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Diplomatic relations and cross-border investments in the European Union

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Diplomatic relations and cross-border investments in the European Union

Giacomo Damioli, Wildmer Daniel Gregori*

(this version: April 2021)

Abstract

This study investigates the extent to which diplomatic relations affected merger and acquisition (M&A) activities in the European Union during the years 2001–2019. Implementing a gravity model, we find a U-inverted relationship between diplomatic distance and M&A activities: (i) a worsening in diplomatic relations fosters M&As, but beyond a certain level (ii) an increase in diplomatic distance slows down M&A flows. While (ii) is in line with the dominant evidence found in the literature on political relations and foreign direct investments, (i) suggests that cross-border acquisitions, as supported by the internalisation theory, are a way for the investing firm to mitigate weak diplomatic relations' related issues, such as access to host markets' information and technology. These findings are confirmed especially when foreign investors target technology-intensive firms, as well as in the most recent years.

Keywords: Diplomatic relations, Cross-border M&A, EU, Foreign location choices, Gravity model.

JEL codes: F21, F52, G34, P16.

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1. Introduction

The discussion on whether Foreign Direct Investments (FDI) should be incentivised or limited is not close to an end (Bermejo et al., 2018; Gherghina et al., 2019). On the one side, FDI are a potential source of economic growth, especially for countries that promote greater financial freedom (Azman-Saini et al., 2010) and with well-developed financial markets (Alfaro et al., 2004). On the other side, public authorities may perceive FDI as a threat to their strategic interests and autonomy, especially in areas such as national security and high-technology industries. Therefore, the control over certain economic sectors plays a central role in governments' strategies, and acquisitions of national firms by foreign investors may be perceived as a threat (Heinemann, 2012).

The European Union (EU) has recently adopted a new regulation on FDI.¹ While the EU intends to remain an open market and welcome FDI, this openness is not unconditional, especially to protect internal security and economic sovereignty.² Therefore, the new FDI screening regulation aims to further increase the level of scrutiny over current and future foreign investments. It introduces a coordination mechanism among member states and the European Commission, also allowing the latter institution to issue non-binding opinions on upcoming FDI in the EU on the grounds of security and public order.³

The rise of worldwide political concerns related to foreign acquisitions in strategic sectors has been observed in different occasions. For instance, in May 2019 the United States banned Huawei from US communications networks with a national security order. This act was implemented because the United States had concerns about the close ties between Huawei and the Chinese government, and they feared that Chinese authorities could acquire sensitive information on other countries and companies using Huawei equipment, especially considering the rise of the 5G technology (Kaska et al., 2019). This view was supported by Balding (2019), who highlighted the existence of a deep and lasting relationship between Huawei, its employees and the Chinese state. Finally, in June 2020 the US Federal Communication Commission classified Huawei and ZTE, both Chinese companies, as threats to national security. Advanced technology assets are considered among the strongest assets of advanced economies, and the loss of their

¹ See the EU Regulation 2019/452 (<https://eur-lex.europa.eu/eli/reg/2019/452/>), the EC Working document on FDI in the EU (https://trade.ec.europa.eu/doclib/docs/2019/march/tradoc_157724.pdf) and a related data source called "The Foreign Ownership dataset—FOWN" (Gregori et al., 2019). It has been formally adopted on March 2019 by the European Parliament and the Council of the European Union, and became fully operational in October 2020.

² Press release of the European Commission (<https://trade.ec.europa.eu/doclib/press/index.cfm?id=2124>).

³ As of December 2019, only 15 out of 28 European Member States have FDI review mechanisms in place. These mechanisms differ in scope (e.g. review of intra- or extra-EU FDI, differing screening thresholds, breadth of sector coverage), process (e.g. pre-authorisation vs ex post screening of FDI), review timetables and enforcement, generating a non-homogenous review process among EU Member States.

control in favour of foreign entities is seen as a strategic threat by many observers. For instance, the acquisition of the German industrial robot maker Kuka in 2016 by the Chinese home appliance maker Midea raised an intense debate about the need to protect national technologies, eventually leading to the introduction of stricter rules regarding the types of businesses that would need government approval to be sold to foreign entities.⁴ As shown in Figure 1, cross-border M&A flows increased in recent years, especially those targeting firms in high-technology industries as compared to low-technology ones, suggesting an increased appetite of foreign investors for certain business typologies. On top of this, economic crises could create further turbulence through falls in asset values, which can attract foreign investors seeking profitable opportunities (Weitzel et al., 2014).

[Figure 1 – Cross-border M&A flows in the EU]

In this context, political factors may affect the way in which foreign investments are perceived by authorities of the receiving countries, as well as the decision to invest by foreign investors. While the common view in the political relations literature is that positive political linkages foster FDI (Desbordes, 2010; Bertrand et al., 2016; Li et al., 2018), this is not always the case (Knill et al., 2012; Yoon et al., 2020). For instance, conflicting political relations could undermine the exchange of knowledge and information among countries, and market players may strategically acquire foreign business to have direct access to valuable information and technological knowledge.

Our study sheds light on this issue focusing on the impact of diplomatic relations on M&A flows in the EU in the period 2001–2019. While FDI includes M&A and greenfield investments, we focus on M&As, which are the main mode by which multinational firms engage in FDI⁵ and more likely to be perceived as a threat by the host country. In fact, on the one hand, greenfield FDI are generally encouraged by receiving countries through specific policies, such as the implementation of a favourable legal regime or direct subsidies, because they are perceived, especially in R&D intensive industries, as an engine of innovation generating positive externalities and R&D investments (Bertrand et al., 2012). On the other hand, M&As

⁴ As also discussed by Elisabeth Braw, “Cutting-edge tech takeovers are a strategic threat to the west”, Financial Times, 2019 (<https://www.ft.com/content/763cae4e-e5ed-11e9-b8e0-026e07cbe5b4>).

⁵ See the World Investment Report released annually by the United Nation’s Conference on Trade and Development (last issue: https://unctad.org/system/files/official-document/wir2020_en.pdf).

are generally subject to scrutiny and restrictions, because host governments may have concerns in relation to the acquisitions of national firms by foreign investors (Gregori and Nardo, 2021).

We implement an augmented gravity model to assess the effect of diplomatic relations on M&A flows. Thus, the volume of EU inbound M&A flows is the dependent variable. In relation to our main explanatory variable of interest, we measure dyadic diplomatic relations between the country of the investor and the country of the target company using an index of country-pairs' votes alignment in the United Nations General Assembly (UNGA), as in Bailey et al., 2017. We find a U-inverted relationship between diplomatic distance and M&A activities: (i) a worsening in diplomatic relations foster M&As, but beyond a certain level (ii) an increase in diplomatic distance slows down M&A flows. While (ii) is in line with the dominant evidence found in the literature on political relations and foreign direct investments, (i) suggests that cross-border acquisitions, as supported by the internalisation theory, are a way for the investing firm to mitigate weak diplomatic relations' related issues, such as access to host markets' information and technology. These findings are confirmed especially when foreign investors target technology-intensive firms, as well as in the most recent years.

The rest of the study is organised as follows. Section 2 discusses the related literature, while Section 3 presents the empirical methodology and the dataset. Section 4 shows the results and related discussion. In Section 5 we implement a series of robustness checks, and Section 6 concludes.

