent variable. *AcquirerSize* is measured as the natural logarithm of the acquirer's book value of total assets in the fiscal year prior to the acquisition (Li et al., 2020).

*ROA* is included to control for the impact of the acquirer's prior performance on market reactions to M&A announcements, following King et al. (2021). Higher-performing firms are typically associated with stronger managerial performance and capabilities and therefore tend to generate higher short-term M&A performance (Li et al., 2020). Therefore, we expect a positive coefficient of ROA. Following King et al. (2021), prior performance is measured using return on assets (ROA), calculated as the acquirer's EBIT divided by its total assets. The values are taken from the fiscal year prior to the announcement. Since ROA can take negative values, a logarithmic transformation is not appropriate. To mitigate the influence of extreme observations, the variable is winsorized at the 1st and 99th percentiles.

*Experience* captures the acquirer's accumulated experience in cross-border M&As and is intended to reflect potential learning effects from prior transactions. Prior experience has been found to serve as a significant explanatory factor of M&A performance in previous literature, although evidence on its directional relationship is mixed (Zollo & Singh, 2004). Studies focusing specially on short-term stock reactions find negative effects of prior experience (Chari et al., 2010; King et al., 2021). Accordingly, we expect *Experience* to have a negative effect on announcement returns. The variable is measured as the number of cross-border M&As conducted by the acquirer within three years prior to the acquisition, following King et al. (2021) and Li et al. (2020). To address skewness and the presence of zero values, the variable is transformed using the natural logarithm of one plus the variable.

*Relatedness* captures whether the acquirer and target operate within the same industry, following Chari et al. (2010), King et al. (2021) and Danbolt & Maciver (2012). Industry relatedness is often associated with higher abnormal returns, as acquisitions within the same industry may facilitate synergies and reduce integration challenges (Renneboog & Vansteenkiste, 2019). Accordingly, we expect industry relatedness to have a positive effect on announcement returns. The variable is constructed as a dummy equal to one if the acquirer and target operate within the same industry, and zero otherwise, based on GICS industry classifications from S&P Capital IQ.

### **3.5 Fixed effects, centering and clustering**

To control for systematic differences across observations, we include year and acquirer-country fixed effects through dummy variables. Furthermore, the formal and informal institutional distance variables (*FID* and *IID*) are mean-centered to improve the interpretability of the main effects in the presence of interaction terms (Aguinis &

Gottfredson, 2010). Finally, standard errors are clustered at the acquirer level to account for the fact that some firms within the sample conduct multiple acquisitions, implying that observations related to the same acquirer may not be independent (Chari et al., 2010).

### 3.6 OLS Regression Model

To test our hypotheses, we employ multivariate OLS regression models. Given that all three hypotheses are directional, we apply one-sided tests. Across all specifications, we include the same set of control variables, denoted by  $\mathbf{X}_i$ , while  $\gamma_t$  and  $\delta_c$  represents year fixed effects and acquirer-country fixed effects, respectively. Standard errors are clustered at the acquirer level. Descriptions of all variables and their expected signs are provided in Appendix A. To test hypothesis 1, we estimate the following regression specification (Model 1) to examine whether Nordic acquirers earn higher announcement returns when acquiring emerging-market targets relative to developed-market targets:

$$CAR_i = \alpha + \beta_1 EM_i + \beta' \mathbf{X}_i + \gamma_t + \delta_c + \varepsilon_i \quad (6)$$

To test hypothesis 2, which examines whether formal institutional distance has a more positive effect on announcement returns in emerging-market acquisitions compared to developed-market acquisitions, we extend Model 1 by including  $FID$  and its interaction with  $EM$ . The coefficient of  $FID$  captures its effect in developed-market acquisitions, while the interaction term  $FID \times EM$  captures how this effect differs in emerging-market acquisitions. The following regression specification (Model 2) is estimated:

$$CAR_i = \alpha + \beta_1 FID_i + \beta_2 EM_i + \beta_3 (FID_i \times EM_i) + \beta' \mathbf{X}_i + \gamma_t + \delta_c + \varepsilon_i \quad (7)$$

Lastly, to test hypothesis 3, we follow the same specification as Model 2, replacing  $FID$  and the interaction term with informal institutional distance ( $IID$ ) and  $IID \times EM$ . The coefficient of  $IID$  captures the effect of informal institutional distance in developed-market acquisitions, while the interaction term  $IID \times EM$  captures the differential effect in emerging-market acquisitions. The following regression specification (Model 3) is estimated:

$$CAR_i = \alpha + \beta_1 IID_i + \beta_2 EM_i + \beta_3 (IID_i \times EM_i) + \beta' \mathbf{X}_i + \gamma_t + \delta_c + \varepsilon_i \quad (8)$$

### **3.7 Limitations of Event study**

While this study follows established methodologies, event studies are subject to some limitations. As discussed by MacKinlay (1997), the choice of event window involves a trade-off. An event window that is too short may fail to capture the full market reaction due to information leakage, while a longer event window increases the likelihood of incorporating noise and reactions to unrelated events, potentially reducing precision. In addition, event studies do not fully control for confounding events occurring within the event window, which may influence estimated abnormal returns. Another limitation relates to the timing of the announcements. The data captures announcement dates rather than exact announcement times. Given that Nordic markets typically operate from approximately 9am to 5:30pm, announcements made after market close are reflected in stock prices on the following trading day. Consequently, the defined event date and event window may not perfectly align with the timing of the market reaction. To mitigate this issue, longer event windows are employed as robustness checks.

### **3.8 Robustness Checks**

To ensure the reliability of our results, we conduct several robustness checks. The main analysis is based on a three-day event window (-1, 1). To assess the sensitivity of this choice, we re-estimate the results using extended windows of seven days (-3, 3) and eleven days (-5, 5), to account for potential information leakage and delayed market reactions. We also assess the robustness of the main results to alternative modelling choices by estimating specifications that exclude control variables, omit fixed effects, and include each set of fixed effects separately. Finally, we estimate a joint specification that includes both interaction terms simultaneously, while retaining controls and fixed effects. This specification is intended to reduce concerns that the estimated effects are driven by the exclusion of the alternative institutional distance measure.

## **4. Data Selection**

This section outlines the data collection process, sample selection criteria, and the final dataset, followed by a discussion of key dataset limitations.

### **4.1 Data Sample**

The sample of cross-border M&As and all control variables used in this study were obtained from S&P Capital IQ, which serves as the primary data source. Daily stock returns for each acquirer and the corresponding market indices were collected from LSEG. Using identical

criteria we constructed two subsamples: one for acquisitions of targets in emerging markets and one for acquisitions of targets in developed markets, as presented in Table 1.

(1) Our original sample was extracted from S&P Capital IQ based on the following screening criteria: announcement date between 1 January 2010 and 31 December 2024; the acquiring firm is located in a Nordic country classified as a developed market; the target firm is located in a country classified as either emerging or developed at any point during the sample period; only cross-border transactions are included; the acquiring firm is publicly listed; the deal involves the acquisition of a majority stake; the transaction is completed; the acquirer is not classified as a financial sector company; and industry classifications are available for both target and acquiring firms (MSCI, n.d.). (2) Since MSCI updates its market classifications annually, we accounted for reclassifications during the sample period by ensuring that all targets were assigned to either emerging or developed markets at the announcement date.

(3) We found that the initial sample from S&P Capital IQ mistakenly included some domestic deals, therefore we excluded those observations. (4) Finally, we excluded deals with missing values on any of our variables. For the dependent variable, we excluded acquirers not listed on a Nordic stock exchange, as well as deals where complete stock price data were not available over the full estimation window. A key restriction in our sample relates to transaction value, which is used to compute *RelativeSize* and accounts for the largest loss of observations. Due to limited availability in S&P Capital IQ, missing values of transaction value were supplemented with information from annual reports where possible.

Table 1: Sample Selection

Selection criteria	Emerging Market		Developed Market	
	Number of observations	Absolute change	Number of observations	Absolute change
(1) Initial sample from S&P Capital IQ	319		2813	
(2) Adjusted for MSCI reclassifications during sample period	305	-14	2813	0
(3) Removed incorrectly classified domestic acquisitions	305	0	2790	-23
(4) Excluded observations with missing values for key variables	131	-174	933	-1857
<b>Final sample</b>	<b>131</b>		<b>933</b>	

Note: The final sample consists of 1064 cross-border acquisitions undertaken by Nordic acquirers between 2010 and 2024, including 131 acquisitions in emerging markets and 933 acquisitions in developed markets.

