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The value of economic freedom in cross-border mergers

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ABSTRACT

This study examines the impact of economic freedom in mergers and acquisitions (M&A) using a global sample of 6159 takeovers involving acquirers from 56 different countries and foreign targets from 130 countries. The results reveal that acquirers with an economic freedom advantage over their targets experience higher short-run and long-run abnormal returns after controlling for other important country and merger characteristics. At the same time, the level of economic freedom in the target country relative to the bidder country positively impacts target shareholders' announcement wealth effects and merger premiums. The results are robust to various control variables, industry, year and country fixed effects, modifications to the target sample, and changes to the merger announcement window. These findings add to the institutional theory and suggest that differences in institutional quality, captured as economic freedom advantage, benefit bidders and targets in cross-border M&A.

1. Introduction

Cross-border merger and acquisition (M&A) activities doubled from \$685 billion in 2010 to \$1.38 trillion in 2015 (Deloitte M&A Institute, 2017) and continue to comprise almost 40% of global deal volume (Bloomberg Law Analysis, 2021). Highly publicized examples include Japanese Takeda Pharmaceuticals' \$62 billion acquisition of the Irish pharmaceutical company Shire as well as German-based Bayer AG's ill-fated 2018 purchase of U.S.-based Monsanto for \$63 billion. While cross-border M&As comprise a significant portion of the global foreign direct investment (FDI) flows, the keys to value creation in cross-border M&As are largely missing in the literature thus far, with acquirers of foreign targets showing lackluster performance in both the short and long-run (e.g., see Bruner, 2004; Conn, Cosh, Guest, & Hughes, 2005; and Black, Carnes, Jandik, & Henderson, 2007). While cross-border deals may not, on average, lead to impressive gains, mergers in certain countries may be more conducive to value creation. For example, based on the internalization theory of FDI, by extending the boundaries of the firm across borders into countries where contracting is more difficult, acquirers can create value by overcoming the problems of incomplete contracting (Coase, 1937; Klein, Crawford, & Alchian, 1978; Williamson, 1979; Grossman & Hart, 1986; Morck & Yeung, 1991; and Chari, Ouimet, & Tesar, 2010). Focusing on the institutional theory (North, 1990), we show how a country's level of economic freedom (EF) – as a broad measure of the institutional environment – impacts the wealth effects of both bidders and targets in cross-border mergers. A country's level of EF could be a critical factor in value creation potential, especially considering that more FDI flows into countries with higher levels of EF (Bengoa & Sanchez-Robles, 2003).

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The value of targets in low economic freedom countries may suffer from the extraction of private benefits and other inefficiencies created by their constrained economic environment. The acquisition by an acquirer with stronger economic freedom creates value by eliminating the inefficiencies and instilling better institutional practices. Furthermore, the economic freedom distance, or the difference/similarity between the economic freedom of the acquirer and target firms, can provide unique opportunities for acquirers as well as influence the ease or difficulty of a successful post-merger integration. To better understand how a country's institutional environment impacts shareholder wealth in M&A, we examine whether the opportunities for value creation through cross-border mergers depend on the relative level of EF in the acquirer and target countries.

Economic freedom includes the freedom to choose how to spend your income, use your resources according to your own values, and own property (Friedman & Friedman, 1990). How would EF affect the gains in mergers? The answer is not as obvious as it might seem. On the one hand, there are fewer frictions and market imperfections in acquisitions of targets from countries with strong EF, which is associated with more efficient markets and stronger economic growth (e.g., see Gwartney, Lawson, & Holcombe, 1999; De Haan & Sturm, 2000; and others). Thus, acquirers with strong EF may be better able to create synergies with targets from countries that also have strong EF. In line with this reasoning, Wang, Hong, Kafouros, and Wright (2012) examine cross-border venture capital (VC) performance and find that the EF of a country is positively associated with a VC's successful exit and negatively associated with the investment duration. At the same time, however, targets in countries with weak EF may provide unique opportunities for acquirers who can take advantage of untapped value creation potential. This logic is in line with Kelley and Woidtke (2006), who argue that domestic firms in countries with weak investor protection may make poor investment decisions due to the high costs of capital and agency problems associated with these types of regimes. Thus, acquirers with strong EF may have a comparative advantage in these countries. While previous literature has examined the influence of bidder and target country characteristics on M&A outcomes, research thus far has not clearly documented the impact of economic freedom distance on wealth creation in cross-border M&A.

The advantages of EF in promoting economic growth and prosperity within a country are clearly noted in the literature (e.g., Carlsson & Lundström, 2002; Dawson, 1998; De Haan & Sturm, 2000; Gwartney et al., 1999; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998).¹ However, the evidence on the role of EF in cross-border M&As has been limited to narrow contexts, within one, or one type of, bidder country, and has provided mixed results. For example, target countries' level of EF negatively impacts the announcement returns of emerging-market bidders (Aybar & Ficici, 2009), while it has a positive impact on announcement returns for Indian companies (Gubbi, Aulakh, Ray, Sarkar, & Chittoor, 2010). Thus, the impact of EF in cross-border mergers is still an understudied area, yet vitally important for firms, investors, and regulators.

Our study examines the role of EF, as a measure of institutional quality, of the acquirer and target countries in cross-border wealth creation, using a diverse country sample. Specifically, we examine whether acquirers with high EF have better opportunities to create synergies. Further, we explore whether acquirers can benefit from acquiring targets in low EF countries, where contracting in the external markets is difficult, and untapped value creation exists. In addition to the bidder analysis, we also investigate how the local level of EF, as well as the bidder country's level, are connected to target shareholders' wealth gains. The difference or similarity in economic freedom between the bidder and target may impact merger outcomes, so we analyze the economic freedom distance between bidder and target countries as well. Lastly, we focus on the impact of EF on the merger premium.

To assess the impact of EF in M&As, we examine 6159 takeovers involving acquirers from 56 countries and foreign targets from 130 countries. Our findings show that acquirers from high EF countries experience higher abnormal returns around the merger announcement as well as over the long-term (36 months after the merger announcement), especially if they possess an EF advantage over their targets. Further, we find that targets observe greater wealth gains and merger premiums when their country has high EF in general, especially if the target country's EF is greater than the acquirer country's EF. These results remain robust when controlling for important merger and country characteristics and also after excluding active target countries from the sample.

Our findings contribute to the institutional theory literature by highlighting a previously unrecognized key to value creation in cross-border mergers. While prior M&A studies have identified the importance of certain country characteristics, such as legal environment and investor rights for acquirers from a particular country, our study uses a more comprehensive measure, EF, for both targets and bidders worldwide. Our comprehensive country sample, therefore, allows us to step outside the limited study interpretation that applies to only a select bidder or target country. While prior work has provided evidence that similarities between bidders and targets lead to higher M&A gains, our study documents how differences in the institutional environments of bidders and targets can lead to more successful merger outcomes.

This study is of particular importance to firm managers, M&A professionals, investors, and policymakers. Specifically, our analysis may assist firm managers and M&A professionals in determining the value benefit of the target firm with respect to the target country's level of economic freedom. At the same time, both bidder and target firm shareholders can determine the existence of merger benefits based on the bidder's and target's respective levels of economic freedom. Lastly, our results may inform policymakers how their country's degree of economic freedom attracts investments from other nations, resulting in possible policy adjustments to optimize the target levels of foreign investment.

The remainder of this paper has the following structure: in Section 2 we provide a brief background on economic freedom and hypotheses development; in Section 3 we describe the data and methodology used in this study; in Section 4 we discuss the results; and

¹ For example, Miller and Kim (2015) use the Heritage Economic Freedom Index to show that higher levels of economic freedom foster environments in which entrepreneurship thrives, GDP per capita increases, real living standards improve, education levels advance, and innovation and social progress excel. Loris (2015) adds that freer countries score higher in environmental performance as measured by the Yale Center for Environmental Law and Policy's Environmental Performance Index (EPI). See Berggren (2003) for a survey overview of the literature.

in Section 5 we conclude.

2. Background and hypotheses development

The stated purpose of M&As is to increase the value of the acquiring firm. Like any positive net present value project, mergers create value if the combined firm increases revenues, reduces costs, or both. In this section, we provide some insights pertaining to the value creation of cross-border mergers. Next follows an overview of economic freedom and its component measures. Finally, we present our hypotheses development section.

2.1. Expected value creation in cross-border M&A

While we do not attempt to identify the exact source of the synergy based on the deal's market perception, we can highlight the possible types of synergies that may result from cross-border deals. Demonstrating possible value creation processes in M&A transactions, we briefly review the theories of corporate multinationalism, diversification discount, internalization, and capital markets.

Kogut (1983) views foreign direct investment (FDI) as real options where foreign investments develop a global network for possible subsequent incremental investments. If these options are valuable and can only be executed by the acquiring firm, its market value should increase according to the theory of corporate multinationalism (Doukas & Travlos, 1988). Empirical evidence is mixed. Some research shows that bidder announcement returns are inversely related to global and industrial diversification (Denis, Denis, & Yost, 2002; Moeller & Schlingemann, 2005). Other studies provide support for the corporate multinationalism hypothesis as positive abnormal announcement returns are related to entering a new target country; these positive returns are most pronounced when the firm simultaneously enters a new industry (Doukas & Travlos, 1988; Eun, Kolodny, & Scheraga, 1996).

Bodnar, Tang, and Weintrop (1997) find firm values are positively related to geographic diversification and negatively related to industry diversification. Geographic diversification is most beneficial to firms with substantial information-based assets (Morck & Yeung, 1998) and when the MNC enters a less developed target country (Doukas & Travlos, 1988). Khanna and Palepu (2000) and Fauver, Houston, and Naranjo (2003) further support diversification benefits in less developed and segmented markets, where access to external capital might exceed the cost of diversification itself. On the other hand, well developed and integrated capital markets are associated with diversification discounts (Fauver et al., 2003; Lins & Servaes, 1999). These diversification discounts are most pronounced in countries with English origin legal systems (Fauver et al., 2003). Cost of diversification may stem from coordination problems (Rajan, Servaes, & Zingales, 1998) and agency problems due to hubris (Roll, 1986), managers' personal pursuits unrelated to shareholder wealth maximization (Morck, Shleifer, & Vishny, 1990), or inefficient subsidization of weaker divisions (Scharfstein & Stein, 2000).

Well-managed MNCs that maximize shareholder wealth rather than overinvest, as measured by high Tobin's q ratio, provide superior bidder announcement returns (Doukas, 1995; Jensen, 1986). For firms with low Tobin's q ratios, bidder returns are negatively related to free cash flows (Doukas, 1995). Morck and Yeung (1991) use Tobin's q as a measure of market value and find it positively related to MNC's level of intangible assets such as R&D or advertisement, while global diversification itself was not value-enhancing. This supports the internalization hypothesis where MNCs use internal markets to retain control over their competitive advantages; however, they find that global diversification is only valued when the MNC invests significantly in intangible assets such as R&D and advertisement (Buckley & Casson, 1976; Rugman, 1981). Long-run operating performance of MNCs shows that internalization benefits are positively related to the degree of cultural distance between bidder and target countries (Steigner & Sutton, 2011).

According to the capital market theory, investors can diversify their portfolio investments themselves when capital markets are perfect and integrated and do not depend on MNC to diversify via plant and equipment investments (Hughes, Logue, & Sweeney, 1975). Therefore, in perfect capital and factor markets, the abnormal return to targets should be the same for domestic and international mergers (Harris & Ravenscraft, 1991), and bidders should not experience positive abnormal announcement returns (Doukas & Travlos, 1988). Empirical studies show that markets are not perfect, and the jury is still out on whether cross-border M&As are value-enhancing or value-destroying events. On the one hand, Moeller and Schlingemann (2005) find that US bidders earn significantly lower announcement returns in cross-border mergers compared to domestic mergers, while Kang (1993) shows that cross-border mergers can create value superior to domestic mergers. Goergen and Renneboog (2004) find sizable positive target firm returns and small positive bidder returns during European cross-border merger announcements.

2.2. Economic freedom background

In *The Wealth of Nations*, Adam Smith (2023) postulates that faith in legal systems that protect people's property and enforce contracts is necessary for commerce and manufacturing to flourish. However, such laws and regulations must not obstruct the liberty of the individual. "The natural effort of every individual to better his own condition, when suffered to exert itself with freedom and security, is so powerful a principle, that it is alone, and without any assistance, not only capable of carrying on the society to wealth and prosperity, but of surmounting a hundred impertinent obstructions with which the folly of human laws too often incumbers its operations."