2. Related literature

This study contributes to different strands of the empirical literature related to FDI determinants. The effects of political and cultural factors on foreign investments have raised the attention of many authors. Busse and Hefeker (2007) study the effect of political risk and institutions on FDI flows for 83 developing countries between 1984 and 2003, implementing 12 indexes. The authors show that most of these indexes, especially government stability, law and order, and democratic accountability, are positively linked to FDI. Gassebner et al. (2020) find that political risk decreases M&A inflows, because instability in the government of the destination country could generate formal rules' changes, lowering FDI expected returns. Demir and Im (2020) investigate the role of cultural institutes on bilateral trade and FDI flows between eight home countries (i.e. China, France, Germany, Japan, Portugal, Spain, Turkey and the United Kingdom) and 214 host countries between 1990 and 2015. Considering that countries have been using cultural and language institutes for reciprocal economic and political benefits, the authors uses the

number of cultural institutes in a gravity setting as the main explanatory variable. As expected, they find that these institutes have a positive effect, both economically and statistically, on bilateral trade and investment flows. These papers share the view that better political and cultural factors enhance FDI.

Another strand of the literature focuses more specifically on diplomatic relations and foreign investments. Desbordes (2010) investigates the effect of both global and diplomatic political risks on US multinational enterprises' FDI. While the former are common to all investors, the latter are dyad-specific and are based on the occurrence and intensity of international events, exploiting Reuters news reports. The authors find that both variables affect FDI, requiring higher return on investments when investing firms face higher global or diplomatic political risks. Knill et al. (2012) focus on the effect of bilateral political relations, based on United Nations voting records, on investment decisions made by sovereign wealth funds of 16 countries (including Canada, China, Kuwait, Mauritania, Qatar, United Arab Emirates and the United States). In contrast to the common view found in the literature on political relations and FDI, the authors find that weaker political relations are related to higher level of investments. This could be explained by investing motivations that go beyond financial considerations. Bertrand et al. (2016) study the role of political affinity in determining the initial acquisition premium offered in cross-border investments for the period 1990–2008. Considering that the interest of the host country are perceived less in a threat by the government of the receiving country, a lower level of political affinity is linked to a higher probability that the host government could intervene against foreign firms' acquisitions. The authors show that foreign investors should provide a more lucrative offer to target firms. This would discourage the latter from exploiting government intervention against the acquisition. Li et al. (2018) analyse the role of country-to-country diplomatic relations exploiting Chinese firms' investment location choices in the years 2003–2014, measuring the quality of diplomatic relations between China and the receiving country by the affinity of bilateral votes in the UNGA. They suggest that favourable international relations increase investments because investing companies may benefit from more timely access to relevant information, reduced political risks and improved legitimacy. Yet good diplomatic relations are less useful when host countries have impartial institutions, because they foster foreign investors' neutral treatment. Yoon et al. (2020) shows that weaker bilateral political relations, which are linked to higher transaction and coordination costs, rises the probability of the investing firms to get full ownership of the target, in order to increase efficient learning through a greater internalised control.

The dominant view in the aforementioned literature is that common cultural factors, political proximity and positive diplomatic relations foster FDI, however this may not always be the case. For

instance, negative political relations could undermine access to cross-border markets, and market players may consider an opportunity to acquire foreign business to have direct access to valuable information and technological knowledge. We contribute to the existing literature focusing on this aspect, therefore allowing a non-linear relationship between diplomatic relations, proxied using the UN General Assembly bilateral voting patterns (Bertrand et al., 2016; Li et al., 2018) and foreign investments. Our results suggest a non-linear relationship (U-inverted curve), meaning that up to a certain level poor diplomatic relations foster M&A flows, supporting the view that there could be an incentive for foreign investors to implement takeovers when poor diplomatic relations could undermine timely access to prime technology and information. However, beyond a certain diplomatic distance, M&As flows decrease, in line with the dominant view found in the political relation literature, possibly because the host country perceives the foreign investment as a threat for internal goals implementing defensive policies detrimental for foreign acquisitions.

We also contribute to the broad literature that studies FDI determinants, which has been found to do not provide a common view on which factors are the dominant ones, as reviewed by Blonigen (2005). In their study, Blonigen and Piger (2014) suggest that traditional gravity variables such as cultural distance and the presence of trade agreements are the most relevant, while a marginal role is played by other factors such as multilateral trade costs, host country's business costs, infrastructure or political institutions. By contrast, Di Giovanni (2005) finds that institutional factors and domestic financial conditions are important in stimulating cross-border M&As. The link between trade agreements and currency unions and cross-border investments is also an open question. Eicher et al. (2012) find a positive link between trade agreements and cross-border investments only under specific conditions, while the host country's potential market opportunities foster FDI. Economou (2019) finds that labour costs lower cross-border investments, while market size and gross capital formation attract FDI. Our results suggest that geographical distance lowers M&A flows, while the contrary holds for county gross domestic product (GDP). Cultural proximity, such as the presence of a former colonial relationship and a common legal origin, foster M&As, while a regional trade agreement appears not to be effective.

3. Empirical methodology and Data

3.1. Empirical methodology

A standard tool implemented in the empirical literature to study trade determinants is the gravity model,⁶ which identifies the size between trading partners and their distance as basic determinants for bilateral trade. We follow the literature where the gravity equation is used to analyse FDI positions (see, among others, Hijzen et al., 2008; Head and Ries, 2008; De Sousa and Lochard, 2011; Gregori and Nardo, 2021), contributing by investigating the relationship between diplomatic distance and M&A flows. The baseline equation can be defined as follows:

$$M\&A_{ij,t} = \exp[\beta_0 + \beta_1 DD_{ij,t-1} + \beta_2 (DD_{ij,t-1})^2 + \beta_3 \ln(Distance_{ij,t-1}) + \beta_4 \ln(GDP_{i,t-1}) + \beta_5 \ln(GDP_{j,t-1}) + \boldsymbol{\gamma} \mathbf{Controls}_{ij,t-1} + \delta_t + \varphi_j + \varepsilon_{ij,t}] \quad (1)$$

where $M\&A_{ij,t}$ represents the flow of cross-border M&As from country i to country j at time t . $DD_{ij,t-1}$ is the diplomatic distance indicator constructed upon the affinity of countries' votes in the UNGA, as further detailed in the following subsection. Considering that we are interested in exploiting potential non-linear relations, we also include DD in a quadratic form, $(DD_{ij,t-1})^2$. We also include The standard gravity variables are included, namely the *Distance* among country pairs, and the *GDP* of both the origin and destination countries. The model is augmented including the vector **Controls**, to consider further dyadic time-invariant characteristics, in the form of dummies, such as sharing the same border (i.e. contiguity), the use of a common language, the presence of a former colonial link, a common legal origin and being part of a common regional agreement. This vector also includes a time difference indicator and a time-variant government indicator, named "rule of law", for both origin and destination countries (see the next subsection for further details). All explanatory variables are lagged by 1 year to reduce potential endogeneity issues. Additionally, we include year fixed effects, δ_t , to capture global shocks, and target country fixed effects, φ_j , to address issues related to omitted variable bias. Finally, $\varepsilon_{ij,t}$ is the zero-mean error. To account for potential heteroscedasticity, standard errors are clustered by country-pair.