#### 4.2 Sample description

As shown in Appendix B, the number of deals varies across years, with relatively stable deal activity between 2010 and 2019, followed by a noticeable increase in more recent years and a peak in 2021 and 2022. Most acquisitions are directed toward developed markets, with

emerging-market acquisitions accounting for only 12% of the full sample. As presented in Appendix C, acquisitions in developed markets are most frequently directed toward the United States, the United Kingdom, Germany and other Nordic countries. Notably, intra Nordic acquisitions account for approximately 32% of the developed-market subsample. In contrast, acquisitions in emerging markets are more geographically dispersed, with Poland, Brazil, China and South Africa among the most common targets. The distribution of acquirers is uneven, as illustrated in Appendix D. Swedish acquirers account for the largest share of the sample (688 deals), followed by Finnish, Norwegian, and Danish acquirers. Due to this asymmetry, the findings are likely to reflect the behavior of Swedish acquirers more strongly than that of acquirers from the other Nordic countries.

### **4.3 Limitations of dataset**

Our dataset relies heavily on information extracted from S&P Capital IQ, which contains some missing and incomplete observations. In particular, the transaction value variable was missing for approximately half of the initial sample, resulting in a substantial reduction in the final sample size. While we attempted to supplement missing transaction values with information from annual reports, many deals still lacked complete information. This may introduce a sample selection bias, where our dataset represents the more transparent transactions. Although year fixed effects control for common time shocks, the sample period includes major external events such as the COVID-19 pandemic and the Russian invasion of Ukraine, which caused significant disruptions in financial markets and the real economy worldwide (Federle et al., 2026; Goldstein et al., 2021). These events may have affected markets differently across countries, which could influence the results. Finally, our sample contains substantially more deals conducted in developed markets than in emerging markets. This imbalance may reduce the precision of estimates capturing differences between acquisitions in the two markets, as the smaller emerging-market sample provides less variation for identifying these effects.

## **5. Empirical Results**

In this section we will present the descriptive statistics of our data, along with diagnostic tests and the main empirical findings. We then assess the robustness of our models and conclude with a short summary of the main findings.

## 5.1 Descriptive statistics

Table 2 displays the summary statistics for all independent and control variables in their final constructed form (see Appendix A), presented separately for acquisitions in developed markets (DM) and emerging markets (EM). The results show that formal institutional distance (FID) is higher in emerging-market acquisitions, with a mean value of 3.928 compared to 0.990 in developed-market acquisitions. A similar pattern is observed for informal institutional distance (IID), where the mean value is higher in emerging markets (4.392) than in developed markets (2.748). The differences in means between the two subsamples are statistically significant at the 1% level for both FID and IID, suggesting that Nordic acquirers face greater institutional distance when acquiring targets in emerging markets.

The descriptive statistics further reveal differences across the control variables. Our sample suggests that a larger share of acquisitions in emerging markets is fully cash-financed compared to those in developed markets, with the mean difference in *Cash* being positive and statistically significant at the 1% level. *RelativeSize* is negative in both subsamples, but significantly more negative in emerging-market acquisitions. This suggests that targets tend to be smaller than their acquiring firms, especially in emerging-market acquisitions. Our sample further provides evidence that firms conducting acquisitions in emerging markets are generally larger, as *AcquirerSize* is higher than in the developed-market sample, with the difference being statistically significant at the 1% level. Likewise, *Experience* is higher among firms acquiring emerging-market targets, although the difference is only weakly significant. *ROA* is positive on average in both subsamples, although no statistically significant difference is observed between the subsamples. Similarly, no statistically significant difference is observed for *Relatedness* between the two markets.

Table 2: Descriptive Statistics

	Developed Markets			Emerging Markets			Mean difference
	Mean	Median	Std	Mean	Median	Std	
FID	0.990	0.693	0.719	3.928	3.980	1.328	2.938***
IID	2.748	2.882	0.998	4.392	4.320	0.803	1.644***
Cash	0.811	1.000	0.391	0.901	1.000	0.300	0.089***
RelativeSize	-3.248	-3.191	1.888	-4.227	-4.072	1.930	-0.979***
AcquirerSize	6.428	6.410	1.969	7.248	7.669	2.167	0.820***
ROA	0.082	0.081	0.097	0.078	0.082	0.106	-0.004
Experience	1.075	1.099	0.809	1.216	1.099	0.889	0.141*
Relatedness	0.632	1.000	0.482	0.641	1.000	0.482	0.009

Significance levels based on two-sided p-values at the 10%, 5% and 1% are indicated by \*, \*\*, and \*\*\*, respectively. Note: This table presents descriptive statistics for the final constructed variables. See Appendix A for detailed variable definitions and constructions. The sample consists of 933 observations for developed-market acquisitions and 131 observations for emerging-market acquisitions. Mean differences are tested using Welch's two sample t-test

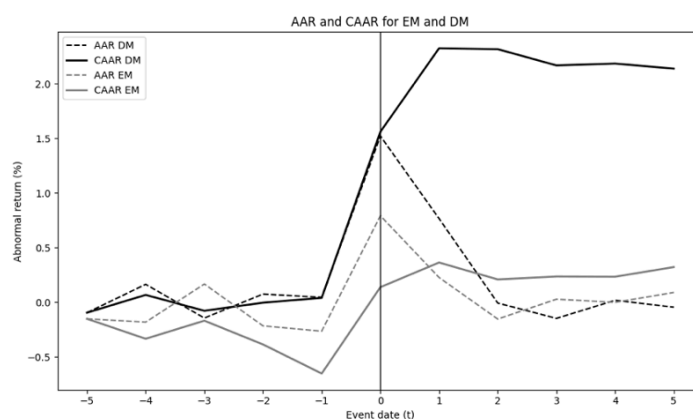
### 5.1.2 Average Abnormal Return Descriptive Statistics

In Appendix E, the average abnormal return (AAR) over an 11-day event window (-5, 5) is presented separately for cross-border M&As conducted in developed and emerging markets. In both markets, we can observe that the market reaction on the day of the announcement is both positive and significant. Notably, the market reaction on the day of the announcement ( $t=0$ ) is more positive in developed markets (1.52%) than in emerging markets (0.79%), and significant at a stronger level. A positive and highly significant market reaction can also be observed for cross-border M&As in developed markets on the day following the announcement ( $t=1$ ), suggesting that part of the market reaction may continue into the trading day following the announcement. The same effect is not found for emerging markets, implying that the market reaction to cross-border M&As in emerging markets is more concentrated to the day of the announcement, although a weakly significant negative reaction is observed on the day before the event ( $t = -1$ ). Interestingly, acquisitions in developed markets show a positive and significant market reaction four days before the announcement ( $t= -4$ ), as well as a weakly significant negative reaction three days before the event ( $t = -3$ ). The positive pre-announcement reaction may indicate information leakage prior to the official announcement, although this finding should be interpreted with caution given its small economic magnitude.

Figure 1 illustrates the market reaction, measured by average abnormal returns (AAR) and cumulative average abnormal returns (CAAR), around the announcement of cross-border

M&As in developed and emerging markets. For both developed- and emerging-market transactions, a sharp increase in AAR is observed on the announcement day ( $t=0$ ), mirrored by a corresponding increase in CAAR. The magnitude of this increase is substantially larger in developed than in emerging markets. Following the announcement, the CAAR curves for both subsamples generally stabilize after  $t=1$ , indicating that most of the market reaction is immediate and short-lived.

Figure 1: Average Abnormal Returns and Cumulative Average Abnormal Returns over the Event Window (-5, 5)



### 5.1.3 Cumulative Abnormal Returns Descriptive Statistics

Table 3 displays cumulative abnormal returns (CARs) for cross-border M&As in developed and emerging markets across three event windows, together with the corresponding Wilcoxon signed-rank test statistics. CARs are consistently higher for acquisitions in developed markets, where the mean CAR exceeds 2% across all event windows, whereas acquisitions in emerging markets generate substantially lower returns. For both subsamples, mean CARs decline modestly across longer event windows, suggesting that the market reaction is primarily concentrated around the announcement day. To assess statistical significance, we employ the non-parametric Wilcoxon signed-rank test to examine whether the median CAR differs significantly from zero, following Chari et al. (2010). As the test does not rely on the assumption of normally distributed returns, it is less sensitive to outliers and non-normality in the data. In the developed-market subsample, median CARs are statistically different from zero at the 1% significance level across all event windows. In contrast, the results for emerging-market acquisitions are weaker. Statistical significance is observed for the shorter event windows, (-1, 1) and (-3, 3), but disappears in the longer event window, (-5, 5). These findings suggest that the market reaction to emerging-market acquisitions is concentrated around the announcement date and becomes less pronounced and noisier over longer event

windows. However, the weaker significance observed in the emerging-market sample may partly reflect the substantially smaller sample size of emerging-market acquisitions.