Mises (1949) builds on the idea of limited government protecting economic freedom: "Government is a guarantor of liberty and is compatible with liberty only if its range is adequately restricted to the preservation of economic freedom. Where there is no market economy, the best-intentioned provisions of constitutions and laws remain a dead letter." Friedman (1995) concurs, stating it "seems clear that a free market without central planning has, at least to date, been not only the most effective route to economic development

but the only effective route to a rising standard of life for the masses of the people. And it is eminently clear that it has been the only route consistent with political freedom and democracy.”

Hayek (2014) relates economic freedom with political freedom, suggesting “that political freedom is meaningless without economic freedom. This is true enough, but in a sense almost opposite from that in which the phrase is used by our planners. The economic freedom which is the prerequisite of any other freedom cannot be the freedom from economic care which the socialists promise us and which can be obtained only by relieving the individual at the same time of the necessity and of the power of choice; it must be the freedom of our economic activity which, with the right of choice, inevitably also carries the risk and the responsibility of that right.”

Economic freedom has been discussed for many decades. Its value has become of particular importance in finance with the advent of actual quantitative measures of economic freedom. The following section outlines how economic freedom is measured and highlights its usefulness as a proxy measure of institutional quality.

2.3. Economic freedom measures

The Washington D.C.-based research and educational institution, The Heritage Foundation, defines economic freedom as “the fundamental right of every human to control his or her labor and property” (Heritage, n. d.). Economic freedom commonly proxies for institutional quality (Ashby & Sobel, 2008; Azman-Saini, Baharumshah, & Law, 2010; Heckelman & Powell, 2010; Eldomiati, Al Qassemi, Mabrouk, & Abdelghany, 2016; Nikolaev & Salahodjaev, 2017; among others). Azman-Saini et al. (2010) use economic freedom to measure institutional quality and conclude that better economic freedom will result in more prosperity. Further, Gwartney, Holcombe, and Lawson (2004) carefully examine the relevance of the Economic Freedom Index (EFW) and find that, by itself, it explains 63% of the cross-country variation in per capita GDP across 99 countries. They also find that EFW, as a measure of institutional quality, explains economic growth by influencing both the rate of investment and the productivity of investment.

Today, two prevalent indices measure EF annually: The Heritage Foundation’s *Index of Economic Freedom* and the Fraser Institute’s *Economic Freedom of the World Report*.² Holmes (2016) points to the *Index of Economic Freedom* as a “world-renowned landmark study” with more than four million website visits in 2015. Government officials commonly use the index for key policy decisions, companies for investment and risk management decisions, and academia for curriculum development. In partnership with the *Wall Street Journal*, Heritage measures EF, which represents an “overall account of the countries’ institutions” (Anokhin & Wincent, 2012), using four categories with ten variables:³

1. Rule of law: property rights, freedom from corruption
2. Limited Government: fiscal freedom, government spending
3. Regulatory Efficiency: business freedom, labor freedom, monetary freedom
4. Open Markets: trade freedom, investment freedom, financial freedom

Each variable is valued from 0 (lowest level of EF) to 100 (highest value of EF). When equally weighted, each variable provides an overall score by which countries are ranked annually. Data is now available for 186 economies and covers the period 1994 through 2017. Alan Greenspan, economist and former U.S. Federal Reserve Chairman, reviewed the index and concluded, “The ultimate test of the usefulness of such a scoring process is whether it correlates with economic performance. And it does.” (Greenspan, 2008). Due to greater data availability, we are using the Heritage Foundation’s *Index of Economic Freedom* in this study.⁴

Hall and Lawson (2014) examined 402 articles listed in the Social Science Citations Index (SSCI) that included EF. While most articles cover economics and political science issues, finance ranks sixth in the list with 26 publications. Articles with the most citations are headed by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999), who use the Index of Economic Freedom to find that freer governments are more efficient. Using the same data source, Chortareas, Girardone, and Ventouri (2013) confirm that banks in the European Union are more efficient with less government interference. Pantzalis, Stangeland, and Turtle (2000) further find positive stock market reactions before political elections, which are especially strong in countries with low EF when the regime changes.

Economic freedom is not only recognized by academia, but also by policymakers of global organizations, such as the International Monetary Fund (IMF) and the World Bank. The IMF links EF to economic growth: “Economic freedom means that people can make economic decisions without restrictions from government. Economic freedom involves low taxes, less government regulation, protection of property rights, freedom of enterprise, and a commitment to free trade. Greater economic freedom correlates strongly with greater economic growth” (IMF, 2005). The World Bank’s director of research, Demirgüç-Kunt, in collaboration with others, examined the relationship between regulations, concentration and national institutions, and the probability of a banking crisis. They find that the *Index of Economic Freedom* is negatively correlated to a banking crisis, concentration, activity restrictions, denied entry applications, state ownership and required reserves, and positively correlated to the capital regulatory index, moral hazard, country governance, and banking freedom (Beck, Demirgüç-Kunt, & Levine, 2006).

² De Haan and Sturm (2000) provide an excellent review of the two indicators.

³ In 2017 the index was extended by two variables, and the first two categories were re-labeled as follows: Rule of Law (property rights, government integrity, judicial effectiveness); Government Size (government spending, tax burden, financial health). This data is not available for prior years.

⁴ Both economic freedom measures track each other closely (Caudill, Zanella, & Mixon, 2000; De Haan & Sturm, 2000), with correlation indices between 0.85 in 1996 (Hanke & Walters, 1997), 0.86 in 1997, and 0.79 in 2013 (Chafuen, 2013).

Countries and their governing agencies follow EF scores as well. For example, Luxembourg for Finance, a partnership between the country's government and the Luxembourg Financial Industry Federation, has reported its rank in the *Index of Economic Freedom* on their website in the past. Similarly, the Hong Kong government regularly highlights its top EF ranking and efforts to remain in the lead on their government website⁵.

Hence, if policymakers are tuned in and pay close attention to a country's level of EF, it should also be an important global factor for corporations, managers, boards, and investors when considering global strategic decisions such as cross-border M&As.

2.4. Hypotheses development

According to the institutional theory, institutions provide a country's "rules of the game" for organizations, which can be more or less efficient depending, for example, on their enforcement by the government (North, 1991). The institutional environment is described as "the set of fundamental political, social, and legal ground rules that establishes the basis for production, exchange, and distribution" (Davis, North, & Smorodin, 1971). It, therefore, reduces uncertainty by signaling to the market which actions are acceptable and supported (Peng, 2002).

Institutions are of great importance as they affect the efficiency of governance structures, markets, and regulations for competition (Xu & Meyer, 2013). Moreover, a country's institutions and the government's power over those institutions impact transaction costs and corporate decision-making (North, 1990; Scott, 1995; Wang & Wang, 2012). To illustrate, Biglaiser and Staats (2010) surveyed CEOs of U.S. firms who invested in South American countries. The authors conclude that investors value the protection and legal enforceability of property rights, while human, political, and civil rights, economic factors, and geographic distance were of lesser importance.

FDI flows in general (Bénassy-Quér, Coupet, and Mayer, 2007), and cross-border M&A activities in particular (Dikova, Sahib, & Van Witteloostuijn, 2010; Liou, Chao, & Yang, 2016; and Zhang, He, & van Gorp, 2017) depend on the institutions in the home and the host country, as well as on the institutional distance between those countries. In an extensive review of the literature examining the country determinants of cross-border M&A, Xie, Reddy, and Liang (2017) discuss prior studies assessing the role of institutional distance between bidders and targets on M&A outcomes. More specifically, these studies focus on the influence of institutional differences between bidder and target on the likelihood of partial versus full equity stakes in the target, the likelihood of merger completion, and the time to completion. However, a comprehensive empirical examination of the shareholder wealth effects associated with the economic freedom levels and distance between acquirer and target firms is largely missing from the literature. In this study, we utilize Economic Freedom as a measure of institutional quality (Gwartney et al., 2004; Ashby & Sobel, 2008; Azman-Saini et al., 2010; Heckelman & Powell, 2010; Eldomiaty et al., 2016; Nikolaev & Salahodjaev, 2017; among others), and we pay special attention to differences in institutional quality (or economic freedom) between the bidder and target countries rather than just focusing on the value in a particular country.

Previous research has tangentially considered the impact of EF on the announcement returns of emerging-market bidders, but the results are inconclusive. On the one hand, Aybar and Fici (2009) examine 433 mergers by emerging market acquirers and find that targets' EF negatively impacts the returns for announcement windows of 16 and 21 days; overall, announcement returns were non-positive. On the other hand, Gubbi et al. (2010) report that Indian acquirers' 11-day announcement CAR increases with the target country's level of economic and institutional development, based on the *Index of Economic Freedom* measures.

In contrast to previous studies, our sample consists of bidder and target countries with a wide range of economic development and EF. We postulate that bidders with high EF realize greater wealth gains at announcements because the home institutional environment equips such bidders to pursue value-enhancing projects. Countries with greater EF possess market economies with more voluntary exchange, free competition, and protection of property (Gwartney, Lawson, & Clark, 2005). Therefore, we propose that high EF allows bidders to acquire targets and transfer funds without undue constraints and with the highest economic value.

Hypothesis 1 (H1). Acquirers' level of EF is positively related to their wealth gains at the merger announcement.

Kogut (1983) views foreign direct investment (FDI) as real options where foreign investments develop a global network for possible subsequent incremental investments. In support of this multinational network hypothesis, Doukas and Travlos (1988) find that international expansion is positively related to shareholder wealth. Such international diversification is most beneficial to firms with substantial information-based assets (Morck & Yeung, 1992), and when the bidder enters a less developed and segmented target market where access to external capital is expensive (Doukas & Travlos, 1988; Fauver et al., 2003; Khanna & Palepu, 2000). Along that line, Chari et al. (2010) find that bidders from developed countries earn positive abnormal announcement returns when the target is in an emerging country. Specifically, the authors illustrate that the value of target firms from emerging countries increases when acquirers from developed countries with stronger institutional environments and better corporate governance can bond the targets to their country's control, thereby increasing the acquirer's firm value. Such bonding is based on international law and its implication that the wholly-owned target falls under the institutional protection of the bidder's country (Bris & Cabolis, 2008). Hence, if low EF targets are less attractive to domestic acquirers because of the country's higher cost of capital and greater agency costs (Kelley & Woidtke, 2006), high EF bidders might have a comparative advantage and be able to purchase such targets at a lower price. In addition to merger gains from purchasing undervalued foreign targets, bidders can create synergies from increased expected future cash flows

⁵ <https://www.info.gov.hk/gia/general/201802/02/P2018020200484.htm> (last accessed 9 April 2021).

once the target firm enjoys improved property and contracting rights via the bidder country's institutional environment (Chari et al., 2010; Coffee, 1998). From the institutional theory perspective, targets should appreciate bidders from economies with stronger institutions who tend to complete acquisitions more successfully (Zhang et al., 2017). We argue that such appreciation will be greatest for low EF targets whose governments are more restrictive and may pose impediments to the integration process. Further, in line with the institutional theory, host countries with strong property rights tend to offer fewer incentives to attract foreign investors, while host countries with weak property rights often must offer tax incentives and other concessions (Li, 2006). Any "welcoming package" benefits by the host nation must outweigh the potential risk and cost of expropriation. Hence, bidder shareholders should experience a positive wealth effect if they can negotiate a deeply discounted premium.

Therefore, we hypothesize that bidders with greater EF relative to their targets realize greater wealth gains at the announcement.

Hypotheses 2 (H2). Relative EF between acquirers and targets is positively related to acquirers' wealth gains at the merger announcement.

If a high level of EF, as well as the distance in EF, is beneficial to acquirers in mergers, we expect to find a positive impact of EF also on the long-term buy-and-hold abnormal returns (BHARs) of the combined firm. Hence, we conduct a robustness check to test if the level of the acquirer's EF and the distance of EF between acquirer and target are positively related to the 36-month BHAR.

Studies show that target firms realize significant wealth effects at the announcement in cross-border mergers, which can be greater than in domestic acquisitions (Harris & Ravenscraft, 1991). Rossi and Volpin (2004) demonstrate that better investor protection is related to more M&A activity. We propose that better EF in the target country is similarly attractive to bidders for two primary reasons. First, targets with high EF impose fewer restrictions and allow for easier post-merger integration. Second, high EF targets carry less uncertainty and are more transparent. If these characteristics are valuable, targets with high EF should be in greater demand and, hence, benefit from greater announcement wealth effects.

Hypothesis 3 (H3). Targets' level of EF is positively related to their wealth gains at the merger announcement.

