

# Does Geopolitical Risk Affect Acquisitions?

Zhiwei Hao, Ahmed Ameya Prapan, Konstantinos Gavriilidis, Dimitris Petmezas,  
and Evangelos Vagenas–Nanos\*

October, 2020

## Abstract

Geopolitical risk (GPR) is negatively associated with both domestic and inbound cross-border acquisition activity. In support of the predictions of a real options channel, the negative effect of GPR is more pronounced when acquirers have foreign business segments or are financially constrained, and when targets have more irreversible assets or operate in industries with lower competition. Additionally, during high GPR periods, acquirers become more cautious experiencing higher stock returns. Finally, in announced deals, consistent with the interim risk mechanism, GPR is associated with shorter time to deal completion, higher takeover premiums, and lower likelihood of target termination fees, indicating an increase in targets' negotiation power.

**JEL Classification:** G14; G34

**Keywords:** Mergers and Acquisitions; Geopolitical Risk; Real Options; Interim Risk

\* Zhiwei Hao is from Adam Smith Business School, University of Glasgow, UK, E-mail: z.hao.1@research.gla.ac.uk. Ahmed Ameya Prapan is from Adam Smith Business School, University of Glasgow, UK, E-mail: a.prapan.1@research.gla.ac.uk. Konstantinos Gavriilidis is from the University of Stirling Management School, UK, E-mail: konstantinos.gavriilidis@stir.ac.uk. Dimitris Petmezas (corresponding author) is from Durham University Business School, UK, E-mail: dimitris.petmezas@durham.ac.uk. Evangelos Vagenas–Nanos is from Adam Smith Business School, University of Glasgow, UK. Email: evangelos.vagenas–nanos@glasgow.ac.uk. We would like to thank Ettore Croci, Alexandre Garel, Andrey Golubov, and Patrick Verwijmeren for useful comments and suggestions. All remaining errors are our own.

*“A record wave of mergers and acquisitions could slow sharply as dealmakers get spooked by rising geopolitical concerns, according to a survey by Ernst & Young LLP” [...] “Geopolitical, trade and tariff uncertainties have finally caused some dealmakers to hit the pause button” (Source: Bloomberg, October 8, 2018).*

## **1. Introduction**

Mergers and acquisitions (M&As) constitute the most important corporate investments which aid firms to create value and achieve growth. In numbers, over the period 1986–2018, US firms were involved in 11,650 deals per year amounting to a total transaction value of \$47.5 trillion.<sup>1</sup> Nevertheless, prior literature points out that merger activity exhibits substantial variation over time attributing it, among others, to different forms of uncertainty. For instance, Bhagwat, Dam, and Harford (2016) focus on the effects of economic uncertainty, Nguyen and Phan (2017) and Bonaime, Gulen, and Ion (2018) examine policy uncertainty, and Nguyen, Petmezas, and Karampatsas (2020) explore the impact of terrorism-induced uncertainty, all identifying a negative association with M&A activity. Motivated by the recent global geopolitical shock from COVID-19 and its unprecedented consequences to the investment world, we contribute to this ongoing discussion by showing that geopolitical risk (hereafter GPR) – an important dimension of uncertainty with its own distinct characteristics – affects acquisition activity.

Caldara and Iacoviello (2019) define GPR as the risk associated with wars, terrorism, and tensions among states and organizations to control and compete for territory that affects the normal course of international relations. According to the authors, geopolitical risk can heighten the perception of disastrous outcomes, lower consumer confidence, and make investment less attractive. This paper contributes to the last effect of geopolitical risk. In fact, the importance of GPR particularly on investment decisions has been highlighted by policy makers and it is included – together with economic and policy uncertainty – among an ‘uncertainty trinity’ that could have significant adverse economic effects (Carney, 2016). The distinct feature of GPR compared to other forms of uncertainty is that it does not depend on events that happen within the US only, and it is relatively more exogenous to business fluctuations relative to existing uncertainty proxies that tend

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<sup>1</sup> Source: SDC Mergers and Acquisitions Database.

to rise during recessions. In this respect, GPR uncertainty is associated particularly with extroverted firms which develop international business activities; that uncertainty captures dimensions over and above the general economic uncertainty caused in certain periods that affects unanimously almost all firms and can be captured by conventional proxies of economic uncertainty.

Moreover, geopolitical risk is an important component of firm systematic risk and can influence equity volatility and firm valuation (Butler and Joaquin, 1998; Bekaert et al., 2014; Huang et al., 2015). In the context of M&As, geopolitical risk could be an important source of risk as it could lead to increased uncertainty about target firms' standalone values or the value of deal synergies. However, the relationship between such heightened uncertainty and corporate investments is unclear *ex ante*. On the one hand, there are studies (e.g., Hartman, 1972; Abel, 1983; Caballero, 1991) which argue theoretically that output price uncertainty may increase the investments of risk-neutral firms operating in perfect competition with a constant returns-to-scale production function and no irreversibility. Particularly for M&As, Garfinkel and Hankins (2011) provide empirical evidence of a positive relation between increases in cash flow uncertainty and merger waves providing a risk management explanation, i.e., an increase in uncertainty encourages managers to operationally hedge via vertical integration. Similarly, Duchin and Schmidt (2013) also show a positive association between uncertainty and merger activity suggesting that merger waves increase firm level uncertainty, thereby leading to mergers motivated by empire building. With these studies as a backdrop, we hypothesize that geopolitical risk should have a positive impact on firm-level M&A activity.

On the other hand, heightened uncertainty due to geopolitical risk can increase the value of the real option to delay investments (Bloom, 2009), especially if investment projects are costly to reverse (see, e.g., Bernanke, 1983; Rodrik, 1991; Dixit and Pindyck, 1994). In fact, M&As are typically large and difficult-to-reverse investments. Additionally, according to a survey on corporate risk management by Giambona, Graham, Harvey, and Bodnar (2018), the most commonly used method to manage periods of geopolitical risk is simply to avoid investments in such periods. Particularly firms that engage in international business activities are the ones that

should be mostly negatively affected when they conduct M&A investments. An alternative argument for the option to delay investments, is that uncertainty can also exacerbate firms' financial constraints and increase the cost of external financing (Greenwald and Stiglitz, 1990). With these studies as a backdrop, and also motivated by Bernanke (1983), Bloom, Bond, and Van Reenen (2007), and Julio and Yook (2012), who suggest that firms become cautious and hold back on investment in the face of uncertainty, we hypothesize that geopolitical risk should have a negative impact on firm-level M&A activity.