Table 3: Descriptive Statistics of Cumulative Abnormal Returns (CAR) across Event Windows

Event window	Developed Markets				Emerging Markets			
	Mean	Median	t-value	Wilcoxon	Mean	Median	t-value	Wilcoxon
[-1, 1]	2.33%	1.56%	10.417	0.000***	0.75%	0.67%	1.921	0.013**
[-3, 3]	2.10%	1.33%	7.442	0.000***	0.57%	1.09%	1.177	0.079*
[-5, 5]	2.14%	1.35%	7.115	0.000***	0.32%	0.71%	0.525	0.416

Significance levels based on two-sided p-values at the 10%, 5% and 1% are indicated by \*, \*\*, and \*\*\*, respectively. Note: The table displays CAR for developed- and emerging-market acquisitions across three event windows surrounding the announcement date. The reported t-values are based on one-sample t-tests examining whether mean CAR differs significantly from zero, while the Wilcoxon statistics are based on the Wilcoxon signed-rank test examining whether median CAR differs significantly from zero. The sample consists of 933 observations for developed-market acquisitions and 131 observations for emerging-market acquisitions.

Table 4 presents the results of the parametric two-sample Welch's t-test and the non-parametric Mann-Whitney U test (also known as the Wilcoxon rank-sum test) across all three event windows. The Welch's t-test examines differences in mean CAR between developed and emerging-market acquisitions, while the Mann-Whitney U test assesses differences in the distribution of CAR between the two subsamples, commonly interpreted as a test of median differences. The inclusion of the Mann-Whitney U test ensures robustness to outliers and deviations from normality, as the test does not rely on the assumption of normally distributed returns. The results from Welch's t-test indicate that cumulative abnormal returns are significantly higher for acquisitions in developed markets. Across all event windows, the mean difference ranges from 1.53 to 1.82 percentage points and is statistically significant at the 1% level. The Mann-Whitney U test confirms the same directional pattern, with statistically significant differences in median CAR across all event windows, although at weaker significance levels. Taken together, the consistent direction and significance across both tests suggest that cross-border M&As in developed markets generate higher CARs than acquisitions in emerging markets.

Table 4: CAR Comparison between Developed and Emerging Markets

Event window	Mean diff (DM-EM)	Median diff (DM-EM)	Welch's t-test	Mann-Whitney
[-1, 1]	1.58	0.89	0.001***	0.001***
[-3, 3]	1.53	0.24	0.007***	0.051*
[-5, 5]	1.82	0.64	0.008***	0.025**

Significance levels based on two-sided p-values at the 10%, 5% and 1% are indicated by \*, \*\*, and \*\*\*, respectively. Note: This table reports differences in CAR between developed- and emerging-market acquisitions across three event windows surrounding the announcement date. Welch's t-test is used to examine differences in mean CAR, while the Mann-Whitney U test examines differences in median CAR. Differences are reported in percentage points. The sample consists of 933 observations for developed-market acquisitions and 131 observations for emerging-market acquisitions.

#### **5.1.4 Pearson Correlation matrix**

Appendix F presents the Pearson correlation matrix for the institutional distance proxies and control variables for the full sample. Overall, most correlations are low to moderate in magnitude. A positive correlation is observed between the two main independent variables, *FID* and *IID* (0.637). While the variables are related, they capture different dimensions of institutional distance. This correlation is unlikely to pose substantial multicollinearity concerns, particularly as *FID* and *IID* are estimated in separate regression specifications (Model 2 and Model 3).

The strongest correlation is observed between *FID* and the *EM* dummy (0.763). Although this indicates a relatively strong positive association, it remains below the commonly used thresholds of 0.8 or 0.9 associated with multicollinearity concerns (Farrar & Glauber, 1967). A moderate positive correlation is also observed between *IID* and the *EM* dummy (0.484). Overall, *FID*, *IID* and *EM* exhibit relatively weak correlations with the control variables, while the correlations among the control variables themselves are generally low to moderate. *AcquirerSize* is positively correlated with both *Cash* and *Experience*, suggesting that larger firms in our sample are more likely to use cash financing and to have greater acquisition experience. *RelativeSize* is negatively correlated with *AcquirerSize*, implying that larger acquirers tend to acquire relatively smaller targets. *ROA* is positively correlated with *AcquirerSize*, suggesting that larger firms in the sample tend to exhibit higher profitability. Nevertheless, pairwise correlation alone is insufficient to fully assess multicollinearity, and the relatively high correlation observed between *FID* and *EM* warrants further examination. Therefore, variance inflation factors (VIF) are examined to further assess potential multicollinearity concerns.

### **5.2 Diagnostic Tests**

#### **5.2.1 Multicollinearity**

Multicollinearity arises when two or more explanatory variables are highly correlated, making it difficult to isolate their individual effects on the dependent variable. As a consequence, coefficient estimates may become unstable, standard errors inflated, and the regression results more sensitive to specification choices (Farrar & Glauber, 1967). As the Pearson correlation matrix revealed a relatively high correlation between *EM* and *FID* (0.763), this relationship warrants further examination. To further assess potential multicollinearity concerns, the variance inflation factors (VIF) are computed for all three regression models.

The results presented in Appendix G show that all VIF values remain below the commonly applied threshold of 10 (O'Brien, 2007). In Model 1, both the independent variable and the control variables exhibit VIF values below 2, indicating limited multicollinearity concerns. Overall, the highest VIF value observed is for the interaction term in Model 2 (6.482), followed by moderately elevated values for *EM* and *FID* within the same model. A similar pattern is observed in Model 3, where the interaction term exhibits the highest VIF value (4.254), followed by the *EM* variable (3.948). The remaining variables across all models display VIF values below 2. The elevated VIF values for the interaction terms are expected, as they are inherently correlated with the variables from which they are derived. Taken together, while Pearson correlation analysis indicates a relatively strong pairwise correlation between *FID* and *EM*, VIF results suggest that multicollinearity is unlikely to materially affect the stability or interpretation of the regression estimates.

### **5.2.2 Heteroscedasticity**

OLS regression relies on the assumption of homoscedasticity, meaning that the variance of the error term is constant across all observations (White, 1980). A violation of this assumption results in heteroscedasticity. To examine the presence of heteroscedasticity, a Breusch-Pagan test is employed, with the results reported in Appendix H. Across all model specifications, the p-values are below the 5% significance level, leading to a rejection of the null hypothesis of homoscedasticity. The presence of heteroscedasticity implies that the estimated standard errors may become biased, thereby reducing the reliability of statistical tests and coefficient significance. To address these concerns, standard errors are clustered at the acquirer firm level, providing robustness to both heteroscedasticity and potential within-firm correlation arising from multiple acquisitions undertaken by the same acquirer, following Chari et al. (2010).

### **5.2.3 Linearity, Autocorrelation and Normality of Errors**

The validity of the OLS assumptions was further assessed through a series of untabulated diagnostic tests. Visual inspection of residuals plotted against fitted values revealed no systematic patterns, providing no indication of substantial nonlinearity in the relationship between the dependent and explanatory variables. To evaluate serial correlation, the Durbin-Watson test was conducted, with test statistics close to 2 across the model specifications, indicating no evidence of serial correlation. Q-Q plots and histograms of the residuals revealed some departures from normality, characterized by fat tails and slight left skewness.

However, given the large sample size ( $n=1064$ ), the potential impact of these departures is mitigated, as the Central Limit Theorem implies that the sampling distribution of the coefficients remains approximately normal. Taken together, these diagnostic tests indicate that the regression models do not exhibit any major violations of the underlying OLS assumptions that would undermine the validity of the results.

### 5.3 Regression Analysis

#### 5.3.1 Regression Model 1

The regression results for Model 1 are presented in Table 5. All reported significance levels are based on one-sided tests, consistent with the expected directional sign of each variable. The coefficient for the independent variable *EM* is negative across all event windows, contrary to the hypothesized positive association, although the effect is not statistically significant in any specification.