⁶ See the seminal paper of Tinbergen (1962) and the theoretical foundations provided by Anderson and Van Wincoop (2003). Helpman et al. (2008) and Melitz and Ottaviano (2008) provide additional contribution to the theoretical micro-foundations, suggesting that heterogeneous firms models are compatible with the gravity approach. Theoretical background and micro-foundations of gravity equations are provided by Head and Mayer (2014).

To include every bilateral relation in the model, we manually insert the value zero when a country-pair does not have M&A flows.⁷ As a consequence, the dependent variable has a high frequency of zeros, generating a bias in the gravity regressors obtained from log-linearised ordinary least squares, because taking logs clears the sample from null observations (Helpman et al., 2008). Therefore, we estimate the model using the Poisson Pseudo Maximum Likelihood (PPML) estimator (Santos Silva and Tenreyro, 2006; Head and Mayer, 2014). The PPML estimators provide an additional advantage, thanks to its robustness to heteroscedasticity in log-linear gravity equations, for instance in case of correlation between the scale of the residual and countries' GDP (Nordås and Rouzet, 2017).

3.2. Data

To implement the model delineated in the previous subsection, we build a dataset using different sources. The dependent variable (M&A) is constructed for the period 2001–2019 exploiting the Bureau van Dijk Zephyr database, a Moody's analytics product, which contains information about M&A deals between country pair (in thousand Euro).⁸ We consider cross-border deals where the target company is in the EU28 and the deal is defined as completed.⁹ We also include, for each deal, all the details needed to perform the analysis, specifically the year of the agreement, information about the target firm to detect the destination country and the primary sector in which it operates. To define the country of origin of the investment, we consider the global ultimate owner (GUO) of the investor. Considering the complex structure of multinational firms, using the GUO allows us to better identify the country in which the decision to implement a specific M&A is actually undertaken (Alvarez et al., 2017; Gregori et al., 2019). Information about the GUO derives from Orbis (a Bureau van Dijk product which employ the same firms' identifiers as in Zephyr), and in case there is not a GUO, we consider the country where the investor is located.

⁷ We create a full matrix of country pairs per year, with a dimension equal to the number of origin countries multiplied by the destination country, generating 72,072 observations. As shown in the descriptive statistics (see Tab. 1), we have positive M&A values in 7,984 cases, meaning that we filled up all the other bilateral relationships with zeros.

⁸ Zephyr has been widely used in the literature (Reiter, 2013, Cló et al., 2017; Del Bo et al., 2017, among others). It provides information on different kind of deals, such as M&A, portfolio investments and Joint Ventures. It has a worldwide coverage starting from 1997 and it is updated daily, gathering information from a wide range of sources (such as financial journals, reports, company press releases, and company websites).

⁹ Therefore we exclude announced, rumoured or uncompleted investments, in order to focus on those deals that have actually been implemented.

Our key explanatory variable of interest (DD) measures the distance of countries' foreign policy relying upon the affinity of countries' votes in the UNGA. Previous research in political science and international business made frequent use of votes in the UNGA to infer countries' preferences (e.g., Desbordes, 2010; Bertrand et al., 2016; Li et al., 2018). Votes in the UNGA show countries' opinions – comparable both across time and between countries – on various issues covering political, social and economic domains (Voeten, 2000). Moreover, they are not binding providing no (or less) scope for strategic voting behaviour and conversely more room for countries to express their honest opinion (Gartzke, 1998). We construct a variable measuring the diplomatic distance of countries following Bailey et al. (2017), which use UNGA votes to elicit countries' preferences over foreign policy defined as ideal points.¹⁰ Compared with previous measures of state proximity based on UNGA votes (Gartzke, 1998; Signorino and Ritter 1999; Strezhnev and Voeten, 2013), the approach by Bailey et al. (2017) enhances comparability across time by taking into account information about the content of the UN's agenda. We then transform ideal points into a measure of dyadic diplomatic distance by taking the absolute value of the difference of the ideal points of each country pair in our sample. This measure assumes that similar votes in the UNGA and therefore similar ideal points imply a good relationship and that they act cooperatively because they share similar views and understanding on world issues (Gartzke, 1998).

The standard gravity variables, distance and GDP, are taken from the CEPII database.¹¹ The additional control variables, included in the augmented gravity model because as suggested by the literature they could influence cross border investments, are retrieved from two different sources. The CEPII database provides the following dyadic variables: contiguity, common language, colonial links, common legal origin, time difference and the membership to a common regional agreement. The indicator "rule of law" is taken from the World Government Indicators database of the World Bank¹² and considers institutional factors, such as the degree of property rights protection, and the extent to which a country has an environment where the basis for economic and social interactions is formed by fair and predictable rules. This indicator, estimated yearly at country level, includes perceptions of the incidence of crime, the effectiveness and

¹⁰ We retrieve ideal points in the UNGA voting database (Voeten et al., 2009), which is regularly updated and freely available (<https://blogs.commons.georgetown.edu/erikvoeten/data/>).

¹¹ See http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=8 (Mayer and Zignago, 2011; De Sousa et al., 2012). From 2016 onwards, GDP is taken from the World Bank database. The variable "'distance' is calculated as distance between the biggest cities of each country pair. Inter-city distances are weighted by the share of the city in the overall country's population (Mayer and Zignago, 2011; De Sousa et al., 2012).

¹² See <http://info.worldbank.org/governance/WGI>.

predictability of the judiciary system, and the enforceability of contracts, and it ranges from approximately –2.5 to 2.5 (see Kaufmann et al., 2011). Table 1 reports the descriptive statistics.¹³

[Table 1 – Descriptive statistics – About here]

4. Results

4.1. Baseline analysis

Baseline results are reported in Table 2. We first estimate a standard gravity model, including only the core gravity variables, specifically country distance and GDP of the origin and destination countries (specification 1). We then augment the model adding further control variables, to include further bilateral and country characteristics (specification 2) and year and country fixed effects (specification 3). We then introduce our main control variable, diplomatic distance, in linear (specification 4) and quadratic (specification 5) forms. This latter estimation shows the baseline model (1), as presented in the previous section.

We start by discussing the results related to our main control variable. Interestingly, diplomatic distance positively affects M&A flows (specification 4), meaning that an increase in the dissimilarity of voting behaviour at the UNGA increases the volume of M&As targeting EU companies. When we introduce the quadratic term (specification 5), results suggest an inverse U-shaped relationship, as also shown in Figure 2. Therefore, the positive relation between diplomatic distance and M&As holds up only to a certain level, after which further diplomatic misalignments reduce foreign investments. Our evidence is partially in line with the dominant view found in the literature that good diplomatic relations foster foreign acquisitions, which is confirmed only in the case of markedly conflictual foreign relationships. As supported by the legitimacy theory, economic agents and observers in the host country are more likely to perceive acquisitions from companies based in countries with sharply misaligned foreign policy as a threat for national economic and security interests (Eden and Miller, 2004; Bertrand et al., 2016; Ellis et al., 2018; Hasija et al., 2019) as well as a challenge to national identity and pride (Shenkar et al., 2008; Riad and

¹³ The correlation table can be found in the Appendix (Table A.1).

Vaara, 2011). Consequently, target companies are more likely to oppose, as well as governments of host countries to interfere by putting in place regulatory barriers.