The selection of the US market for our empirical investigation is primarily driven by the global leadership role of the US in shaping international politics.<sup>2</sup> Whereas the US geopolitical supremacy allows its economy to get stronger and more integrated into the global economy, it also carries substantial costs as US businesses are substantially exposed to increased global political tensions, increased war threats and terrorist attacks. Major geopolitical shocks such as the Gulf War, the 9/11 terrorist attacks, and the 2003 Iraq invasion, involved the United States leaving a negative impact to its economy.<sup>3</sup> The following two earnings calls from two separate firms also highlight the negative effects of geopolitical events on US corporations: i) the Cendant Corporation's earnings call states after the terrorist attacks in 2005: *"Terrorism including the London bombings have impacted our consumer travel businesses. Whether it is declining consumer confidence or an actual slowdown in the travel economy, it is too soon to tell. But the impact is slower growth across our segments of the markets"*; ii) the Capstone Turbine Corp earnings call states after the Russia - Ukraine tensions in 2014. *"As a global company, we continuously monitor the changing geopolitical environments in areas in which Capstone is doing or plans to do business. The largest potential impact is definitely Russia and the ongoing tensions in the Ukraine"*.

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<sup>2</sup> Pease (2000) describes this US imperialism strategy as "Global Dominance without Colonies". Desai (2013) posits that the combined development of the political economy at the state level and geopolitical economy at the international level is the key towards the US dominating the world economy.

<sup>3</sup> The true costs may ultimately be higher than 2 trillion dollars, whereas the administration originally estimated the costs to be nearing \$60 billion (Bilmes and Stiglitz, 2006). A 10% increase in the probability of Iraq war results in a \$1 increase in spot oil prices in the future market and an 1.5% decline in the S&P 500 (Wolfers and Zitzewitz, 2009). According to UNCTAD (2002), following the aftermath of the 9/11 terrorist attack in the USA, there was a substantial drop in the foreign direct investments, the first time in a decade.

To assess the relation between geopolitical risk and acquisition activity, we use a sample of US M&A deals announced between 1986 and 2018. To proxy for geopolitical risk faced by US firms, we rely on the GPR index constructed by Caldara and Iacoviello (2019). The GPR index counts the monthly occurrence of articles related to geopolitical risks, such as political tension, war threats, and terrorist threats derived from an algorithm which conducts automated text searches in eleven leading national and international newspapers published in the United States. Caldara and Iacoviello (2019) find that their GPR index successfully captures all the major geopolitical shocks that are of global interest such as the Gulf War, the 9/11 terrorist attack, the 2003 Iraq invasion, implying, most often, an involvement of the United States.<sup>4</sup> Additionally, the GPR index does not systematically spike in recessions or during the global financial crisis. Hence, we do not require strong identification assumptions to support that geopolitical risk has adverse economic effects.

We begin our empirical analysis by assessing the impact of geopolitical risk on acquirer decision to engage in M&A activity. Particularly, we estimate the likelihood of announcing an acquisition in year  $t+1$  as a function of geopolitical risk as well as firm- and macroeconomic-level controls in year  $t$ . We are mindful that geopolitical risk might capture other macroeconomic characteristics, raising concerns of an omitted variable bias. Therefore, to address this issue, we follow Bonaime et al. (2018) and, in addition to standard firm-level control variables, we include in our models several economic indicators such as: i) four standard proxies for expectations of future economic conditions which control for industry economic shocks and credit conditions as in Harford (2005) alleviating concerns that poor investment opportunities could drive our results; ii) macro-level and industry-level proxies for valuation waves to control for depressed valuations; iii) four proxies of general economic uncertainty to ensure that our results are driven by geopolitical risk and not some other aggregate source of uncertainty. Controlling for all the above economic indicators, our results support the predictions of the real options channel as we find a significant

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<sup>4</sup> Caldara and Iacoviello (2019) explicitly state that “the GPR index can be viewed either as a measure of global geopolitical risks that are relevant for major companies, investors, and policymakers, or as a measure of risks that are mostly relevant from a North-American and British perspective”.

negative relation between GPR and acquisition probability. Additionally, our results imply that the GPR effect is distinct from the effect of more general economic conditions. To get a sense of the economic magnitude of the GPR impact on acquisition likelihood, a one standard deviation increase in GPR is associated with an 8.27% decline in acquisition likelihood relative to the sample average unconditional M&A probability.

To reduce concerns of an omitted variable bias, we employ an instrumental variable (IV) two-stage approach using the religious tension index provided by the International Country Risk Guide (ICRG) as an instrument for geopolitical risk. Prior literature (see, e.g., Agnew, 2006) shows that religious conflicts constitute one of the strongest drivers of geopolitical risk, implying that this instrument is likely to satisfy the relevance requirement of instrumental variables. Simultaneously, acquisition decisions are less likely to be directly correlated to religious tension, satisfying the exclusion condition of instrumental variables. The IV probit estimation results indicate that our findings are robust eliminating concerns of endogeneity bias. Furthermore, we do not find evidence of an immediate reversal in the relation between geopolitical risk and acquisition activity, suggesting that the effect of geopolitical risk on M&A activity is rather persistent as, on average, it lasts for 3 years after the geopolitical risk period.

To offer further insights on our identification strategy, we draw inferences from our data focusing on the effects on the M&A activity of US firms that belong to the industries that were mostly affected by two major geopolitical events that happened during our sample period. Particularly, we find that after the TWA hijacking in 1985, M&A activity drops significantly in firms that belong to the aeroplane industry. Similarly, we uncover a significant decline in M&A activity in firms that belong to the oil industry after the Gulf war in 1991.

To further validate that a real options channel is the economic mechanism driving the association between GPR and acquisitions, we test four predictions: two at the acquirer level, and two at the target firm level. First, we exploit the variation in acquiring firms' exposure to GPR. Obviously, some firms are involved in purely domestic activities in terms of business operations, implying that they are exposed to geopolitical risk less, whereas other firms have foreign business

segments; hence they are exposed to geopolitical risk more. Consequently, firms that are exposed to GPR more should have a greater incentive to delay an M&A investment, implying that the deterioration on acquisition activity should be more pronounced in firms with greater exposure to GPR. Indeed, we find that the negative effect of GPR on M&A activity is confined only into firms with foreign business operations; this is in line with the real options theory providing also a mechanism through which GPR affects M&A investments.

As a second test to assess the real options channel, we look into acquirer financial constraints. In particular, geopolitical risk can exacerbate firms' financial constraints making it harder and more costly for acquiring firms to raise external funds to support M&A deals. Therefore, the option to delay an investment would be more important for acquirers that are financially constrained. Using three standard proxies of financial constraint status (credit ratings, the Hadlock and Pierce (2010) size–age index, and the Kaplan and Zingales (KZ) (1997) index), we find that financially constrained acquirers are more likely to delay acquisition deals.

