# Global Connectedness and Cross-border Acquisition

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#### Abstract

This paper examines the relationship between global connectedness and crossborder acquisition activity across 48 countries from 2002 to 2021. Using the DHL Global Connectedness Index (GCI), we find that greater global connectedness is positively associated with the number of cross-border M&A deals. Trade and information flows are key drivers, while people flows show no effect. Instrumental variable analysis and a set of robustness tests confirm the robustness of our results. Further analysis suggests that higher GCI is associated with lower-quality deals, supporting empire-building theory. These findings contribute to the literature by highlighting the role of global connectedness in shaping international acquisition dynamics.

#### JEL Classification: G30;G34;F21

*Keywords:* Global connectedness index; Cross-border acquisitions; Gravity model; Abnormal return; Empire building theory

## **1** Introduction

Although the shock by COVID-19 and recent geopolitical risks such as the Russia-Ukraine war and Israeli–Palestinian conflict, the trend of globalization has no sign of stopping and into the reverse according to the recent DHL Global Connectedness Report 2024<sup>1</sup>. Besides, cross-border M&A deals constitute more than 30% of M&A deals, with the number reaching 9,100 in 2022. Although previous studies have explored how international activities affect cross-border deals, a more generalized view of the effects of a country's global connectedness is still unknown. Motivated by this, we contribute to this ongoing literature by providing a wider view that countries' global connectedness can affect their cross-border acquisition activities.

To assess the relationship between a country's and cross-border acquisition activity, we construct a sample of 48 countries from 2002-2021 on both the country-year level and country-pair-year level. We obtain the cross-border M&A deals information from the Securities Data Company (SDC) Platinum database. To measure global connect-edness, we obtain the DHL Global Connectedness Index 2022 by Altman and Bastian (2023). The index is the weighted average of four pillars trade, information, people and capital from two dimensions depth and breadth. Besides, we also use pillar level and dimension level data to explore which perspective of a country's globalization drives cross-border acquisition activities.

We begin our empirical analysis on country-year level data and assess the impact of a country's global connectedness on the total number of cross-border deals. Particularly, we estimate the sum of outbound deals number and inbound deals number announced in year t+1 as a function of GCI as well as firm– and macroeconomic–level controls in year t. Furthermore, we also examine the effects of each pillar and dimensions to explore which specific components drives the international acquisition activities. The results suggest that the aggregate index is positively related to the number of crossborder deals, no matter whether the *capital* pillar is included. Regarding the specific pillars, trade has a positive effect on the number of deals even if the trade-to-GDP is controlled. This result suggests that the breadth level of international flows also plays an important role in cross-border acquisition marketing, contributing to the previous literature that mostly focuses on depth. We find that information connectedness has sig-

<sup>&</sup>lt;sup>1</sup>see., https://www.dhl.com/global-en/delivered/global-trade/global-connectedness-report.html

nificantly positive effects on the number of deals. This result implies that the telephone and internet connectedness to the world provides the information transition channel and help to reduce the information asymmetry between countries. We find no evidence that international people flows can explain the cross-border acquisition activities. The results are in line with Aleksanyan et al. (2021) and Nitsch (2007) that the tourist flow cannot directly affect the cross-border deals number. For completeness, we also examine the effect of capital and find that capital has a positive effects on the deals number.

We then extend our analysis on the country-pair level by estimating a gravity model. The results indicates that the connectedness between two countries are positively related to the number of deals between two countries, in line with the results on country-year level. However, the results might be driven by other omitted confounding factors. To address concerns regarding endogeneity, we employ an instrumental variable (IV) two-stage approach. Specifically, we use the average popularity of the two countries, measured by their average connectedness with other countries, drawing on the methodology of "common friends" proposed by Jochmans and Verardi (2019). The basic idea of the "common friends" is that if two countries has more common friends, they are more likely friends with each other, indicating that the instrument is likely to meet the relevance criterion for instrumental variables. Moreover, the acquisition decisions are unlikely to be directly related to the connections with other countries. The IV estimation results suggests that our findings are robust after alleviating concerns of endogeneity bias.

We further address the potential issues of omitting variables on country-year level. Although we controlled for macroeconomic level factors and country and year level fixed effects, the impact of connectedness can be alternatively explained by omitted factors of economic outlook enhancements. The increase of a country's economic outlook, for example, due to an open economic policy, could both increase a country's global connectedness as well as the number of cross-border acquisitions. If the the omitted factors of economics outlook plays a role in our analysis, we can expect the number of domestics acquisition deals also increase lead by the increasing in GCI. However, we did not find evidence that GCI are related to domestic deals, suggesting that the alternative channel can be ruled out.

Although the IV approach addresses endogeneity concerns, we conduct two additional tests to further alleviate these concerns as supplements. First, we treat the ChinaUS trade war as an exogenous shock and tests whether the cross-border deals between China and the United State are affected due to the trade war by using the difference-indifference (DiD) methods. The results show that the cross-border deals between China and USA significantly declines during the trade war compared to control groups. Secondwe conduct a granger test to show that there are no reverse causality issue in our estimations. The results support our predictions.

The pillars of the GCI were impacted differently during the COVID-19 pandemic. We further examines the role of these pillars during the period of restricted international flows to determine whether they play different roles under such conditions. Specifically, trade and people flows, which require physical contact, were the most affected, while information and capital flows continued to grow during the COVID-19 pandemic.

Next, we investigate the quality of the cross-border acquisitions. According to empire building theory (e.g., Duchin and Schmidt (2013) and Jensen (1986)), mangers have incentive to expand their firms beyond the optimal size. A higher GCI between countries, which reflects lower information asymmetry, facilitates managers in completing international deals. Consequently, we hypothesize that a higher GCI is associated with lower-quality deals. Our findings support this hypothesis, showing that higher GCI between countries is linked to lower combined cumulative abnormal returns (CAR), lower acquirer CAR, higher target CAR, and higher premiums paid. These results suggest that CEOs are more inclined to complete international deals with familiar countries, by offering higher premiums. Overall, the evidence aligns with the predictions of empirebuilding theory. We did not observe the GCI has long-term effects on post-merger performance, suggesting that the market is efficient on the factors.

A set of robustness tests are conducted. First, we exclude the USA related crossborder deals since they consists of around 20% total deals in the sample. Secondly, we apply the Poisson Pseudo Maximum Likelihood (PPML) methods and re-estimate the baseline regression to address the concerns of the log of 1 plus issue Cohn, Z. Liu, and Wardlaw (2022).

Our study offers novel contributions to two key streams of literature. First, this study contributes the research in globalization and openness in economic growth from a micro-perspective (e.g., Fischer (2003), Norbäck and Persson (2008), and Grossman and Helpman (2015)). We extensively examine four perspectives of globalization and two dimensions and provide views of how pillars of globalization affects decision mak-

ing of cross-border activities. The results address that not only trade but also information globalization play critical roles in international activities. Besides, we also contribute to previous studies by addressing the importance of breadth dimension (especially for the trade) in cross-border acquisitions. These findings provide valuable insights into the mechanisms through which globalization shapes corporate strategies.

Second, this study also contributes to the determinants of cross-border M&A. Previous studies suggest that financial market size (Di Giovanni 2005), tax rates(Froot and Stein 1991), culture values(Ahern, Daminelli, and Fracassi 2015), laws and regulation (Rossi and Volpin 2004; Bris and Cabolis 2008), geography(Erel, Liao, and Weisbach 2012), bilateral trade(Erel, Liao, and Weisbach 2012), political uncertainty(Cao, X. Li, and G. Liu 2019; Gavriilidis et al. 2019; Aleksanyan et al. 2021) plays important roles in cross-border deals in addition to the other common used variables in gravity model. Examining the relationship between globalization and mergers and acquisitions (M&As) is crucial, as acquisition activity plays a key role in promoting economic growth and increasing firm value.

## 2 Literature review

Cross-border mergers and acquisitions (CBM&As) are essential to global economic integration, allowing firms to expand their geographic scope, access new markets, and leverage synergies across borders. The rich literature on CBM&As investigates the factors influencing these transactions, including governance quality, institutional frameworks, macroeconomic and financial stability, cultural and geographic proximity, valuation dynamics, political uncertainty, and networking opportunities. Together, these studies offer valuable insights into the drivers of cross-border M&A activity, outcomes, and resilience to external shocks, forming the foundation for understanding global connectedness.

### 2.1 Governance, Institutions, and Ownership

Governance and institutional quality are critical determinants of cross-border M&A activity, shaping both the volume and outcomes of these transactions. Bris and Cabolis (2008) highlight that CBM&As act as governance shifts, as target firms adopt the acquiror's governance systems post-acquisition. Their findings reveal that acquirors from countries with stronger shareholder protections and accounting standards achieve higher merger premiums, suggesting governance asymmetries as key value drivers. Rossi and Volpin (2004) extend this analysis by demonstrating that acquirors often target firms in weaker governance environments, motivated by the opportunity to enhance governance quality and streamline operations. Further, Starks and Wei (2013) explore the relationship between governance quality and transaction structure. They find that acquirors from weaker governance regimes must compensate target shareholders with higher premiums, particularly in stock-based transactions, to mitigate concerns about reduced protections post-merger. Ferreira, Massa, and Matos (2010) emphasize the role of foreign institutional investors in bridging governance gaps, particularly in countries with weaker institutional frameworks. These investors reduce transaction costs, enhance deal success rates, and increase the probability of full ownership, positioning them as critical facilitators of cross-border M&A activity. These findings resonate with our study's focus on governance quality as a pillar of global connectedness, illustrating how governance asymmetries influence cross-border deal-making. Ferreira, Massa, and Matos (2010) highlight the role of foreign institutional investors in bridging governance and informational gaps, particularly in weaker institutional environments. These findings underscore the importance of relational networks in fostering international transactions and align with our exploration of global connectivity as a facilitator of cross-border dealmaking.

## 2.2 Cultural differences

Cultural differences significantly influence cross-border M&A success. Ahern et al. (2015) argue that cultural distance, particularly in trust and individualism, reduces synergy gains and raises integration costs, creating substantial barriers to successful cross-border integration. Cultural proxies such as language and religion influence institutional frameworks and creditor rights enforcement. They show that these cultural differences indirectly shape cross-border M&A activity by affecting the institutional landscape in which transactions occur. However, contrasting perspectives view cultural differences as opportunities rather than obstacles. Chakrabarti, Gupta-Mukherjee, and Jayaraman (2009) and Morosini, Shane, and Singh (1998) posit that cultural diversity can foster complementary routines, perspectives, and capabilities, enhancing cross-border M&A

performance. This positive impact is particularly evident when acquirors hail from stronger economies, enabling them to capitalize on the diversity introduced by cultural differences. These findings underscore the dual role of cultural distance as both a challenge and an enabler of value creation in cross-border M&As.

## 2.3 Political, regulatory, and policy uncertainty

Political and regulatory uncertainty is a key deterrent to cross-border M&A activity. Aleksanyan et al. (2021) highlights how state visits can promote cross-border acquisitions by fostering business networks and reducing cultural and informational barriers, suggesting that diplomatic engagement mitigates the adverse effects of political uncertainty. Similarly, Cao, X. Li, and G. Liu (2019) show that political instability in host countries deters inbound acquisitions, as foreign investors face heightened risks of expropriation, regulatory changes, and unpredictability. Conversely, firms in politically uncertain home countries often pursue outbound deals in stable or cooperative markets, emphasizing the importance of geopolitical stability in shaping cross-border strategies. Aleksanyan et al. (2021) demonstrates that state visits foster cross-border deal activity by facilitating business relationships and addressing cultural and informational barriers. Similarly,

J. Li, Xia, and Lin (2017) argue that legitimacy concerns among host-country stakeholders, mediated by theorization from regulatory agencies, affect acquisition success. State-owned foreign firms face lower completion rates and longer deal durations due to higher legitimacy thresholds. Firm-specific factors, such as target public status, R&D alliances, and acquiror experience, can moderate these effects, highlighting legitimacy's critical role in cross-border acquisitions.