*RelativeSize* is positive and statistically significant across all three event windows, consistent with expectations, suggesting that relatively larger acquisitions are associated with higher CARs. *AcquirerSize* is negative and statistically significant across all specifications, in line with the expected direction. *ROA* also exhibits the expected directional effect on CAR and remains statistically significant across all event windows. The significance level for *ROA* increases with the length of the event window, being weakly significant in the shorter event window (-1, 1), while reaching the 5% and 1% significance levels in the (-3, 3) and (-5, 5) windows, respectively. Taken together, the results indicate that larger acquirers tend to experience lower announcement returns, while more profitable firms tend to exhibit higher CARs. The remaining control variables, *Cash*, *Experience* and *Relatedness* are not statistically significant in any specification. *Experience* consistently exhibits the negative expected sign, while *Cash* and *Relatedness* only display the expected positive sign in the longer event window (-5, 5). Finally, the adjusted R-squared for the main event window (-1, 1) is 9.7%, indicating that the model explains approximately 9.7% of the variation in CAR. This level of explanatory power is consistent with prior M&A research, given the inherently complex nature of acquisition outcomes (Chari et al., 2010; King et al., 2021; Sharma & Raat, 2016).

Table 5: Regression Results for the Effect of Market Classification on CAR

	Expected Sign	[-1, 1]	[-3, 3]	[-5, 5]
EM	+	-0.0063 (0.0044)	-0.0057 (0.0058)	-0.0083 (0.0069)
Cash	+	-0.0099 (0.0060)	-0.0043 (0.0083)	0.0031 (0.0090)
RelativeSize	+	0.0071*** (0.0013)	0.0073*** (0.0017)	0.0078*** (0.0019)
AcquirerSize	-	-0.0031** (0.0014)	-0.0031** (0.0018)	-0.0030* (0.0019)
ROA	+	0.0521* (0.0322)	0.0836** (0.0450)	0.1078*** (0.0458)
Experience	-	-0.0016 (0.0025)	-0.0038 (0.0030)	-0.0024 (0.0037)
Relatedness	+	-0.0055 (0.0037)	-0.0018 (0.0048)	0.0024 (0.0054)
Year FE		YES	YES	YES
Country FE		YES	YES	YES
Adjusted R <sup>2</sup>		0.097	0.063	0.049

Significance levels based on one-sided  $p$  values at the 10%, 5% and 1% are indicated by \*, \*\*, and \*\*\*, respectively. Note: This table reports OLS regression results for Model 1 across our main window (-1, 1) and two longer event windows, where CAR is used as the dependent variable. The main explanatory variable is the emerging-market dummy (EM), which captures whether the target firm is located in an emerging market or a developed market. The regression further includes the control variables cash payment, relative size, acquirer size, profitability (ROA), acquisition experience, and industry relatedness. All specifications include year fixed effects and acquirer-country fixed effects. Standard errors are clustered at the acquirer level and reported in parentheses. The sample consists of 1064 observations.

### 5.3.2 Regression Model 2

Table 6 reports the regression results examining how the effect of formal institutional distance (FID) on CAR differs between emerging and developed-market acquisitions across three event windows, while controlling for fixed effects and control variables. The coefficient of FID is negative and statistically significant across all event windows, although only weakly significant in the longer event window (-5, 5). These results suggest that greater formal institutional distance in developed-market acquisitions is associated with lower abnormal returns. More specifically, a one-unit increase in FID is associated with an approximately 0.5 percentage points decrease in CAR in the main event window (-1,1). Consistent with Model 1, EM remains negative and statistically insignificant across all specifications. The interaction term  $FID \times EM$  is positive and statistically significant across all three event windows, suggesting that the effect of formal institutional distance is more positive for acquisitions in emerging markets than for acquisitions in developed markets. The coefficient of the interaction term indicates that a one-unit increase in FID is associated with a 0.83 percentage-

point more positive effect on CAR in emerging than in developed-market acquisitions. The estimated effect of *FID* in emerging markets is obtained by combining the coefficient of *FID* with the coefficient of the interaction term, implying a positive estimated effect in emerging markets. However, as the statistical significance of this combined effect is not formally tested, the estimated effect of *FID* in emerging markets should be interpreted with caution. The control variables are broadly consistent with the findings reported in Model 1. *RelativeSize*, *AcquirerSize*, and *ROA* retain their expected signs and remain statistically significant across all event windows, while *Cash*, *Experience* and *Relatedness* remain statistically insignificant throughout the specifications.

Table 6: Regression Results for the Effect of Formal Institutional Distance on CAR

	Expected Sign	[-1, 1]	[-3, 3]	[-5, 5]
FID	-	-0.0050** (0.0030)	-0.0067** (0.0035)	-0.0049* (0.0037)
EM	+	-0.0128 (0.0083)	-0.0104 (0.0123)	-0.0193 (0.0137)
FIDxEM	+	0.0083** (0.0039)	0.0095** (0.0052)	0.0100** (0.0059)
Cash	+	-0.0094 (0.0060)	-0.0037 (0.0082)	0.0036 (0.0089)
RelativeSize	+	0.0074*** (0.0014)	0.0077*** (0.0017)	0.0081*** (0.0019)
AcquirerSize	-	-0.0030** (0.0014)	-0.0030** (0.0018)	-0.0030* (0.0019)
ROA	+	0.0535** (0.0322)	0.0851** (0.0449)	0.1095*** (0.0457)
Experience	-	-0.0011 (0.0025)	-0.0032 (0.0029)	-0.0020 (0.0037)
Relatedness	+	-0.0055 (0.0038)	-0.0018 (0.0048)	0.0022 (0.0054)
Year FE		YES	YES	YES
Country FE		YES	YES	YES
Adjusted R <sup>2</sup>		0.098	0.064	0.049

Significance levels based on one-sided *p*-values at the 10%, 5% and 1% are indicated by \*, \*\*, and \*\*\*. Note: This table reports the OLS regression results for Model 2 across our main event window (-1, 1) and two longer event windows, where CAR are used as the dependent variable. The main explanatory variables are formal institutional distance (*FID*) and the interaction term between *FID* and the emerging-market dummy (*EM*). The regression further includes the control variables cash payment, relative size, acquirer size, profitability (*ROA*), acquisition experience, and industry relatedness. All specifications include year fixed effects and acquirer-country fixed effect. Standard errors are clustered at the acquirer level and reported in parentheses. The sample consists of 1064 observations.

### 5.3.3 Regression Model 3

The regression results for Model 3 are presented in Table 7. The coefficient for *IID* is negative in the shorter event windows but turns positive in the longer event window. However, as the coefficient remains statistically insignificant across all specifications, no statistically supported conclusion can be drawn regarding the effect of informal institutional distance on CAR in developed-market acquisitions. Consistent with Models 1 and 2, the coefficient of *EM* remains negative and statistically insignificant across all event windows. The interaction term *IID*×*EM* is positive across all three windows but likewise remains statistically insignificant throughout. Accordingly, the results provide no evidence that the effect of informal institutional distance differs between emerging and developed-market acquisitions. The control variables *Cash*, *RelativeSize*, *AcquirerSize*, *ROA*, *Experience*, and *Relatedness* exhibit the same signs and significance patterns as reported in Model 1.

Table 7: Regression Results for the Effect of Informal institutional Distance on CAR

	Expected Sign	[-1, 1]	[-3, 3]	[-5, 5]
IID	-	-0.0001 (0.0024)	-0.0021 (0.0027)	0.0005 (0.0031)
EM	+	-0.0071 (0.0075)	-0.0069 (0.0099)	-0.0131 (0.0117)
IIDxEM	+	0.0006 (0.0050)	0.0032 (0.0062)	0.0028 (0.0075)
Cash	+	-0.0099 (0.0060)	-0.0042 (0.0082)	0.0031 (0.0090)
RelativeSize	+	0.0071*** (0.0014)	0.0074*** (0.0017)	0.0078*** (0.0019)
AcquirerSize	-	-0.0030** (0.0014)	-0.0031** (0.0018)	-0.0030* (0.0019)
ROA	+	0.0521* (0.0322)	0.0843** (0.0451)	0.1075*** (0.0459)
Experience	-	-0.0015 (0.0025)	-0.0035 (0.0030)	-0.0024 (0.0037)
Relatedness	+	-0.0055 (0.0037)	-0.0018 (0.0048)	0.0025 (0.0054)
Year FE		YES	YES	YES
Country FE		YES	YES	YES
Adjusted R <sup>2</sup>		0.095	0.062	0.047

Significance levels based on one-sided *p*-values at the 10%, 5% and 1% are indicated by \*, \*\*, and \*\*\*. Note: This table reports the OLS regression results for Model 3 across our main event window (-1, 1) and two longer event windows, where CAR are used as the dependent variable. The main explanatory variables are informal institutional distance (IID) and the interaction term between IID and the emerging-market dummy (EM). The regression further includes the control variables cash payment, relative size, acquirer size, profitability (ROA), acquisition experience, and industry relatedness. All specifications include year fixed effects and acquirer-country fixed effect. Standard errors are clustered at the acquirer level and reported in parentheses. The sample consists of 1064 observations.