Third, at the target level, we assess the association between GPR and acquisition likelihood for deals that are more irreversible investments. If GPR operates primarily by affecting the value of the option to delay, then its effect should be stronger for more irreversible deals. By employing three different proxies of irreversible investments at the target firm level (i.e., high capital intensity, low capital redeployability, and durable industries), we find that acquirers are less likely to bid for targets that represent irreversible investments when geopolitical risk is high.

Finally, again at the target firm level, the option to delay should be more important in acquisitions that are less costly to postpone (Bernanke, 1983; Rodrik, 1991; Dixit and Pindyck, 1994). In line with this prediction, we find that GPR has a negative impact on deals that involve targets operating in industries with high concentration or low merger activity; in such deals, competition for the target is likely to be lower, implying that they can be postponed more easily.

We acknowledge in the last two tests of the real options channel that deals are measured at the target firm level which might lead to a potential selection bias issue. In particular, we only observe target firm outcomes for announced acquisitions which may not represent a random sample from

the entire population of firms. We thus perform a two-stage Heckprobit employing the unanticipated mutual fund outflows variable by Edmans, Goldstein, and Jiang (2012) as an instrument. Our results are robust to the two-stage Heckprobit reducing endogeneity concerns.

For robustness, we perform several additional tests. First, to rule out the possibility that GPR captures other dimensions of uncertainty we control for: i) the economic policy uncertainty (EPU) index developed by Baker, Bloom, and Davis (2016); ii) the CBOE implied volatility index (VXO); iii) the variation of GDP forecast as a proxy for expected economic growth uncertainty using the GDP forecast data from the Philadelphia Federal Reserve's Livingston survey; iv) political uncertainty; v) the annual cross-sectional standard deviation of firm profit growth as a proxy for future profitability variation; and vi) recession periods, based on National Bureau of Economic Research (NBER) business-cycle data. Second, we use alternative proxies of geopolitical risk employing eight different components of the International Crisis Behavior (ICB) project index, which are not based on newspaper articles. Our results persist in all these robustness checks.

Third, we look into the target firm side by investigating inbound cross-border deals. We find that when US GPR is high or the GPR in the US is higher relative to the GPR of each of 18 foreign countries, US target firms are less likely to receive a bid, which is the mirror image of the previous findings - the real option to delay acquisitions of US firms increases when GPR is high.

The negative relation between geopolitical risk and acquisition activity supports a real options channel as an economic mechanism. At the same time, it contradicts the empire building (Duchin and Schmidt, 2013) and risk management (Garfinkel and Hankins, 2011) explanations, which predict a positive association. To further validate the interpretation of our findings, we focus on the quality of deals that are completed following periods of high geopolitical risk. In particular, we examine the effect of GPR on acquirer announcement stock abnormal returns which allows us to test the theoretical predictions of the real options and empire building theories. On the one hand, the real options theory suggests that when uncertainty is high, acquirers become more cautious in their corporate decisions delaying most of their risky and large investments (Bernanke, 1983; Dixit and Pindyck, 1994; Nguyen and Phan, 2017). Those acquirers who ultimately decide to engage in



M&A deals undertake their highest NPV projects, which would make no economic sense to delay. On the other hand, the empire building theory suggests that in times of high uncertainty, opportunistic managers of poorly governed firms may undertake suboptimal deals which maximise their personal gains (Duchin and Schmidt, 2013). In support of the real options hypothesis, our regression analysis shows that GPR is positively associated with acquirer announcement stock returns. Economically, a one unit increase in GPR is associated with a 0.50% increase in acquirer 3-day stock abnormal returns. Additionally, we complement the short-run analysis by investigating the long-run effect of GPR on acquirer 1-, 2-, and 3-year stock performance obtaining again a positive relation. Overall, the wealth effect results confirm the predictions of a real options economic mechanism and reject the empire building explanation.

A further advantage of the GPR index as a proxy of uncertainty is that it can distinguish *threats* of adverse events from *realization* of adverse events. That is done by decomposing the GPR index into the geopolitical threats (GPT) index and the geopolitical acts (GPA) index. We thus investigate whether the impact of geopolitical risk on M&A activity and acquirer shareholder wealth is due to heightened GPT or GPA. We find that the negative (positive) relation between geopolitical risk and acquisition likelihood (acquirer stock abnormal returns) is mostly driven by the threats of adverse geopolitical events rather than the actual events.

Finally, we consider *announced* deals during periods of high geopolitical risk and the implications arising on their type and characteristics. These are deals that, regardless high geopolitical risk, acquirers decide not to postpone and ultimately make a bid. Consistent with the interim risk channel (Bhagwat et al., 2016), we find that, as risk increases, merging parties attempt to shorten the interim window from announcement to completion; similarly, acquirers conduct less (more) deals with targets that have longer (shorter) expected interim period (less public deals, less large public deals, and more tender offers). The interim risk channel has also further implications on target firm negotiation power affecting deal premium and termination fees. In particular, if geopolitical risk encourages firms with the option to delay, then firms making acquisitions when GPR is high are selected from the population of acquirers for which delaying is more costly. The

implication is that in such deals (i.e., during periods of high GPR) that are under the pressure of interim risk, target firms should have stronger negotiation power, which should translate into higher deal premiums and lower likelihood of termination fees. Our results confirm these predictions.

Our study makes several novel contributions to different strands in the literature. First, it contributes to the renewed academic interest in assessing the financial consequences of geopolitical risk at micro-level.<sup>5</sup> In this regard, our work complements recent studies which explore the effects of GPR on R&D (Pan, 2019) and on investment (Caldara and Iacoviello, 2019; Wang, Wu, and Xu, 2019). Our study provides direct evidence that the US exposure to GPR has a real economic impact on the most important corporate investment decision (i.e., M&As) affecting both acquisition activity and shareholders' wealth. M&As are distinct from capital expenditures as they are typically large and readily observable; in contrast to CAPEX, they provide the empirical advantage of directly observing the investment in question: the target firm. Additionally, they allow us to further examine the implications of GPR for shareholder value, which suggests a channel through which GPR affects corporate investments.