However, the U-shaped relation also indicates a partial contrast with the dominant view. For countries with more aligned diplomatic positions, higher diplomatic distance fosters M&As. This is consistent with the idea that a worsening in foreign relations between countries with overall friendly diplomatic relationships reduces access to information to foreign markets lowering business opportunities. Therefore, from the point of view of the foreign investor, a deterioration of diplomatic relations limits their access to information about target firms, the industry in which those targets operate and the host country (Shimizu et al., 2004). This view is consistent with the internalisation theory, which suggests that weak bilateral relationships can provide a learning opportunity for the investor also fostering a bird's-eye view, as opposed to a parochial view (Buckley and Casson, 1976; Stahl and Tung, 2015; Buckley and Casson, 2020). This is in line with the empirical evidence provided by Knill et al. (2012), who find that weaker political relations are related to higher level of sovereign wealth fund investments. In the same vein, Yoon et al. (2020) show that having weaker bilateral political relations rise the probability of the investing firms to get full ownership of the target, which the authors interpret with the intention to attain efficient learning through a greater internalised control.

The other control variables are substantially coherent with our ex-ante expectations. In relation to the core gravity variables, the higher the distance is between origin and destination countries, the lower the M&A activity is. In the same vein, companies of countries with a higher GDP are engaged with more investment activities. Yet, the significance of the destination countries' GDP is reduced once fixed year and country effects are introduced. Country-pair contiguity negatively affects M&A flows, possibly suggesting that trade and FDI are substitutable in particular when countries have a common border. However, while the sign of the coefficient is negative in all specifications, the weak statistical significance suggests that this result should be taken with caution. The positive effect of former colonial relationships and common legal origins suggest that cultural similarities increases M&As. Not surprisingly, the time difference between countries is positively related with foreign investments, in line with the idea of regional specialization and vertical integration in the production process (Marjit, 2007). The variable related to regional trade agreements is not significant, possibly because EU Member States negotiate these agreements centrally through the European Commission. Rule of law shows a positive coefficient, significant especially in relation to the country of the investor, suggesting that institutional factors, such as high property rights protection as well as fair and predictable rules, are an engine not only to attract

cross-border investments, as suggested by Bénassy-Quéré et al. (2007), but also to foster investors' decisions.

[Table 2 – M&A and Diplomatic Distance, Baseline – About here]

[Figure 2 – Quadratic effect – About here]

4.2. High-technology sectors and diplomatic relations

Given the importance of timely access to information for innovative companies operating in technology-intensive industries, and the strategic relevance of technological development for governments, we expect that the relationship between diplomatic relations and foreign investments could vary across sectors. To dig into this aspect, we exploit the Eurostat aggregation of manufacturing and services industry that classifies 2-digit level NACE Rev. 2 industries according to their technological intensity.¹⁴

We separately estimate our model according to target firms' industry class, as reported in Table 3. Specifications 1 and 2 split the sample of deals into low- and high-tech industries. The latter firms comprise high-tech and medium-high-tech manufacturing as well as knowledge-intensive services, while the former ones are their complement and includes all other industries. Interestingly, diplomatic distance exerts a significant impact in high-tech industries, while it does not affect M&A activities in low-tech ones. The finding on high-tech firms reinforces the idea that foreign investors may consider acquisitions as a tool to overcome poor diplomatic relations and have direct access to prime information. Following this evidence, we further distinguish between knowledge-intensive services and high-tech manufacturing, as shown in specifications 3 and 4. Our findings suggest that high-tech manufacturing drives the overall result, with a higher coefficient in both magnitude and significance, as compared to knowledge-intensive services. The inverted U-shaped curve observed in specification 4 is consistent with the view that foreign acquisitions in innovative sectors are probably subject to stricter screening by host governments, possibly due to national strategic interests.

[Table 3 – Sectors – About here]

¹⁴ Eurostat indicators on high-tech industry and knowledge - intensive services are available here: https://ec.europa.eu/eurostat/cache/metadata/Annexes/htec_esms_an3.pdf.

4.3. State-owned enterprises, democracy and diplomatic relations

Previous studies documented the specificities of the investing behaviour of state-owned enterprises (SoE) as compared to private companies, suggesting the pursuit of non-financial motives or political goals (Knill et al., 2012; Clò et al., 2017). Moreover, SoE are likely to be subject to stricter scrutiny by the host country when trying to buy a foreign company for a variety of reasons including the perceived threat to national security and unfair support by origin's countries (Duanmu, 2014). How these specificities reflect in the relationships between M&A activities and diplomatic relations is difficult to predict ex-ante. Thus, we study the role of foreign SoE, defined as investors with a foreign public GUO.¹⁵ Table 4 presents the results, splitting foreign M&As in two groups of investors, private companies, specification 1, and SoE, specification 2. These estimations provide similar results, confirming the U-inverted relationship between diplomatic distance and M&A flows, as highlighted in the baseline analysis. Nevertheless, the economic magnitude appears to be higher for SoE, possibly suggesting more reactive behaviours to diplomatic relations as compared to private firms.

We also investigate whether investments from countries with different level of democracy could have different behaviour. We divide the countries of investing firms into high-democracy or medium-low democracy countries. To disentangle these groups, we exploit the 2019 democracy index elaborated by The Economist¹⁶. Specifications 3 and 4 show the results, and coherent with the findings discussed in the previous paragraph, the U-inverted relationship between diplomatic distance and M&A flows survives in both groups.

[Table 4 – State-owned enterprises – About here]

4.4. Change over time

In this section we split the time frame into three sub-periods, namely 2001–2007, 2008–2013 and 2014–2019. This is done to exacerbate potential structural brakes, in line with general macroeconomic

¹⁵ To have control, the public entity should own at least 50.01% of the firm's shares. To define an entity as public, we rely on the classification made by Orbis, specifically when the investor's GUO type is labelled as "public authority, state, government".

¹⁶ See <https://www.in.gr/wp-content/uploads/2020/01/Democracy-Index-2019.pdf>. High democracy countries are those identified as "full democracy", while medium-low democracy countries are identified as "flawed democracy", "hybrid regime" or "authoritarian regime".

conditions and investment flows, as also visually illustrated by the M&A inflows to the EU shown in Figure 1. The first period refers to the pre-2008 crisis, with a favourable investment climate. The second period corresponds to the overall shrink in international investment activities that followed the 2007–2008 sub-prime crisis and the subsequent sovereign debt crisis. The last period focuses on the recovery, where foreign investments invigorated.

Table 5 shows the results, indicating that before the 2008 crisis diplomatic relations did not exert a significant impact on M&A inflows to EU. The positive effect of diplomatic distance appeared during the crisis years, and it confirms the idea that a worsening in diplomatic relations may incentivise foreign firms to enter in the EU market directly through the acquisitions of local companies, especially during an economic crisis, where the fall in asset values can attract foreign investors seeking profitable opportunities (Weitzel et al., 2014). The U-inverted relationship appears in the most recent years, possibly because the increased number and amount of foreign acquisitions in the EU, particularly technology-intensive ones, changed the political momentum, exacerbating the perception of risk related to foreign acquisitions. Therefore, when diplomatic distance is especially high, investment from those foreign countries could be perceived as a threat for the internal market and security, and receiving governments could put in place restrictive actions.