Nationalist economic policies add another layer of the explantory factors. Serdar Dinc and Erel (2013) document how nationalist governments deter foreign acquisitions to maintain domestic ownership, suppressing immediate cross-border deal activity and discouraging future foreign bids. Bonaime, Gulen, and Ion (2018) Bonaime, Gulen, and Ion (2018) focus on policy uncertainty, finding that it discourages irreversible deals, increases negotiating power for targets, and results in higher premiums and termination fees. These findings align with our study's analysis of external shocks, such as geopolitical tensions and the COVID-19 pandemic, illustrating how political uncertainty affects

cross-border M&A activity. Lee examines the impact of political uncertainty on bargaining outcomes, using national elections as a measure. The study finds that political uncertainty shifts bargaining power toward foreign acquirors, who secure more favorable outcomes by demanding compensation for risk, leaving target firms with a smaller share of acquisition gains.

### 2.4 Macroeconomic conditions

Macroeconomic conditions and financial market dynamics play a critical role in shaping cross-border M&A activity. Harford (2005) identifies liquidity as a key driver of merger waves, finding that sufficient capital availability amplifies the effects of economic, regulatory, and technological shocks, clustering merger activity over time. His findings emphasize the importance of macro-level liquidity conditions in driving industry-level cross-border M&A activity. Di Giovanni (2005) and Uddin and Boateng (2011) high-light the role of GDP, exchange rates, and stock market performance in facilitating cross-border deals. Their findings reveal that macroeconomic stability and financial development are crucial enablers of international transactions, particularly in well-developed markets.

Valuation dynamics provide another lens for understanding cross-border M&A activity. Shleifer and Vishny (2003) and Rhodes–Kropf, Robinson, and Viswanathan (2005) argue that valuation mispricing, particularly firm-specific deviations from industry norms, drives mergers. Their findings highlight how short-term valuation discrepancies influence the timing and structure of transactions, with overvalued firms more likely to engage in acquisitions using stock as payment. Markides and Ittner (1994) explores these insights to international acquisitions, showing that the value creation potential of cross-border deals depends on macroeconomic conditions, industry competitiveness, and the acquiror's prior international experience. These findings complement Rhodes–Kropf, Robinson, and Viswanathan (2005), who decompose valuation effects into firm-specific, sector-wide, and long-run components, emphasizing the role of shortterm misvaluations in driving M&A behavior. These findings connect to our study's focus on how information flows within global connectedness reduce valuation uncertainties, potentially improving the efficiency and success rates of cross-border transactions.

## 2.5 Gravity model factors

Gravity models provide a robust framework for analyzing cross-border M&A flows. Frankel and Romer (1999) demonstrate how geographic characteristics influence trade, offering instrumental variables for identifying causal relationships. Erel, Liao, and Weisbach (2012) extend the gravity model to M&As, finding that geographic proximity, bilateral trade, and accounting quality are critical determinants of cross-border deal activity. These models align with our study's approach of examining trade and information flows as determinants of cross-border M&A activity within the global connectedness framework. Geographic proximity complements cultural alignment in shaping cross-border acquisitions. Uysal, Kedia, and Panchapagesan (2008) find that local advantages and reduced costs associated with physical proximity. Erel, Liao, and Weisbach (2012) extend these findings by demonstrating the importance of geographic proximity and bilateral trade in facilitating cross-border M&A activity. These insights align with our exploration of trade and information flows as dimensions of global connectedness, emphasizing proximity's role in enabling international transactions.

## 2.6 Information transaction on cross border M&A

Portes and Rey (2005) exams bilateral cross-border equity flows, emphasize the role of information and transaction efficiency in shaping international financial transactions. Using a gravity model, they demonstrate that gross equity transaction flows are driven by the market size of both source and destination countries, trading costs, and informational frictions. Geographic distance acts as a proxy for information costs, while explicit measures of information transmission and asymmetry reveal the critical role of the "geography of information" in determining transaction patterns. Their findings show limited support for the diversification motive in equity transactions, suggesting that informational frictions and transaction technology are far more influential. These results provide a compelling parallel to cross-border M&As, where information asymmetries similarly shape transaction volumes and outcomes. Both studies highlight the importance of economic links and information flows in shaping transaction patterns, offering valuable lessons for understanding the determinants of cross-border M&A activity. The findings on informational frictions emphasize the role of transparency and efficiency in

facilitating international transactions.

## 2.7 Long-Term Performance and Value Creation

The long-term performance of cross-border acquisitions remains a contested area. Chakrabarti, Gupta-Mukherjee, and Jayaraman (2009) and Morosini, Shane, and Singh (1998) argue that culturally diverse mergers can achieve superior long-term performance when synergies emerge from complementary routines and perspectives. Conversely, D. J. Denis, D. K. Denis, and Yost (2002) caution that global diversification often reduces excess value, as the costs of managing international operations outweigh the benefits. Markides and Ittner (1994) find that international acquisitions generally enhance shareholder value, but the extent of value creation depends on deal characteristics, acquiror experience, and macroeconomic conditions. These findings resonate with our study's focus on balancing cross-border deal volume and quality, emphasizing the importance of strategic alignment in achieving long-term success.

## 2.8 Trade and cross border M&A

Harford, Schonlau, and Stanfield (2019) highlights the importance of economic links created through supplier-customer relationships in determining firm behavior and market dynamics. The research shows that significant trade relationships and indirect economic connections influence which firms are more likely to be involved in acquisitions and which pairs are more likely to merge. Firms with major trade relationships exhibit a lower propensity to acquire or be acquired by firms outside those relationships. This finding underscores the role of pre-existing economic ties in shaping acquisition activity and suggests that trade relationships provide a structural framework for evaluating merger potential and impact. These insights are particularly relevant when comparing domestic firm-level trade dynamics to the broader scope of cross-border M&As, as they illustrate the importance of relationship-specific synergies in merger decisions.

This extensive body of literature highlights the multifaceted factors driving crossborder M&A activity, including governance, cultural alignment, macroeconomic stability, valuation dynamics, political uncertainty, and networking opportunities. Our study integrates these insights by framing global connectedness as a comprehensive framework encompassing trade, information, capital, and people flows. By analyzing these dimensions, we extend existing research to provide a deeper understanding of how globalization affects cross-border M&A volume and quality. This integrative approach bridges gaps in the literature, emphasizing the interconnected nature of globalization dimensions in shaping cross-border M&A activity and economic integration.

## **3** Sample, Data, and Measure of global connectedness

To investigate cross-border acquisition activity, we start with all completed cross-border M&A with deal values no less than \$1 million from 2002 to 2021 where more than 50% of the target firm is acquired from the Securities Data Company (SDC) Platinum database. Following Ahern, Daminelli, and Fracassi (2015), we exclude government entities but place no restrictions on public status to include a more completed sample. We also collect the percentage of cash payments, industry classification, acquisition techniques, and other deal-level data from SDC. We also do not put restrictions on countries due to some countries will be excluded due to missing other country-level data.

We then collect macroeconomic level data including GDP, trade-to-GDP, and GDP growth from World Development Index (WDI), corporate tax rate from OECD, and other gravity variables from the CEPII database including the common language, same religion, shared border, distance, bilateral investment treaty, and others. We also calculated culture distance using the Euclidian formula based on Hofstede's four culture dimensions (individualism, uncertainty avoidance, power distance, and future orientation). All definitions of variables are provided in the Appendix. After merging the initial sample with controls, our final sample includes 70,028 cross-border M&A deals by 48 countries, with an average value of \$23.75 billion per country each year. Since the GCI measures a countries connectedness to the rest of worlds, we construct our country-year level sample by calculating total outbound and inbound deals of the 48 countries to all other countries in the world. While the country-pair level GCI measures the connectedness between two countries, the country-pair year level sample includes deals within 48 countries with a total number deals at 31,218. Panel A of Table 1 presents the total number of deals of the 48 countries to all other countries in the world.

Table 1 shows the number of outbound deals between countries<sup>2</sup>.

[Insert Table 1 here]

#### 3.0.1 Measurement of GCI

To measure a country's connectedness with other countries, we use the DHL Global Connectedness Index 2022 by Altman and Bastian (2023). They define Global Connectedness as "the depth and breadth of a country's integration with the rest of the world, as manifested by its participation in international flows of products and services, *capital, information, and people*". The original index is on the country-year aggregate level as well as including data on four pillars and the two dimensions. The aggregate index is constructed by calculating four pillars (Trade, Information, People, and Capital) from two dimensions depth and breadth<sup>3</sup>. The pillars are differently weighted with 35% Trade, 35% Capital, 25% Information, and 25% People. Each pillar are equally calculated by the depth and breadth of the pillar of the country. Trade pillars are calculated based on a country's merchandise trade (75%), and services trade (25%). Information is calculated based on international internet bandwidth (33%), telephone call minutes (33%), scientific research collaboration (17%), and trade in printed publication (17%). People are calculated based on tourists (33%), university students (33%), and migrants (33%), while capital is calculated based on FDI Stocks (25%), FDI Flows (25%), and Portfolio Equity Stocks (50%).

The depth is defined as the relative scale of a country's international financial flows compared to a relevant benchmark of its domestic economic activity, while the breadth measures the extent to which a country's international flows are globally diversified versus concentrated within a narrower set of partners. Considering part of capital pillars is foreign direct investment (FDI), we also calculate a re-weighted GCI by excluding capital pillars as GCI(exc.capital). Besides, we also obtain the country-pair level connectedness. The country-pair level connectedness of two countries is calculated based on their four pillars connections, as a proportion of all country pair connectedness at that year <sup>4</sup>.

 $<sup>^{2}</sup>$ In panel B, the outbound deals are made from the countries in the first columns to the countries in the first row.

<sup>&</sup>lt;sup>3</sup>The specific methodology of how pillars and two dimensions are calculated.

<sup>&</sup>lt;sup>4</sup>The sum of all country pair connectedness of each year is equal to one.

#### **3.0.2** Descriptive statistics

Table 2 presents the results of summary statistics of measurements of GCI, number of deals, and other control variables.

[Insert Table 2 here]

Panel A reports descriptive statistics of variables at the country-year level. The GCI has a mean of 60.374 with a standard deviation of 12.184, while GCI excluding capital exhibits a slightly higher mean of 62.075. Variables related to trade, people, and information have means of 61.983, 58.397, and 65.968, respectively, indicating moderate variability (standard deviations between 12.327 and 16.104). The tax rate averages 0.267, while the pre-election indicator shows a mean of 0.159.

Panel B covers 28,362 observations at the country-pair-year level. The number of cross-border deals averages 0.337 per pair, with substantial variation (standard deviation of 0.652). Country pair connectedness, which measures the strength of ties between two countries, averages 0.456. Imports from the acquirer country have a negative mean of -3.966 (in logarithmic term). The control variable used in gravity models reveals the differences between countries. For example, only 11.7% of country pairs in the sample share the same primary language. More than half of country-pairs have bilateral investment treaty agreements. The culture distance has a mean of 60.415 with a standard deviation of 22.889.

## 4 Empirical Analysis

## 4.1 GCI and Number of Cross-border M&A deals

#### 4.1.1 Country level evidence

To answer the question of how GCI impacts cross-border M&A deals, we start with OLS regressions at the country-year level by controlling the TWFE (two-way fixed effect) at country and year levels as well as country-level control variables which has been proven can affect the number of deals. The baseline model that we used is as follows:

Number of deals<sub>*i*,*t*</sub> = 
$$\alpha + \beta_1 \text{GCI}_{i,t-1} + \sum \beta_k \text{C}_{i,t-1} + \alpha_t + \alpha_{\text{Country}} + \epsilon_{i,t}$$

Where Number of deals<sub>*i*,*t*</sub> is the natural logarithm of the sum of the number of outbound and inbound cross-border deals for each country in time t+1. GCI is the Global Connected Index, where we separately use the aggregate index, re-weighted aggregate index, and pillar-level variables as described in the section above. C is a vector of a set of country-level control variables, which includes GDP, GDP growth, trade-to-GDP, GDP growth rate, corporate tax rate, quality of institution, and business environment. We control for the GDP-related factors not only because these factors can directly affect cross-border activity but also because the GCI index is correlated to them, according to the DHL Global Connectedness Report 2023. Our results are robust because we use no time-lagged and two-year-lagged independent variables.