Which bidders would value targets with high levels of EF the most? Gaining access to freer markets, fewer regulations, and cheaper cost of capital (Roychoudhury & Lawson, 2010) seems to be most beneficial to bidders that lack these benefits. Therefore, firms in countries with low EF have an incentive to acquire targets that can provide access to a higher-EF environment to overcome constraints set by the rules of the home institutions and markets (Deng, 2012). The literature finds that bidders from emerging countries access markets where they can overcome constraints from domestic institutions (Luo & Tung, 2007). Further, acquisitions create more value for those bidder firms if the host country offers strong institutions (Gubbi et al., 2010). If overcoming institutional constraints is valuable, acquirers from countries with less EF should be willing to pay higher premiums for targets with more EF. Hence, such an investment should be value-enhancing for the target shareholders.

If EF is valuable to bidders who do not have it, we postulate that high EF target shareholders experience positive announcement returns when the bidder is from a low EF country. In other words, the relative EF between acquirers and targets should negatively impact the targets' announcement returns.

Hypothesis 4 (H4). Relative EF between acquirers and targets is negatively related to targets' wealth gains at the merger announcement.

As discussed above, targets with high EF offer more transparency and are easier to integrate. If these benefits are valuable, bidders should be willing to pay higher premiums for these targets.

Hypothesis 5 (H5). Merger premiums are positively related to the target country's level of EF.

To summarize some of our expectations, bidders from high EF countries experience positive announcement returns if they can secure valuable targets in low EF countries at lower costs. Hence, targets should accept lower premiums if they are in a low EF country. Interested bidders are likely to be from countries with high EF that have a comparative advantage over domestic competitors in the low EF target country. At the same time, bidders from countries that lack EF would be motivated to obtain such freedoms by purchasing targets in high EF countries, even if the price for those targets is high. Both scenarios lead to the same conclusion.

Hypothesis 6 (H6). Relative EF between acquirers and targets is negatively related to merger premiums.

3. Data and methodology

3.1. Data

We collected information on cross-border merger announcements for all publicly traded acquirers between 1994 and 2014 from the SDC Platinum Mergers and Acquisitions Database. Announcements met the following criteria: (i) deals were completed, (ii) transaction value was at least USD 10 million, (iii) neither bidder nor target firm is in regulated industries such as utility (SIC code 4900–4999) or financial institutions (SIC code 6000–6999), and (iv) takeovers reflect majority stake acquisitions or 100 percent purchases of the target firm. This initial screening provides us with 34,814 observations. Further, at least the acquirer stock price, accounting information, and market return had to be available on Datastream. We use the value-weighted Datastream Total Market Index for each acquirer country to obtain the appropriate market return index. This step reduced our sample to 8502 observations. We can now compute the first dependent variable, the acquirer firm's 3-day (−1,+1) cumulative abnormal return, CARA. Lastly, we obtained data

on economic freedom (EF) from the Heritage Foundation to proxy for institutional quality. *EFA* captures the acquirer country's level of EF in the year prior to the announcement, *EFT* captures the target country's level of EF in the year prior to the announcement, and *RELEF* captures the acquirer country's level of EF relative to the target country's level of EF in the year prior to the announcement. Our final sample contains 6159 merger announcements.

We also obtained the targets' returns and the target countries' market returns from Datastream when available. For a subsample of 1500 public target acquisitions, we compute the second dependent variable, *CART*, the target firm's 3-day (−1,+1) cumulative abnormal return. The third dependent variable, *PREM*, the 4-week merger premium, is available for a subsample of 1374 observations. Similar to Rossi and Volpin (2004), *PREM* is computed as the offer price relative to the target stock price premium four weeks before the announcement. *PREM* information is available from SDC Platinum. Lastly, for a robustness test, we use the 36-month buy-and-hold abnormal returns (*BHAR*) with a subsample of 5572 observations.

We collect additional merger characteristics from SDC Platinum. Specifically, following previous studies, we control for the method of payment (*STOCK*). Dutta, Saadi, and Zhu (2013) find that in a Canadian bidder sample, cross-border merger announcements between 1993 and 2002 generate positive announcement effects for cash- and stock-financed deals; however, stock financing outperforms cash financing. *STOCK* is a dummy variable equal to one if the merger was paid fully with stock, and zero otherwise. We further control for the target public status (*PUB*). Capron and Shen (2007) find that in their sample of cross-border mergers, bidders realized greater announcement wealth effects when the target was privately held compared to publicly traded targets. They argue that bidders can exploit the limited information available on privately held firms and transfer it into value-creating opportunities. In addition, we control for focused versus diversifying deals (*FOCUS*), as prior studies such as Denis et al. (2002) find that industrial diversification is negatively related to excess value. The value of the merger transaction relative to the size of the acquirer may also impact announcement returns and premiums paid; hence, we control for *RELDEALSIZE*. Similar to Aktas, De Bodt, and Roll (2010), Steigner and Sutton (2011), and Basuil and Datta (2018), we use the transaction value in USD (obtained from SDC Platinum) relative to the acquirer's book value of total assets the year prior to the announcement (obtained from Datastream). *SERIAL* is a dummy variable equal to one if the acquirer had a previous cross-border merger announcement in our sample. Managers who completed prior cross-border mergers might become overly confident in their abilities and let optimism replace due diligence; hence, they engage in less beneficial projects and experience negative subsequent announcement returns (Billet and Qian, 2008; Fuller, Netter, & Stegemoller, 2002). Such overconfidence might cause managers to be willing to pay more for their acquisitions. Hence, we expect both merger premiums and target CARs to be positively impacted by serial mergers. Similar to previous studies, we also control for the acquirer's market-to-book value (*MTBA*) of equity as a proxy for growth opportunities.

To capture the influence of relevant economic factors, we control for the size and growth of the economy since foreign direct investments tend to move to large and developed markets (Alfaro, Chanda, Kalemli-Ozcan, & Sayek, 2004). In particular, *GDPPCGROWTHA* (*GDPPCGROWHTH*) captures the acquirer (target) country's annual growth rate of real GDP per capita starting one year prior to the announcement (Penn World Table). Real GDP is measured at constant 2011 national prices (in mil. 2011 US\$), and population is measured in millions. Controlling for exchange rate fluctuations, we use *RELEXRATEGROWTH*, which is the annual growth rate of the acquirer country's currency (in USD) relative to the target country's currency (in USD), starting one year prior to the announcement. Exchange rate data is obtained from the World Bank. Also, *EXRATERISK* measures the standard deviation of relative exchange rates between the acquirer country's and the target country's currencies during the five years prior to the announcement. *COMLEG* is a dummy variable equal to one if the bidder and target country share the same legal system, and zero otherwise (La Porta et al., 1998). *DIST* is the geographic distance in kilometers between the bidder and target countries. We also control for the past history of target and bidder countries with the *COLONY* variable, which captures whether the target and bidder countries ever shared a colonial relationship. The *DIST*, *COMLEG*, and *COLONY* variables are obtained from the CEPII data set.

Differences in Hofstede's (2001) Power Distance Index between bidder and target countries capture differences in natural culture (*CULTURE*). Ahern, Daminelli, and Fracassi (2015) show that greater cultural distance leads to lower combined merger announcement returns.

DEVEMERGE is a dummy variable equal to one if the acquirer is from a developed country and the target is from an emerging country, and zero otherwise. Chari et al. (2010) find evidence that such announcements evoke a positive stock price reaction for bidder firms. *RELADRI* captures the acquirer country's index of anti-director rights relative to the target country. The index was originally constructed by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998) and revised for better performance by Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008). We use the revised index to control for the tendency that targets from countries with strong investor protection often acquire targets in countries with low investor protection (Rossi & Volpin, 2004).

Lastly, *RELCGOV* controls for the bidder country's level of country governance relative to the target country. We use the worldwide governance index (Kaufmann, Kraay, & Mastruzzi, 2011) as published by the World Bank. Ellis, Moeller, Schlingemann, and Stulz (2017) link this index to bidder shareholder returns in merger announcements.

3.2. Methodology

3.2.1. Announcement and Long-run effects

We utilize standard event study methodology (Brown & Warner, 1985) to obtain the bidder and target firms' 3-day (−1, +1) announcement returns. This model estimates the abnormal return for Security *i* on Day *t*, AR_{it} , by subtracting the security's expected return, $E(R_{it})$, from the actual return, R_{it} . The expected return is computed using Fama's (1976) market model.

$$E(R_{it}) = \alpha_i + \beta_i R_{mt} \quad (1a)$$

$$AR_{it} = R_{it} - E(R_{it}) \quad (2a)$$

The estimated parameters α_i and β_i in Equation (1) are computed using an OLS regression of security returns, R_{it} , with market returns, R_{mt} , during the estimation period, where R_{mt} is the return on the value-weighted Datastream market index of the acquirer's or target's country on Day t . The estimation period used in the OLS regression spans from Day -250 to Day -51 , where Day 0 denotes the event day – that is, the day on which the cross-border M&A is announced. For more reliable coefficient estimates, we include only firms that have at least 100 days of return data available. Abnormal returns are aggregated over a three-day window surrounding the announcement day to obtain cumulative abnormal returns (CAR).

$$CAR_i = \sum_{t=-1}^1 AR_{it} \quad (3)$$

In order to study the long-term effect of the acquisition announcement, we also measure the compounded 36-month buy-and-hold return (BHAR) for each acquiring firm benchmarked against its corresponding market index beginning with the month-end following the announcement date. In BHAR computations, t refers to months.

$$BHAR_i = \prod_{t=1}^{36} (1 + R_{it}) - \prod_{t=1}^{36} (1 + R_{mt}) \quad (4)$$

3.2.2. Regression analysis

To avoid the undue influence of outlier observations in our sample, we winsorize acquirer and target CARs (CARA and CART) at the 1% and 99% levels. For consistency, we also winsorize the third dependent variable PREM, as well as the BHAR in the robustness test, at the 1% and 99% levels. We analyze regressions with separate independent variables: 3-day acquirer cumulative abnormal returns (CARA), 3-day target cumulative abnormal returns (CART), and 4-week bidder premium (PREM). We are interested in the effects of institutional quality, as proxied by economic freedom, on merger announcements. Therefore, the main independent variables are the economic freedom scores of the acquirer country (EFA) and the target country (EFT), as well as the economic freedom score of the acquirer country relative to the target country (RELEF), which accounts for the distance in EF between the bidder and target country.

The basic regression models for the regressions using CARA as the dependent variable, with additional variants reported below, are:

$$CARA_{ij,t} = \beta_1(EFA_{i,t}) + \beta_2(EFT_{j,t}) + \beta_k(X_{ij,t}) + \beta_n(Y_{ij,t}) + \text{Year Fixed Effects}_t + \text{Country Fixed Effects} + \text{Industry Fixed Effects} + \varepsilon_{ij,t} \quad (1b)$$

$$CARA_{ij,t} = \beta_1(RELEF_{ij,t}) + \beta_k(X_{ij,t}) + \beta_n(Y_{ij,t}) + \text{Year Fixed Effects}_t + \text{Country Fixed Effects} + \text{Industry Fixed Effects} + \varepsilon_{ij,t} \quad (2b)$$

All variables are as defined above, and $X_{ij,t}$ is a vector of merger and country characteristics (STOCK, PUB, FOCUS, RELDEALSIZE, SERIAL, MTBA, GDPPCGROWTHA, GDPPCGROWHT, RELEXRATEGROWTH, EXRATERISK, COMLEG, DIST, COLONY, CULTURE), and β_k is the corresponding vector of coefficients. $Y_{ij,t}$ is a vector of additional control variables (DEVEMERGE, RELADRI, RELCGOV) and β_n is the corresponding vector of coefficients. We add year and industry fixed effects as well as target country fixed effects as proxies for unmeasured time and country characteristics. Further, we estimate the models with bidder and target country clustered standard errors to provide unbiased and consistent estimated standard errors and appropriate coefficient test statistics.

To analyze CART and PREM, we use the same models (1) and (2) and replace the dependent variables accordingly. We include year and industry fixed effects as well as acquirer country fixed effects and estimate the models with bidder and target country clustered standard errors, following the previous models. Lastly, for the robustness check including the buy-and-hold abnormal returns, we use models (1) and (2) and replace the dependent variable with the 36-month BHAR. We include year, industry, acquirer, and target country fixed effects and estimate the models with bidder and target country clustered standard errors.

4. Analysis

4.1. Distribution

Table 1 provides an overview of the merger distributions. Panel A lists the distribution by year. The number of announcements varies from a low of 90 in 1994 to a high of 488 in 2007. Panel B shows the announcement distribution by acquirer country. Several countries have only one merger announcement (Iceland, Pakistan, Panama, Romania, and Ukraine),⁶ while Canada (591), the United Kingdom (923), and the United States (1,465) have the greatest number of announcements. The most popular target countries, listed in Panel C, were also the United States (1,255), the United Kingdom (632), and Canada (451), followed by Germany (289), China (282), and Australia (256).⁷ Similar to Rossi and Volpin (2004), who find evidence for more merger activities in countries with better shareholder protection, bidder countries with high levels of EF have more merger announcements in our sample. Following Kenneth French's approach, we divide acquirer and target firms into 12 industries in Panel D. We find that about 60% of our sample's mergers include three industries: healthcare, other, and business equipment.