[Table 5 – Splitting the sample period – About here]

5. Robustness checks

In this section we implement different types of robustness checks to support the main findings. Considering that the United States is a key EU foreign investor partner, it could be the main driver of the results. We re-estimate the baseline model excluding every deals with a GUO located in the United States, and results are confirmed (Table A2, specification 1), thus excluding that our evidence is linked to a single country, namely the United States. We also test the extent to which main results are affected by the United Kingdom, considering its specific history (such as the Commonwealth and the ongoing interlinkages among these countries) and its intrinsic nature as an independent EU country confirmed by Brexit, fully in place since January 2021. In specification 2 we exclude the United Kingdom, both as a host country and as investor in the other EU Member States, and results are confirmed. Results also still hold when excluding contemporaneously the United States and the United Kingdom (specification 3). In

specification 4, we control for potential home-bias effects, where home stands for EU. As suggested by Martínez-San Román et al. (2016), EU economic integration is linked with higher FDI among EU Member States. We add a dummy equal to 1 if the investor is a Member States, and results are confirmed.

In addition, we exploit a different dimension of M&A flows. Instead of looking at the bilateral overall amount, we now focus on the total number of M&As, as shown in Table A3. Main results still hold, even if coefficients of the diplomatic distance indicators decrease their magnitude and statistical significance. This could suggest that the U-inverted relationship between diplomatic distance and M&A flows is especially relevant for the intensive dimension rather than the extensive one.

Results are also confirmed for further robustness checks.¹⁷ We used alternative estimators, namely OLS and Gamma Pseudo Maximum likelihood estimator, as suggested by Head and Mayer (2014). Furthermore, we check that our findings are not affected by controls characterised by a high correlation. As shown in the correlation table (Table A1), there is a high correlation between “distance” and “time difference”, and between “time difference” and “regional trade agreements”. We test the baseline model reported in Table 2 specification 5, excluding in turn: (i) both “time difference” and “regional trade agreements”; (ii) only “time difference”; (iii) only “regional trade agreements”.

6. Conclusions

This study investigates the link between diplomatic relations and M&A activities, implementing a gravity model. To proxy diplomatic relations, we exploit the dyadic countries’ voting behaviour at the UNGA, creating an index of diplomatic distance. We find a U-inverted relationship, therefore there is a positive relation between diplomatic distance and M&A up to a certain level, after which further diplomatic misalignment reduces foreign investments. Our evidence is partially coherent with the dominant view found in the literature that good diplomatic relations foster foreign acquisitions, which is confirmed only in the case of markedly conflictual foreign relationships. In line with the legitimacy theory, economic agents and observers in the host country are more likely to perceive acquisitions from companies based in countries with sharply misaligned foreign policy as a threat for national economic and

¹⁷ Tables available upon request from the authors. We also estimated the baseline model (Table 2, specification 5) using origin country’s dummies, but the model presents convergence issues, which are common in this framework (Silva and Tenreyro, 2011).

security interests (Eden and Miller, 2004; Bertrand et al., 2016; Ellis et al., 2018; Hasija et al., 2019) as well as a challenge to national identity and pride (Shenkar et al., 2011).

However, the U-shaped relation also indicates a partial contrast with the dominant view. For countries with more aligned diplomatic positions, higher diplomatic distance fosters M&As. This is consistent with the idea that a worsening in foreign relations between countries with overall friendly diplomatic relationships reduces access to information to foreign markets lowering business opportunities. Therefore, from the point of view of the foreign investor, a deterioration of diplomatic relations limits their access to information about target firms, the industry in which those targets operate and the host country (Shimizu et al., 2004). This view is consistent with the internalisation theory, which suggests that weak bilateral relationships can provide a learning opportunity for the investor also fostering a bird's-eye view, as opposed to a parochial view (Buckley and Casson, 1976; Stahl and Tung, 2015; Buckley and Casson, 2020).

Furthermore, we distinguish foreign investments according to the technology-intensity of the target company's industry, finding that diplomatic distance exerts a significant impact especially for technology-intensive deals. This evidence reinforces the idea that foreign investors may consider acquisitions as a tool to overcome weak diplomatic relations and have direct access to prime information.

When we focus on time periods, results show that the U-shaped relations are present in the most recent years, possibly because the increased number and amount of foreign acquisitions in the EU, particularly technology-intensive ones, changed the political momentum, exacerbating the perception of risk related to foreign acquisitions. Therefore, when diplomatic distance is especially high, investment from those foreign countries could be perceived as a threat for the internal market and security, and receiving governments could put in place restrictive actions.

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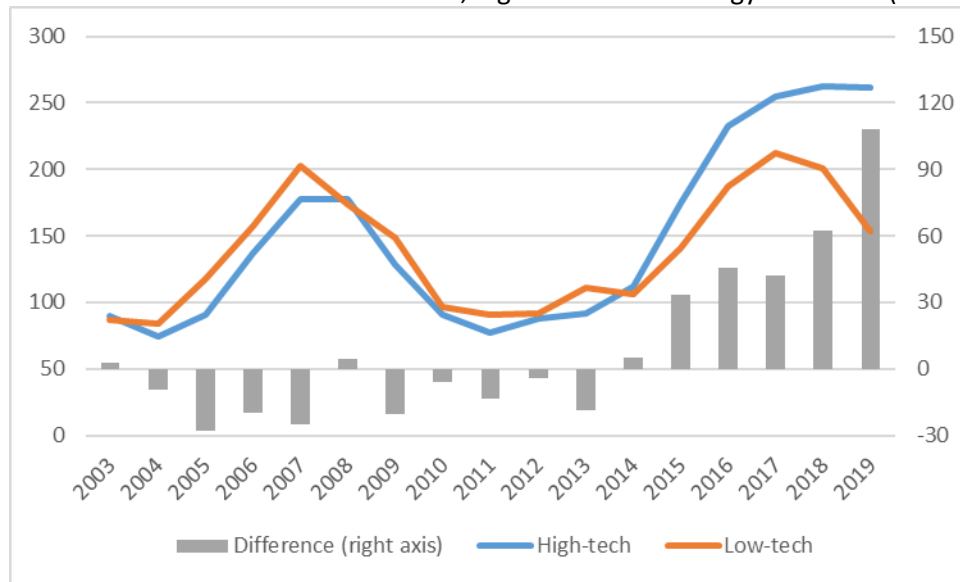
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Figure 1: Cross-border M&A flows in the EU, high- vs low-technology industries (billion Euro)



Notes: Authors' elaborations on Zephyr database. Data refer to cross-border M&As in the EU28 during the period 2001–2019 in billion Euro (three-year moving average). The blue line refers to M&As involving target firms in high-tech target industries, while the orange line to target firms in low-tech industries. The difference is reported in grey (right axis). Following the Eurostat definition, low-tech industries refers to low- and medium-low technology manufacturing and non-knowledge-intensive services. High-tech industries refers to medium-high- and high-technology manufacturing and knowledge intensive services.