[Insert Table 3 here]

Table 3 provides the baseline results. Column (1) uses the aggregate GCI as the main X variable. Column (2) reports the results by using the re-weighted GCI. We use three pillar-level indicies in column (3) to column (6), respectively. Column (6) and column (7) show the results on the depth and breadth dimensions of the GCI. Our results show that a country's GCI has a significantly positive effect on its total number of cross-border M&A deals. Regarding the aggregate measurement, both coefficients for GCI (column(1)) and the re-weighted GCI (column(2)) are positively significant and 1% level. Specifically, one unit increase in the GCI (or re-weighted GCI) will lead to the total number of deals increasing by around 2.8% (3.4%). Regarding the pillar level, one unit increase in information, trade, and capital will significantly increase the total number of deals by around 1.3%, 2.1%, and 0.8% respectively. The insignificant coefficient for people is within the expectation since the measurement of people includes tourists, which has been proved that it does not have a direct impact on M&A deals (Aleksanyan et al. 2021), international university students and international migrant stock, the flow of which does not directly relate to M&A deals either. As shown in column (5), the coefficients for trade and information are still significant at the 10% level even if we put all three pillars in a single model to address the potential correlation of pillars concern.

#### 4.1.2 Country-pair level evidence

We further explore the effects of connectedness on the country-pair level. To test our hypothesis, we apply a "gravity" model, which is a common approach widely adopted in international trade studies. Specifically, we estimate the following regression model:

Number of Outbound Deals<sub>*p,t*</sub> = 
$$\alpha + \beta_1$$
Pair Connectedness<sub>*i,t-1*</sub> (1)  
+  $\sum \beta_k$ Pair Controls<sub>*i,t-1*</sub> +  $\alpha_t + \alpha_{pair} + \epsilon_{i,t}$ 

Where Number of Outbound Deals is the natural logarithm number of outbound deals for country pair p and time t+1. Value is the connectedness between country pair p at time t. PC is a vector of a set of country-pair level control variables for a gravity model following (Ahern, Daminelli, and Fracassi 2015), which include imports between two countries, percentage of private mergers between two countries, percentage of public mergers between two countries, exchange rate volatility, exchange rate growth rate, common language, shared border, geographical distance, bilateral investment treaty, same legal system, same religion, culture distance, two countries' GDP, the difference in the tax rate, the difference in the quality of institutions, the difference in the business environment. We include year-level fixed effects to control worldwide macro-level shocks on the economy, such as the financial crisis and COVID-19. For the country level, we first control two fixed effects on the acquirer country level and target country level to capture a country's takeover regulation, which has little variation across time (Ahern, Daminelli, and Fracassi 2015; Adler and Alegi 1999). Moreover, we also further control country-pair level fixed effects to control for the other potentially omitted differences between the two countries. Our results are conceptually unchanged by using different fixed effects controls.

#### [Insert Table 4 here]

The first two columns Table 4 presents the result. Column (1) shows the results with three-way fixed effects at the acquirer country level, target country level, and year level. Column (2) controls for the country-pair level fixed effect and year fixed effect. The control variables for the gravity model are added in the last two columns. Time-invariant variables for country pair, such as common language, and geographic distance,

are absorbed by the country-pair fixed effect in the second column. As shown in the table, the coefficients for OLS estimations for country pair connectedness are significantly positive at 1% level. The effect is also economically significant. For example, the coefficient for Value in column (4) shows that one unit increase in connectedness between two countries will lead to the number of M&A deals increasing by around 55.8% in the next year.

## 4.2 Endogeneity

#### 4.2.1 Instrumental Variable

Country-pair level connectedness is an endogeneity factor. For example, strong bilateral relationships may lead to strong country-pair connections. To ease the concern and potential consequences led by the omitted variable we employ an instrumental variable (IV) two-stage approach to estimate the effects of country-pair connectedness on the number of cross-border M&A. We first borrow the idea from Jochmans and Verardi (2019) to construct an instrumental variable by measuring the average connectedness of the two countries with other countries. For example, instead of directly measure the connectedness between the US and the UK, we average connected between the US with the rest of countries (excluding the UK) as well as the rest connectedness for the UK. Then, we take the average of rest connectedness of the two countries as the instrumental variable. In line with the idea of "common friends" by Jochmans and Verardi (2019), the instrumental variable is highly likely to be correlated to the original country-pair connectedness. Meanwhile, the cross-border M&A activity are less likely to be affected by the connectedness with other countries, satisfying the exclusion condition of instruments. The results of the two-stage least squares (2SLS) shows that our results are robust after excluding the concerns of the endogeneity concerns. The estimation results of the instrumental variables are reported in Table 4. Moreover, Cohn, Z. Liu, and Wardlaw (2022) suggests the issue that using log of count number plus the outcome can produce estimates with meaningless interpretation and Poisson model. Thus, we also adopt the IV two-stage PPML methods, which use the country pair connectedness regress on the proposed instrument variable, and then estimate a PPML regression of number of deals on the country pair connectedness as the second stage.

Column (3) and (5) report the first stage of the IV regression. The result implies

that the proposed *Commonfriends* is indeed positively related to the connectedness at pair level. Additionally, the Kleibergen–Paap rk Wald F statistic for the weak identification test exceeds the critical value set by Stock and Yogo (2002), meeting the relevance requirement and allowing us to reject the null hypothesis of weak identification. The second stage result in column (4) and (6) presents that the coefficient of estimated country-pair connectedness is significantly positive at 5% level (1% level for PPMLresults) with economic magnitude that is more than double (column (5)) relative to the OLS results in Panel A.

### 4.2.2 Economic conditions in the focal country

There are previous studies arguing that a country's underlying economic condition could drive cross-border M&A deals (e.g., Dunning (1998), Erel, Liao, and Weisbach (2012), and Uddin and Boateng (2011)). Although we controlled for macroeconomic-level factors as well as country- and year-level fixed effects, we further examine whether the impact of connectedness can be alternatively explained by the effects of economic outlook enhancement. The starting point is that the improvement in a country's economic outlook, for example, due to an open economic policy, could simultaneously increase a country's global connectedness and the number of cross-border acquisitions. Since the number of domestic deals might also be expected to increase following an economic outlook enhancement, we directly test whether GCI can explain the volume of domestic deals are reported in Table 5.

## [Insert Table 5 here]

The coefficients for GCI, its sub-pillars, and dimensionalities are generally insignificant, with the exception of the "People" dimension, which exhibits a positive and statistically significant relationship with the number of domestic deals in some specifications (e.g., Column (7)). However, the overall results are inconsistent with the findings from our baseline specifications on cross-border M&A deals, where GCI and its subcomponents demonstrated significant explanatory power. Notably, variables such as "Breadth" and "Depth," which play a significant role in cross-border acquisitions, do not exhibit similar explanatory power for domestic deals. Furthermore, traditional macroeconomic control variables, such as tax rates, GDP growth rates, and trade-to-GDP ratios, are either insignificant or have coefficients inconsistent with the economic outlook explanation.

Taken together, these findings provide further evidence to rule out the alternative explanation that the observed effects of GCI on cross-border deals are merely a reflection of economic outlook enhancement. The lack of consistent, significant coefficients across the GCI dimensions for domestic deals reinforces the conclusion that global connectedness is a distinct driver of cross-border M&A activity, separate from broader economic improvements.

## 4.2.3 Covid Period

According to the DHL Global Connectedness Report 2022, global connectedness was hit during the COVID-19. Specifically, as shown in Figure 1, the trade and people pillars declined during the COVID-19 period, while the upward trends of capital and information were not affected. The trade and people are mostly affected due to the physical restriction policies, while the trend of information and capital remains due to most information exchange and investment activities can be taken remotely and online. In a situation like this, the effects of pillars will certainly be re-weighted. We set *Covid* dummy is equal one for year 2020 and 2021, and 0 otherwise. The results of covid mechanism are reported in table 6.

[Insert Table 6 here]

As shown in Table 6, the coefficients of the interaction terms between pillars and covid are all significantly positive, showing that the GCI plays a more critical role during the COVID. However, the reasons behind the magnified effects for each pillar are different. Despite there were restriction policies, there is still international trade and people flow. The trade and people flow during this COVID must be due to cogent and sufficient motivation and reasons. That explains why trade and people have greater influence during the COVID. Due to the restrictions, more communication activities transfer from in-person to online such as online meetings and working from home. These transformations are more common in cross-border activities because physical contact costs more and is impractical during the pandemic. Thus, the information pillar takes more weight from trade and people and plays a more important role in easing information asymmetry in the period.

#### 4.2.4 China-US Trade War

Starting from January 2018, the US government starts to set a series of tariffs and other trade barriers to import from China. To respond to these trade barriers policy, the Ministry of Commerce of China also starts a set of policies imposing tariffs on goods from the USA. The trade war between the USA and China obviously affects the connected-ness between the two countries, especially regarding the trade perspective. We use the Difference-in-Difference method (DiD) and take the China-USA as the treatment group and explore how the affected connectedness can further impact the acquisition activities between the two countries.

### [Insert Table 7 here]

The results presented in Table 7 underscore the significant adverse impact of the US-China trade war on cross-border merger and acquisition (M&A) activities between the two countries. The variable Post captures the post-2018 period, while Treat indicates whether the country pair involves the US and China. The interaction term (Treat × Post) serves as the key variable of interest, reflecting the effect of the trade war on deal activity.

The results reveal that the interaction term is statistically significant at the 1% level, with a coefficient of -0.658 (for column(2)). This indicates a substantial decline in the number of outbound cross-border deals involving US-China country pairs during the trade war period. The magnitude of the negative coefficient suggests that the decreased connectedness between the two countries due the regulations can significantly lead to the following cross-border acquisition activity for the two countries. These findings are inline with our predictions.

#### 4.2.5 Granger Test

Although adopting instrumental variable ease the concerns of reverse causality, we still adopt a Granger causality test (Granger 1969) to make sure it is global connectedness that affects cross-border M&A deals, rather than the reverse causal effects, following Ahmad, De Bodt, and Harford (2021). The Granger causality test rests on a panel vector auto-regression composed of two equations (one for modeling the dynamic of global connectedness and the second for the dynamic of cross-border activity) at the country-pair level (e.g., Greene (2012)).

[Insert Table 8 here]

Table 8 reports the results of the Granger test. It is clear that cross-border deals are auto-correlated since the auto-regressive coefficients of the number of deals are all significant. This is in line with the fact of M&A waves and business cycles. Country-pair level connectedness follows AR(1) process. The Granger causality Wald tests show that the lagged value of can predict the number of deals, while the lagged number of deals cannot predict value. Thus, we can say that connectedness Granger-cause cross-border acquisition rather than vice versa.

### 4.2.6 Combined CAR

In this section, we adopt gravity model to test the performance of cross-border acquisition. We first examine the effects of country-pair connectedness on the combined CAR. The results are presented in Table 9. Column (1), (2), and (3) reports the impact on 3-day, 5-day, and 7-day combined CAR around the announcement date. The combined CAR is weighted average of cumulative abnormal return of acquirer firms and target firms, where weights are based on firm's market value 4 weeks before the announcement date. The definitions of all variables are provided in Appendix.

[Insert Table 9 here]

As shown in Table 9, the coefficients for country-pair connectedness are negative across all columns and statistically significant at the 1% level in the 3-day and 5-day windows (Columns (1) and (2)). The results suggest that higher country-pair connectedness reduces combined CARs, indicating that such deals are less favorably perceived by the market. This finding is consistent with the empire-building theory, where managers prioritize personal motivations, such as familiarity and ease of execution, over shareholder value maximization. Managers appear more inclined to pursue deals in highly connected country pairs due to reduced information barriers, even though these deals generate lower returns. Control variables, such as the acquirer country's GDP (GDP (Acq)) and acquirer firm market value (Market value (Acq)), show consistent effects aligned with previous studies. Specifically, GDP (Acq) positively affects CARs, suggesting that stronger economic conditions in the acquiring country are associated with higher abnormal returns.