⁶ According to the 2016 *Index of Economic Freedom*, Iceland ranked 20th out of 178 (considered as mostly free), Pakistan 126th (mostly unfree), Panama 66th (moderately free), Romania 61st (moderately free), and Ukraine 162nd (repressed).

⁷ According to the 2016 *Index of Economic Freedom*, the United States ranked 11th (mostly free), United Kingdom 10th (mostly free), Canada 6th (mostly free), Germany 17th (mostly free), China 144th (mostly unfree), and Australia 5th (free).

Table 1

Distribution of Cross-Border Merger Announcements

Table 1 provides a frequency overview of cross-border merger announcements by announcement year (Panel A.), acquirer country (Panel B.), target country (Panel C.), and acquirer and target industry (Panel D.).

Panel A. Distributions by Year				
Year	Frequency	Percent	Cum. Frequency	Cum. Percent
1994	90	1.46	90	1.46
1995	157	2.55	247	4.01
1996	179	2.91	426	6.92
1997	233	3.78	659	10.70
1998	298	4.84	957	15.54
1999	346	5.62	1303	21.16
2000	436	7.08	1739	28.24
2001	243	3.95	1982	32.18
2002	182	2.96	2164	35.14
2003	199	3.23	2363	38.37
2004	247	4.01	2610	42.38
2005	351	5.70	2961	48.08
2006	434	7.05	3395	55.12
2007	488	7.92	3883	63.05
2008	364	5.91	4247	68.96
2009	243	3.95	4490	72.90
2010	369	5.99	4859	78.89
2011	373	6.06	5232	84.95
2012	340	5.52	5572	90.47
2013	259	4.21	5831	94.67
2014	328	5.33	6159	100

Panel B. Distribution by Acquirer Country								
Country	Freq.	Percent	Country	Freq.	Percent	Country	Freq.	Percent
Argentina	8	0.13	Iceland	1	0.02	Poland	29	0.47
Australia	209	3.39	India	111	1.80	Portugal	11	0.18
Austria	29	0.47	Indonesia	9	0.15	Romania	1	0.02
Bahamas	8	0.13	Ireland-Rep	110	1.79	Russian Fed	40	0.65
Belgium	57	0.93	Israel	52	0.84	Singapore	134	2.18
Belize	2	0.03	Italy	126	2.05	Slovak Rep	2	0.03
Brazil	38	0.62	Japan	294	4.77	Slovenia	2	0.03
Canada	591	9.60	Luxembourg	23	0.37	South Africa	77	1.25
Chile	16	0.26	Malaysia	50	0.81	South Korea	67	1.09
China	73	1.19	Malta	2	0.03	Spain	83	1.35
Colombia	15	0.24	Mexico	41	0.67	Sweden	194	3.15
Cyprus	4	0.06	Netherlands	174	2.83	Switzerland	161	2.61
Denmark	51	0.83	New Zealand	13	0.21	Taiwan	28	0.45
Finland	98	1.59	Norway	81	1.32	Thailand	12	0.19
France	287	4.66	Pakistan	1	0.02	Turkey	9	0.15
Germany	126	2.05	Panama	1	0.02	Ukraine	1	0.02
Greece	26	0.42	Papua N Guinea	2	0.03	United Kingdom	923	14.99
Hong Kong	161	2.61	Peru	7	0.11	United States	1465	23.79
Hungary	3	0.05	Philippines	20	0.32			

Panel C. Distribution by Target Country								
Country	Freq.	Percent	Country	Freq.	Percent	Country	Freq.	Percent
Algeria	1	0.02	Honduras	2	0.03	Paraguay	1	0.02
Argentina	42	0.68	Hong Kong	121	1.96	Peru	27	0.44
Armenia	2	0.03	Hungary	16	0.26	Philippines	20	0.32
Australia	256	4.16	Iceland	3	0.05	Poland	50	0.81
Austria	30	0.49	India	69	1.12	Portugal	19	0.31
Bahamas	3	0.05	Indonesia	47	0.76	Rep of Congo	2	0.03
Bahrain	1	0.02	Iran	2	0.03	Romania	19	0.31
Bangladesh	3	0.05	Ireland-Rep	69	1.12	Russian Fed	62	1.01
Barbados	1	0.02	Israel	76	1.23	Rwanda	1	0.02
Belarus	3	0.05	Italy	110	1.79	Saudi Arabia	6	0.10
Belgium	62	1.01	Jamaica	6	0.10	Serbia	1	0.02
Belize	1	0.02	Japan	62	1.01	Seychelles	3	0.05
Bolivia	4	0.06	Jordan	2	0.03	Sierra Leone	2	0.03
Bosnia	2	0.03	Kazakhstan	12	0.19	Singapore	102	1.66
Botswana	1	0.02	Kenya	3	0.05	Slovak Rep	7	0.11
Brazil	146	2.37	Kuwait	1	0.02	Slovenia	6	0.10
Bulgaria	12	0.19	Kyrgyzstan	5	0.08	Solomon Is	1	0.02

(continued on next page)

Table 1 (continued)

Panel C. Distribution by Target Country								
Country	Freq.	Percent	Country	Freq.	Percent	Country	Freq.	Percent
Burkina Faso	3	0.05	Laos	2	0.03	South Africa	64	1.04
Cambodia	2	0.03	Latvia	3	0.05	South Korea	59	0.96
Cameroon	1	0.02	Lebanon	1	0.02	Spain	105	1.70
Canada	451	7.32	Liberia	1	0.02	Sri Lanka	1	0.02
Chile	42	0.68	Lithuania	14	0.23	Swaziland	1	0.02
China	282	4.58	Luxembourg	31	0.50	Sweden	152	2.47
Colombia	36	0.58	Macau	2	0.03	Switzerland	106	1.72
Costa Rica	2	0.03	Macedonia	3	0.05	Taiwan	34	0.55
Croatia	5	0.08	Malawi	1	0.02	Tajikistan	3	0.05
Cuba	1	0.02	Malaysia	52	0.84	Tanzania	3	0.05
Cyprus	13	0.21	Mali	3	0.05	Thailand	30	0.49
Czech Republic	37	0.60	Malta	5	0.08	Trinidad&Tob	2	0.03
Denmark	63	1.02	Mauritania	2	0.03	Tunisia	3	0.05
Dominican Rep	4	0.06	Mauritius	6	0.10	Turkey	46	0.75
Ecuador	9	0.15	Mexico	46	0.75	Turkmenistan	1	0.02
Egypt	17	0.28	Mongolia	6	0.10	Uganda	1	0.02
El Salvador	1	0.02	Morocco	3	0.05	Ukraine	13	0.21
Estonia	3	0.05	Mozambique	1	0.02	United Kingdom	632	10.26
Ethiopia	1	0.02	Namibia	5	0.08	United States	1255	20.38
Finland	47	0.76	Netherlands	156	2.53	Uruguay	9	0.15
France	253	4.11	New Zealand	53	0.86	Utd Arab Em	11	0.18
Gabon	2	0.03	Nigeria	10	0.16	Uzbekistan	2	0.03
Georgia	1	0.02	Norway	91	1.48	Venezuela	10	0.16
Germany	289	4.69	Oman	1	0.02	Vietnam	11	0.18
Ghana	3	0.05	Pakistan	2	0.03	Zambia	4	0.06
Greece	10	0.16	Panama	6	0.10			
Guatemala	5	0.08	Papua N Guinea	7	0.11			

Panel D. Distribution by Acquirer and Target Industry				
Industry	Acquirer Freq.	Percent	Target Freq.	Percent
Consumer Nondurables	488	7.92	429	6.97
Consumer Durables	202	3.28	156	2.53
Manufacturing	279	4.53	230	3.73
Energy	312	5.07	332	5.39
Chemicals	59	0.96	52	0.84
Business Equipment	1039	16.87	1078	17.50
Telecommunication	220	3.57	197	3.20
Utilities	0	0	43	0.70
Shops	359	5.83	419	6.80
Healthcare	1342	21.79	1257	20.41
Finance	712	11.56	6.72	10.91
Other	1147	18.62	1294	21.01

4.2. Descriptive statistics and correlation matrix

Table 2 summarizes the descriptive statistics for the dependent and independent variables, grouped by deal, firm, and country variables. Our sample consists of 6159 completed cross-border announcements with bidder returns available for each announcement. Public target acquisitions represent 30% of our sample, and we report 1500 target returns. In line with the literature, the mean target CARs or *CART* are notably larger (22%) than mean bidder CARs or *CARA* (1%). The mean premium is 45% for the public target firms in the sample, consistent with prior studies. The mean *BHAR* is -7% .

We find slight differences, on average, between the institutional quality of our acquirer country sample versus the target country sample. Acquirers tend to be from countries with higher economic freedom (73.81), measured by *EFA*, than their targets (71.21), measured by *EFT*. Examining the method of payment confirms results from previous international merger studies, showing that cash is the dominant form of payment, while stock offers are less prevalent (12%) in cross-border transactions. Most acquirers purchase targets outside of their primary industry (64%), while the remainder is focus-increasing (*FOCUS*).

Economic freedom may be tied to other country characteristics examined in the literature. To examine these relationships, we provide the correlation matrix for our variables in Table 3. It is of interest to note that the acquirer's economic freedom (*EFA*) is not highly correlated with other country measures such as GDP per capita growth, exchange rate changes and risk, legal environment (*COMLEG*), as well as distance (*DIST*), colonial relationship (*COLONY*), *CULTURE*, developed versus emerging market status (*DEVEMERGE*), relative anti-director rights (*RELADRI*), or relative corporate governance (*RELCGOV*) between the bidder and target country. Furthermore, none of the country characteristics are strongly correlated with all three measures of economic freedom - for the acquirer (*EFA*), target (*EFT*), and the difference between the acquirer/target pairs (i.e., relative economic freedom, *RELEF*). Since economic freedom is a composite measure that captures different elements of free markets and economic liberty, the lack of correlation

Table 2
Descriptive Statistics

Table 2 provides the summary statistics of the variables used in the analysis, including the number of observations, mean, standard deviation, minimum and maximum. The variables are fully explained in Appendix 1.

Variable	N	Mean	Std Dev	Minimum	Maximum
<u>Deal Characteristics</u>					
CARA	6159	0.01	0.08	−0.21	0.47
CART	1500	0.22	0.27	−0.21	1.34
PREM	1374	45.34	43.09	−43.59	248.40
BHAR	5572	−0.07	0.86	−1.75	3.75
STOCK	6025	0.12	0.33	0.00	1.00
PUB	6159	0.30	0.46	0.00	1.00
FOCUS	6085	0.36	0.48	0.00	1.00
RELDEALSIZE	5670	0.05	1.21	0.00	66.38
<u>Firm Characteristics</u>					
SERIAL	6159	0.39	0.49	0.00	66.38
MTBA	6159	3.63	29.59	0.00	1414.00
<u>Country Characteristics</u>					
EFA	6159	73.81	8.01	46.10	90.50
GDPPCGRPWTHA	6159	0.02	0.02	−0.09	0.13
EFT	6159	71.21	9.62	31.30	90.50
GDPPCGRPWHTH	6159	0.02	0.03	−0.15	0.15
RELEF	6159	1.06	0.20	0.57	2.31
RELEXRATEGROWTH	6159	0.00	0.08	−0.81	0.56
EXRATERISK	6159	5.26	118.04	0.00	7129.00
COMLEG	6138	0.49	0.50	0.00	1.00
DIST	6138	5.52	4.53	0.06	19.26
COLONY	6138	0.22	0.42	0.00	1.00
CULTURE	5642	14.94	14.44	0.00	82.00
DEVEMERGE	6159	0.17	0.38	0.00	1.00
RELADRI	5033	1.09	0.42	0.40	5.00
RELCOGOV	5892	1.52	82.45	−359.10	6261.16

between economic freedom and other individual country characteristics previously examined is not surprising.

4.3. Univariate results

Table 4 provides further analysis of the acquirer and target CARs (*CARA* and *CART*) and merger premiums (*PREM*) based on acquirer and target country levels of EF (*EFA* and *EFT*), including tests for differences between the EF subsamples. The full sample consists of 6159 acquisitions with complete acquirer CAR information (*CARA*). Overall, there are 5743 high EF acquirers, 416 low EF acquirers, 5294 high EF targets, and 865 low EF targets in the full sample.