Table 1. Descriptive statistics

Variables	Source	Obs.	Mean	SD	Min.	Max.
<i>Dependent variable</i>						
M&A	Zephyr	7,984	664.17	2,908.16	0	115,586.61
<i>Main control variable</i>						
Diplomatic distance	Bailey et al. (2017)	7,984	0.65	0.68	0	3.36
<i>Bilateral indicators</i>						
Distance (in log)	CEPII	7,984	7.65	1.08	5.08	9.85
GDP of the origin country (in log)	CEPII, World Bank	7,984	27.01	1.79	18.63	30.65
GDP of the destination country (in log)	CEPII, World Bank	7,984	26.76	1.56	22.19	29.00
Contiguity	CEPII	7,984	0.12	0.33	0	1
Common language	CEPII	7,984	0.10	0.31	0	1
Colonial links	CEPII	7,984	0.09	0.28	0	1
Common legal origins	CEPII	7,984	0.31	0.46	0	1
Time difference	CEPII	7,984	2.58	3.11	0	12.00
Regional trade agreements	CEPII	7,984	0.67	0.47	0	1
Dummy for origin country from the EU28		7,984	0.53	0.50	0	1
<i>Government indicators</i>						
Rule of Law of the origin country	World Bank	7,984	1.13	0.84	-1.63	2.10
Rule of Law of the destination country	World Bank	7,984	1.24	0.62	-0.26	2.10

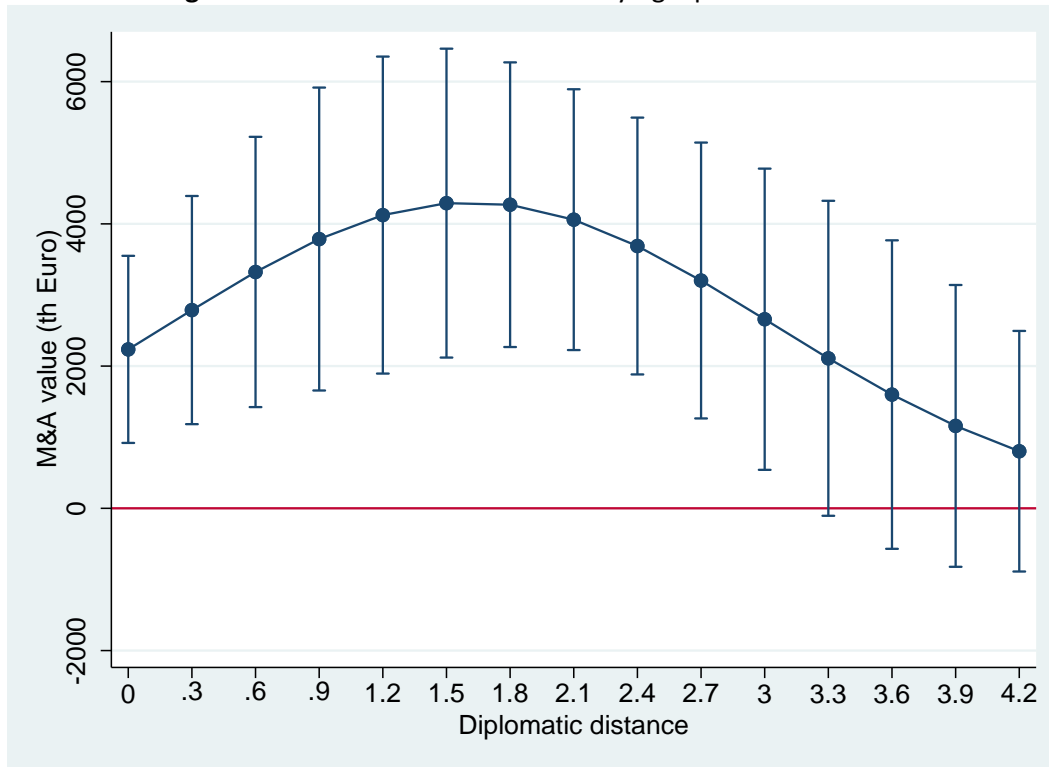
Notes: Data for M&A refer to the period 2001–2019 in million Euro (one observation for each country pair, year and subsector), while for all other variables data relate to the period 2000–2018 (they are lagged by 1 year to limit endogeneity issues). GDP values are in billion Euro. The table includes information for observations where the value of M&A is positive.

Table 2. M&As and diplomatic distance, baseline estimation

	(1)	(2)	(3)	(4)	(5)
Diplomatic Distance _{ij,t-1}				0.26**	0.81***
				(0.13)	(0.26)
(Diplomatic Distance _{ij,t-1}) ²					-0.25**
					(0.11)
ln(Distance) _{ij,t-1}	-0.65***	-1.04***	-0.86***	-0.86***	-0.86***
	(0.07)	(0.16)	(0.14)	(0.13)	(0.13)
ln(GDP - origin country) _{i,t-1}	1.01***	0.78***	0.80***	0.79***	0.78***
	(0.07)	(0.04)	(0.04)	(0.04)	(0.04)
ln(GDP - destination country) _{j,t-1}	0.87***	0.80***	0.91*	0.90*	0.86*
	(0.07)	(0.06)	(0.48)	(0.48)	(0.47)
Contiguity _{ij,t-1}		-0.77***	-0.35	-0.36*	-0.33
		(0.21)	(0.22)	(0.21)	(0.21)
Common language _{ij,t-1}		0.28	-0.00	0.03	0.00
		(0.23)	(0.23)	(0.22)	(0.23)
Colony _{ij,t-1}		0.64***	0.50**	0.47**	0.47**
		(0.23)	(0.21)	(0.21)	(0.22)
Common legal origins _{ij,t-1}		0.26	0.27*	0.31**	0.32**
		(0.16)	(0.15)	(0.15)	(0.15)
Time difference _{ij,t-1}		0.19***	0.14***	0.14***	0.12***
		(0.05)	(0.04)	(0.05)	(0.04)
Regional trade agreements _{ij,t-1}		0.13	0.06	0.21	0.14
		(0.30)	(0.28)	(0.26)	(0.25)
Rule of Law - origin country _{i,t-1}		0.57***	0.60***	0.68***	0.66***
		(0.15)	(0.15)	(0.18)	(0.18)
Rule of Law - destination country _{j,t-1}		0.50***	-0.64	-0.63	-0.60
		(0.14)	(0.40)	(0.40)	(0.40)
Year fixed effects	no	no	yes	yes	yes
Country fixed effects	no	no	yes	yes	yes
Observations	72,072	72,072	72,072	72,072	72,072
Pseudo-R ²	0.18	0.26	0.31	0.32	0.32

Notes: This table shows the results from implementing the PPML model. The dependent variable is the value of bilateral M&A in thousand Euro and covers the years 2001–2019. All explanatory variables are lagged by 1 year and cover the period 2000–2018. Country fixed effects refer to destination countries. Robust standard errors clustered by country pair are shown in parenthesis. The symbols *, ** and *** indicate statistical significance at the 10 %, 5 % and 1 % levels, respectively.

Figure 2: Predicted M&A values at varying diplomatic distance



Notes: M&A values (period 2001–2019) are computed using the estimated of the baseline model (as shown in Table 2, column 5), at the sample average of all explanatory variables.