#### 4.2.7 Acquirer and target CAR

We further investigate the impact of country-pair connectedness on acquirer and target CARs, controlling for differences in macroeconomic factors such as GDP, GDP growth, and business environment between the two countries, following the approach of Cao, X. Li, and G. Liu (2019). In addition, country-pair level fixed effects are employed to account for time-invariant factors, consistent with previous sections. The first three columns of Table 10 report the results for acquirer CARs across 3-day, 5-day, and 7-day event windows, while the last three columns focus on target CARs.

[Insert table 10 here]

As shown in Table 10, acquirer CARs exhibit negatively significant coefficients in the 5-day and 7-day windows, suggesting that higher country-pair connectedness is associated with reduced market gains for acquirers, possibly due to overpayment or weaker perceived synergies. In contrast, target CARs show a strong and positively significant relationship with connectedness across all event windows. This indicates that target firms benefit from higher premiums offered by acquirers in deals involving more connected country pairs, leading to a favorable market response.

The results align with the interpretation that acquirers may offer substantial premiums to secure deals in highly connected country pairs, which benefits target shareholders but diminishes value for acquirers. This hypothesis is explored further in the subsequent section.

#### 4.2.8 Premium paid

We examine the relationship between country-pair connectedness and the premium paid to target firms in cross-border acquisitions. Table 11 presents the results, where the dependent variable is the premium paid relative to the target firm's market value one day (Column (1)) and one week (Column (2)) before the announcement date. The control variables and fixed effects are consistent with those used in the combined CAR analysis.

[Insert Table 11 here]

As shown in Table 11, the coefficients for country-pair connectedness are positive and significant, ranging from 2.56 to 2.77, confirming that deals involving more connected country pairs typically involve higher premiums. This finding supports the hypothesis that acquirers in highly connected country pairs are more willing to pay substantial premiums to secure the deal, irrespective of the costs. This behavior is consistent with the empire-building explanation, where managers prioritize deal completion, often at the expense of value creation, in familiar and highly connected markets.

#### 4.2.9 BHAR

One could argue that our findings on performance might be driven by differences reaction of investors in different countries rather than the higher cost lead by acquirer firms manager. Regarding this argument, we first respond that only part of our results could be driven by such explanation, whereas the results on the number of deals are not based on market response. Furthermore, if investors react differently, it may also affects longer term performance. Thus, we further test the effect of connectedness on long-term returns measured by buy-and-hold abnormal returns. The results on BHAR are reported in Table A.2. We find no evidence that the connectedness between countries can affect longer term performance. It aligns with market efficiency theory that value effects are reflected at the time of the announcement, with no observed momentum or reversals, suggesting that our findings on performance is not simply driven by differences in investors from different countries.

## 4.3 Robustness Test

#### 4.3.1 Excluding USA

Since cross-border deals of USA consists of around 20% (14,343/70,028) of total deals in the sample, one may argue that the results are mainly driven by the USA's connectedness. Thus, we repeated our results on both country level and country pair level after excluding all USA related deals. Table A.3 shows the results. As shown in the table, our results still hold and are not driven by the dominating country in the cross-border acquisition markets.

### 4.3.2 Count data concern

We address the log 1 plus count variable issues in Table 4 for the country-pair level analysis, since the significant proportion of the number of outbound deals are 0 in some

years for certain country pairs. Although we have only around 20 observations in country year level with 0 value for the dependent variable, we still present the PPML results by using ln(Number of deals) without plus 1. As shown in Table A.4, the results are in line with our main baseline results.

## 5 Conclusion

This study provides valuable insights into the relationship between global connectedness and cross-border acquisitions, contributing to the literature on globalization and the determinants of M&A activity. At the country-year level, our findings reveal that a higher Global Connectedness Index (GCI) is positively associated with the total number of cross-border deals. Trade and information flows emerge as key pillars driving this relationship, with trade's impact extending beyond depth to highlight the critical role of breadth in global flows. Information connectedness facilitates deal-making by mitigating information asymmetry, while people flows have no significant impact on cross-border acquisitions, consistent with prior research.

To further validate our findings, we conduct a gravity model analysis at the countrypair level and address potential endogeneity concerns using an instrumental variable (IV) approach based on the "common friends" methodology. This approach accounts for the potential reverse causality between connectedness and deal activity, providing stronger causal evidence. Robustness tests, such as leveraging the China–U.S. trade war as an exogenous shock and conducting Granger causality tests, further strengthen the validity of our results. Moreover, we find that the relationship between GCI and crossborder deals does not extend to domestic acquisitions, ruling out alternative explanations tied to general economic outlook improvements.

In addition to exploring the volume of deals, we examine the quality of cross-border acquisitions. Interestingly, despite the benefits of reducing information asymmetry, higher GCI is associated with lower-quality deals. CEOs seem more likely to engage in acquisitions with familiar countries, often paying higher premiums, consistent with the predictions of empire-building theory. While these premiums may result in favorable short-term market reactions for target firms, they do not translate into long-term performance gains for acquirers, suggesting that markets efficiently price in these dynamics.

This study makes several contributions. First, it advances the understanding of glob-

alization's impact on economic activity by offering a micro-level perspective on crossborder M&A decisions. It emphasizes the role of globalization breadth—particularly trade and information flows—over mere depth, illustrating how diverse and expansive connections shape international investment patterns. Second, it enriches the literature on M&A determinants by demonstrating the influence of global connectedness alongside established factors such as financial market conditions, tax rates, cultural values, and institutional quality. These insights bridge the fields of international economics and corporate finance, providing a holistic view of the determinants of cross-border M&A activity.

The findings have significant implications for policymakers, corporate managers, and other stakeholders. Policymakers should recognize global connectedness as a critical driver of cross-border M&A activity, which plays a key role in fostering economic growth, international capital flows, and deeper integration into the global economy. Promoting openness in trade and information exchange while addressing barriers to connectivity can support more robust cross-border investment activity.

For corporate decision-makers, this study highlights the importance of understanding the nuances of global connectedness in shaping acquisition strategies. While higher global connectedness facilitates deal-making, it also increases the likelihood of overpayment and empire-building behaviors. Firms must balance the pursuit of deal volume with careful evaluation of deal quality to avoid adverse outcomes. Enhanced due diligence and strategic alignment with long-term objectives are particularly vital when engaging with familiar but highly connected markets.

## References

- Adler, H. L. and L. M. Alegi, eds. (1999). *The global merger notification handbook*. OCLC: ocm43924593. London: Cameron May.
- Ahern, K. R., D. Daminelli, and C. Fracassi (July 2015). "Lost in translation? The effect of cultural values on mergers around the world". en. In: *Journal of Financial Economics* 117.1, pp. 165–189.
- Ahmad, M. F., E. De Bodt, and J. Harford (Sept. 2021). "International Trade and the Propagation of Merger Waves". en. In: *The Review of Financial Studies* 34.10. Ed. by D. Denis, pp. 4876–4925.
- Aleksanyan, M., Z. Hao, E. Vagenas-Nanos, and P. Verwijmeren (Feb. 2021). "Do state visits affect cross-border mergers and acquisitions?" en. In: *Journal of Corporate Finance* 66, p. 101800.
- Altman and Bastian (2023). DHL Global Connectedness Report. en-G0.
- Bonaime, A., H. Gulen, and M. Ion (Sept. 2018). "Does policy uncertainty affect mergers and acquisitions?" en. In: *Journal of Financial Economics* 129.3, pp. 531–558.
- Bris, A. and C. Cabolis (Apr. 2008). "The Value of Investor Protection: Firm Evidence from Cross-Border Mergers". en. In: *Review of Financial Studies* 21.2, pp. 605–648.
- Cao, C., X. Li, and G. Liu (Mar. 2019). "Political Uncertainty and Cross-Border Acquisitions\*". en. In: *Review of Finance* 23.2, pp. 439–470.
- Chakrabarti, R., S. Gupta-Mukherjee, and N. Jayaraman (Feb. 2009). "Mars–Venus marriages: Culture and cross-border M&A". en. In: *Journal of International Business Studies* 40.2, pp. 216–236.
- Cohn, J. B., Z. Liu, and M. I. Wardlaw (Nov. 2022). "Count (and count-like) data in finance". en. In: *Journal of Financial Economics* 146.2, pp. 529–551.
- Denis, D. J., D. K. Denis, and K. Yost (Oct. 2002). "Global Diversification, Industrial Diversification, and Firm Value". en. In: *The Journal of Finance* 57.5, pp. 1951– 1979.
- Di Giovanni, J. (Jan. 2005). "What drives capital flows? The case of cross-border M&A activity and financial deepening". en. In: *Journal of International Economics* 65.1, pp. 127–149.

- Duchin, R. and B. Schmidt (Jan. 2013). "Riding the merger wave: Uncertainty, reduced monitoring, and bad acquisitions". en. In: *Journal of Financial Economics* 107.1, pp. 69–88.
- Dunning, J. H. (Mar. 1998). "Location and the Multinational Enterprise: A Neglected Factor?" en. In: *Journal of International Business Studies* 29.1, pp. 45–66.
- Erel, I., R. C. Liao, and M. S. Weisbach (June 2012). "Determinants of Cross-Border Mergers and Acquisitions". en. In: *The Journal of Finance* 67.3, pp. 1045–1082.
- Ferreira, M. A., M. Massa, and P. Matos (Feb. 2010). "Shareholders at the Gate? Institutional Investors and Cross-Border Mergers and Acquisitions". en. In: *Review of Financial Studies* 23.2, pp. 601–644.
- Fischer, S. (2003). "Globalization and Its Challenges". English. In: *The American economic review* 93.2. Place: Nashville Publisher: American Economic Association, pp. 1–30.
- Frankel, J. A. and D. Romer (June 1999). "Does Trade Cause Growth?" en. In: *American Economic Review* 89.3, pp. 379–399.
- Froot, K. A. and J. C. Stein (Nov. 1991). "Exchange Rates and Foreign Direct Investment: An Imperfect Capital Markets Approach". en. In: *The Quarterly Journal of Economics* 106.4, pp. 1191–1217.
- Gavriilidis, K., Z. Hao, A. A. Prapan, and E. Vagenas-Nanos (2019). "Does Geopolitical Risk Affect Mergers and Acquisitions?" en. In: *SSRN Electronic Journal*.
- Granger, C. W. J. (Aug. 1969). "Investigating Causal Relations by Econometric Models and Cross-spectral Methods". In: *Econometrica* 37.3, p. 424.
- Greene, W. (2012). *Econometric analysis*. eng. 7. ed. Pearson series in economics. Boston Munich: Prentice Hall.
- Grossman, G. M. and E. Helpman (May 2015). "Globalization and Growth". en. In: *American Economic Review* 105.5, pp. 100–104.
- Harford, J. (Sept. 2005). "What drives merger waves?" en. In: *Journal of Financial Economics* 77.3, pp. 529–560.
- Harford, J., R. Schonlau, and J. Stanfield (July 2019). "Trade Relationships, Indirect Economic Links, and Mergers". en. In: *Management Science* 65.7, pp. 3085–3110.
- Jensen, M. C. (1986). "Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers". In: *The American Economic Review* 76.2. Publisher: American Economic Association, pp. 323–329.