Second, our study adds to the growing stream of literature on the effects of various dimensions of uncertainty on corporate decisions (Morrow, 1999; Desbordes and Vicard, 2009; Hegre et al., 2010; Bhagwat et al., 2016; Nguyen and Phan, 2017; Bonaime et al., 2018; Nguyen et al., 2020). Our research is most closely related to: Nguyen and Phan (2017) and Bonaime et al. (2018) who investigate the relationship between policy uncertainty and M&A activity by employing the economic policy uncertainty (EPU) index developed by Baker et al. (2016); and Bhagwat et al. (2016), who examine the association between economic uncertainty and acquisition activity by employing the Chicago Board Options Exchange (CBOE) Volatility Index (VXO). However, our variable of interest, i.e., GPR index, differs from the EPU and VXO indices in terms of search

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<sup>5</sup> There are also studies which examine the effects of geopolitical risk at macro level. See, e.g., Antonakakis et al. (2017) for the effect of GPR on oil prices and Balcilar et al. (2018) for the impact of GPR on stock market dynamics of the BRICS.

terms, measurement, and implications.<sup>6</sup> Moreover, the GPR index does not move during periods of economic and financial distress or around presidential elections when both the EPU and the VXO indices rise sharply. By contrast, rises in the EPU and VXO indices do not coincide with important geopolitical events such as the Russian annexation of Crimea, the ISIS escalation in the Middle East, and several terrorist attacks (except the 9/11) when the GPR index surges. These differences imply that GPR captures a different dimension of uncertainty than the ones captured by the EPU and VXO. Most importantly, we find that geopolitical risk exhibits a notable amount of additional (to EPU and VXO), independent variation that predicts lower M&A activity.

Third, we contribute to the literature on the determinants of M&A activity. Prior literature shows that bidder and target valuations (Shleifer and Vishny, 2003; Rhodes–Kropf and Viswanathan, 2004; Rhodes–Kropf et al., 2005; Dong et al., 2006), procyclicality (Maksimovic and Phillips, 2001), industry shocks (Mitchell and Mulherin, 1996; Harford, 2005), product market considerations (Hoberg and Phillips, 2010), risk management (Garfinkel and Hankins, 2011), corporate liquidity (Almeida et al., 2011), and CEO traits and preferences (Goel and Thakor, 2010; Yim, 2013; Jenter and Lewellen, 2015) drive M&A activity. We uncover a new determinant with an independent (negative) influence on M&As. Understanding the dynamics between geopolitical risk and M&As is of first order importance given the prominence of acquisition activity in driving economic growth and, in turn, firm value.

The remainder of the paper is organized as follows: Section 2 describes the sample, data, and variables used in the analysis. Section 3 presents the empirical results. Finally, section 4 concludes the paper.

## **2. Sample, data, and measures of geopolitical risk**

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<sup>6</sup> The VXO index captures short–run uncertainty as it is constructed based on the implied volatility of 30–day maturity put and call options. On the contrary, the GPR index, which is based on newspapers coverage of international events, such as terrorist attacks and wars, captures long–run uncertainty examining the effects of uncertainty in a 12–month horizon. In addition, whereas the EPU index is also developed based on newspapers coverage and has a 12–month horizon, it mainly focuses on capturing uncertainty regarding policy responses to domestic events; this clearly differs from the uncertainty generated by geopolitical events which is captured by the GPR index.

## 2.1. Sample

Our initial sample consists of all NYSE, Amex, and Nasdaq firms over the period between 1<sup>st</sup> January 1985 and 31<sup>st</sup> December 2017 with financial and stock information available on Compustat and CRSP databases. Financial firms (SIC 6000–6999) and regulated utilities (SIC 4900–4999) are excluded. This sample includes 117,097 firm–year observations with 15,853 unique firms. We then merge this sample with the M&A sample which is collected from the SDC Platinum Database and includes transactions announced between 1<sup>st</sup> January 1986 and 31<sup>st</sup> December 2018. The acquirers are US public firms and the targets are both public and private US and non–US firms. To ensure we include economically meaningful transactions, we remove from our sample deals with a value less than \$1 million (in 2018 dollars) and relative deal value to acquirer market capitalization one month prior to the announcement less than 1%. After this procedure, our M&A sample consists of 20,035 deals with 5,407 unique acquiring firms worth, on average, a total of \$330 billion per year.

## 2.2. Measures of geopolitical risk

We measure geopolitical risk using the Geopolitical Risk Index (GPR index) developed by Caldara and Iacoviello (2019).<sup>7</sup> The GPR index is constructed by counting monthly the number of articles related to geopolitical risk associated with wars, terrorism,<sup>8</sup> and tensions among states and countries that affect the normal course of international relations. The articles are derived from an algorithm which conducts automated text searches in eleven leading national and international newspapers.<sup>9</sup> The search identifies articles containing words organized in six main categories.

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<sup>7</sup> For robustness, in section 3.4.2 we also use eight different proxies of geopolitical risk which are not based on newspaper articles obtaining similar results.

<sup>8</sup> Caldara and Iacoviello (2019) defend the inclusion of terrorism in their geopolitical risk definition by arguing that, in recent decades, terrorist acts have generated political tensions among states, and, in some instances, have led to full–edged wars (for instance, Al–Qaeda, ISIS, and other previous acts of violence which were carried out by terrorist organizations and rebel groups to bolster religious, economic, or revolutionary objectives).

<sup>9</sup> These include: the Boston Globe, the Chicago Tribune, the Daily Telegraph, the Financial Times, the Globe and Mail, the Guardian, the Los Angeles Times, the New York Times, the Times, the Wall Street Journal and the Washington Post.

Category 1 includes words which explicitly refer to geopolitical risk, as well as to military–related tensions involving large regions of the world and a US involvement. To provide a sense of the search terms, we present some examples of words used in category 1 of the GPR index: “geopolitical” and (“risk” or “concern” or “tension” or “uncertainty”) and “United States” and (“coup” or “guerrilla” or “warfare”) and (“Latin America” or “Central America” or “South America” or “Europe” or “Africa” or “Middle East” or “Far East” or “Asia”).<sup>10</sup> Category 2 includes words directly related to nuclear tensions [using words such as (“nuclear war” or “atomic war” or “nuclear conflict”) and (“fear” or “threat” or “risk” or “peril” or “menace”)]. Categories 3 and 4 include words related to war threats (using words such as “war risk” or “war fear” or “military threat”) and terrorist threats (using words such as “terrorist threat” or “terrorism menace”), respectively. Finally, categories 5 and 6 aim at capturing press coverage of actual wars {using words such as [(“beginning” or “outbreak” or “start” or “escalation”) “of the war”]} and terrorism events (with words such as “terrorist act” or “terrorist acts”), respectively.

The GPR index is then constructed by calculating the proportion of geopolitical risk related articles divided by the total number of published articles for each month.<sup>11</sup> In our regressions we use the monthly average over a 12–month period calculated at the end of each calendar year.<sup>12</sup> To normalize the distribution of the GPR index, which is left–censored at zero and skewed to the right, we use the natural logarithm of the GPR index. Following Caldara and Iacoviello (2019), we also decompose GPR into two sub–indices: the geopolitical threats index (GPT) and the geopolitical acts (GPA) index. The GPT index is constructed by searching articles that include words in groups 1 to 4 (i.e., the groups which directly refer to the threats of adverse geopolitical events); the GPA index is constructed by searching articles that include words in groups 5 and 6 (i.e., the groups which directly refer to the realization of adverse geopolitical events).