#### 5.4 Additional Robustness tests

The regression results for Models 1-3 already provide an initial robustness assessment by examining the results across three event windows, thereby accounting for potential information leakage or delayed market reactions. To further assess the robustness of the findings, Appendix I, Appendix J, and Appendix K present alternative model specifications that progressively include control variables and fixed effects. All reported significance levels are based on one-sided tests. This allows us to examine whether the results are sensitive to changes in model specifications.

In Appendix I, the coefficient signs and significance patterns remain consistent across all specifications relative to Model 1, thereby supporting the robustness of the findings. An untabulated version of the specifications in Appendix I based on two-sided tests reveals that the *EM* coefficient becomes statistically significant when control variables are excluded. This finding is consistent with the results from the Welch t-test and Mann-Whitney U test, suggesting that acquisitions in developed markets generate significantly higher abnormal returns than acquisitions in emerging markets. Interestingly, the significance of the *EM* coefficient disappears once control variables are introduced, indicating that the observed difference in returns is no longer statistically significant after controlling for firm and deal characteristics.

Appendix J suggests that Model 2 remains broadly robust across alternative model specifications, although *FID* becomes statistically insignificant in the baseline specification without control variables and fixed effects. The interaction term  $FID \times EM$  remains consistently positive and statistically significant across all specifications, supporting the hypothesis that the effect of formal institutional distance is more positive in emerging-market acquisitions than in developed-market acquisitions.

Furthermore, Appendix K suggests that Model 3 remains robust across alternative model specifications, with coefficient signs and significance patterns remaining largely consistent across all specifications. The only minor exception is that *IID* becomes slightly positive, while remaining statistically insignificant, in the baseline specification without control variables and fixed effects. Since both *IID* and the interaction term  $IID \times EM$  remain statistically insignificant across all specifications, the absence of a relationship between informal institutional distance and CAR is further reinforced.

Lastly, Appendix L presents a joint specification in which both *FID* and *IID*, together with their respective interaction terms, are included simultaneously in the same regression model. This specification is intended to reduce concerns that the estimated effects are driven by the exclusion of the alternative institutional distance measure. The results further support the robustness of the main findings. In this specification, *FID* remains negative and statistically significant, while the interaction term *FID*×*EM* remains positive and statistically significant. In contrast, both *IID* and the interaction term *IID*×*EM* remain statistically insignificant. Although the coefficients on *IID* and *IID*×*EM* change sign in the joint specification, both effects remain economically small and statistically insignificant. Given the relatively high correlation previously observed between *FID* and *IID*, untabulated VIF tests were conducted for the joint specification. All VIF values remained below the conventional threshold of 10, indicating that multicollinearity is unlikely to materially affect the interpretation or stability of the regression estimates.

## 5.5 Summary of results

Table 8: Hypothesis summary

Hypothesis	Result	Significance Level	Robustness
H1	Not supported	Not significant	Consistently insignificant
H2	Supported	5%	Yes
H3	Not supported	Not significant	Consistently insignificant

## 6. Discussion

This section begins by summarizing the findings in relation to the hypotheses and subsequently discusses the results in relation to prior research.

### 6.1 Findings

Our first hypothesis predicts that short-term announcement returns are higher for cross-border acquisitions in emerging markets than in developed markets. Across all tests, we observe the opposite direction. The univariate tests (Welch’s t-test and the Mann-Whitney U test) show that acquisitions in developed markets exhibit significantly higher mean and median cumulative abnormal returns than emerging-market acquisitions across all event windows. Our main test, the multivariate regression, shows the same negative direction but does not reach statistical significance under any window or additional robustness check. Given that our main specification uses one-sided p-values motivated by prior literature, we further examine untabulated results using two-sided tests. Without control variables, the two-sided test confirms a significantly higher return for developed-market acquisitions, but the significance disappears once controls are included. This implies that market classification is not, in itself, a

meaningful predictor of announcement returns; rather, the variation in returns between acquisitions in emerging and developed markets appears to be better explained by underlying deal and firm characteristics. Taken together, the results do not support hypothesis one. If anything, the descriptive evidence points in the opposite direction, although this pattern does not survive the inclusion of controls.

Hypothesis two explores whether formal institutional distance has a more positive association with announcement returns for acquisitions in emerging markets than in developed markets. Our results show that the effect of formal institutional distance on announcement returns is negative and significant in developed-market acquisitions, while in emerging-market acquisitions this negative effect is limited or even reversed, indicating a more positive reaction to differences in formal institutions when acquiring an emerging-market target. This pattern persists across all robustness tests. Beyond statistical significance, the estimated effects are also economically meaningful. The 0.83 percentage point difference in the effect of formal institutions distance between developed and emerging-market acquisitions is substantial relative to the average announcement returns observed in our sample (2.33% in developed markets and 0.75% in emerging markets). Based on this evidence, hypothesis two is supported.

Lastly, our third hypothesis examines whether informal institutional distance has a more positive association with announcement returns for acquisitions of emerging-market targets than for developed-market targets. Although the results point in the hypothesized direction, the estimated effects remain statistically insignificant across all specifications, and the direction of the effect changes in robustness checks. Taken together, we find no support for hypothesis three.

## **6.2 Comparison with Previous Research**

The findings of this study both align with and diverge from prior research. Regarding return differences across market contexts, our findings contrast with prior literature suggesting that developed-market acquirers earn higher announcement returns from acquisitions in emerging markets than from acquisitions in developed markets (Chari et al., 2010; Kiymaz, 2004; Sharma & Raat, 2016). Notably, only Kiymaz (2004) finds this pattern in a multivariate regression framework. Chari et al. (2010) and Sharma and Raat (2016) both document higher returns for emerging-market targets when comparing average and median cumulative abnormal returns. However, Sharma and Raat (2016) further show that this effect disappears

once control variables are introduced in a multivariate model. Our findings align closely with this latter finding: while descriptive comparisons indicate higher returns for developed-market acquisitions, the difference does not remain significant after the inclusion of control variables. Since Chari et al. (2010) do not test market classification in a multivariate model, it remains unclear whether their findings would persist after controlling for firm- and deal-specific characteristics, or whether the observed differences are better explained by underlying differences in acquisition characteristics across the two markets.

Several factors specific to our setting may help explain why our descriptive evidence diverges from the broader literature. Prior studies predominantly examine acquirers from large, globally experienced economies such as the US, Germany, and the United Kingdom (Kiymaz, 2004; Sharma & Raat, 2016). Given our finding that variation in announcement returns is better explained by underlying firm- and deal-characteristics than market classification, a plausible explanation is that the way Nordic acquirers approach emerging-market acquisitions differs from the approach taken by acquirers examined in prior literature, and that investors price these acquisitions accordingly. Within our sample, Nordic acquirers undertaking emerging-market deals are larger, more experienced, and pursue relatively smaller targets than those acquiring in developed markets, all of which are characteristics associated with lower announcement returns in our regression analysis. This suggests that Nordic acquirers self-select into emerging-market deals in a way that may explain the lower returns observed, rather than market classification driving the results directly. Lastly, it is worth noting that prior studies examining announcement returns across emerging- and developed-market acquisitions primarily analyze acquisitions during the period 1990-2011 (Chari et al., 2010; Kiymaz, 2004; Sharma & Raat, 2016). Since M&A outcomes are sensitive to the period analyzed, differences in sample periods may also partly contribute to the divergence between our findings and previous studies (Moeller and Schlingemann, 2005).