- Jochmans, K. and V. Verardi (Nov. 2019). "Instrumental-Variable Estimation of Gravity Equations". en. In: Publisher: Apollo University of Cambridge Repository.
- Li, J., J. Xia, and Z. Lin (Sept. 2017). "Cross-border acquisitions by state-owned firms: How do legitimacy concerns affect the completion and duration of their acquisitions?" en. In: *Strategic Management Journal* 38.9, pp. 1915–1934.
- Markides, C. C. and C. D. Ittner (June 1994). "Shareholder Benefits from Corporate International Diversification: Evidence from U.S. International Acquisitions". en. In: *Journal of International Business Studies* 25.2, pp. 343–366.
- Morosini, P., S. Shane, and H. Singh (Mar. 1998). "National Cultural Distance and Cross-Border Acquisition Performance". en. In: *Journal of International Business Studies* 29.1, pp. 137–158.
- Nitsch, V. (Dec. 2007). "State Visits and International Trade". en. In: *The World Economy* 30.12, pp. 1797–1816.
- Norbäck, P.-J. and L. Persson (May 2008). "Globalization and profitability of crossborder mergers and acquisitions". en. In: *Economic Theory* 35.2, pp. 241–266.
- Portes, R. and H. Rey (Mar. 2005). "The determinants of cross-border equity flows". en. In: *Journal of International Economics* 65.2, pp. 269–296.
- Rhodes–Kropf, M., D. T. Robinson, and S. Viswanathan (Sept. 2005). "Valuation waves and merger activity: The empirical evidence". en. In: *Journal of Financial Economics* 77.3, pp. 561–603.
- Rossi, S. and P. F. Volpin (Nov. 2004). "Cross-country determinants of mergers and acquisitions". en. In: *Journal of Financial Economics* 74.2, pp. 277–304.
- Serdar Dinc, I. and I. Erel (Dec. 2013). "Economic Nationalism in Mergers and Acquisitions". en. In: *The Journal of Finance* 68.6, pp. 2471–2514.
- Shleifer, A. and R. W. Vishny (Dec. 2003). "Stock market driven acquisitions". en. In: *Journal of Financial Economics* 70.3, pp. 295–311.
- Starks, L. T. and K. D. Wei (Sept. 2013). "Cross-Border Mergers and Differences in Corporate Governance". en. In: *International Review of Finance* 13.3, pp. 265–297.
- Uddin, M. and A. Boateng (Oct. 2011). "Explaining the trends in the UK cross-border mergers & acquisitions: An analysis of macro-economic factors". en. In: *International Business Review* 20.5, pp. 547–556.
- Uysal, V. B., S. Kedia, and V. Panchapagesan (Apr. 2008). "Geography and acquirer returns". en. In: *Journal of Financial Intermediation* 17.2, pp. 256–275.



Figure 1: The impact of COVID on global connectedness index (Source: 2022 DHL Global Connectedness Report)

Panel A. Total number of deals between the country to the rest of world																																																
ISO	ARC	AUS	AUT	BRA	CAN	CHE	CHL	CHN	COL	CZE	DEU	DNK	ESP	FIN F	RA (	GBR	GRC	HKG	HRV	HUN	IDN	IND	IRL	ISR	ITA	JPN	KOR	LTU	LVA	MAR	MEX	MY	S NLD	NOR	NZL	PAK	PER	PHL	POL	PRT	RUS	SGP	SVK	SWE	THA	TUR !	URY	USA
Rest of world	292	3402	439	734	5690	1165	329	3239	299	258	3244	813	1844	750 2	700	8717	214	2902	29	122	386	1127	1086	669	1398	1451	846	74	46	36	550	69	1 2023	991	603	30	226	144	572	319	500	2038	58	1989	269	324	57	14343
	Panel B. Outbound number of deals within 48 countries																																															
ARG	(	0	0	9	0	0	3	2	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3		0 1	0	0	0	1	0	0	0	0	0	0	0	0	0	7	6
AUS	(	0	2	20	119	9	28	31	9	4	41	13	19	7	18	222	1	39	0	1	27	15	10	8	9	12	- 11	0	0	0	7	2	1 16	11	250	0	9	14	8	2	3	48	2	12	5	3	0	462
AUT	1	5	0	2	4	3	0	2	0	7	47	1	5	2	4	7	0	0	0	7	0	1	3	1	11	0	1	0	1	0	1		2 5	1	1	0	0	0	18	1	5	2	4	6	1	6	0	19
BRA	26	4	1	0	6	3	7	1	9	0	1	1	2	0	3	8	0	0	0	0	0	0	0	0	2	1	0	0	0	0	5		0 4	3	0	0	6	0	1	8	0	0	0	0	0	1	9	30
CAN	4	147	4	61	0	21	38	41	49	4	73	10	27	16	43	235	2	29	0	1	4	11	22	23	8	4	6	3	0	1	116		4 42	15	20	0	61	5	7	5	6	13	1	25	0	6	2	2195
CHE	4	19	11	16	25	0	2	7	7	4	71	7	22	8	42	59	2	5	0	1	2	5	8	5	20	5	6	0	0	0	1		3 19	5	2	2	2	1	5	3	8	3	2	18	0	4	1	179
CHL	1	1	0	22	2	0	0	0	23	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0		1 0	0	0	16	0	0	0	0	0	0	0	0	0	2	9	
CHN	(	74	5	10	52	14	5	0	2	3	43	6	14	6	34	49	1	320	0	2	5	2	3	12	35	32	19	0	1	0	4	- 1	2 24	7	8	2	4	0	3	1	3	55	1	7	7	4	2	165
COL	4	0	0	5	3	0	6	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	7		0 1	0	0	0	12	0	0	1	0	0	0	0	0	0	1	10
CZE	(	1	0	0	0	0	0	0	0	0	3	1	3	0	1	0	0	0	0	0	1	0	1	0	3	0	0	0	0	0	0		0 2	0	0	0	0	0	11	0	2	0	9	0	0	2	0	2
DEU		41	42	9	11	46	3	19	3	14	0	22	52	15	92	149	4	4	0	8	2	19	18	8	38	9	8	2	1	1	6		3 63	17	2	0	0	1	42	8	4	10	3	46	I	13	l	229
DNK	(	5	1	. 1	8	8	0	0	0	2	28	0	6	15	12	28	1	4	0	0	0	4	4	2	9	2	2	1	3	0	1		0 12	23	1	0	1	0	13	1	1	4	0	52	0	1	0	33
ESP	1		2	. 34	8	2	19	5	12	4	24	17	0	3	31 10	4/	1	3	0	1	0		2	1	50	4	3	0	0	3	24		J 14	3	0	0	8	0	12	04	10	2	0	10	0	2	9	8/
FIIN ED A		24	4	4	22	3 26	0	0 26	5	2	102	1/	102	10	10	124	6	2	1	5	2	1	14	10	0 97	10	14	) 1	2	0	1		2 14 1 56	33 10	1	0	1	0	4	20	10	11	3	13	1	3	2	210
CRD	12	24	18	15	150	20 52	16	20 56	10	20	242	63	103	10	0 271	134	12	26	1	12	12	21 16	175	28	07 162	10	22	1	1	4	18	1	1 30	82	26	2	5	2	68	20	21	20	1	122	8	9 26	1	1252
GRC	1	242	. 10	1 4J	150	0	10	1	10	0	1	05	105	45 .	0	0	12	0	0	15	12	40	1/5	20 /	102	10	- 22	0	0	0	10	1	1 1	0	20	0	0	0	1	0	1	29	1	155	0	20 6	0	1335
HKG		86	2	16	37	14	0	1095	1	0	18	2	5	4	9	78	0	0	0	0	29	5	0	3	10	30	40	0	0	0	4	. 4	0 8	3	15	2	5	9	3	3	4	95	0	6	15	0	1	106
HRV	(	0	1	. 10	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	Ó	2	0	0	0	0	0	0	0	0	100
HUN	(	0	1	0	0	1	0	0	0	0	1	0	0	0	1	1	1	0	Ő	0	0	0	0	1	0	0	0	0	0	0	0		0 1	0	0	0	1	0	3	0	2	0	1	1	0	2	0	1
IDN	(	11	0	0	1	0	0	5	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0		5 0	0	0	0	0	0	0	0	0	13	0	0	2	0	0	1
IND		19	1	11	14	13	3	6	1	8	26	3	5	6	21	71	0	0	0	0	14	0	4	4	12	5	4	0	0	0	4		7 11	3	1	0	0	0	2	2	2	26	0	3	4	2	0	193
IRL	(	12	1	3	19	1	0	10	2	3	27	5	10	3	16	204	2	2	0	0	0	4	0	5	9	6	1	0	0	1	5		3 23	2	0	0	1	0	4	2	1	3	0	9	0	2	0	167
ISR		1	1	3	8	7	0	2	0	0	24	3	13	3	13	30	2	2	0	0	0	1	0	0	9	4	2	0	1	0	3		0 6	2	2	0	1	0	6	0	2	2	0	1	2	1	0	162
ITA	(	11	5	17	9	21	5	10	1	6	41	6	39	0	61	65	12	0	1	1	0	6	5	0	0	2	1	0	0	0	6		0 18	3	1	0	0	0	13	6	9	5	1	5	1	9	0	68
JPN	1	63	3	16	21	14	4	36	0	4	34	7	9	7	20	86	1	20	0	0	30	36	4	2	20	0	42	0	0	0	3	3	2 19	2	5	0	0	8	1	2	5	59	0	8	21	16	1	311
KOR		8	2	5	16	2	0	61	0	4	10	1	4	1	13	23	0	17	0	0	16	11	3	1	6	24	0	0	0	0	0		56	2	1	2	1	1	3	3	5	10	1	0	6	5	0	131
LTU	(	0	0	0 0	0	0	0	0	0	0	0	1	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0		0 0	2	0	0	0	0	3	0	0	0	1	0	0	0	0	0
LVA	(	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0		0 0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
MAR	(	0	0	0 0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MEX		0	0	18	6	0	3	0	12	0	I	0	15	0	0	1	0	0	0	0	0	1	I	1	0	0	0	0	0	0	0			2	1	0	4	1	0	0	0	1	0	0	0	1	2	49
MYS NUD	(	29	0	2	3	5	1	22	0	0	0	0	3	0	0	19	0	23	0	0	33	9	1	0	2	4	2	0	1	1	0	1	J 6	1	2	1	0	1	0	0	0	/8	0	0	1/	2	0	124
NLD		14		10	24	10	1	14	2	12	80	10	29	10	08	52	2	/	1	0	/	10	9	2	21	0	12	1	1	0	11	1	J U	14	3	4	1	1	51	0	25	11	4	5/	0	20	0	154
N/7I		01	0	. 10	10	2	1	1	0	2	24	49	20	25	10	14	4	1	0	1	0	0	1	0	0	4	5	4	0	1	1		1 10	0	2	0	1	0	0	1	1	0	0	112	1	0	0	49
PAK	(	0	0		4	0	0	0	0	0	0	0	0	0	1	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		1 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PER		0	0		5	0	13	0	10	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2		0 0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
PHI.	(	5	0	0	3	0	1	4	0	0	1	0	1	0	0	4	0	5	0	0	0	1	0	0	0	0	0	0	0	0	2		61	0	2	0	0	0	3	0	0	6	0	1	1	0	0	9
POL	í	0	3	0	2	2	0	1	0	14	18	2	5	0	4	5	0	0	0	8	0	0	2	0	5	0	0	5	1	0	0		0 6	0	0	0	0	0	0	2	5	0	2	5	0	7	0	4
PRT		1	0	9	1	0	1	0	0	1	3	0	31	0	3	6	2	0	0	0	0	1	1	1	3	0	0	0	0	0	1		0 0	1	0	0	1	0	4	0	0	0	0	2	0	3	0	4
RUS		0	2	0	6	1	0	1	0	2	5	1	1	2	2	14	4	0	0	1	0	2	0	1	6	0	0	1	0	0	0		1 6	0	0	0	0	0	0	1	0	1	1	1	0	8	0	19
SGP	(	146	1	5	8	7	1	195	1	1	19	5	8	3	10	101	0	102	0	0	99	84	4	1	7	55	35	0	0	0	2	11	3 21	6	16	1	2	15	5	2	2	0	0	4	35	4	0	104
SVK	(	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0		0 0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
SWE	(	17	9	5	23	18	3	8	0	10	83	115	32	138	51	118	9	1	0	4	1	5	10	2	18	0	8	6	6	0	5		5 53	141	3	0	0	0	13	2	14	6	1	0	1	3	2	168
THA	(	6	0	1	2	1	0	6	0	0	0	0	1	0	4	9	0	5	0	0	8	5	0	1	3	3	0	0	0	0	0		6 1	1	4	0	0	6	1	1	0	15	0	0	0	1	0	9
TUR	(	1	2	0	2	0	0	0	1	0	3	1	2	0	2	1	0	0	0	1	1	0	0	1	2	1	0	0	1	0	0		0 7	0	0	0	0	0	2	1	7	0	0	1	0	0	0	12
URY	1	0	0	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
USA	4	373	28	130	1178	120	41	218	19	30	456	70	230	49	343	1350	19	93	0	18	8	142	134	187	176	97	85	3	3	3	130	2	1 211	69	51	1	18	15	37	19	25	72	1	123	10	26	4	0

This table presents the cross-border acquisition deals distribution. Panel A presents the total number of deals (sum of outbound and inbound deals) to the rest of the world from 2002 to 2021. Panel B presents the number of outbound deals from the countries in the first column to the countries listed in the first row.