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<sup>10</sup> The associated articles describe geopolitical risks with a direct US involvement (e.g. the Gulf War and the Iraq War), but also regional tensions among two or more countries with a US diplomatic involvement.

<sup>11</sup> Importantly, the GPR index uses words that capture negative geopolitical events (for instance, the start of a war) as opposed to positive ones (for instance, the end of a war, or peace talks). The index is also normalised to 100 for the period 2000–2009.

<sup>12</sup> Using a 3–month moving average does not alter our results.

Figure 1 displays the evolution of the monthly GPR index over the period between 1985 and 2017 and also plots the total number of deals.<sup>13</sup> We observe that GPR effectively captures geopolitical events as it spikes around the Gulf War in 1991, after the 9/11 terrorist attack in 2001, the 2003 invasion of Iraq, the Ukraine/Russia crisis in 2013 and the Paris terrorist attacks in 2015. Additionally, there is a large amount of independent variation. In particular, the GPR index does not move during periods of economic and financial distress, such as at the onset of the dot-com bubble and during the global financial crisis, when typically economic and policy uncertainty indices (such as the VXO and the EPU) rise sharply and remain elevated. The GPR index also does not move around periods of presidential elections, which are characterized by elevated policy uncertainty. Relative to other measures of uncertainty, it appears that the GPR index captures events that are more likely to be exogenous to the business and financial cycles.

The plots also show that high geopolitical risk is generally accompanied by lower merger activity and vice-versa. The GPR index has a correlation of  $-22.5\%$  with the number of deals, significant at the 1% level. This negative relation appears pervasive throughout our entire sample and is not restricted to periods of poor economic conditions such as the global financial crisis of 2007–2008. This figure is a first indication that geopolitical risk has independent effects on M&A activity and does not simply proxy for poor economic conditions.

### 2.3. *Sample descriptive statistics*

Table 1 presents descriptive statistics of the geopolitical risk measures and other control variables. The definitions of all variables are provided in the Appendix. All variables are winsorized at the 1st and 99th percentiles. Panel A reports statistics for the overall sample and Panel B for the M&A sample. Samples similar to ours have been extensively used in previous studies, so we refrain from discussing descriptive statistics but verify that they are in line with prior studies (e.g., Nguyen and Phan, 2017; Bonaime et al., 2018).

## 3. Empirical analysis

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<sup>13</sup> In the interest of readability, both series are smoothed using a three-month moving average.

### 3.1. Geopolitical risk and acquisition likelihood

In order to examine the impact of geopolitical risk on acquisition likelihood we run probit regressions by controlling for a number of firm- and macro-level determinants that extant literature has shown to affect acquisition probability. We use the following model in our regressions:

$$\text{Acquisition likelihood}_{i,t+1} = \alpha + \beta \times \text{GPR}_t + C_{i,t} \times \lambda + \gamma \text{Industry Fixed Effects} + \varepsilon_{i,t} \quad (1)$$

where acquisition likelihood is a dummy variable that equals one if firm  $i$  makes at least one acquisition announcement in year  $t+1$ , and zero otherwise. GPR is the natural logarithm of the 12-month average of the GPR index at the end of year  $t$ .  $C$  is a vector of control variables which have been found to explain firm acquisitiveness measured at the end of year  $t$ . The firm control variables we include in our models are: size, book leverage, market-to-book, return on assets (ROA), sales growth, cash to assets, past returns, non-cash working capital, firm age, and firm volatility.

Following Bonaine et al. (2018), we also employ a series of macro-level variables to proxy for expectations about future economic conditions. First, to capture investment opportunities and to avoid multicollinearity issues, we include the first principal component of the following variables: the University of Michigan index of consumer confidence, the National Activity Index from the Chicago Federal Reserve Board, and the average one-year-ahead GDP growth forecast from the Livingstone Survey of Professional Forecasters. Second, following Harford (2005), we construct an industry-level economic shock variable which is the first principal component of seven economic shock variables (profitability, asset turnover, research and development, capital expenditures, employee growth, ROA, and sales growth) for each Fama-French 48 industry. Third, as in Garfinkel and Hankins (2011), to control for liquidity, we use the spread between Baa-rated bonds and the Federal Funds rate.

Additionally, to address the concern that high equity valuations might drive our results, we proxy for relative valuation using industry-level measures of value and volatility, as well as proxies for overall market valuations and investor sentiment. In particular, we add to the model Shiller's cyclically adjusted price earnings (CAPE) ratio, which proxies for relative valuation of the market

(high values indicate overvaluation). Further, as in Harford (2005), we estimate the industry median Tobin's  $q$  and industry median cumulative returns over the prior three years for each of the Fama and French (1997) 48 industries (high Tobin's  $q$  and high recent past returns indicate high valuation periods). Moreover, when stock prices vary more in some industries, market timing is more likely in such industries. Thus, to capture industry return volatility, we calculate the industry median standard deviation of monthly returns during the 36-month period ending the prior fiscal year.

Finally, it is possible that the GPR index is correlated with uncertainty generated by other macroeconomic factors, which in turn affect acquisition likelihood. To ensure the effect we are capturing is due to uncertainty related to geopolitical risk, we include the first principal component of four additional proxies for macroeconomic uncertainty.<sup>14</sup> First, we include the Jurado et al. (2015) monthly index of macroeconomic uncertainty; that is constructed from the common volatility in the unforecastable component in a system of 279 macroeconomic variables. Second, we use the VXO implied volatility index, released by the CBOE. Finally, following Bloom (2009), we add to our model the cross-sectional standard deviations of monthly returns from CRSP and the cross-sectional standard deviations of annual sales growth from Compustat.

Table 2, Panel A, reports the results for probit regressions. Specification (1) includes firm-level controls and specification (2) includes both firm- and macro-level controls. Firm-level variables are measured in the fiscal year ending in the previous calendar year; macroeconomic variables are measured (as averages) in the prior calendar year. In both specifications, in addition to firm- and macro-level controls, we include a time trend variable and industry fixed effects (48 Fama-French industries), as previous research suggests that there are patterns across industry in the level of acquisitions (see, e.g., Mitchell and Mulherin, 1996). As in Bonaime et al. (2018), we do not include year fixed effects because all sample firms are subject to the same geopolitical risk at a given point in time. Finally, we use robust standard errors double-clustered by firm and year

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<sup>14</sup> We use the first principal component to avoid multicollinearity issues as in the case of the construction of the investment opportunities variable.



(Bertrand, Duflo, and Mullainathan, 2004). To ease the interpretation, we report marginal effects instead of regression coefficients.