Findings related to our second hypothesis are broadly consistent with prior literature, which predominantly reports a negative relationship between formal institutional distance and acquirer returns. Likewise, our results indicate that formal institutional distance is negatively associated with announcement returns in developed-market acquisitions. Prior literature generally argues that greater formal institutional distance increases transaction costs and the liability of foreignness in cross-border M&A (Li et al., 2020). In developed-market acquisitions, formal institutional distance may primarily represent institutional friction arising

from differences in legal and regulatory systems, while opportunities to exploit institutional arbitrage or transfer superior governance practices are likely to be more limited. Moreover, investors may generally expect relatively similar institutional environments in developed-market acquisitions, implying that larger institutional differences are more likely to be perceived as value-reducing. Consequently, these differences may be interpreted by investors as increasing information asymmetry, integration complexity, and coordination costs, thereby reducing the expected value creation associated with the acquisition.

In contrast, prior literature indicates that formal institutional distance may have different implications in emerging-market acquisitions. Our results show that the effect of formal institutional distance is significantly more positive in acquisitions of emerging-market targets, aligning with prior literature suggesting that greater distances may not necessarily be perceived as a barrier in these transactions. One explanation proposed by Chari et al. (2010) is that acquirers originating from comparatively stronger institutional environments can transfer superior governance practices to targets operating in weaker institutional environments, consistent with the concept of institutional arbitrage. Such institutional upgrading is expected to enhance future cash flows, leading investors to form more favorable expectations (Chari et al., 2010). Barbopoulos et al. (2014) provide complementary evidence, showing that acquisitions in emerging markets characterized by higher corruption and political risk may generate higher returns for foreign acquirers by enabling access to undervalued assets and more favorable resource allocation opportunities. These findings suggest that, in emerging-market acquisitions, formal institutional differences may function less as a source of friction and more as an opportunity for strategic gains.

Taken together, these findings suggest that the effect of formal institutional distance depends on the context in which the acquisitions take place. In developed-market acquisitions, where investors may expect relatively similar institutional environments, institutional distance appears to be perceived primarily as a source of friction and uncertainty. In contrast, institutional differences may be more anticipated in emerging-market acquisitions, where larger distances may create opportunities for institutional arbitrage and future value creation, resulting in more favorable investor expectations.

Regarding hypothesis three, which examines whether informal institutional distance has a more positive association with announcement returns in emerging-market acquisitions than in

developed-market acquisitions, we find no support for this statement. Prior literature provides mixed evidence on the role of cultural distance in cross-border M&As, documenting both value-enhancing and value-destroying effects (Aybar & Ficici, 2009; Chakrabarti et al., 2009; J. Li et al., 2016; W. Li et al., 2020).

Evidence from developed-market settings largely supports the latter view. Datta and Puia (1995), examining developed-market targets, document a negative relationship, attributed to expected administrative and consolidation challenges. In contrast, Depperu et al. (2024) find that greater cultural distance increases the likelihood of entering the market, indicating that informal institutional differences may not necessarily be perceived as barriers in this context. Our results remain statistically insignificant. Therefore, we cannot conclude that markets systematically differentiate the effect of cultural distance between emerging- and developed-market acquisitions at the announcement date. A possible explanation for the lack of significance lies in the nature of informal institutions. Unlike formal institutions, informal institutions are non-mandatory constraints that firms are not required to address immediately following market entry (Li et al., 2020). The effect of cultural differences may therefore be more difficult for investors to assess and quantify at the time of the announcement, particularly given that such effects are more likely to materialize during the post-acquisition integration phase.

## **7. Conclusion**

### **7.1 Concluding Remarks**

The purpose of this study is to examine how institutional distance affects announcement returns differently for Nordic firms when acquiring targets in emerging and developed markets. Drawing on institutional theory and distinguishing between formal and informal institutional distance, this study addresses the following research question:

*For Nordic acquirers, is the impact of institutional distance on announcement returns different between acquisitions in developed and emerging markets?*

Using an event study methodology, we first examine whether acquisitions of emerging-market targets generate higher announcement returns than acquisitions of developed-market targets. We find no support for higher returns in emerging-market acquisitions. Instead, descriptive evidence points in the opposite direction, with higher returns observed for

acquisitions of developed-market targets. However, this difference is not significant once deal and firm characteristics are controlled for, suggesting that market classification itself has limited explanatory power for announcement returns. When examining formal institutional distance, we find a negative association with returns in developed-market acquisitions, while this negative effect is limited or even reversed in emerging-market acquisitions. These findings suggest that investors interpret formal institutional differences differently depending on market context. In acquisitions between two developed-market firms, formal institutional differences appear to be perceived primarily as a source of friction, generating higher integration costs and uncertainty. In emerging-market acquisitions, where greater formal institutional differences are more likely anticipated, such differences tend to be viewed as an opportunity for institutional arbitrage and are therefore penalized less or even rewarded. In contrast, we find no evidence supporting that informal institutional (cultural) distance has a more positive effect on announcement returns in emerging-market acquisitions than in developed-market acquisitions.

This study contributes to existing literature on the effect of institutional distance in cross-border M&As by first examining an underexplored setting with Nordic acquirers and second using market classification as an analytical lens. Previous studies on the effect of formal and informal institutional distance on announcement returns provide mixed findings. These studies typically assess cross-border acquisitions as a homogeneous setting, without distinguishing between market classifications, or examine acquisitions within one market category in isolation. By comparing how the effect of institutional distance differs depending on market classification, we provide a more comprehensive understanding of its effect on returns across different M&A contexts. As cross-border M&A activity in emerging markets has grown substantially over the past decades, acquirers from developed markets increasingly expand beyond their traditional focus on developed-market targets. These findings offer valuable insight for Nordic acquirers in understanding how institutional distance affects returns across market contexts when navigating these increasingly diverse strategic environments.

## **7.2 Validity, reliability and comparability**

Regarding the validity of our study, we first ensure a clear identification of the event by isolating the announcement date, allowing us to capture the market reaction to the acquisition. Market categories have been classified according to the MSCI framework, a widely adopted approach for distinguishing between emerging and developed markets. Formal institutional

distance is measured using the World Governance Indicators (WGI), a proxy commonly applied in previous research (Li et al., 2020), which is updated annually and captures multiple dimensions of governance. Informal institutional distance is measured using Hofstede's cultural dimensions, among the most widely applied frameworks for measuring cultural distance. Although the framework was last updated in 2015, Hofstede (n.d.) notes that national cultures change slowly over time, and its extensive application in the literature supports its continued validity.

Regarding the reliability of our study, data were collected from large and well-established databases, namely LSEG and S&P Capital IQ. During the sample construction process in Capital IQ's screening tool, we identified that some domestic transactions were incorrectly included in the initial sample and were therefore manually excluded. Additionally, some missing transaction values were supplemented using information from annual reports. These manual adjustments introduce a potential risk of human error. Variable construction follows prior literature and is based on transparent and well-documented procedures, thereby improving the possibility of replicating our study.

Comparability is supported by relying on widely applied measures of institutional distance and country classification. However, as no universal measure of formal and informal institutions or market classification exists, comparability with studies applying alternative definitions may be affected. Lastly, since M&A outcomes are sensitive to the period analyzed, comparisons across studies covering different sample periods should be interpreted with caution (Moeller and Schlingemann, 2005).

### **7.3 Limitations**

This study is subject to several limitations that should be acknowledged. First, the study is restricted to acquisitions by publicly listed firms, as the event study methodology requires stock market data to compute cumulative abnormal returns, thereby excluding a large share of M&A activity. Second, as discussed in Section 4.3, a substantial portion of the initial sample was excluded due to missing values, most notably transaction value, which may introduce selection bias. Third, the emerging-market subsample is substantially smaller than the developed-market subsample, which may reduce statistical power and increase sensitivity to outliers. Furthermore, endogeneity concerns cannot be fully ruled out, as firms do not randomly select target countries, and unobservable firm or deal characteristics may simultaneously influence both acquisition location and announcement return. While we

mitigate this concern through the inclusion of firm and deal level control variables, as well as fixed effects, we cannot fully address potential self-selection by acquirers. Finally, methodological limitations inherent to the event study approach are discussed in Section 3.7 and are not further elaborated on here.