	N	Mean	SD	p25	p50	p75					
Panel A: Country year level descriptive statistics											
GCI	960	60.374	12.184	50.436	61.707	68.717					
GCI (exc. capital)	960	62.075	11.431	53.630	62.826	70.945					
People	960	58.397	16.104	44.261	61.175	72.683					
Information	960	65.968	14.622	55.340	67.368	78.098					
Trade	960	61.983	12.327	52.720	61.206	69.264					
Capital	960	57.406	15.827	45.208	56.577	70.105					
Number of deals	960	3.355	1.450	2.485	3.401	4.363					
Tax rate	959	0.267	0.067	0.211	0.275	0.313					
Pre-election	960	0.159	0.366	0.000	0.000	0.000					
GDP growth rate	960	2.684	3.735	1.140	2.756	4.816					
GDP	960	26.746	1.421	25.879	26.565	27.788					
Depth (exc.capital)	842	26.453	9.779	19.210	27.014	33.777					
Breadth (exc. capital)	842	36.280	6.734	31.662	37.139	41.706					
Trade-to-GDP	960	4.287	0.598	3.919	4.213	4.628					
Quality of insititutions	960	10.926	2.982	8.500	10.500	13.521					
Business environment	960	9.905	1.774	8.500	10.000	11.500					

## Table 2: Trade Relations Between Countries

## Panel B: Country pair year level descriptive statistics

Number of deals (country pair)	28362	0.337	0.652	0.000	0.000	0.693
Country Pair Connectedness	28362	0.456	1.390	0.029	0.095	0.320
Imports from acquirer country	28362	-3.966	1.476	-5.023	-3.975	-2.899
Private merger	28362	0.091	0.266	0.000	0.000	0.000
Public merger	28362	0.034	0.164	0.000	0.000	0.000
Exchange rate vol	28362	8.396	69.894	0.003	0.036	0.296
Exchange growth	28362	0.003	0.133	-0.052	0.000	0.048
GDP (Acq)	28362	27.216	1.318	26.265	27.017	28.136
GDP (Tar)	28362	27.011	1.393	26.089	26.809	28.017
Differences in tax rate	28362	0.067	0.049	0.030	0.057	0.095
Differences in quality of institutions	28362	0.478	4.270	-2.500	0.500	3.750
Differences in investment profile	28362	0.203	2.391	-1.333	0.000	1.875
Common friends	28362	0.747	0.657	0.320	0.551	0.944
Differences in tax rate	28362	0.067	0.049	0.030	0.057	0.095
Same religion	28362	0.252	0.434	0.000	0.000	1.000
Same legal	28362	0.288	0.453	0.000	0.000	1.000
Bilateral investment treaty	28362	0.525	0.499	0.000	1.000	1.000
Share border	28362	0.067	0.250	0.000	0.000	0.000
Share language	28362	0.117	0.321	0.000	0.000	0.000
Culture dist	28362	60.415	22.889	43.359	62.073	78.479
Geographic distance	28362	8.379	1.071	7.528	8.794	9.197

This table presents the descriptive statistics for all variables used in the analysis. The definitions of all variables are provided in Appendix.

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	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Number of deals							
GCI	0.022**							
	0.009							
GCI (exc. capital)		0.029**						
		0.011						
Trade			0.017**					
			0.008					
Information				0.015**				
				0.007				
People					-0.004			
					0.007			
Capital						0.006*		
						0.003		
Depth (exc.capital)							0.018	
							0.014	
Breadth (exc. capital)								0.032*
								0.018
Tax rate	-0.605	-0.450	-0.477	-0.724	-0.659	-0.660	-0.274	-0.100
	0.749	0.754	0.765	0.765	0.810	0.761	0.743	0.792
Pre-election	0.059**	0.054**	0.055**	0.054**	0.056**	0.059**	0.061*	0.060**
	0.024	0.024	0.024	0.024	0.023	0.023	0.030	0.026
GDP growth rate	0.023***	0.024***	0.023***	0.024***	0.022***	0.023***	0.025***	0.024***
	0.007	0.007	0.007	0.007	0.007	0.007	0.008	0.008
Trade-to-GDP	0.347**	0.259	0.234	0.549***	0.532***	0.483***	0.288	0.559***
	0.164	0.178	0.185	0.139	0.157	0.154	0.217	0.151
GDP	0.280**	0.310**	0.351**	0.330**	0.403***	0.339**	0.197	0.151
	0.131	0.118	0.125	0.119	0.135	0.136	0.125	0.138
Quality of insititutions	0.096***	0.103***	0.105***	0.098***	0.094***	0.091***	0.098**	0.099***
	0.028	0.029	0.030	0.028	0.031	0.029	0.036	0.034
Business enviroment	0.034	0.034	0.033	0.033	0.033	0.034	0.064**	0.055**
	0.023	0.022	0.022	0.022	0.023	0.024	0.025	0.022
Constant	-8.256**	-9.251***	-9.523**	-10.070***	-10.721***	-9.369**	-5.380	-5.944
	3.556	3.220	3.410	3.288	3.712	3.789	3.557	3.814
Observations	959	959	959	959	959	959	841	841
Country FE	Yes							
Year FE	Yes							

This table presents the results of the effects of GCI on the total number of cross-border acquisition deals of a country. The dependent variable is the natural logarithm of the sum of the number of outbound and inbound cross-border deals plus one for each country in time t+1. GCI is the Global Connected Index, where we separately use the aggregate index, re-weighted aggregate index, pillar-level measurements, and depth and breadth dimensions from column (1) to column (8). In all models we control for country level and year level fixed effects. Heteroscedasticity–robust standard errors clustered by country are reported. \*\*\*, \*\* and \* indicate significance at the 1%, 5% and 10% levels, respectively.

#### Table 4: Country-pair level analysis

	O	LS	2	SLS	Two stage PPML			
	(1)	(2)	(3)	(4)	(5)	(6)		
	OLS	OLS	First stage	Second stage	First stage	PPML second stage		
Country Pair Connectedness	0.161***	0.056***	8	0.125**	6	0.804***		
	0.017	0.020		0.055		0.229		
Common friends			0.747***		0.747***			
			0.118		0.118			
Imports from acquirer country	0.032**	0.013*	0.034***	0.008	0.034***	0.044		
1 1 2	0.012	0.007	0.011	0.008	0.011	0.103		
Private merger	0.098***	0.012	-0.005	0.012	-0.005	-0.009		
C	0.017	0.011	0.007	0.011	0.007	0.032		
Public merger	0.294***	0.064***	0.018	0.062***	0.018	0.073**		
-	0.057	0.019	0.016	0.019	0.016	0.031		
Exchange rate vol	-0.000*	-0.000	0.000	-0.000	0.000	-0.001		
-	0.000	0.000	0.000	0.000	0.000	0.001		
Exchange growth	0.019	0.021	0.009	0.019	0.009	0.013		
	0.027	0.014	0.012	0.014	0.012	0.086		
GDP (Acq)	0.049	0.089***	0.057	0.075***	0.057	0.186*		
	0.048	0.019	0.038	0.021	0.038	0.111		
GDP (Tar)	-0.052	-0.025	0.155***	-0.046**	0.155***	-0.139		
	0.044	0.017	0.039	0.022	0.039	0.123		
Differences in tax rate	-0.284	0.119	-0.482***	0.168*	-0.482***	-0.041		
	0.201	0.092	0.139	0.099	0.139	0.508		
Differences in quality of institutions	-0.001	-0.001	-0.004	-0.001	-0.004	0.024		
	0.008	0.004	0.005	0.003	0.005	0.023		
Differences in investment profile	-0.000	0.000	0.003	0.000	0.003	0.022		
	0.004	0.002	0.004	0.002	0.004	0.015		
Same religion	0.059							
	0.036							
Same legal	0.037							
	0.026							
Bilateral investment treaty	-0.045*							
	0.023							
Share border	-0.011							
	0.050							
Share language	0.157***							
	0.055							
Culture dist	-0.003***							
	0.001							
Geographic distance	-0.079***							
	0.024							
Constant	1.325	-1.398**	-5.676***		-5.676***	-0.568		
	1.469	0.609	1.197		1.197	5.036		
Observations	28362	28362	28362	28362	28362	24179		
Acquirer country FE	Yes	No	No	No	No	No		
Target country FE	Yes	No	No	No	No	No		
Country pair FE	No	Yes	Yes	Yes	Yes	Yes		
Year FE	Yes	Yes	Yes	Yes	Yes	Yes		
Kleibergen-Paap Wald rk			40.099		40.099			
Stock-Yogo weak ID test 10%			16.38		16.38			

This table presents the results of the effects of country pair connectedness on the number of outbound acquisition deals of between country pairs. The dependent variable of OLS estimation is the natural logarithm of the sum of the number of outbound crossborder deals between each country pairs in time t+1. The first two columns report the OLS results. Column (3) and column (4) present the results of 2SLS estimations. Column (5) and column (6) present the results of IV two-stage PPML estimations. The dependent variable of the first stage is country pair connectedness. Specification (1) controls for acquirer country, target country and year level fixed effects. In the rest of columns, we control for country-pair level and year level fixed effects. In the first column, heteroscedasticity–robust standard errors clustered by acquirer country and target country are reported. In the last three columns, heteroscedasticity–robust standard errors clustered by country pair are reported. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Number of domestic deals							
GCI	0.019							
	0.016							
GCI (exc. capital)		0.027						
		0.017						
Trade			0.009					
			0.013					
Information				0.016				
				0.010				
People					0.019**			
					0.010			
Capital						0.003		
						0.005		
Depth (exc.capital)							0.059*	
							0.029	
Breadth (exc. capital)								0.012
								0.021
Tax rate	-0.075	0.072	-0.011	-0.203	0.198	-0.103	0.506	0.576
	0.907	0.908	0.917	0.936	0.884	0.906	0.874	0.902
Pre-election	0.029	0.024	0.025	0.023	0.027	0.027	0.007	0.008
	0.025	0.024	0.024	0.024	0.025	0.024	0.027	0.027
Trade-to-GDP	0.481	0.385	0.490	0.662**	0.586**	0.613**	-0.052	0.634**
	0.297	0.304	0.351	0.280	0.273	0.274	0.423	0.280
GDP growth rate	0.012	0.013	0.012	0.013	0.012	0.011	0.021**	0.017*
	0.008	0.008	0.008	0.008	0.008	0.008	0.009	0.009
GDP	0.856***	0.876***	0.933***	0.886***	0.904***	0.926***	0.683***	0.700***
	0.269	0.252	0.263	0.219	0.245	0.260	0.171	0.187
Quality of institutions	0.086	0.093*	0.089	0.089	0.076	0.083	0.089	0.077
	0.054	0.055	0.056	0.057	0.055	0.056	0.060	0.063
Business environment	0.003	0.003	0.002	0.002	0.006	0.003	0.041	0.030
	0.031	0.032	0.032	0.031	0.032	0.032	0.035	0.033
Constant	-24.012***	-24.766***	-25.526***	-25.458***	-25.728***	-25.426***	-18.110***	-20.184***
	7.271	6.906	7.271	6.396	6.905	7.147	5.138	5.359
Observations	959	959	959	959	959	959	841	841
Country FE	Yes							
Year FE	Yes							

This table presents the results of the effects of GCI on the total number of domestic acquisition deals of a country. The dependent variable is the natural logarithm of the total number of domestic acquisition deals plus one for each country in time t+1. GCI is the Global Connected Index, where we separately use the aggregate index, re-weighted aggregate index, pillar-level measurements, and depth and breadth dimensions from column (1) to column (8). In all models, we control for country level and year level fixed effects. Heteroscedasticity-robust standard errors clustered by country are reported. \*\*\*, \*\* and \* indicate significance at the 1%, 5% and 10% levels, respectively.