Our results show that geopolitical risk has a strong negative relation with firm acquisition likelihood. In both specifications (1) and (2), GPR carries a negative and significant coefficient at the 1% level. This negative relation is also economically meaningful. In particular, the estimates in the full model (specification (2)) suggest that a one standard deviation increase in the GPR index (from its mean) is associated with a 1% decline in acquisition likelihood; this corresponds to an 8.27% decrease relative to the average unconditional M&A probability (12.09% in our sample).

To address the possibility that an omitted variable bias remains present in our tests, in Panel B we perform a two-stage instrumental variable (IV) approach. This approach requires an instrumental variable that is correlated with GPR but is uncorrelated with acquisition likelihood. To this end, we use as an instrument for geopolitical risk the religious tension index provided by the International Country Risk Guide (ICRG). According to ICRG, religious tensions stem from specific religious groups seeking to dominate the social, political and governance process of the country.<sup>15</sup> Along these lines, Agnew (2006) suggests that religious conflicts have become one of the strongest drivers of geopolitical risk, especially in the context of the Middle East and the United States. This implies that the religious tension instrument is likely to satisfy the relevance requirement of instrumental variables. Simultaneously, acquisition decisions are less likely to be directly correlated to religious tension, satisfying the exclusion condition of instrumental variables.

To perform the IV analysis, in the first stage (specification (1)), we regress GPR on the religious tension index as well as on all other firm-level control variables used in Panel A. As expected, we find a strong positive relation between the religious tension index and GPR that is significant at the 1% level. Importantly, we find that the Kleibergen-Paark Wald F statistic for

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<sup>15</sup> ICRG provides a monthly religious tension score ranging from 1 to 6, with the lower score signifying greater religious tension; this seems counter intuitive as one would expect a positive relation between the religious tension score and the level of conflict among religious groups. Thus, to simplify the interpretation of the estimation results, we multiply ICRG's religion tension score by  $-1$  and use the transformed religious tension score in the instrumental variable analysis.

the weak identification test is comfortably higher (70,051.51) than the critical value prescribed by Stock and Yogo (2002) (i.e., LIML Size of Nominal 10% Wald, that is 16.38 in our case) and satisfies the relevance condition, allowing us to reject the null of weak identification.<sup>16</sup> In the second stage (specification (2)), we run the same probit regressions as in Panel A. We find that the negative relation between GPR and acquisition likelihood remains significantly negative with a coefficient that has almost double economic magnitude relative to the baseline results in Panel A. Our results remain unaltered when we also include macro-level control variables in both first stage (specification (3)) and second stage (specification (4)) regressions. This result, combined with our extensive set of controls, helps alleviate endogeneity concerns ensuring for the robustness of the uncovered negative relation.

To provide further insights on our identification strategy, we focus on two important geopolitical events that happened during our sample period and examine their effects on the M&A activity of US firms that belong to the industries that are more likely to be affected by these events. In particular, we first identify the TWA hijacking in 1985 and the impact it had to M&A activity in the aeroplane industry. The Trans World Airlines (TWA) Flight 847 was a flight from Cairo to San Diego with en-route stops in Athens, Rome, Boston, and Los Angeles. The plane was hijacked shortly after take-off from Athens on June 14. Figure 2, graph 1, shows that after this geopolitical event in 1985, there is a sharp decline in the percentage of the number of deals in the aeroplane industry to the total number of M&A deals from 2.5% deals in 1985 to 0.5% in 1986 (which represents a percentage decline of 80%). With some recovery in 1987, M&A activity in aeroplane industry plunged further until 1989.

The second major geopolitical event we identify in our sample period is the Gulf war that took place between August 2, 1990 and February 28, 1991. This was a war that emerged by coalition forces from 35 nations led by the United States against Iraq in response to Iraq's invasion and annexation of Kuwait arising from oil pricing and production disputes. Figure 2, graph 2, exhibits

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<sup>16</sup> In unreported analysis we use as an instrument the ethnic tension index, which is also obtained from the ICRG, and find similar results.

that the percentage of the number of M&A deals in the oil industry relative to the total number of acquisition deals gradually dropped over the next five years from 11.9% in 1991 to 6.3% in 1996, which represents a percentage decline of 47.1%.

### *3.2. Persistence of the geopolitical risk impact*

A relevant question is how long does the effect of geopolitical risk on acquisition activity last? If the effect is temporary, then it implies there should be a reversal in the relation over longer time horizons. If the effect persists, then it implies that during periods of high geopolitical risk acquiring firms miss deals rather than delay them. We therefore perform an identical analysis to our baseline model (specification (2) in Table 2), but the dependent variable this time is augmented to capture the likelihood of making an acquisition bid in the next one, two, three, and four years. Specification (1) predicts acquisition likelihood the next year so it is identical with model (2) of Table 2. Specifications (2), (3) and (4) predict acquisition likelihood during the second, third, and fourth year, respectively. If the decline in acquisition likelihood that we originally show is due to firms delaying acquisitions, we should find positive coefficients associated with geopolitical risk when modeling acquisition likelihood past one year in the future. However, though gradually decreasing, we continue obtaining negative effects of GPR, at conventional levels, up to three years into the future. The GPR carries a negative marginal effect coefficient even in the fourth year, though it does not differ meaningfully from zero. While we do not claim that geopolitical risk causes all deals to be lost, the persistence of the negative association indicates that geopolitical risk results in enough forgone deals that a long-term reversal in the GPR impact is eliminated.

### *3.3. Economic mechanism for the relation between geopolitical risk and M&A activity*

The uncovered negative relation between geopolitical risk and acquisition activity provides support to the real options theory. In order to further validate that real options is the economic mechanism behind our results we perform four additional tests: two at the acquirer level, and two at the target firm level. At the acquirer level, we examine firms with high exposure to geopolitical

risk and financial constraints. At the target firm level, we examine irreversible investments, and industry competition.

### *3.3.1. Firm exposure to GPR: Foreign versus purely domestic business segments*

As a first test to examine the real options channel and the mechanism through which GPR affects M&A activity, we exploit the variation in acquiring firms' exposure to GPR. On the one hand, some firms engage only in purely domestic business activities, suggesting that their M&A activity is less likely to be affected by geopolitical risk. On the other hand, if GPR indeed leads to deterioration in M&A activity, then the firms that should be affected the most will be those with international business activities. Such firms are obviously exposed to GPR more and should have a greater incentive to delay an M&A investment. To capture firm's exposure to GPR, we employ business segments data from Compustat and divide the sample into two groups: i) firms that belong to a purely domestic business segments group (i.e., firms with purely domestic business operations); and ii) firms that belong to a foreign business segments group (firms with non-domestic business operations).