Table 3. M&As in high-and low-tech sectors

	(1)	(2)	(3)	(4)
	Low-tech industries	High-tech industries	Knowledge-intensive services	High-tech manufacturing
Diplomatic Distance _{ij,t-1}	0.21 (0.30)	0.90*** (0.34)	0.71* (0.41)	4.74*** (1.65)
(Diplomatic Distance _{ij,t-1}) ²	-0.17 (0.19)	-0.19 (0.12)	-0.24 (0.16)	-1.24** (0.55)
ln(Distance) _{ij,t-1}	-0.72*** (0.17)	-0.81*** (0.20)	-0.90*** (0.21)	0.32 (0.30)
ln(GDP - origin country) _{i,t-1}	0.61*** (0.05)	0.84*** (0.05)	0.87*** (0.06)	0.69*** (0.15)
ln(GDP - destination country) _{j,t-1}	-0.17 (1.08)	1.42* (0.82)	0.69 (1.16)	3.57 (3.13)
Contiguity _{ij,t-1}	0.12 (0.32)	-1.13*** (0.27)	-0.91*** (0.32)	-2.71*** (0.81)
Common language _{ij,t-1}	-0.19 (0.26)	0.22 (0.32)	-0.23 (0.32)	2.51*** (0.84)
Colony _{ij,t-1}	0.83** (0.35)	0.83*** (0.29)	1.24*** (0.25)	-0.80 (0.70)
Common legal origins _{ij,t-1}	0.23 (0.34)	0.35** (0.17)	0.29 (0.19)	-0.14 (0.60)
Time difference _{ij,t-1}	0.16*** (0.04)	0.06 (0.05)	-0.01 (0.07)	-0.21 (0.13)
Regional trade agreements _{ij,t-1}	0.31 (0.34)	0.10 (0.39)	-0.38 (0.28)	1.88** (0.85)
Rule of Law - origin country _{i,t-1}	0.19 (0.42)	0.84*** (0.09)	0.67*** (0.11)	1.24* (0.70)
Rule of Law - destination country _{j,t-1}	0.10 (0.93)	-0.63 (0.64)	-0.77 (0.74)	0.65 (1.83)
Year fixed effects	yes	yes	yes	yes
Country fixed effects	yes	yes	yes	yes
Observations	72,072	72,072	72,072	72,072
Pseudo-R ²	0.24	0.30	0.26	0.02

Notes: This table shows the results from implementing the PPML model. The dependent variable is the value of bilateral M&A in thousand Euro and covers the years 2001–2019. All explanatory variables are lagged by 1 year and cover the period 2000–2018. Country fixed effects refer to destination countries. Following the Eurostat definition, Low-tech industries refers to *low- and medium-low technology manufacturing* and *non-knowledge-intensive services*. High-tech industries refers to *medium-high- and high-technology manufacturing* and *knowledge intensive services*. Robust standard errors clustered by country pair are shown in parenthesis. The symbols *, ** and *** indicate statistical significance at the 10 %, 5 % and 1 % levels, respectively.

Table 4. M&As and foreign investors specificities

	M&As from			
	(1) non-SoE	(2) SoE	(3) High-democracy countries	(4) Medium-low democracy countries
Diplomatic Distance _{ij,t-1}	1.01*** (0.33)	2.03*** (0.68)	2.00*** (0.61)	1.13** (0.47)
(Diplomatic Distance _{ij,t-1}) ²	-0.35** (0.15)	-0.36* (0.20)	-1.72*** (0.62)	-0.36* (0.19)
ln(Distance) _{ij,t-1}	-1.02*** (0.17)	-0.71** (0.29)	-1.20*** (0.17)	-0.76*** (0.19)
ln(GDP - origin country) _{i,t-1}	0.78*** (0.05)	0.48*** (0.08)	0.69*** (0.07)	0.78*** (0.07)
ln(GDP - destination country) _{j,t-1}	0.81*** (0.06)	0.78*** (0.12)	0.81*** (0.07)	0.86*** (0.08)
Contiguity _{ij,t-1}	-0.73*** (0.20)	-0.45 (0.58)	-0.87*** (0.20)	-0.55 (0.45)
Common language _{ij,t-1}	0.28 (0.24)	-0.21 (0.70)	0.08 (0.30)	0.72*** (0.26)
Colony _{ij,t-1}	0.55** (0.26)	0.42 (0.51)	1.03*** (0.40)	0.29 (0.18)
Common legal origins _{ij,t-1}	0.32* (0.17)	0.58 (0.42)	0.50*** (0.18)	-0.12 (0.24)
Time difference _{ij,t-1}	0.18*** (0.05)	0.00 (0.12)	0.16* (0.08)	0.12** (0.06)
Regional trade agreements _{ij,t-1}	0.35 (0.26)	-1.24 (0.83)	-0.02 (0.46)	0.28 (0.30)
Rule of Law - origin country _{i,t-1}	0.67*** (0.19)	0.37 (0.35)	0.15 (0.34)	0.59*** (0.19)
Rule of Law - destination country _{j,t-1}	0.46*** (0.14)	-0.06 (0.34)	0.26 (0.16)	0.62*** (0.20)
Year fixed effects	yes	yes	yes	yes
Country fixed effects	yes	yes	yes	yes
Observations	72,072	72,072	11,420	60,652
Pseudo-R ²	0.30	0.04	0.22	0.29

Notes: This table shows the results from implementing the PPML model. The dependent variable is the value of bilateral M&A in thousand Euro and covers the years 2001–2019. All explanatory variables are lagged by 1 year and cover the period 2000–2018. Country fixed effects refer to destination countries. SoE stands for State-owned Enterprises. Following the 2019 Democracy Index developed by The Economist, a country is identified as high-democracy if categorised as “Full democracy”, while it is medium-low democracy if it is “Flawed democracy, Hybrid/Authoritarian regime”. Robust standard errors clustered by country pair are shown in parenthesis. The symbols *, ** and *** indicate statistical significance at the 10 %, 5 % and 1 % levels, respectively.

Table 5. M&As splitting the sample period

	(1)	(2)	(3)
	2001-2007	2008-2013	2014-2019
Diplomatic Distance _{ij,t-1}	0.51 (0.37)	0.90** (0.35)	1.11*** (0.38)
(Diplomatic Distance _{ij,t-1}) ²	-0.07 (0.14)	-0.20 (0.14)	-0.42** (0.20)
ln(Distance) _{ij,t-1}	-0.86*** (0.21)	-0.63*** (0.15)	-0.99*** (0.19)
ln(GDP - origin country) _{i,t-1}	0.86*** (0.06)	0.87*** (0.05)	0.68*** (0.05)
ln(GDP - destination country) _{j,t-1}	0.48 (0.82)	-1.43 (1.37)	3.63* (2.12)
Contiguity _{ij,t-1}	-0.17 (0.25)	-0.16 (0.20)	-0.65** (0.31)
Common language _{ij,t-1}	-0.18 (0.23)	0.32 (0.24)	0.06 (0.34)
Colony _{ij,t-1}	0.55** (0.22)	0.14 (0.24)	0.55* (0.32)
Common legal origins _{ij,t-1}	0.55*** (0.15)	0.49*** (0.16)	0.07 (0.27)
Time difference _{ij,t-1}	0.05 (0.07)	0.02 (0.06)	0.20*** (0.05)
Regional trade agreements _{ij,t-1}	0.15 (0.33)	-0.11 (0.32)	0.06 (0.31)
Rule of Law - origin country _{i,t-1}	0.75*** (0.14)	0.73*** (0.12)	0.61** (0.29)
Rule of Law - destination country _{j,t-1}	-1.46** (0.63)	1.51 (1.04)	0.25 (1.18)
Year fixed effects	yes	yes	yes
Country fixed effects	yes	yes	yes
Observations	72,072	72,072	72,072
Pseudo-R ²	0.24	0.23	0.26

Notes: This table shows the results from implementing the PPML model. The dependent variable is the value of bilateral M&A in thousand Euro and covers the years 2001–2019. All explanatory variables are lagged by 1 year and cover the period 2000–2018. Country fixed effects refer to destination countries. Robust standard errors clustered by country pair are shown in parenthesis. The symbols *, ** and *** indicate statistical significance at the 10 %, 5 % and 1 % levels, respectively.