#### **7.4 Future research**

Our findings open several directions for future research. First, institutional distance is not static but evolves over time (Li et al., 2020), suggesting that future studies could extend the analysis to examine its effect on long-term performance. Incorporating long-term measures would provide a more comprehensive understanding of how institutional distance affects cross-border M&As. This is particularly relevant given that the effects of informal institutional differences are likely to materialize during the post-acquisition integration phase. Second, future research could examine the effect of individual dimensions of formal and informal institutional distance, identifying which specific formal institutional or cultural factors drive announcement returns. Lastly, future studies could employ alternative measures of formal and informal institutional distance to examine if the results hold across different measurement approaches.

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## AI Appendix

In this study, the language models ChatGPT (version 5.3) and Claude (Opus 4.7) were used to assist with complex coding tasks and the identification of coding errors. The models were also used to support language refinement, including improvements in grammar, clarity and consistency, with the aim of improving overall readability. Importantly, all core ideas, analyses and arguments presented in this thesis are our own. Completed drafts and selected sections were occasionally provided to the models to obtain suggestions for refinement and improvement. However, all suggestions and generated output were critically reviewed and carefully evaluated to ensure that the original meaning and arguments were preserved.

## Appendix

### Appendix A: Variable definition and Expected Signs

<b>Dependent Variable</b>	<b>Definition</b>	
CAR	Cumulative abnormal returns for acquisition <i>i</i> , estimated using the market model over the main event window (-1,1), with wider event windows (-3, 3) and (-5, 5) used for robustness test.	
<b>Independent Variable</b>	<b>Definition</b>	<b>Expected Sign</b>
FID	Formal institutional distance for acquisition <i>i</i> , calculated using the Euclidean version of the Kogut and Singh (1988) index based on the six dimensions of the World Governance Indicators (WGI). Variables are mean-centered.	-
IID	Informal institutional distance for acquisition <i>i</i> , calculated using the Euclidean version of the Kogut and Singh (1988) index based on Hofstede's six cultural dimensions. Variables are mean-centered.	-
EM	Dummy variable taking the value 1 if the target firm in acquisition <i>i</i> is in a country classified as an emerging market according to the MSCI Market Classification Framework, and 0 if classified as a developed market.	+
<b>Control Variable</b>	<b>Definition</b>	<b>Expected Sign</b>
Cash	Dummy variable equal to 1 if the acquisition was fully cash-financed, and 0 for stock or mixed payment	+
RelativeSize	The natural logarithm of the ratio between the transaction value of acquisition <i>i</i> and the total assets of the acquiring company from the fiscal year prior to the announcement.	+
AcquirerSize	The natural logarithm of the acquiring company's total assets at the end of the fiscal year prior to the announcement of acquisition <i>i</i> .	-
ROA	The ratio of the acquiring company's EBIT to its total assets from the fiscal year prior to the announcement of acquisition <i>i</i> .	+
Experience	The natural logarithm of the number of cross-border M&A conducted by the acquiring company within three years prior to acquisition <i>i</i> , calculated as $\log(1+x)$ to account for zero values.	-
Relatedness	Dummy variable equal to 1 if the acquiring firm and the target firm in acquisition <i>i</i> operate within the same industry, and 0 otherwise, based on GICS classifications from S&P Capital IQ.	+

**Appendix B: Distribution of Acquisitions Across Announcement Years**

Announcement Year	Pooled	DM	EM
2010	59	40	19
2011	53	40	13
2012	57	47	10
2013	47	43	4
2014	44	41	3
2015	66	57	9
2016	75	63	12
2017	64	54	10
2018	57	53	4
2019	67	58	9
2020	83	73	10
2021	127	117	10
2022	113	105	8
2023	73	69	4
2024	79	73	6

*Note: This table presents the distribution of acquisitions across announcement years for the full sample of 1064 observations, as well as separately for developed-market (DM) and emerging-market (EM) acquisitions.*

**Appendix C: Distribution of Acquisitions Across Target Countries**

Top 10 Target Countries - DM		Top 10 Target Countries - EM	
United States	176	Poland	26
United Kingdom	122	Brazil	16
Germany	88	China	11
Denmark	82	South Africa	10
Norway	75	Turkey	9
Sweden	69	Czech Republic	9
Finland	69	India	7
Netherlands	57	Hungary	7
France	35	South Korea	7
Canada	30	Russia	6

*Note: This table presents the ten most frequent targets countries for developed-market (DM) and emerging-market (EM) acquisitions in the sample.*

**Appendix D: Distribution of Acquisitions Across Acquirer Countries**

Acquirer Country	Pooled	DM	EM
Sweden	688	605	83
Finland	138	122	16
Norway	126	108	18
Denmark	112	98	14

*Note: This table presents the distribution of acquisitions across Nordic acquirer countries for the full sample of 1064 observations, as well as separately for developed-market (DM) and emerging-market (EM) acquisitions.*

### Appendix E: Average Abnormal Returns (AAR) Around the Announcement Date

Day	Developed Markets				Emerging Markets			
	AAR	t-value	p-value	Significance	AAR	t-value	p-value	Significance
-5	-0.10%	-1.246	0.213		-0.15%	-1.118	0.266	
-4	0.16%	2.077	0.038	**	-0.18%	-1.007	0.316	
-3	-0.15%	-1.960	0.050	*	0.17%	1.032	0.304	
-2	0.07%	0.929	0.353		-0.22%	-0.945	0.346	
-1	0.04%	0.404	0.686		-0.27%	-1.784	0.077	*
0	1.52%	10.245	0.000	***	0.79%	2.293	0.023	**
1	0.76%	6.204	0.000	***	0.23%	0.907	0.366	
2	-0.01%	-0.093	0.926		-0.15%	-0.798	0.426	
3	-0.15%	-1.867	0.062	*	0.03%	0.157	0.875	
4	0.02%	0.205	0.838		-0.00%	-0.013	0.990	
5	-0.05%	-0.550	0.583		0.09%	0.508	0.613	

Significance levels at the 10%, 5% and 1% are indicated by \*, \*\*, and \*\*\*, respectively. Note: The table reports average abnormal returns (AAR) for developed-market and emerging-market acquisitions across the event window surrounding the announcement day, where day 0 represents the announcement day. The sample consists of 933 observations for developed markets and 131 observations for emerging markets.

### Appendix F: Pearson Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) FID	1.000								
(2) IID	0.637***	1.000							
(3) EM	0.763***	0.484***	1.000						
(4) Cash	0.059*	0.064**	0.077**	1.000					
(5) RelativeSize	-0.078**	-0.030	-0.168***	-0.353***	1.000				
(6) AcquirerSize	0.128***	0.068**	0.134***	0.359***	-0.505***	1.000			
(7) ROA	0.012	0.045	-0.012	0.242***	-0.095***	0.276***	1.000		
(8) Experience	0.078**	0.135***	0.056*	0.124***	-0.245***	0.379***	0.151***	1.000	
(9) Relatedness	0.037	-0.009	0.006	0.014	0.030	0.021	0.003	0.028	1.000

Significance levels at the 10%, 5% and 1% are indicated by \*, \*\*, and \*\*\*, respectively. Note: The table reports Pearson correlation coefficients for the final constructed variables used in the regression analysis based on the full sample of 1064 observations.

### Appendix G: Variance Inflation Factor (VIF) test for Multicollinearity

Variable	VIF Model 1	VIF Model 2	VIF Model 3
FID		3.639	
IID			1.472
EM	1.035	4.401	3.948
FIDxEM		6.482	
IIDxEM			4.254
Cash	1.243	1.244	1.246
RelativeSize	1.448	1.478	1.460
AcquirerSize	1.628	1.635	1.635
ROA	1.127	1.130	1.129
Experience	1.179	1.186	1.207
Relatedness	1.004	1.007	1.007

Note: The table reports VIF values for all variables included in the regression models used to test hypotheses 1-3. All VIF values remain below the commonly applied threshold of 10.