Our univariate results show positive and statistically significant announcement returns, with about 56% of all CARs being positive. We further analyze CARs for subsamples of countries with different institutional quality. The percentage of positive CARs is fairly consistent for all subsets, ranging from 54% for bidders from low EF countries acquiring targets in high EF countries to 59% for bidders from low EF countries acquiring targets in low EF countries. Hence, we confirm that the statistically positive sample CAR is not biased by a few acquisitions with particularly strong announcement returns. The positive market reaction associated with a merger announcement may serve as a proxy for the expected synergies associated with the merger. For example, revenue-based synergies can result when the acquirer is able to increase sales by utilizing its distribution network, which is potentially much more expansive than the target's. The acquirer can also apply any marketing advantages (e.g., brand name recognition, advertising expertise) it may have in selling the target's products. In discussing the different types of merger-related synergies, Huyghebaert and Luypaert (2013) argue that cross-border mergers mainly benefit from cost synergies, which can stem from economies of scale and/or scope. The ability to spread operational fixed costs associated with production, distribution, or R&D across an increased number of units can provide economies of scale. In addition, economies of scope can occur when the cost of producing and selling products through one firm is lower than the cost of selling these products by the individual firms.

The merged firm can also benefit from more efficient utilization of assets. For example, the shared use of plant, property, and equipment by the acquirer and target can effectively reduce costs and improve asset turnover. In addition, the acquirer may be able to secure more attractive terms for trade credit with suppliers, which can improve the efficiency of the combined firm's net working

Table 3

Correlation Table

Table 3 presents the correlation for all variables used in this study. The variables are explained in Appendix 1.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
CARA (1)	1											
CART (2)	0.03	1										
PREM (3)	-0.03	0.50 ^a	1									
BHAR (4)	0.03 ^b	-0.01	-0.03	1								
EFA (5)	0.04 ^a	0.01	0.06 ^b	-0.01	1							
EFT (6)	-0.02 ^c	0.21 ^a	0.10 ^a	-0.04 ^a	-0.01	1						
RELEF (7)	0.04 ^a	-0.16 ^a	-0.04	0.02	0.59 ^a	-0.80 ^a	1					
STOCK (8)	0.06 ^a	-0.07 ^b	0.05 ^c	-0.12 ^a	0.10 ^a	0.06 ^a	0.01	1				
PUBLIC (9)	-0.08 ^a	.	0.01	0.02 ^c	-0.04 ^a	0.15 ^a	-0.15 ^a	0.02	1			
FOCUS (10)	-0.02 ^c	-0.03	-0.02	0.03 ^b	-0.04 ^a	-0.05 ^a	0.01	0.02 ^c	0.07 ^a	1		
RELDEALSIZE (11)	0.01	-0.04	-0.01	-0.03 ^c	-0.02	0.03 ^b	-0.02 ^c	0.09 ^a	-0.02	0.02	1	
SERIAL (12)	-0.07 ^a	0.08 ^a	-0.03	0.06 ^a	-0.01	-0.04 ^a	0.02	-0.13 ^a	0.07 ^a	-0.01	-0.03 ^b	1
MTBA (13)	0.02	-0.02	-0.02	0.02	0.00	-0.01	0.00	0.00	0.01	0.00	0.00	0.03 ^b
GDPPCGROWTHA (14)	0.00	-0.09 ^a	-0.10 ^a	-0.04 ^a	-0.20 ^a	0.01	-0.10 ^a	0.02	0.01	-0.04 ^a	0.01	-0.08 ^a
GDPPCGROWHT (15)	0.02	-0.15 ^a	-0.12 ^a	-0.01	0.08 ^a	-0.31 ^a	0.33 ^a	0.05 ^a	-0.08 ^a	-0.02 ^c	0.04 ^a	-0.04 ^a
RELEXRATEGROWTH (16)	0.01	-0.02	-0.02	0.01	-0.05 ^a	0.12 ^a	-0.13 ^a	0.00	-0.02	-0.03 ^b	0.01	-0.02 ^c
EXRATERISK (17)	-0.01	0.00	0.01	-0.02	-0.02	-0.06 ^a	0.06	-0.01	-0.01	-0.01	0.00	-0.02
COMLEG (18)	0.00	0.00	0.02	-0.04 ^a	0.09 ^a	0.33 ^a	-0.23 ^a	0.10 ^a	0.09 ^a	0.04 ^a	0.01	-0.04 ^a
DIST (19)	-0.02	-0.02	0.01	-0.02	0.08 ^a	0.09 ^a	0.00	0.00	0.00	-0.01	0.02	0.00
COLONY (20)	-0.02 ^c	0.02	0.04	-0.01	0.06 ^a	0.19 ^a	-0.12 ^a	0.01	0.03 ^b	-0.03 ^a	-0.02	0.02 ^c
CULTURE (21)	0.02	-0.08 ^a	-0.05 ^c	0.02	-0.22 ^a	-0.34 ^a	0.18 ^a	-0.06 ^a	-0.11 ^a	0.01	0.03 ^c	0.02
DEVEMERGE (22)	0.02 ^c	-0.15 ^a	-0.08 ^a	0.01	0.13 ^a	-0.56 ^a	0.55 ^a	-0.03 ^b	-0.09 ^a	0.03 ^b	0.00	0.04 ^a
RELADRI (23)	-0.01	0.00	0.01	-0.00	-0.04 ^a	-0.05 ^a	0.01	-0.07 ^a	-0.07 ^a	0.02	0.00	0.04 ^a
RELCGOV (24)	0.00	-0.01	-0.02	0.00	0.02 ^c	0.00	0.01	0.00	0.02	-0.01	0.00	0.02
	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
MTBA (13)	1											
GDPPCGROWTHA (14)	0.00	1										
GDPPCGROWHT (15)	0.01	0.32 ^a	1									
RELEXRATEGROWTH (16)	0.01	0.02 ^c	0.10 ^a	1								
EXRATERISK (17)	0.00	0.02	-0.06 ^a	-0.13 ^a	1							
COMLEG (18)	-0.01	0.01	-0.10 ^a	0.01	-0.02 ^c	1						
DIST (19)	0.01	-0.04 ^a	-0.02	0.01	0.00	0.01	1					
COLONY (20)	0.01	-0.01	-0.07 ^a	0.01	-0.02 ^c	0.36 ^a	0.07 ^a	1				
CULTURE (21)	-0.01	0.07 ^a	0.17 ^a	0.00	0.02	-0.34 ^a	0.17 ^a	-0.15 ^a	1			
DEVEMERGE (22)	-0.01	-0.05 ^a	0.31 ^a	-0.09 ^a	0.02	-0.19 ^a	0.14 ^a	-0.16 ^a	0.38 ^a	1		
RELADRI (23)	0.02	0.06 ^a	-0.08 ^a	-0.03 ^b	-0.02	-0.01	-0.02	0.03 ^b	0.00	-0.07 ^a	1	
RELCGOV (24)	0.00	0.02 ^c	0.00	0.00	-0.01 ^c	0.02	-0.01	0.00	-0.01	0.02	0.01	1

^a, ^b, ^c indicates statistical significance at the 1%, 5% and 10% level, respectively.

Table 4
Univariate Analysis

Table 4 summarizes the means for acquirer CARs (*CARA*), target CARs (*CART*), and the log of the 4-week Merger Premium (*PREM*) for the full sample as well as subsamples for high and low levels of acquirer and target country economic freedom. In every year we determined the median economic freedom value for all countries in the Heritage Foundation's published Index of Economic Freedom, and labeled countries at and above the median as high EF countries, and the remaining as low EF countries. Differences in means (Diff) for the subsamples are also provided. P-values are listed in parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively. Variables are explained in Appendix 1.

Variable	<i>CARA</i>			<i>CART</i>			<i>PREM</i>		
Mean	0.0129***			0.2187***			45.34***		
p-value	(<.0001)			(<.0001)			(<.0001)		
% pos CAR	55.5								
N	6159			1500			1374		

Subsample	EFAhi	EFAlow	Diff	EFAhi	EFAlow	Diff	EFAhi	EFAlow	Diff
Mean	0.0133***	0.0074**	0.0059*	0.2186***	0.2205***	−0.0019	45.56***	41.16***	4.40
p-value	(<.0001)	(0.0158)	(0.0712)	(<.0001)	(<.0001)	(0.9503)	(<.0001)	(<.0001)	(0.3416)
% pos CAR	55.5	54.8							
N	5743	416		1418	82		1306	68	

Subsample	EFTHi	EFTlow	Diff	EFTHi	EFTlow	Diff	EFTHi	EFTlow	Diff
Mean	0.0121***	0.0175***	−0.0054*	0.2254***	0.0891***	0.1363***	46.06***	26.68***	19.39***
p-value	(<.0001)	(<.0001)	(0.0991)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0003)	(0.0016)
% pos CAR	55.5	55.6							
N	5294	865		1426	74		1323	51	

Subsample	EFAhi & EFTHi	EFAhi & EFTlow	Diff	EFAhi & EFTHi	EFAhi & EFTlow	Diff	EFAhi & EFTHi	EFAhi & EFTlow	Diff
Mean	0.0124***	0.0186***	−0.0062*	0.2259***	0.0757***	0.1502***	46.29***	27.11***	19.18***
p-value	(<.0001)	(<.0001)	(0.0744)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0003)	(0.0021)
% pos CAR	55.6	55.4							
N	4934	809		1349	69		1256	50	

Subsample	EFAlow & EFTHi	EFAlow & EFTlow	Diff	EFAlow & EFTHi	EFAlow & EFTlow	Diff	EFAlow & EFTHi	EFAlow & EFTlow	Diff
Mean	0.0083**	0.0018	0.0065	0.2170***	0.2734	−0.0564	41.71***	4.65	37.06
p-value	(0.0177)	(0.6544)	(0.2150)	(<.0001)	(0.4696)	(0.8030)	(<.0001)	.	(0.3182)
% pos CAR	54.2	58.9							
N	360	56		77	5		67	1	
	Diff	Diff		Diff	Diff		Diff	Diff	
	0.0041	0.0168***		0.0089	−0.1977		4.59	22.46	
	(0.2623)	(0.0012)		(0.7783)	(0.4005)		(0.3252)	(0.5853)	

capital (see Huyghebaert & Luypaert, 2013).

Let us take a closer look at the specific results in Table 4. The average acquirer CAR (*CARA*) for the entire sample is 1.29%, statistically significant at the 1% level. In support of Hypothesis 1, acquirers from countries with high EF⁸ (EFAhi) have a mean CAR of 1.33%, which is significantly greater than the mean CAR of 0.74% for acquirers from countries with low EF (EFAlow). On the other hand, the mean bidder CAR is 1.21% when the target is in a country with high EF (EFTHi), but it is higher with a mean CAR of 1.75% when the target is in a country with low EF (EFTlow); again, the difference is statistically significant. This preliminary analysis suggests that bidder shareholders benefit more if their country enjoys better institutional quality and if their target is in a country with lower institutional quality. Further subsample analysis shows that high EF bidders acquiring high EF targets earn an average *CARA* of 1.24%, which is significantly lower than the 1.86% that high EF bidders earn when they acquire low EF targets. Thus, in support of Hypothesis 2, this subsample finding confirms that high EF bidders who acquire low EF targets earn the largest mean CAR.

Turning to target shareholder wealth gains, we focus on a subsample of 1500 observations with complete target CAR information (*CART*). We see that the overall mean 3-day target CAR (*CART*) is 21.87%, which is statistically significant. Supportive of Hypothesis 3,

⁸ To avoid any bias from our particular data sample, we examined the entire Economic Freedom Index from the Heritage Foundation for each year in our study period. In every year we determined the median Economic Freedom value for all countries and labeled countries at and above the median as high EF countries, and the remaining as low EF countries.

Table 5

Cross-Sectional Analysis

Table 5 shows the results of cross-sectional analysis, using the acquirer CAR (Panel A), target CAR (Panel B), and merger premium (Panel C) as the dependent variables. The independent variables of interest are the acquirer country's level of economic freedom (EFA), the target country's level of economic freedom (EFT), and the level of economic freedom in the acquirer country relative to the target country (RELEF). Models are estimated with bidder and target country clustered standard errors. All models include year, industry, and country fixed effects. The acquirer CAR regression (Panel A) uses target country Fixed Effects, and the target CAR (Panel B) and merger premium (Panel C) regressions use bidder country Fixed Effects. T-statistics are provided in parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively. Variables are explained in Appendix 1.