Table 4 report the results by purely domestic and foreign segment groups. As expected, we find that the negative association between GPR and M&A activity is confined only into firms with foreign business operations; we are unable to uncover any significant relation in the purely domestic business segments group, i.e., in firms which are exposed less to GPR. These findings are in line with the real options theory providing also a mechanism through which GPR affects M&A investments.<sup>17</sup>

### *3.3.2. Acquirer financial constraints*

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<sup>17</sup> For robustness, we have also split the sample into: i) Firms with export sales versus firms without export sales; ii) firms with foreign assets (i.e., firms which report tangible and intangible assets that are used by, or directly associated with non-domestic business segments), versus firms without foreign assets (i.e., firms which do not report any assets associated with non-domestic business segments). We still find similar patterns (more negative effect of GPR on M&A activity for firms with export sales and foreign assets relative to firms without export sales and without foreign assets, respectively); however, we treat these results with caution due to the large proportion of missing observations (around 10% of the firms report export sales and foreign assets data).

The second test, at the acquiring firm level, to validate our real option interpretation for the negative association between GPR and acquisitiveness is based on the acquirer financial constraint status. Given that acquisitions are associated, on average, with an increase in default risk (see, for example, Bessembinder et al., 2009; Billett et al., 2004; Furfine and Rosen, 2011), financially constrained acquirers are less likely to make acquisitions during periods of high geopolitical risk as uncertainty can exacerbate firms' financial constraints and increase the cost of external financing (Greenwald and Stiglitz, 1990). Therefore, if geopolitical risk affects acquisitions through a real options channel we should expect that the negative association should be stronger for financially constrained acquirers; for such acquirers the value of the option to delay the deal increases.

We use three standard proxies of financial constraints to test our predictions. The first proxy is based on long-term bond ratings as in Whited (1992) and Almeida et al. (2004). We classify firms as financially constrained if they have positive debt in their balance sheet but never had their public debt rated during our sample period. Financially unconstrained are firms whose debt has been rated at least once during our sample period. The second financial constraint proxy is the size-age index of Hadlock and Pierce (2010). A firm is classified as financially constrained when it belongs to the top quartile of the size-age index (these are generally smaller and younger firms), and financially unconstrained when it belongs to the bottom quartile of the size-age index. Finally, the third measure of financial constraints is the Kaplan and Zingales (1997) (KZ) index. A firm is classified as financially constrained when it belongs to the top quartile of the KZ index, and financially unconstrained when it belongs to the bottom quartile of the KZ index.

We report marginal effects by acquirer financial constraint status in Table 5. Regardless of the financial constraint proxy employed, the negative association between GPR and acquisition likelihood is on average more pronounced for financially constrained bidders than unconstrained bidders. Overall, our results confirm the predictions of a real options economic mechanism, which suggests that the value of the option to wait for an investment increases during periods of high geopolitical risk.

### *3.3.3. Irreversible investments*

At the target firm level, we investigate whether a real options channel is the underlying mechanism behind geopolitical risk and acquisition activity by examining into acquisition investments which are more irreversible. According to the real options theory, the likelihood that a firm will delay an investment due to heightened uncertainty depends on the extent to which their investment can be reversed. If GPR affects firm-level acquisitiveness through the value of the option to delay, the negative association should be stronger for deals which are harder to reverse. An advantage of analyzing merger decisions is that we can observe the investment in question—the target firm. Hence, we use three investment irreversibility proxies which are measured at the target firm level.

Following Bonaime et al. (2018), our first proxy of irreversible investments is the target firm industry capital intensity ratio, which is measured as the industry-level (at 2-digit SIC code) mean PP&E to total assets ratio. When a target has a greater capital intensity ratio, it signifies that it depends more on hard-to-transfer fixed assets (Bonaime et al., 2018). From the targets' industry capital intensity ratio, we construct the high capital intensity dummy which equals one if the ratio is greater than the median capital intensity ratio for all industries that year, and zero otherwise.

The second investment irreversibility proxy is the target firm industry-level asset redeployability index suggested by Kim and Kung (2017). The idea here is that lower redeployability score for the target means higher cost of reversing that investment for the bidder. To construct the redeployability index, Kim and Kung (2017) first quantify asset redeployability by using the Bureau of Economic Analysis (BEA) capital flow table, which provides a detailed breakdown of the capital expenditures across the different industries. Next, they allocate higher scores to assets that are used by more industries. We use the industry level asset redeployability index as measured by the Kim and Kung (2017) and then construct the dependent variable of low redeployability which equals one if the asset redeployability of the industry is below the median that year, and zero otherwise.

The third proxy of irreversible investments relies on the notion that asset liquidation values are correlated with the cyclicality of a firm's sales (Shleifer and Vishny, 1992; Almeida and Campello, 2007), with durable goods industries being highly cyclical (Sharpe, 1994). In this regard, firms operating in highly cyclical industries are unlikely to be able to sell their assets to other firms in the industry during poor economic times, since these other firms are likely negatively affected by the same economic shock. We classify industries as durables based on the Fama–French 48 industry level (i.e., if a firm makes a bid for a target with Fama–French 48 industry classification code 6, 9, 12, 17, 18, 19, 20, 21, 22, 24, 25, 26, 27, 35, 36, 37, or 39).

Table 6, Panel A, reports the results of the probit analysis. The dependent variables are the high capital intensity and low asset redeployability dummies, respectively. We use the same controls and fixed effects as the baseline specification (2) of Table 2. In line with a real options channel, we find that bidders are less likely to bid for targets that represent irreversible investments when geopolitical risk is high.

Because irreversible investments are measured at the target firm level, we have a possible selection bias issue. In particular, we only observe target firm outcomes for announced acquisitions, which may not represent a random sample from the entire population of firms. To address this potential endogeneity issue, we employ a Heckprobit two-stage approach by using as an instrument the unanticipated mutual fund outflows variable by Edmans et al. (2012). Specifically, our identification requires in the first stage a variable that significantly influences the likelihood of making an acquisition, but does not affect the type of the target firm selected (i.e., does not belong in the second stage). This variable is meant to instrument for the potentially endogenous selection into the acquirer sample. Edmans et al. (2012) show that mutual funds' mechanical trades caused by investors' outflows can affect firm valuation and thus future M&A activity; however, it is unlikely that the acquirer's unexpected mutual fund flows should significantly influence the *type of target* that the firm is interested in acquiring, satisfying the exclusion restriction. Panel B of Table 6 reports the results for the Heckprobit analysis.

In the first stage (specifications (1), (3) and (5)) we find strong negative relation between the unanticipated mutual fund outflows and acquisition activity at the 1% significance level. In the second stage, we find that acquirers are less likely to acquire target firms which represent irreversible investments. Particularly, GPR exhibits significantly negative association with targets which have high capital intensity (specification (2)), low redeployability (specification (4)), or belong to durable goods industries (specification (6)). The results in Panel B mitigate concerns that endogeneity drives our results. Taken together, our results indicate that during periods of high geopolitical risk, acquirers are more likely to delay acquisition deals that are more irreversible investments, thereby increasing the value of their options.