Table 6: Mechanism of COVID

	(1)	(2)	(3)	(4)
	Trade	Information	People	Capital
Trade $\times$ Covid	0.005*			
	0.003			
Information $\times$ Covid		$0.007^{*}$		
		0.004		
People $\times$ Covid			0.009***	
			0.002	
Capital × Covid				$0.007^{*}$
				0.003
Trade	0.021***			
	0.006			
Information		0.014**		
		0.006		
People			-0.001	
			0.009	
Capital				$0.008^{*}$
				0.004
Tax rate	-0.399	-0.434	-0.335	-0.492
	0.724	0.709	0.733	0.694
Pre-election	0.053**	0.052**	0.054**	0.059**
	0.024	0.024	0.024	0.024
GDP growth rate	0.025***	0.027***	0.024***	0.025***
	0.005	0.005	0.005	0.005
GDP	0.280**	0.164	0.243**	0.175
	0.118	0.108	0.118	0.122
Quality of institutions	0.108***	0.105***	0.096**	0.094***
	0.033	0.034	0.036	0.034
Business environment	0.032	0.025	0.026	0.029
	0.025	0.025	0.026	0.026
Constant	-6.916**	-3.364	-4.415	-3.073
	2.967	2.513	2.818	2.992
Observation	959	959	959	959
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

This table presents the results of the mechanism of COVID-19. The dependent variable is the natural logarithm of the sum of the number of outbound and inbound cross-border deals plus one for each country in time t+1. Covid is a dummy variable equal to one if year is equal to 2020 or 2021, and 0 otherwise. In all models, we control for country level and year level fixed effects. Heteroscedasticity–robust standard errors clustered by country are reported. \*\*\*, \*\* and \* indicate significance at the 1%, 5% and 10% levels, respectively.10% levels, respectively.

Table 7:	US	China	trade	war
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	(1)	(2)
	Number of outbound deals(pair)	Number of outbound deals(pair)
Treat $\times$ Post	-0.620***	-0.658***
	0.083	0.038
Imports from acquirer country		0.017**
		0.007
Private merger		0.012
		0.011
Public merger		0.066***
		0.019
Exchange rate		-0.000
-		0.000
Exchange growth		0.021
		0.014
GDP (Acq)		0.102***
		0.020
GDP (Tar)		-0.007
		0.017
Differences in tax rate		0.066
		0.091
Differences in quality of institutions		-0.002
		0.004
Differences in investment profile		0.000
_		0.002
Constant	0.337***	-2.200***
	0.000	0.641
Observations	28362	28362
Country pair FE	Yes	Yes
Year FE	Yes	Yes

This table presents the results of the impact of country pair connectedness on trade war. The dependent variable is the natural logarithm of the sum of the number of outbound cross-border deals between each country pairs in time t+1. Post is a dummy variable equal to one from 2018 to 2021, and 0 otherwise. In all models, we control for country pair level and year-level fixed effects. Heteroscedasticity–robust standard errors clustered by country pair are reported. \*\*\*, \*\* and \* indicate significance at the 1%, 5% and 10% levels, respectively.10% levels, respectively.

## Table 8: Granger test

Responses of	Responses to					
	Number of outbound deals(pair)	Country pair connectedness				
Number of outbound deals(pair) $s_{(t-1)}$	0.179***	0.000				
- ( )	0.000	0.201				
Number of outbound deals $(pair)_{(t-2)}$	0.119***	0.000				
	0.000	0.304				
Number of outbound deals $(pair)_{(t-3)}$	0.073***	0.000				
	0.000	0.384				
Country pair connectedness $(t-1)$	679.021***	0.947***				
	0.001	0.000				
Country pair connectedness $_{(t-2)}$	-127.762*	0.043				
	0.083	0.468				
Country pair connectedness $(t-3)$	-202.223**	-0.078				
	0.037	0.291				
Wald Test ( $Prob > Chi2$ )						
Responses of Country pair connectedness to Number of deals	13.130	***				
Responses of Number of outbound deals(pair) to Country pair connectedness	2.00	9				
Observations	2158	0				

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Table 9: Combined CAR

	(1)		(2)
	(1) Combined CAR[-1, 1]	(2) Combined CAR[-2, 2]	(3) Combined CAR[-3, 3]
Country Pair Connectedness	0.010***	0.012***	0.006
Country I an Connectedness	-0.010	0.012	-0.000
Transaction value	-0.000	-0.000	-0.001
Transaction value	-0.000	-0.000	-0.001
Privata margar	0.000	0.000	0.000
T Hvate merger	-0.015	-0.025	-0.035
Public merger	-0.023	-0.028*	-0.026
i ublic illerger	0.025	-0.020	-0.020
Relative size	-0.0015	-0.000***	-0.000***
Relative size	0.000	0.000	0.000
Market value (Aca)	-0.000	-0.000***	-0.000***
Market value (Acq)	-0.000	-0.000	-0.000
Major cash	0.000	0.000	0.000
Wiajor Cash	0.013	0.015	0.014
Tender offer	0.014	0.010	0.019
Tender offer	0.009	0.000	0.002
Friendly offer	0.011	0.012	0.012
Thendry offer	0.013	0.004	-0.003
Same industry	0.015	0.014	0.017
Same moustry	0.015	0.019	0.017
Target defense	0.009	0.011	0.012
Target defense	0.022	0.013	0.002
GDP(Aca)	0.022	0.022	0.021
ODI (Acq)	0.157	0.172	0.100
GDP (Tar)	0.007	0.007	0.005
	-0.050	-0.077	-0.145
GDP growth $(A ca)$	0.007	-0.000	-0.001
ODI glowill (Acq)	0.000	0.000	0.001
GDP growth (Tar)	0.002	0.003	-0.001
GDT grown (Tur)	0.003	0.002	0.001
Trade to $GDP(Aca)$	0.003	0.064	0.005
flude to GDF (Req)	0.080	0.001	0.105
Trade to GDP (Tar)	-0.126	-0.114	-0.208*
	0.098	0.104	0.123
Tax rate	-0.000	0.004	0.008
	0.007	0.008	0.009
Exchange rate volatility	-0.003***	-0.003***	-0.003***
Ziteliange fale (officially	0.000	0.001	0.001
Exchange growth	-0.012	-0.037	-0.056
	0.081	0.079	0.090
Imports from acquirer country	-0.060	-0.065	-0.075
1 · · · · · · · · · · · · · · · · · · ·	0.050	0.057	0.065
Constant	-1.090	-2.615	-0.057
	2.879	3.075	3.873
Observations	399	399	399
Country pair FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

This table presents the results of the impact of country pair connectedness on combined CAR. The dependent variable is the weighted average of cumulative abnormal return of acquirer firms and target firms, where weights are based on firm's market value 4 weeks before the announcement date. Columns (1), (2) and (3) reports the impact on 3-day, 5-day, and 7-day combined CAR around the announcement date, separately. In all models, we control for country pair level and year-level fixed effects. Heteroscedasticity–robust standard errors clustered by country pair are reported. \*\*\*, \*\* and \* indicate significance at the 1%, 5% and 10% levels, respectively.10% levels, respectively.

#### Table 10: Acquiror/Target CAR

	Acquiror CAR			Target CAR			
	(1)	(2)	(3)	(4)	(5)	(6)	
	Acq CAR[-1, 1]	Acq CAR[-2, 2]	Acq CAR[-3, 3]	Tar CAR[-1, 1]	Tar CAR[-2, 2]	Tar CAR[-3, 3]	
Country Pair Connectedness	-0.002	-0.004*	-0.004*	0.013**	0.013**	0.022***	
	0.001	0.002	0.002	0.006	0.006	0.006	
Diff in GDP growth	0.001	0.002	0.002	-0.005*	-0.005*	-0.003	
	0.001	0.002	0.002	0.003	0.003	0.003	
Diff in GDP	0.009	0.004	-0.001	0.124*	0.124*	0.096	
	0.017	0.022	0.028	0.064	0.064	0.074	
Diff in trade-to-GDP	-0.003	-0.012	-0.007	0.035	0.035	-0.066	
	0.028	0.034	0.038	0.092	0.092	0.110	
Diff in investment protfile	0.007***	0.006**	0.006**	0.011	0.011	0.008	
	0.002	0.003	0.003	0.008	0.008	0.008	
Diff in business environment	-0.005	-0.002	-0.004	-0.012	-0.012	-0.018	
	0.003	0.004	0.004	0.016	0.016	0.015	
Same industry	0.001	-0.000	0.000	0.011	0.011	0.023	
	0.004	0.006	0.006	0.016	0.016	0.018	
Transaction value	-0.001***	-0.001***	-0.001***	-0.005***	-0.005***	-0.005***	
	0.000	0.000	0.000	0.001	0.001	0.001	
Constant	0.011	$0.026^{*}$	0.029	0.182***	0.182***	0.162***	
	0.010	0.014	0.019	0.034	0.034	0.035	
N	925	925	925	697	697	697	
Country pair FE	Yes	Yes	Yes	Yes	Yes	Yes	
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	

This table presents the results of the impact of country pair connectedness on acquirer- and target-CAR. The dependent variables are the cumulative abnormal return of acquirer firms in the first three columns and are cumulative abnormal return of target firms in the last three columns. Columns (1), (2) and (3) reports the impact on 3-day, 5-day, and 7-day acquirer CAR around the announcement date, separately. The last three columns report the impact on target CAR, accordingly. In all models, we control for country pair level and year-level fixed effects. Heteroscedasticity–robust standard errors clustered by country pair are reported. \*\*\*, \*\* and \* indicate significance at the 1%, 5% and 10% levels, respectively.10% levels, respectively.

	(1)	(2)
	Premium paid (1 day)	Premium paid (1 week)
Country Pair Connectedness	2.558**	2.765**
2	1.206	1.342
Transaction value	-0.912***	-0.902***
	0.300	0.289
Private merger	1.400	0.895
e	8.303	8.721
Public merger	4.815	3.236
U	7.845	6.863
Relative size	0.013	0.019**
	0.009	0.009
Market value (Acq)	0.000**	0.000*
	0.000	0.000
Major cash	0.210	-0.596
5	4.117	3.926
Tender offer	4.468	5.048
	3.905	3.869
Friendly offer	-11.953**	-15.421**
-	5.914	5.932
Same industry	5.038	5.219
-	4.786	4.726
Target defense	17.744	2.409
	25.566	13.466
GDP (Acq)	-20.414	-16.645
	19.431	19.603
GDP (Tar)	9.402	12.977
	18.296	16.619
GDP growth (Acq)	-1.066	-1.529
	1.142	1.151
GDP growth (Tar)	-0.896	-1.166
	1.364	1.237
Trade to GDP (Acq)	-33.045	-29.715
	36.415	33.995
Trade to GDP (Tar)	-17.799	-9.798
	28.487	26.141
Tax rate	3.765	3.599
	3.477	3.585
Exchange rate volatility	-0.263*	-0.170
	0.148	0.140
Exchange growth	7.657	3.772
	17.641	17.814
Imports from acquirer country	25.411**	22.967*
~	12.109	13.337
Constant	594.755	343.256
~	1034.082	954.403
Observations	1020	1024
Country pair FE	Yes	Yes
Year FE	Yes	Yes

This table presents the results of the impact of country pair connectedness on takeover premium. The dependent variable in column (1) is the premium paid relative to the target market value one day before the announcement date. The dependent variable in column (2) is the premium paid relative to the target market value 4 weeks before the announcement date. In all models, we control for country pair level and year-level fixed effects. Heteroscedasticity-robust standard errors clustered by country pair are reported. \*\*\*, \*\* and \* indicate significance at the 1%, 5% and 10% levels, respectively.