Panel A. Acquirer CAR (CARA)						
Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
INTERCEPT	0.0271 (0.79)	0.0294 (0.67)	0.0547 (1.33)	-0.0177 (-0.61)	0.0039 (0.10)	0.0274 (0.86)
EFA	0.0003** (2.35)	0.0002* (1.72)	0.0003* (1.83)			
EFT	-0.0007* (-1.70)	-0.0004 (-1.05)	-0.0004 (-0.97)			
RELEF				0.0225*** (2.70)	0.0160* (1.93)	0.0233** (2.13)
STOCK		0.0116* (1.80)	0.0068 (1.07)		0.0116** (1.80)	0.0068 (1.07)
PUB		-0.0105*** (-5.04)	-0.0116*** (-5.55)		-0.0105*** (-5.04)	-0.0116*** (-5.54)
FOCUS		-0.0027 (-1.17)	-0.0022 (-0.88)		-0.0027 (-1.17)	-0.0022 (-0.88)
RELDEALSIZE		0.0003 (0.18)	0.0005 (0.32)		0.0003 (0.18)	0.0005 (0.32)
SERIAL		-0.0074*** (-3.95)	-0.0059*** (-2.85)		-0.0074*** (-3.96)	-0.0059*** (-2.85)
MTBA		<0.0001 (0.57)	<0.0001 (1.10)		<0.0001 (0.60)	<0.0001 (1.11)
GDPPCGROWTHA		0.1367** (2.09)	0.1135 (1.25)		0.1344** (2.11)	0.1123 (1.24)
GDPPCGROWHT		0.0437 (0.72)	0.0115 (0.18)		0.0467 (0.76)	0.0105 (0.16)
RELEXRATEGROWTH		-0.0102 (-0.75)	-0.0021 (-0.15)		-0.0102 (-0.75)	-0.0019 (-0.13)
EXRATERISK		<-0.0001 (-0.28)	<-0.0001 (-0.10)		<-0.0001 (-0.34)	<-0.0001 (-0.14)
COMLEG		0.0036 (1.65)	0.0045* (1.82)		0.0038* (1.74)	0.0047* (1.88)
DIST		-0.0005* (-1.94)	-0.0005* (-1.67)		-0.0005* (-1.93)	-0.0005* (-1.67)
COLONY		-0.0052** (-2.11)	-0.0053* (-1.90)		-0.0053** (-2.15)	-0.0053* (-1.92)
CULTURE			0.0001 (0.66)			0.0001 (0.65)
DEVEMERGE			0.0045 (0.62)			0.0039 (0.53)
RELADRI			-0.0022 (-0.61)			-0.0023 (-0.63)
RELCGOV			<0.0001** (2.36)			<0.0001** (2.30)
Year FE	YES	YES	YES	YES	YES	YES
Target Country FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
N	6159	5453	4491	6159	5453	4491
F Value	1.31***	1.51***	1.46***	1.31***	1.51***	1.48***
Adj. R-squared	0.0098	0.0187	0.0127	0.0098	0.0189	0.0130
Panel B. Target CAR (CART)						
Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
INTERCEPT	-0.2361 (-0.82)	-0.3473 (-1.20)	-0.1527 (-0.50)	0.6063*** (6.50)	0.5721*** (4.09)	0.5261*** (3.27)
EFA	-0.0030 (-0.80)	-0.0023 (-0.62)	-0.0051 (-1.35)			
EFT	0.0079****	0.0082***	0.0076***			

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Table 5 (continued)

Panel B. Target CAR (CART)						
Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
RELEF	(8.53)	(7.48)	(4.46)	−0.4900*** (−8.85)	−0.5041*** (−7.90)	−0.4888*** (−4.77)
STOCK		−0.0567** (−2.28)	−0.0610** (−2.35)		−0.0582** (−2.35)	−0.0623** (−2.40)
FOCUS		−0.0059 (−0.33)	−0.0045 (−0.25)		−0.0060 (−0.33)	−0.0046 (−0.25)
RELDEALSIZE		−0.0281*** (−6.10)	−0.0275*** (−5.75)		−0.0284*** (−5.92)	−0.0272*** (−5.62)
SERIAL		0.0311* (1.89)	0.0308* (1.81)		0.0303* (1.86)	0.0305* (1.80)
MTBA		−0.0001 (−1.45)	−0.0001 (−1.30)		−0.0002 (−1.49)	−0.0001 (−1.37)
GDPPCGROWTHA		0.1697 (0.28)	0.0405 (0.06)		0.0607 (0.09)	−0.0008 (0.00)
GDPPCGROWHT		−0.3763 (−0.85)	−0.4863 (−0.89)		−0.2643 (−0.61)	−0.4056 (−0.76)
RELEXRATEGROWTH		0.0405 (0.38)	0.0682 (0.61)		0.0293 (0.28)	0.0608 (0.54)
EXRATERISK		−0.0001 (−1.37)	<−0.0001 (−0.80)		−0.0001 (−1.49)	−0.0001 (−0.86)
COMLEG		0.0017 (0.08)	0.0035 (0.15)		0.0001 (0.00)	0.0024 (0.10)
DIST		−0.0030* (−1.92)	−0.0025 (−1.41)		−0.0026 (−1.63)	−0.0023 (−1.31)
COLONY		−0.0013 (−0.08)	0.0007 (0.03)		0.0010 (0.06)	0.0017 (0.09)
CULTURE			0.0001 (0.20)			0.0003 (0.42)
DEVEMERGE			−0.0439 (−1.24)			−0.0459 (−1.28)
RELADRI			0.0417 (1.27)			0.0363 (1.09)
RELCGOV			<0.0001* (1.91)			<0.0001* (1.79)
Year FE	YES	YES	YES	YES	YES	YES
Bidder Country FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
N	1500	1351	1254	1500	1351	1254
F Value	2.71***	2.49***	2.51***	2.73***	2.50***	2.52***
Adj. R-squared	0.1115	0.1190	0.1246	0.1120	0.1186	0.1246
Panel C. Target Premium (PREM)						
Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
INTERCEPT	−80.1901* (−1.88)	−84.4227* (−1.78)	−89.0766 (−1.48)	68.6418*** (4.10)	41.1567* (1.72)	36.8309 (1.37)
EFA	0.9118* (1.66)	0.7616 (1.26)	0.7038 (0.96)			
EFT	0.06645*** (3.72)	0.5688*** (2.64)	0.5824** (2.15)			
RELEF				−38.9192*** (−3.66)	−32.4976** (−2.52)	−34.6676** (−2.08)
STOCK		1.7484 (0.32)	1.7121 (0.30)		1.6267 (0.29)	1.6141 (0.28)
PUB		11.2311 (1.27)	12.8930 (1.22)		10.9150 (1.24)	11.8909 (1.14)
FOCUS		−1.5133 (−0.51)	−0.1527 (−0.05)		−1.5565 (−0.52)	−0.2178 (−0.06)
RELDEALSIZE		115.2308 (0.46)	98.3255 (0.39)		151.8710 (0.62)	131.6627 (0.53)
SERIAL		−2.4491 (−0.89)	−3.0133 (−1.03)		−2.5507 (−0.92)	−3.1089 (−1.06)
MTBA		−0.0166 (−1.55)	−0.0140 (−1.28)		−0.0154 (−1.49)	−0.0130 (−1.23)
GDPPCGROWTHA		−235.1842*	−156.4585		−249.9417**	−176.5158

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Table 5 (continued)

Panel C. Target Premium (<i>PREM</i>)						
Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
GDPPCGROWTHT		(-1.88) -226.9235**	(-1.11) -159.7989		(-2.15) -228.3726**	(-1.26) -160.1681
RELEXRATEGROWTH		(-2.35) 14.9780	(-1.38) 9.9418		(-2.39) 12.9914	(-1.39) 8.0953
EXRATERISK		(0.68) 0.0396	(0.43) -0.0077		(0.60) 0.0303	(0.36) -0.0137
COMLEG		(0.86) 2.7324	(-0.15) 1.8805		(0.62) 2.8003	(-0.24) 1.9379
DIST		(0.75) -0.2875	(0.48) -0.2744		(0.76) -0.2165	(0.49) -0.2052
COLONY		(-0.84) 0.6209	(-0.80) 2.8680		(-0.63) 0.7358	(-0.61) 2.7524
CULTURE		(0.19) 0.0192	(0.79) 0.0192		(0.22) 0.0192	(0.77) 0.0243
DEVEMERGE			(0.12) -1.1989			(0.16) -1.7523
RELADRI			(-0.19) 7.5429			(-0.29) 6.9302
RELCGOV			(1.20) 0.0010			(1.10) 0.0011
			(0.53) 0.0010			(0.59) 0.0011
Year FE	YES	YES	YES	YES	YES	YES
Bidder Country FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
N	1374	1220	1128	1374	1220	1128
F Value	1.44***	1.43***	1.37***	1.41***	1.42***	1.37***
Adj. R-squared	0.0341	0.0418	0.0370	0.0319	0.0406	0.0366

we find that target firms experience a significantly larger *CART* of 22.54% when their country has high EF, compared to only 8.91% when their country has a low EF. Additional subsample analysis reveals that this difference in mean target CAR is significant only if the bidder is from a country with high EF. However, it is important to note that the subsample of low EF bidders and low EF targets has only five observations and might not allow a meaningful comparison. These initial results suggest that bidders may be willing to pay more for targets in countries with high institutional quality because there is lower uncertainty, more transparency, and possibly more competition for attractive targets.

Lastly, we focus on the mean 4-week merger premium (*PREM*) for a subsample of 1374 observations. *PREM* is positive and significant for the entire subsample (45.34%) and the high and low EF groups of bidders and targets. The mean premium is 45.56% for the EFAhi subsample and 41.16% for the EFAlow subsample. Both mean premiums are large and significant, but statistically not different from each other. However, in support of Hypothesis 5, the mean premium for the EFT_{hi} subsample is significantly larger than for the EFT_{low} subsample, 46.06% compared to 26.68%. This result further confirms that bidder firms are seemingly willing to (or have to) pay more for target firms in countries with high institutional quality. To obtain deeper insight, we now explore regression analyses where we control for other merger and country characteristics.

4.4. Cross-sectional analysis

In Table 5, we show the results of our regression models used to explain acquirer CARs (*CARA*), target CARs (*CART*), and merger premiums (*PREM*) in cross-border mergers. We estimate all models in this table with year, industry, and country fixed effects⁹, as well as with clustered standard errors to provide unbiased and consistent estimated standard errors and appropriate coefficient test statistics.

Our main independent variables of interest are economic freedom scores for the bidder (*EFA*) and the target (*EFT*) countries, to measure the countries' institutional quality, as well as economic freedom scores of the bidder country relative to the target country (*RELEF*) to capture differences in economic freedom. Panel A reports the analysis for the acquirer CARs. In Model 1, we focus on the acquirer's and target's economic freedom, *EFA* and *EFT*, respectively; in Model 2, we control for firm and country characteristics; and in Model 3, we include additional control variables as robustness checks. In line with the univariate results for the acquirer CAR (*CARA*), Models 1–3 confirm that greater economic freedom in the bidder country (*EFA*) is associated with significantly higher acquirer CARs, thereby supporting Hypothesis 1. When examining the economic freedom of the acquirer country relative to the target

⁹ The acquirer CAR regression (Panel A) uses target country Fixed Effects, and the target CAR (Panel B) and merger premium (Panel C) regressions use bidder country Fixed Effects. Using both target and bidder country fixed effects in these models resulted in multicollinearity issues.

country (*RELEF*) in Models 4–6, we see that the coefficient of *RELEF* is positive and significant, confirming that greater economic freedom in the bidder country relative to the target country has a positive influence on bidder wealth gains (Hypothesis 2). These high EF bidders may have a relative advantage in handling the challenges and complexities associated with acquiring targets from countries with lower levels of EF and may be able to capitalize on the untapped value creation potential of targets in these countries. Furthermore, faced with the uncertainty and complications associated with acquisitions in low EF countries, bidders may discount the price for these targets, leading to a lower likelihood of overpayment for low EF targets.

In contrast to domestic mergers, Models 2 and 5 indicate that stock-financed deals (*STOCK*) are associated with greater bidder wealth effects than cash and mixed payment methods. This finding supports the argument that stock payments might reduce information asymmetry and reduce corporate governance risk in the acquired target (Dutta et al., 2013). The negative coefficient for the public target indicator variable (*PUB*) suggests that publicly traded targets provide fewer value-enhancing opportunities for bidders than privately held firms (e.g., see Capron & Shen, 2007). Acquirers who make multiple cross-border takeovers during the time period exhibit lower CARs, consistent with prior studies (e.g., Billett & Qian, 2008). Models 2 and 5 show some evidence that bidders from countries with higher real GDP per capita annual growth rates experience higher CARs. Also, the higher the difference in governance index between acquirer and target, the higher the acquirer wealth gains around the M&A announcement, consistent with Ellis et al. (2017).