## Appendix H: Breusch-Pagan Test for Heteroscedasticity

	<i>Breusch-Pagan Statistic</i>	<i>p-value</i>
Model 1	48.7460	0.0020***
Model 2	48.8208	0.0043***
Model 3	49.4817	0.0036***

*Significance levels at the 10%, 5% and 1% are indicated by \*, \*\*, and \*\*\*, respectively. Note: The table reports the Breusch-Pagan test statistics for the regression models used to test hypotheses 1-3 using the (-1, 1) event window. Significant p-values indicate the presence of heteroscedasticity.*

## Appendix I: Robustness Analysis for Model 1 Using Alternative Model Specifications

	(1)	(2)	(3)	(4)	(5)
EM	-0.0158 (0.0046)	-0.0048 (0.0044)	-0.0065 (0.0044)	-0.0046 (0.0044)	-0.0063 (0.0044)
Cash		-0.0107 (0.0061)	-0.0099 (0.0061)	-0.0109 (0.0060)	-0.0099 (0.0060)
RelativeSize		0.0076*** (0.0013)	0.0071*** (0.0013)	0.0076*** (0.0013)	0.0071*** (0.0013)
AcquirerSize		-0.0029** (0.0013)	-0.0032*** (0.0013)	-0.0026** (0.0013)	-0.0031** (0.0014)
ROA		0.0426* (0.0319)	0.0486* (0.0321)	0.0466* (0.0323)	0.0521* (0.0322)
Experience		-0.0004 (0.0024)	-0.0010 (0.0023)	-0.0012 (0.0025)	-0.0016 (0.0025)
Relatedness		-0.0062 (0.0038)	-0.0056 (0.0037)	-0.0061 (0.0038)	-0.0055 (0.0037)
Control variables	NO	YES	YES	YES	YES
Year FE	NO	NO	YES	NO	YES
Country FE	NO	NO	NO	YES	YES
Adjusted R <sup>2</sup>	0.005	0.089	0.099	0.088	0.097

*Significance levels based on one-sided p-values at the 10%, 5% and 1% are indicated by \*, \*\*, and \*\*\*, respectively. Note: This table reports robustness regressions for Model 1 using the main event window (-1, 1), where CAR is used as the dependent variable. The main explanatory variable is the emerging-market dummy (EM). Column (1) reports a baseline specification including only the EM dummy, while columns (2)-(5) progressively introduce control variables, year fixed effects, and acquirer-country fixed effects. The control variables include cash payment, relative size, acquirer size, profitability (ROA), acquisition experience, and industry relatedness. Standard errors clustered at the acquirer level are reported in parentheses. The sample consists of the full sample of 1064 observations, including 933 developed-market and 131 emerging-market acquisitions.*

### Appendix J: Robustness Analysis for Model 2 Using Alternative Model Specifications

	(1)	(2)	(3)	(4)	(5)
FID	-0.0036 (0.0033)	-0.0057** (0.0030)	-0.0054** (0.0030)	-0.0052** (0.0030)	-0.0050** (0.0030)
EM	-0.0203 (0.0085)	-0.0106 (0.0088)	-0.0123 (0.0083)	-0.0113 (0.0090)	-0.0128 (0.0083)
FIDxEM	0.0059* (0.0042)	0.0088** (0.0040)	0.0085** (0.0039)	0.0086** (0.0041)	0.0083** (0.0039)
Cash		-0.0104 (0.0061)	-0.0093 (0.0061)	-0.0107 (0.0060)	-0.0094 (0.0060)
RelativeSize		0.0079*** (0.0013)	0.0074*** (0.0014)	0.0079*** (0.0013)	0.0074*** (0.0014)
AcquirerSize		-0.0028** (0.0013)	-0.0031*** (0.0013)	-0.0025** (0.0013)	-0.0030** (0.0014)
ROA		0.0448* (0.0317)	0.0510* (0.0318)	0.0478* (0.0323)	0.0535** (0.0322)
Experience		0.0000 (0.0023)	-0.0007 (0.0023)	-0.0008 (0.0025)	-0.0011 (0.0025)
Relatedness		-0.0062 (0.0038)	-0.0056 (0.0038)	-0.0062 (0.0038)	-0.0055 (0.0038)
Control variables	NO	YES	YES	YES	YES
Year FE	NO	NO	YES	NO	YES
Country FE	NO	NO	NO	YES	YES
Adjusted R <sup>2</sup>	0.005	0.091	0.100	0.090	0.098

Significance levels based on one-sided p-values at the 10%, 5% and 1% are indicated by \*, \*\* and \*\*\*, respectively.

Note: This table reports robustness regressions for Model 2 using the main event window (-1, 1), where CAR is used as the dependent variable. The main explanatory variables are formal institutional distance (FID) and its interaction with the emerging-market dummy (EM). Column (1) reports a baseline specification including only the main explanatory variables, while columns (2)-(5) progressively introduce control variables, year fixed effects, and acquirer-country fixed effects. The control variables include cash payment, relative size, acquirer size, profitability (ROA), acquisition experience, and industry relatedness. Standard errors clustered at the acquirer level are reported in parentheses. The sample consists of 1064 observations, including 933 developed-market and 131 emerging-market acquisitions.

### Appendix K: Robustness Analysis for Model 3 Using Alternative Model Specifications

	(1)	(2)	(3)	(4)	(5)
IID	0.0002 (0.0025)	-0.0006 (0.0023)	-0.0002 (0.0023)	-0.0006 (0.0024)	-0.0001 (0.0024)
EM	-0.0223 (0.0071)	-0.0062 (0.0077)	-0.0072 (0.0075)	-0.0056 (0.0078)	-0.0071 (0.0075)
IIDxEM	0.0043 (0.0050)	0.0017 (0.0052)	0.0007 (0.0050)	0.0014 (0.0052)	0.0006 (0.0050)
Cash		-0.0106 (0.0061)	-0.0098 (0.0061)	-0.0109 (0.0060)	-0.0099 (0.0060)
RelativeSize		0.0076*** (0.0013)	0.0071*** (0.0014)	0.0077*** (0.0013)	0.0071*** (0.0014)
AcquirerSize		-0.0029** (0.0013)	-0.0032*** (0.0013)	-0.0026** (0.0013)	-0.0030** (0.0014)
ROA		0.0428* (0.0319)	0.0487* (0.0321)	0.0468* (0.0323)	0.0521* (0.0322)
Experience		-0.0002 (0.0023)	-0.0010 (0.0023)	-0.0011 (0.0025)	-0.0015 (0.0025)
Relatedness		-0.0062 (0.0038)	-0.0056 (0.0037)	-0.0061 (0.0038)	-0.0055 (0.0037)
Control variables	NO	YES	YES	YES	YES
Year FE	NO	NO	YES	NO	YES
Country FE	NO	NO	NO	YES	YES
Adjusted R <sup>2</sup>	0.004	0.087	0.097	0.087	0.095

Significance levels based on one-sided p-values at the 10%, 5% and 1% are indicated by \*, \*\* and \*\*\*, respectively.

Note: This table reports robustness regressions for Model 3 using the main event window (-1, 1), where CAR is used as the dependent variable. The main explanatory variables are informal institutional distance (IID) and its interaction with the emerging-market dummy (EM). Column (1) reports a baseline specification including only the main explanatory variables, while columns (2)-(5) progressively introduce control variables, year fixed effects, and acquirer-country fixed effects. The control variables include cash payment, relative size, acquirer size, profitability (ROA), acquisition experience, and industry relatedness. Standard errors clustered at the acquirer level are reported in parentheses. The sample consists of 1064 observations, including 933 developed-market and 131 emerging-market acquisitions.

### Appendix L: Robustness Analysis Including FID and IID Simultaneously

	[-1, 1]
FID	-0.0077** (0.0037)
IID	0.0032 (0.0029)
EM	-0.0134 (0.0100)
FIDxEM	0.0108*** (0.0045)
IIDxEM	-0.0022 (0.0053)
Cash	-0.0094 (0.0060)
RelativeSize	0.0074*** (0.0014)
AcquirerSize	-0.0030** (0.0014)
ROA	0.0526* (0.0321)
Experience	-0.0013 (0.0025)
Relatedness	-0.0054 (0.0037)
Year FE	YES
Country FE	YES
Adjusted R <sup>2</sup>	0.098

*Significance levels based on one-sided p values at the 10%, 5% and 1% are indicated by \*, \*\*, and \*\*\*, respectively. Note: This table reports a robustness regressions using the main event window (-1, 1), where CAR is used as the dependent variable. The main explanatory variables are formal institutional distance (FID), informal institutional distance (IID), and the interaction terms FID×EM and IID×EM, where EM denotes the emerging-market dummy. The regression further includes the control variables cash payment, relative size, acquirer size, profitability (ROA), acquisition experience, and industry relatedness. All specifications include year fixed effects and acquirer-country fixed effects. Standard errors clustered at the acquirer level are reported in parentheses. The sample consists of 1064 observations, including 933 developed-market and 131 emerging-market acquisitions.*