Appendix

Table A1. Correlation table

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) M&A	1.00												
(2) Diplomatic distance	0.05	1.00											
(3) Distance	0.01	0.62	1.00										
(4) GDP of the origin country	0.16	0.11	0.19	1.00									
(5) GDP of the destination country	0.15	0.21	0.15	-0.06	1.00								
(6) Contiguity	0.01	-0.22	-0.49	-0.02	0.01	1.00							
(7) Common language	0.07	0.06	-0.07	-0.07	0.11	0.33	1.00						
(8) Colonial links	0.10	0.19	0.07	-0.09	0.09	0.12	0.47	1.00					
(9) Common legal origins	0.01	-0.04	-0.16	-0.09	0.01	0.27	0.29	0.28	1.00				
(10) Time difference	0.07	0.54	0.84	0.35	0.10	-0.26	0.01	0.08	-0.09	1.00			
(11) Regional trade agreements	-0.04	-0.62	-0.75	-0.25	-0.07	0.21	-0.03	-0.10	0.06	-0.83	1.00		
(12) Rule of Law of the origin country	0.07	-0.45	-0.28	0.13	-0.09	0.06	0.07	-0.04	-0.10	-0.20	0.35	1.00	
(13) Rule of Law of the destination country	0.10	0.13	0.07	0.01	0.39	0.01	0.17	0.10	-0.05	0.09	-0.06	0.01	1.00

Table A2. M&As and diplomatic distance, robustness checks

	(1)	(2)	(3)	(4)
	US excluded	UK excluded	US and UK excluded	EU dummy
Diplomatic Distance _{ij,t-1}	0.93*** (0.28)	1.05*** (0.32)	1.03*** (0.37)	0.90*** (0.30)
(Diplomatic Distance _{ij,t-1}) ²	-0.29* (0.15)	-0.27** (0.13)	-0.27* (0.14)	-0.27** (0.13)
ln(Distance) _{ij,t-1}	-1.03*** (0.16)	-1.05*** (0.17)	-0.93*** (0.23)	-1.02*** (0.16)
ln(GDP - origin country) _{i,t-1}	0.79*** (0.06)	0.83*** (0.05)	0.77*** (0.05)	0.78*** (0.04)
ln(GDP - destination country) _{j,t-1}	0.81*** (0.06)	0.76*** (0.06)	0.66*** (0.05)	0.81*** (0.06)
Contiguity _{ij,t-1}	-0.76*** (0.22)	-0.59*** (0.22)	-0.43 (0.30)	-0.72*** (0.20)
Common language _{ij,t-1}	0.20 (0.29)	0.07 (0.25)	0.15 (0.25)	0.23 (0.23)
Colony _{ij,t-1}	0.91*** (0.35)	0.50* (0.26)	0.81* (0.45)	0.56** (0.25)
Common legal origins _{ij,t-1}	0.30* (0.17)	0.45*** (0.15)	0.48*** (0.15)	0.34** (0.16)
Time difference _{ij,t-1}	0.15*** (0.05)	0.11** (0.04)	0.07 (0.05)	0.15*** (0.05)
Regional trade agreements _{ij,t-1}	0.22 (0.25)	0.04 (0.25)	0.10 (0.25)	0.19 (0.31)
Rule of Law - origin country _{i,t-1}	0.61*** (0.23)	0.81*** (0.10)	0.80*** (0.12)	0.63*** (0.17)
Rule of Law - destination country _{j,t-1}	0.37*** (0.13)	0.38*** (0.14)	0.35** (0.15)	0.46*** (0.13)
Year fixed effects	yes	yes	yes	yes
Country fixed effects	yes	yes	yes	yes
Observations	71,540	69,498	68,472	72,072
Pseudo-R ²	0.28	0.29	0.25	0.30

Notes: This table shows robustness checks from implementing the PPML model. The dependent variable is the value of bilateral M&A in thousand Euro and covers the years 2001–2019. All explanatory variables are lagged by 1 year and cover the period 2000–2018. Country fixed effects refer to destination countries. Robust standard errors clustered by country pair are shown in parenthesis. The symbols *, ** and *** indicate statistical significance at the 10 %, 5 % and 1 % levels, respectively.

Table A3. M&As and diplomatic distance, robustness checks 2

	(1)	(2)	(3)	(4)	(5)
Diplomatic Distance _{ij,t-1}				0.20**	0.58**
				(0.08)	(0.23)
(Diplomatic Distance _{ij,t-1}) ²					-0.18*
					(0.09)
ln(Distance) _{ij,t-1}	-0.65***	-1.05***	-1.07***	-1.06***	-1.06***
	(0.06)	(0.09)	(0.11)	(0.11)	(0.11)
ln(GDP - origin country) _{i,t-1}	1.03***	0.77***	0.78***	0.78***	0.77***
	(0.07)	(0.03)	(0.03)	(0.03)	(0.03)
ln(GDP - destination country) _{j,t-1}	0.75***	0.70***	0.84***	0.83***	0.80***
	(0.06)	(0.03)	(0.32)	(0.31)	(0.31)
Contiguity _{ij,t-1}		-0.80***	-0.70***	-0.71***	-0.69***
		(0.15)	(0.17)	(0.17)	(0.17)
Common language _{ij,t-1}		0.48***	0.56***	0.57***	0.56***
		(0.15)	(0.15)	(0.15)	(0.15)
Colony _{ij,t-1}		0.71***	0.57***	0.56***	0.56***
		(0.14)	(0.13)	(0.13)	(0.13)
Common legal origins _{ij,t-1}		0.14	0.11	0.14	0.15*
		(0.10)	(0.10)	(0.09)	(0.09)
Time difference _{ij,t-1}		0.19***	0.18***	0.17***	0.16***
		(0.03)	(0.03)	(0.03)	(0.03)
Regional trade agreements _{ij,t-1}		0.10	-0.02	0.09	0.05
		(0.14)	(0.13)	(0.14)	(0.14)
Rule of Law - origin country _{i,t-1}		0.71***	0.70***	0.76***	0.75***
		(0.06)	(0.05)	(0.06)	(0.06)
Rule of Law - destination country _{j,t-1}		0.08	-0.63*	-0.63*	-0.61*
		(0.08)	(0.34)	(0.34)	(0.33)
Year fixed effects	no	no	yes	yes	yes
Country fixed effects	no	no	yes	yes	yes
Observations	72,072	72,072	72,072	72,072	72,072
R ²	0.19	0.26	0.28	0.29	0.29

Notes: This table shows robustness checks from implementing the PPML model. The dependent variable is the number of bilateral M&As by country-pairs and covers the years 2001–2019. All explanatory variables are lagged by 1 year and cover the period 2000–2018. Country fixed effects refer to destination countries. Robust standard errors clustered by country pair are shown in parenthesis. The symbols *, ** and *** indicate statistical significance at the 10 %, 5 % and 1 % levels, respectively.

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