In Panel B, we examine the regression models explaining the target CARs in cross-border mergers. In support of Hypothesis 3 and the univariate analysis, the target economic freedom coefficient (*EFT*) is positive and significant at the 1% level in Models 1–3, which confirms that target firms in countries with higher EF are linked to greater target wealth gains. Furthermore, Models 4–6 confirm that target CARs are negatively impacted if the bidder country EF score is greater than the target country EF score, as shown by the negative coefficient for *RELEF*, consistently significant at the 1% level. Put differently, target CARs are positively impacted if the target country's EF is greater than the bidder country's EF. This finding supports Hypothesis 4. Similar to Ishii and Xuan (2014), Models 2, 3, 5, and 6 indicate that stock deals (*STOCK*) decrease the target shareholders' wealth significantly more than cash (and mixed) deals. These models further show that the relatively larger deals (*RELDEALSIZE*) are associated with lower target announcement returns. In contrast to the acquirer CAR findings, target shareholders appear to benefit more from takeovers by serial acquirers. Similar to the results for acquirers, greater differences in the governance indexes between acquirer and target provide higher target CARs.

To more closely examine the relationship between EF and merger premiums, we analyze the 4-week merger premiums (*PREM*) in Panel C. The coefficients for *EFT* are positive and significant in Models 1–3. In support of Hypothesis 5, targets in countries with high EF receive higher merger premiums. We argue that bidders value the benefits of EF in the target country and, hence, pay more for such benefits. Models 4–6 show more specifically that targets receive higher premiums if the acquirer country has less EF than the target country. In this case, the acquirer gains access to the benefits of EF via the target and is willing to pay to secure such benefits. At the same time, targets receive lower premiums if their country has low EF and the acquirer country has a higher EF. This finding points to our earlier suggestion that acquirers from countries with high institutional quality might have a comparative advantage over potential local acquirers and will discount the firm due to the lack of EF benefits.¹⁰

4.5. Additional robustness tests

Table 6 provides an additional robustness check where we exclude countries with the most competitive takeover markets. Alexandridis, Petmezas, and Travlos (2010) find that domestic bidders pay higher premiums to targets in competitive markets or those countries with the highest proportion of takeover targets relative to the population of public firms. In examining cross-border takeovers, Meng and Sutton (2017) find similar evidence of higher premiums paid for targets in competitive markets, defined as the U.S., the U.K., and Canada. To ensure these large competitive takeover markets do not drive our findings, we re-run Models 3 and 6 from Table 5 for the acquirer CAR (*CARA*), target CAR (*CART*), and merger premium (*PREM*) for subsamples that exclude targets from the U.S. (NonUS), the U.S. and the U.K. (NonUSUK), and the U.S., the U.K., and Canada (NonUSUKCA). Our results remain consistent and robust. Specifically, acquirers from countries with higher levels of institutional quality experience stronger wealth gains, and the distance in institutional quality between the acquirer and target is associated with higher acquirer CARs. Similarly, institutional quality in the target country, and a target economic freedom advantage over the acquirer, are associated with higher shareholder wealth gains for targets. Thus, the value of EF does not depend on the inclusion of the most competitive takeover markets.

In unreported regression results, we further find that our bidder and target CAR results from Table 5, Models 3 and 6 are generally robust if we replace the (−1,+1) announcement window with the (0,+1) and (−3,+3) announcement windows.

In Table 7, we repeat Model 3 and Model 6 from Table 5, replacing the comprehensive Economic Freedom measure with its component parts: rule of law, government size, regulatory efficiency, and open markets. Government size does not drive investor wealth or premiums. Upon some reflection, this makes perfect sense.

Government size consists of tax burden, government spending, and fiscal health. Ultimately, it matters little if the tax burden is higher in the bidder or the target country, as companies would engage in tax planning to minimize the global tax responsibility. Government spending impacts firms depending on their industry. The defense industry, for example, depends highly on government spending and government contracts. Yet, naturally, most mergers in this industry tend to be domestic rather than cross-border. In the

¹⁰ We thank an anonymous reviewer for the excellent suggestion to examine our Table 5 regressions using the World Governance Index (WGI) as the main independent variable in lieu of the EF. Our unreported findings show that EF, as a proxy for institutional quality, explains variations in the dependent variable better than WGI and, hence, provides additional value in our analysis of cross-border M&A gains.

Table 6

Robustness Check – Excluding competitive takeover markets

Table 6 presents regression results for Models 3 and 6 from Table 5 using subsamples that exclude targets from either the U.S. (NonUS), the U.S. and the U.K. (NonUSUK), or the U.S., the U.K., and Canada (NonUSUKCA). For space considerations, we present only the results for the independent variables of interest, EFA, EFT, and RELEF. However, regressions were run with all the other variables controlling for merger and country characteristics (same as in Models 3 and 6 in Table 5) as well as with year, industry, and country fixed effects, and bidder and target country clustered standard errors. T-statistics are provided in parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively. Variables are explained in Appendix 1.

CARA						
Variable	Subsamples with excluded target countries					
	NonUS	NonUSUK	NonUSUKCA	NonUS	NonUSUK	NonUSUKCA
INTERCEPT	0.0587 (1.11)	0.0540 (0.95)	0.0447 (0.73)	0.0389 (1.02)	0.0355 (0.91)	0.0562 (1.32)
EFA	0.0005*** (2.63)	0.0005*** (2.62)	0.0004** (2.24)			
EFT	-0.0003 (-0.55)	-0.0003 (-0.44)	0.0001 (0.20)			
RELEF				0.0340*** (2.71)	0.0366*** (2.73)	0.0259** (2.16)
N	3344	2639	2237	3344	2639	2237
F Value	1.68***	1.51***	1.49***	1.70***	1.52***	1.49***
Adj. R-squared	0.0249	0.0235	0.0265	0.0253	0.0240	0.0265
CART						
Variable	Subsamples with excluded target countries					
	NonUS	NonUSUK	NonUSUKCA	NonUS	NonUSUK	NonUSUKCA
INTERCEPT	-0.0080 (-0.02)	-0.2951 (-0.75)	-0.4507 (-1.01)	0.4476** (2.38)	0.3793** (2.22)	0.3929 (1.99)
EFA	-0.0064 (-1.45)	-0.0011 (-0.26)	0.0008 (0.14)			
EFT	0.0065*** (3.29)	0.0056*** (2.78)	0.0059*** (2.76)			
RELEF				-0.4356*** (-3.74)	-0.3464*** (-3.06)	-0.3633*** (-2.85)
N	934	758	641	934	758	641
F Value	1.94***	1.67***	1.83***	1.95***	1.67***	1.83***
Adj. R-squared	0.1056	0.0929	0.1301	0.1059	0.0925	0.1290
PREM						
Variable	Subsamples with excluded target countries					
	NonUS	NonUSUK	NonUSUKCA	NonUS	NonUSUK	NonUSUKCA
INTERCEPT	-46.9465 (-0.77)	-40.5042 (-0.57)	-46.8241 (-0.53)	39.3050 (1.28)	51.9286 (1.45)	59.3570 (1.55)
EFA	0.2419 (0.32)	0.3113 (0.35)	0.4950 (0.43)			
EFT	0.4943 (1.75)	0.4884 (1.46)	0.4973 (1.39)			
RELEF				-32.9876* (-1.82)	-33.4662 (-1.50)	-34.2397 (-1.42)
N	836	675	567	836	675	567
F Value	1.32**	1.25*	1.29**	1.33**	1.26**	1.30**
Adj. R-squared	0.0428	0.0410	0.0552	0.0440	0.0425	0.0566

U.S., more than 76%–86% of aerospace and defense acquisitions between 2011 and 2014 (years that are represented in our sample) were domestic.¹¹ Hence, we conjecture that a country's level of government spending has little impact on wealth gains or premiums in cross-border mergers. Similarly, the level of a country's budget deficit is unlikely to impact cross-border mergers.

On the other hand, targets in countries with lower levels of rule of law (less protection of property rights, less judicial effectiveness, and less government integrity) provide less investor protection and, hence, reflect a lower value (La Porta, Lopes-de-Silanes, Shleifer, and Vishny, 2002). Therefore, synergies/cost savings can be realized by the bidder when acquiring a target at a discounted price. Alternatively, if target countries provide significantly better investor protection than bidder countries, acquirers are willing to pay higher premiums for target firms. Access to better investor protection will lower the cost of capital and provide synergies through cost savings.

Regulatory efficiencies are measured by business freedom, labor freedom, and monetary freedom. If the target country makes it challenging for businesses to start operations and fire people, and if inflation is not well under control, acquirers from more efficiently regulated countries can benefit from cost savings in such an M&A. Specifically, temporary or fluctuating positions in the target country can be eliminated (even if it takes some effort to do so) and fulfilled via the bidder country. If a position needs to be temporarily filled in

¹¹ Deloitte (2017). Merger and acquisition trends in aerospace and defense. A closer look at value creation.

Table 7

Robustness Check – Analyzing components of the Economic Freedom Index

Table 7 presents regression results for Models 3 and 6 from Table 5 using the component parts of the Economic Freedom Index: Rule of Law, Government Size (Government), Regulatory Efficiency (Reg), and Open Markets (Open Mkt). For space considerations, we present only the results for the independent variables of interest, EFA, EFT, and RELEF. However, regressions were run with all the other variables controlling for merger and country characteristics (same as in Models 3 and 6 in Table 5) as well as with year, industry, and country fixed effects, and bidder and target country clustered standard errors. T-statistics are provided in parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively. Variables are explained in Appendix 1.

Panel A. Acquirer CAR (CARA)								
Variable	Rule of Law	Govt	Reg	Open Mkt	Rule of Law	Govt	Reg	Open Mkt
INTERCEPT	0.07* (1.81)	0.06* (1.86)	0.00 (0.02)	0.04 (0.99)	0.03 (1.00)	0.06* (1.84)	0.02 (0.51)	0.04 (1.17)
EFA	0.00*** (3.74)	-0.00* (-1.75)	0.00*** (3.79)	0.00* (1.88)				
EFT	-0.00* (-1.68)	0.00 (0.01)	-0.00 (-0.73)	-0.00 (-0.40)				
RELEF					0.02*** (3.89)	-0.00* (-1.65)	0.03*** (3.38)	0.02** (2.07)
Ple	4491	4491	4491	4491	4491	4491	4491	4491
F Value	1.55***	1.45***	1.54***	1.46***	1.57***	1.46***	1.52***	1.47***
Adj. R-squared	0.015	0.0124	0.0149	0.0126	0.0154	0.0126	0.014	0.0129
Panel B. Target CAR (CART)								
Variable	Rule of Law	Govt	Reg	Open Mkt	Rule of Law	Govt	Reg	Open Mkt
INTERCEPT	0.28 (0.86)	0.15 (1.00)	0.02 (0.06)	-0.28 (-1.17)	0.22* (1.66)	0.12 (0.91)	0.34** (2.28)	0.31** (2.20)
EFA	-0.01* (-1.82)	-0.00 (-1.43)	-0.00 (-1.50)	-0.00 (-0.09)				
EFT	0.00*** (4.69)	0.00 (0.90)	0.01*** (2.79)	0.01*** (4.61)				
RELEF					-0.13*** (-3.91)	-0.00 (-0.14)	-0.26*** (-2.99)	-0.20*** (-3.58)
N	1254	1254	1254	1254	1254	1254	1254	1254
F Value	2.41***	2.26***	2.33***	2.46***	2.35***	2.25***	2.32***	2.38***
Adj. R-squared	0.1171	0.1061	0.1114	0.121	0.1118	0.1043	0.1096	0.1141
Panel C. Target Premium (PREM)								
Variable	Rule of Law	Govt	Reg	Open Mkt	Rule of Law	Govt	Reg	Open Mkt
INTERCEPT	-74.72*** (-4.53)	-47.52*** (-5.91)	-65.09*** (-3.53)	-98.16*** (-7.23)	-43.00*** (-7.95)	-46.71*** (-8.40)	-36.88*** (-5.60)	-32.08*** (-5.35)
EFA	0.10 (0.58)	-0.08 (-0.69)	-0.04 (-0.20)	0.24* (1.65)				
EFT	0.20*** (4.62)	0.07 (1.4)	0.24*** (3.33)	0.38*** (6.04)				
RELEF					-6.56*** (-4.27)	-1.16 (-0.69)	-11.12*** (-2.96)	-16.47*** (-5.11)
N	4491	4491	4491	4491	4491	4491	4491	4491
F Value	43.70***	43.43***	43.50***	44.13***	43.97***	43.74***	43.84***	44.22***
Adj. R-squared	0.5371	0.5355	0.5359	0.5396	0.5366	0.5353	0.5368	0.538

the target location, an employee from the bidder country can do so for a limited period of time. Increasing raw material prices due to inflation can be circumvented by sending materials from the bidder country, or by the bidder purchasing the raw materials in a third country and sending it to the target country facility. As the target firm begins to operate more efficiently, its value will increase. This means that the firm value was not maximized at the time of the purchase, and the bidder could have acquired the target at a discount. As before, if bidder and target country characteristics are reversed, the bidder is willing to pay a higher premium for additional synergies in the target country.