Table A.1: Variables definition

Variables	Definitions
Number of deals	The natural log of the sum number of outbound and inbound deals plus one for country $i$ . (SDC)
GCI	Global Connectedness Index, a weighted aver- age index of four pillars including trade (35%), capital (35%), information (15%), and people (15%). (DHL Global Connectedness Report)
GCI	Reweighted Global Connectedness Index, which averages trade, information, and people with the same weight as gci_world. (DHL Global Connectedness Report)
trade	The average of the depth and breadth dimen- sions of merchandise and service trade. See details in DHL Global Connectedness Report 2023. (DHL Global Connectedness Report)
people	The average of the depth and breadth dimen- sions of tourists, international university stu- dents, and international migrant stock. See details in DHL Global Connectedness Report 2023. (DHL Global Connectedness Report)
Country Pair Connect- edness	Country-pair level connectedness index.
Information	The average of the depth and breadth dimen- sions of international internet bandwidth and scientific research collaboration. See details in DHL Global Connectedness Report 2023. (DHL Global Connectedness Report)
Tax rate	Country corporate tax rate. (OECD)
	Continued on next page

Variables	Definitions
Pre-election	Dummy variable equal to one if the year is a pre-election year, and zero otherwise.
Trade-to-GDP	The natural logarithm of the sum of imports and exports divided by GDP. (WDI)
GDP growth rate	Annual growth rate of GDP. (WDI)
GDP	The natural logarithm of GDP. (WDI)
Quality of institutions	The sum of three ICRG Political Risk subcom- ponents: corruption, law and order, and bureau- cratic quality. (ICRG)
Business environment	Investment profile index from ICRG. (ICRG)
Imports from acquirer country	The ratio of the dollar volume of all trade flows from the acquirer country to the target country to the total imports of the target country.
Private merger	Ratio of the dollar volume of all private-target mergers to the total volume of all mergers for each country-pair and year.
Public merger	Ratio of the dollar volume of all public-target mergers to the total volume of all mergers for each country-pair and year.
Exchange rate volatility	Exchange rate standard deviation from 36 months up to one month before the announce- ment, between the acquirer and target nation.
Exchange growth rate	Exchange rate growth one year prior to the an- nouncement between the acquirer and target na- tion.
	Continued on next page

Variables	Definitions
Share language	Dummy variable equal to one if two countries share the same primary spoken language, and zero otherwise. (CEPII)
Share border	Dummy variable equal to one if two countries share a border, and zero otherwise.
Geographic distance	The natural logarithm of geographic distance between capitals. (CEPII)
Bilateral investment treaty	Dummy variable equal to one if the acquirer and target nation signed a bilateral investment treaty, and zero otherwise. (CEPII)
Same legal	Dummy variable equal to one if the acquirer and target nation share the same legal system, and zero otherwise. (CEPII)
Same religion	Dummy variable equal to one if the acquirer and target nation share the same primary religion, and zero otherwise. (CEPII)
Culture dist	Cultural differences between two countries based on four dimensions (individualism, un- certainty avoidance, power distance, and future orientation) using the Euclidean distance for- mula. (www.geerthofstede.nl)
Treat	Dummy variable equal to one if the country pair is USA-CHN or CHN-USA.
Post	Dummy variable equal to one for the years 2018–2021, and zero otherwise.
Transaction value	The dollar value of all consideration paid in a merger minus costs and fees. (SDC)
	Continued on next page

Variables	Definitions
Relative size	The ratio of the transaction value to the target market value at the announcement date. (SDC)
Acquiror market value	Acquiror market value four weeks before the announcement date. (SDC)
Major cash	Dummy variable equal to one if the merger pay- ment is made with at least 50% cash. (SDC)
Tender offer	Dummy variable equal to one if a merger is a tender offer, zero otherwise. (SDC)
Friendly offer	Dummy variable equal to one if a merger is a friendly offer, zero otherwise. (SDC)
Same industry	Dummy variable equal to one if the acquirer and target share the same three-digit SIC code. (SDC)
Target defense	Dummy variable equal to one if a target com- pany uses anti-takeover defenses to attempt to prevent the merger. (SDC)
Combined CAR	The weighted cumulative abnormal return sur- rounding the merger announcement of the ac- quirer and target firms. (SDC)
Acq CAR	Acquirer firm cumulative abnormal return sur- rounding the merger announcement. (SDC)
Tar CAR	Target firm cumulative abnormal return sur- rounding the merger announcement. (SDC)
Premium paid (1 day)	The premium paid relative to the target market value one day before the announcement date. (SDC)
	Continued on next page

Variables	Definitions
BHAR	Acquirer firm cumulative abnormal return one or three years post-merger. (SDC)
Number of outbound deals(pair)	Number of outbound deals from the acquirer country to the target country. (SDC)
Number of domestic deals	The natural log of the number of domestic deals plus one for country $i$ . (SDC)

Table A.2: BHAR

	(1)	(2)
	BHAR 1yr	BHAR 3yrs
Country Pair Connectedness	0.040	0.072
eoundy run connecteuross	0.030	0.059
Transaction value	0.003	0.000
Transaction value	0.003	0.005
Drivota margar	0.004	0.005
I IIvate merger	0.029	0.001
Dublic margar	0.097	0.140
rublic merger	0.029	0.141
Dalatina aina	0.008	0.109
Relative size	-0.023	-0.048
	0.024	0.031
Market value (Acq)	0.000	-0.000
	0.000	0.000
Major cash	0.068	0.175*
	0.050	0.099
Tender offer	-0.011	-0.090
	0.050	0.063
Friendly offer	-0.036	-0.323**
	0.070	0.141
Same industry	0.008	0.024
	0.037	0.071
Target defense	-0.015	-0.302
	0.104	0.268
GDP (Acq)	0.038	0.099
	0.223	0.476
GDP (Tar)	-0.576	-1.190**
	0.350	0.486
GDP growth (Acq)	0.007	-0.005
	0.012	0.014
GDP growth (Tar)	-0.018	0.033
	0.026	0.045
Trade to GDP (Acq)	-0.018	-0.413
	0.369	0.679
Trade to GDP (Tar)	0.657	-0.202
	0.523	0.745
Tax rate	0.002	0.071
	0.038	0.077
Exchange rate volatility	-0.004**	-0.005
,	0.002	0.007
Exchange growth	-0.739**	-1.082*
Estendinge growth	0 347	0.620
Imports from acquirer country	0.054	0.020
importo nom acquirer coulitiy	0.034	0.227
Constant	13 247	34 505
Constant	13.247	24.292 21.942
N	14.704	429
IN Country pair EF	438 V	438 V
Country pair FE	res	res
YearFE	Yes	Yes

This table presents the results of the impact of country pair connectedness on buy-and-hold abnormal return. The dependent variable in column (1) is the BHAR for one year after the announcement date. The dependent variable in column (2) is the BHAR for two year after the announcement date. In all models, we control for country pair level and year-level fixed effects. Heteroscedasticity-robust standard errors clustered by country pair are reported. \*\*\*, \*\* and \* indicate significance at the 1%, 5% and 10% levels, respectively.10% levels, respectively.

#### Table A.3: Exclude USA

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	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Number of deals	Number of deal						
GCI	0.022**							
	0.009							
GCI (exc. capital)		0.029**						
		0.011						
Гrade			0.017**					
			0.008					
nformation				0.015**				
				0.006				
People					-0.004			
					0.008			
Capital						0.006		
						0.004		
Depth (exc.capital)							0.018	
							0.014	
Breadth (exc. capital)								0.032*
								0.018
Fax rate	-0.613	-0.465	-0.504	-0.750	-0.694	-0.676	-0.301	-0.101
	0.746	0.753	0.767	0.746	0.807	0.755	0.778	0.826
Pre-election	0.061**	0.056**	0.056**	0.056**	0.058**	0.061**	0.062**	0.061**
	0.025	0.025	0.025	0.025	0.025	0.025	0.026	0.026
GDP growth rate	0.023***	0.024***	0.023***	0.024***	0.022***	0.023***	0.025***	0.023***
	0.005	0.005	0.006	0.005	0.006	0.006	0.007	0.007
Trade-to-GDP	0.344*	0.255	0.231	0.546***	0.530***	0.481***	0.290	0.561***
	0.176	0.189	0.196	0.149	0.170	0.166	0.244	0.164
GDP	0.273**	0.304**	0.347***	0.322**	0.399***	0.334**	0.200	0.151
	0.133	0.124	0.128	0.122	0.131	0.132	0.132	0.142
Quality of insititutions	0.097***	0.104***	0.106***	0.098***	0.095***	0.092***	0.100***	0.101***
	0.031	0.031	0.033	0.031	0.034	0.032	0.037	0.035
Business enviroment	0.035	0.035	0.033	0.035	0.033	0.035	0.063**	0.055**
	0.025	0.025	0.025	0.025	0.026	0.026	0.027	0.024
Constant	-8.127**	-9.158***	-9.470***	-9.912***	-10.667***	-9.278**	-5.492	-6.033
	3.600	3.318	3.489	3.288	3.630	3.682	3.691	3.845
Observations	939	939	939	939	939	939	829	829
Country FE	Yes	Yes						
Year FE	Yes	Yes						

This table presents the results of the effects of GCI on the total number of cross-border acquisition deals of a country excluding USA. The dependent variable is the natural logarithm of the sum of the number of outbound and inbound cross-border deals plus one for each country in time t+1. GCI is the Global Connected Index, where we separately use the aggregate index, re-weighted aggregate index, pillar-level measurements, and depth and breadth dimensions from column (1) to column (8). In all models we control for country level and year level fixed effects. Heteroscedasticity–robust standard errors clustered by country are reported. \*\*\*, \*\* and \* indicate significance at the 1%, 5% and 10% levels, respectively.

#### Table A.4: PPML

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Ln(Number of deals)							
GCI	0.009***							
	0.003							
GCI (exc. capital)		0.010**						
		0.004						
Trade			0.006**					
			0.003					
Information				0.005*				
				0.003				
People					-0.003			
					0.004			
Capital						0.003**		
						0.001		
Depth							0.017***	
							0.006	
Breadth								0.003
								0.004
Tax rate	-0.346	-0.275	-0.296	-0.361	-0.392	-0.390	-0.358	-0.353
	0.281	0.291	0.288	0.279	0.312	0.282	0.280	0.283
Pre-election	0.017**	0.015*	0.015*	0.015*	0.015*	0.017**	0.017*	0.016*
	0.008	0.008	0.009	0.008	0.008	0.008	0.009	0.008
GDP growth rate	0.010***	0.011***	0.010***	0.010***	0.010***	0.010***	0.010***	0.010***
	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Trade-to-GDP	0.134**	0.112	0.099	0.201***	0.195***	0.180***	0.065	0.195***
	0.066	0.068	0.073	0.059	0.065	0.064	0.067	0.063
GDP	0.131***	0.147***	0.163***	0.146***	0.175***	0.148***	0.163***	0.156***
	0.044	0.043	0.044	0.046	0.049	0.047	0.041	0.051
quality_of_institutions	0.033***	0.035***	0.035***	0.033***	0.031***	0.031***	0.032***	0.031***
	0.011	0.012	0.012	0.011	0.011	0.011	0.011	0.011
investment_profile	0.007	0.008	0.008	0.007	0.007	0.007	0.010	0.007
	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008
Constant	-3.826***	-4.261***	-4.378***	-4.234***	-4.483***	-4.026***	-4.300***	-4.269***
	1.399	1.349	1.390	1.454	1.545	1.488	1.275	1.571
Observations	941	941	941	941	941	941	941	941
Country FE	Yes							
Vear FF	Vec	Vec	Vec	Vec	Ves	Vec	Ves	Vas

Image: Income Income