Lastly, open markets, or trade, investment, and financial freedom, present value as well. If the target country suffers from high tariffs, constraints of investment flow, and a poor banking system, firm values will be impacted negatively. Acquirers from open market countries can buy the target at a discounted price and then circumvent most of the target country's shortcomings by channeling resources primarily through the bidder country. And, of course, bidders from oppressed markets will be willing to pay higher premiums to acquire targets in open-market countries.

To conclude, it is not necessarily the level of economic freedom, or the level of rule of law, regulatory efficiency, and open markets in the target country by itself that creates synergies for the combined firm, but rather the level of economic freedom in the target country relative to the bidder country. Contrasts between them provide opportunities for capturing financial benefits in cross-border M&As.

Table 8

Analysis of Post-Merger Long-Run Abnormal Returns

Table 8 presents cross-sectional regressions explaining the buy-and-hold abnormal returns (BHAR) for acquirers in the 36 months following the merger. T-statistics are provided in parenthesis. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively. Explanatory variables are defined in Appendix 1.

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
INTERCEPT	-0.0608 (-0.07)	0.3551 (0.38)	-0.6700 (-0.90)	0.1720 (0.22)	0.2953 (0.36)	-0.8549** (-2.00)
EFA	0.0257*** (4.02)	0.0236*** (3.33)	0.0204*** (2.66)			
EFT	-0.0092* (-1.68)	-0.0116** (-2.03)	-0.0115* (-1.72)			
RELEF				0.8181*** (3.06)	0.8266*** (2.96)	0.7991** (2.45)
STOCK		-0.2380*** (-5.22)	-0.2531*** (-5.78)		-0.2374*** (-5.17)	-0.2527*** (-5.76)
PUB		0.0518** (2.14)	0.0352 (1.27)		0.0517** (2.11)	0.0349 (1.25)
FOCUS		0.0526** (2.05)	0.0405 (1.48)		0.0532** (2.06)	0.0406 (1.49)
RELDEALSIZE		-0.0085 (-0.77)	-0.0005 (-0.07)		-0.0088 (-0.78)	-0.0005 (-0.06)
SERIAL		0.0026 (0.10)	0.0123 (0.45)		0.0012 (0.05)	0.0108 (0.40)
MTBA		0.0002 (1.10)	0.0001 (0.82)		0.0002 (1.18)	0.0001 (0.84)
GDPPCGROWTHA		-2.0978** (-2.11)	-1.8314 (-1.54)		-2.3031** (-2.34)	-1.9555* (-1.65)
GDPPCGROWHT		0.4451 (0.64)	0.5277 (0.67)		0.3527 (0.51)	0.4422 (0.56)
RELEXRATEGROWTH		0.1920 (1.14)	0.1385 (0.75)		0.1923 (1.14)	0.1418 (0.77)
EXRATERISK		<-0.0001 (-0.64)	-0.0001 (-0.73)		-0.0001 (-1.09)	-0.0001 (-0.91)
COMLEG		-0.0227 (-0.77)	-0.0093 (-0.29)		-0.0138 (-0.47)	-0.0043 (-0.14)
DIST		0.0001 (0.04)	0.0007 (0.16)		0.0004 (0.10)	0.0009 (0.21)
COLONY		0.0285 (0.87)	0.0159 (0.45)		0.0280 (0.85)	0.0155 (0.43)
CULTURE			0.0001 (0.09)			<-0.001 (-0.03)
DEVEMERGE			-0.0422 (-0.30)			-0.0681 (-0.48)
RELADRI			-0.0427 (-0.27)			-0.0319 (-0.21)
RELCOV			-0.0001 (-1.42)			-0.0001 (-1.44)
Year FE	YES	YES	YES	YES	YES	YES
Bidder Country FE	YES	YES	YES	YES	YES	YES
Target Country FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
N	5572	4897	4064	5572	4897	4064
F Value	2.36***	2.32***	2.08***	2.33***	2.30***	2.06***
Adj. R-squared	0.0558	0.0632	0.0409	0.0545	0.0620	0.0401

4.6. Post-merger long-run return analysis

The benefits from mergers can take time to develop and materialize over time. Thus, we also examine the role institutional quality plays in the post-merger long-run abnormal returns for acquirers in cross-border mergers. Following prior studies, we measure the buy and hold abnormal returns (BHAR) in the 36 months following the merger, based on a firm's monthly returns benchmarked to its corresponding country market index. We run cross-sectional regressions using the BHAR as the dependent variable and the explanatory variables previously discussed. Our main variables of interest in explaining the BHAR are the economic freedom variables, *EFA* and *RELEF*, which measure the institutional quality in the bidder and target countries. The findings are shown in Table 8. In Models 1

through 3, the coefficient for the acquirer's economic freedom is positive and significant at the 1% level. Similarly, the economic freedom distance between acquirer and target (*RELEF*) shows a strong positive relationship with the acquirer's abnormal returns in the 36 months following the merger. Thus, these findings help to confirm the importance of economic freedom as a key to value creation in cross-border M&A.¹²

5. Conclusion

Acquirers searching for growth potential and value enhancement for shareholders through M&A face expanded opportunities and challenges when pursuing targets outside of their own borders. From the institutional theory viewpoint, we examine whether value creation opportunities through mergers depend on the acquirer and target countries' institutional quality, measured by economic freedom (EF). While prior research has established the benefits of EF in stimulating economic growth and wealth within a country, the interplay of EF between two countries in cross-border mergers is unclear. Previous studies have examined EF within limited contexts, such as within one, or one type, of bidder and/or target country. To address the role of EF in cross-border mergers, we examine a global sample of 6159 takeovers involving bidders from 56 countries and targets from 130 countries.

Our results show that in cross-border M&A, EF is valuable for firms from countries that have it. That is, the shareholder wealth gains for bidders from high EF countries are significantly higher than those from low EF countries. Similarly, targets from high EF countries experience higher CARs than targets from lower EF countries. However, the relative EF between bidder and target, or the economic freedom distance between bidder and target countries, is an even more important factor. Bidders with a relative EF advantage over their targets have significantly higher CARs, suggesting that these bidders can capitalize on untapped value creation potential in the target. Therefore, our findings suggest that, while the institutional quality of the acquirer and the target individually influence the merger wealth gains, it is the institutional quality of the acquirer relative to the target that is particularly relevant. That is, the institutional quality differences between the merger pair are meaningful for acquirer wealth gains.

Furthermore, the likelihood of overpayment may be reduced for bidders purchasing targets in low EF countries, as bidders discount the price they are willing to pay for targets from more uncertain markets where transactions are more difficult and opaque. In line with this result, targets experience lower CARs in these mergers and receive lower premiums. We also find that targets realize greater announcement returns when they are from a country with greater economic freedom than the bidder country (i.e., greater economic freedom distance). This finding suggests that bidders lacking institutional quality benefits are willing to pay more to obtain them. The results are robust to a series of control variables, alteration of target country samples, and different announcement windows.

Since it can take time to reap the benefits associated with M&A investments, we also examine the post-merger long-run abnormal returns for acquirers in cross-border mergers. The results show that acquirers with strong institutional quality, as well as greater institutional quality distance from their target, experience significantly better long-run abnormal returns.

Lastly, we confirm our main results using the individual components of the economic freedom index. Our findings indicate that wealth gains and premiums are impacted specifically by rule of law, regulatory efficiency, and open markets. Hence, we believe the economic freedom index we selected is robust and captures institutional quality effectively.

The study's limitations include the natural shortcomings when capturing variables with proxies; in our case, we use economic freedom to measure institutional quality. Although proxies are never a perfect substitute, we show that economic freedom is commonly used in the literature to measure institutional quality. In further defense of economic freedom, [Gwartney et al. \(2004\)](#) carefully examine the relevance of the Economic Freedom Index and find that, by itself, it explains 63% of the cross-country variation in per capita GDP across 99 countries. They also find that EFW, as a measure of institutional quality, explains economic growth by influencing both the rate of investment and the productivity of investment. [Nyström \(2008\)](#) and [Sobel \(2008\)](#) continue to support that institutional structures, measured by economic freedom, promote economic growth. Lastly, [Ali and Crain \(2001, p. 425\)](#) conclude from their analysis that "economic freedom tends to run hand in hand with general measures of institutional quality."

Further, to ensure quality measures of CAR, we use the value-weighted Datastream Total Market Index for each country to approximate the appropriate market return index. This procedure reduces our sample size from 34,814 to 8502 observations. Still, we believe that our final sample is sufficiently large for a meaningful analysis. Lastly, we acknowledge that the R-squared for the panel regression of bidder CAR with controls ranges only between 1.00% and 1.89%. However, this is a common observation when regressing bidder CARs, as confirmed by [Danbolt \(1995\)](#), [Francis, Hasan, and Sun \(2008\)](#), [Ellis et al. \(2017\)](#), among others. It is important to remember that the R-squared value is not as critical since we do not predict the bidder CAR but rather demonstrate how changes in economic freedom relate to changes in bidder CAR.

Overall, our findings contribute to the institutional theory and cross-border M&A literature, examining the keys to value creation in cross-border M&A by highlighting the value of economic freedom distance between bidder and target firms worldwide.

¹² In unreported results, 12- and 24-month BHARs provide the same conclusions but with less statistical significance. This is likely linked to the fact that it takes some time for a firm to fully integrate a target before synergies and benefits can be realized.

Appendix 1. Variable Definition

CARA	Acquirer firm's 3-day (-1,+1) cumulative abnormal announcement return (Datastream).
CART	Target firm's 3-day (-1,+1) cumulative abnormal announcement return (Datastream).
PREM	Merger premium is the offer price relative to the target stock price premium four weeks prior to the announcement (SDC Platinum).
BHAR	The 36-month buy-and-hold return for each acquiring firm benchmarked against its corresponding market index beginning with the month-end following the announcement date (Datastream).
EFA	Acquirer country's level of economic freedom in year prior to the announcement (The Heritage Foundation).
EFT	Target country's level of economic freedom in year prior to the announcement (The Heritage Foundation).
BHAR	Acquirer firm's 36-month cumulative buy and hold monthly return post acquisition.
RELEF	Acquirer country's economic freedom score/Target country's economic freedom score; (EFA/EFT).
STOCK	Dummy variable equal to 1 if merger was paid for fully with stock (SDC Platinum).
PUB	Dummy variable equal to 1 if the target firm was a publicly traded firm (SDC Platinum).
FOCUS	Dummy variable equal to 1 if both acquirer and target firm operate in the same industry, as measured by the 4-digit primary SIC code (SDC Platinum).
RELDEALSIZE	Transaction value in USD (SDC Platinum) divided by the acquirer's level of total assets in USD one year prior to the announcement (Datastream).
SERIAL	Dummy variable equal to 1 if acquirer had a previous cross-border merger announcement in our sample.
MTBA	Acquirer's level of market-to-book value of equity in USD one year prior to the announcement (Datastream).
GDPPCGROWTHA	Acquirer country's annual growth rate of real GDP per capita starting one year prior to the announcement (Penn World Table). Real GDP is measured at constant 2011 national prices (in mil. 2011US\$), population is measured in millions.
GDPPCGROWHTH	Target country's annual growth rate of real GDP per capita starting one year prior to the announcement (Penn World Table). Real GDP is measured at constant 2011 national prices (in mil. 2011US\$), population is measured in millions.
RELEXRATEGROWTH	Annual growth rate of the acquirer country's currency (in USD) relative to the target country's currency (in USD), starting one year prior to the announcement. Exchange rate data is obtained from the World Bank.
EXRATERISK	Standard deviation of relative exchange rates between the acquirer country's and the target country's currencies during the 5 years prior to the announcement.
COMLEG	Dummy variable equal to 1 if acquirer and target country share the same legal origin (CEPII).
DIST	Geographic distance in kilometers between the bidder and target countries (CEPII).
COLONY	Dummy variable equal to 1 if acquirer and target country have ever been in a colonial relationship (CEPII).
CULTURE	Difference in absolute national culture, based on Hofstede's (2001) Power Distance Index.
DEVEMERGE	Dummy variable equal to 1 if the acquirer is located in a developed economy and the target in an emerging one, following Chari et al. (2010).
RELADRI	Acquirer country's index of anti-director rights relative to the target country (Djankov et al., 2008)
RELCOGOV	Acquirer's country governance relative to the target's country governance. Following Ellis et al. (2017), we use the worldwide governance index (Kaufmann et al., 2011) to measure country governance.

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