#### *3.3.4. Industry competition*

As a second test at the target firm level to further validate the real options economic mechanism, we focus on deals where delaying the investment is more costly. Such deals involve target firms that belong in highly concentrated industries where competition is lower (Grenadier, 2002). Considering the prediction by Grenadier (2002) that competition reduces real option values, we should expect that the negative association between GPR and acquisition likelihood should be stronger in less competitive (more concentrated) industries where the likelihood of competing bids is lower. We test this prediction at the target level, using two proxies for competition.

First, we use the Herfindahl index as a proxy of industry concentration.<sup>18</sup> We classify an industry as highly concentrated (less competitive) if it has an above–median Compustat sales–based Herfindahl index. Given that the Herfindahl index captures expected competition in the M&A market, we also use deal volume as a second proxy to capture realized competition for similar targets. Deal volume is defined as the number of targeted firms in the same Fama–French 48 industry scaled by the total number of firms in the industry. An industry is categorized as having low competition if its volume falls below the median deal volume the previous year.

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<sup>18</sup> Using the Hoberg and Phillips (2010) text-based network industry classification (TNCI) Herfindahl index leads, in general, to similar patterns.



Table 7, Panel A, presents the results for industry competition. We find that geopolitical risk is associated with lower likelihood that target firms come from industries with high concentration or low deal volume. These results support the real options theory by Grenadier (2002) that firms consider other competing real option holders—in our case other potential acquirers—when determining optimal option exercise. Thus, increasing the value of the option to delay is a plausible underlying mechanism for the negative relation between geopolitical risk and acquisition likelihood. Like irreversible investments, industry competition is measured at the target firm level raising endogeneity concerns. Performing an IV approach using, again, Edmans et al. (2012) unanticipated mutual fund outflows as an instrument confirms our main results (see Panel B).

### *3.4. Robustness Tests*

#### *3.4.1. Controlling for several dimensions of uncertainty*

To ensure that the GPR index does not capture the effects of other dimensions of uncertainty (such as general economic, policy or political uncertainty) that potentially confound the negative relation between geopolitical risk and firm acquisitiveness, we perform additional regression analysis which controls for each of the following: i) the economic policy uncertainty (EPU) index developed by Baker et al. (2016) and used by Nguyen and Phan (2017) and Bonaime et al. (2018); ii) the CBOE implied volatility index (VXO) used by Bhagwat et al. (2016); iii) the variation of GDP forecast as a proxy for expected economic growth uncertainty using the GDP forecast data from the Philadelphia Federal Reserve's Livingston survey as in Bloom (2009); iv) political uncertainty using an election indicator variable that takes a value of one for a presidential election year during the sample period, and zero otherwise;<sup>19</sup> v) the annual cross-sectional standard deviation of firm profit growth as a proxy for future profitability variation as in Nguyen and Phan; and vi) recession periods, based on National Bureau of Economic Research (NBER) business-cycle data.

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<sup>19</sup> Previous research documents that political uncertainty is positively related to national elections (Boutchkova, Doshi, Durnev, and Molchanov, 2012). Additionally, Julio and Yook (2012) document a negative effect of presidential elections on investments.

Table 8, Panel A, reports the results. We find that, controlling for each of the above variables, GPR carries a negative and significant coefficient in all regressions, which suggests that the impact of GPR is not affected by different dimensions of uncertainty.

#### *3.4.2. Using alternative measures of geopolitical risk*

To address concerns regarding the ability of the GPR index itself to capture geopolitical risk, in Panel B of Table 8 we use alternative proxies of geopolitical risk, which are not based on newspaper articles. As the GPR index is constructed with information derived from newspaper articles, it could be affected by biased opinions in specific newspapers; consequently, GPR index might only capture the severity of a crisis based on how it is portrayed in the news. To address this issue, we re-run our baseline regression using data from the International Crisis Behaviour (ICB) project's index as in Berkman et al. (2011).<sup>20</sup> ICB defines the crises as the change in the probability of a threat that leads to start or end of international political conflicts. It provides a detailed description of the 476 international political crises that occurred over the period 1918–2015. From the different categories of international political crises provided by ICB, we select the ones it is more possible to entail involvement of the United States. In particular, we use the: i) number of crises, which is the natural log of the total number of international crises in the previous fiscal year; ii) violent break, which is the natural log of total number of international crises that started with violence in the previous fiscal year; iii) US initiation, which is the natural log of the number of international crises initiated by the United States in the previous fiscal year; iv) US military, which is the natural log of the total number of internal crises with the active involvement of the US military in the previous fiscal year; v) political, which is the natural log of the total number of international crises with the threat of overthrow of regime, change of institutions, replacement of elite, intervention in domestic politics, and subversion in the previous fiscal year; vi) territorial, which is the natural log of the total number of international crises with threat of integration, annexation of part of a state's territory and separatism in the previous fiscal year; vii) war, which

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<sup>20</sup> See <https://sites.duke.edu/icbdata/project-info/>.

is the natural log of the total number of international crises that lead to full war in the previous fiscal year; and viii) high violence, which is the natural log of the total number of internal crises that involved high violence in the previous fiscal year. Consistent with our previous findings, geopolitical risk negatively affects acquisition likelihood in all regressions, which mitigates concerns about the proxy of geopolitical risk we use.

### 3.4.3. Evidence from cross-border deals

As an alternative way to investigate the relation between GPR and acquisition likelihood, we focus on the target firm side. To do so, we look into cross-border deals where the target firm is from the US and the acquirer is from a non-US country. If GPR is an important determinant of acquisition activity, it will deter foreign acquirers to make an acquisition bid. Therefore, we predict that when US geopolitical risk is high, less inbound acquisition bids from foreign acquirers to US targets should take place. Table 9 presents the results. Specifications (1) and (2) show that GPR is negatively associated with the likelihood that US public target firms will receive a bid from a foreign acquirer, supporting the view that GPR negatively affects M&A activity.

The additional country-level GPR indices constructed by Caldara and Iacoviello (2019) allow us to also investigate the effect of bilateral changes in GPR in cross-border acquisitions involving US target firms and acquirers from 18 foreign countries.<sup>21</sup> It could be the case that the US GPR is high but the GPR in a foreign country is even higher; in that case the high US GPR would have a lower negative impact on acquisition activity, implying that the *relative* GPR effect of the US to a foreign country should be taken into account.

Specification (3) investigates the impact of the relative geopolitical risk of the US GPR relative to the GPR of the acquirer's country. In particular, we construct the variable "weighted average relative GPR", which is the US target-foreign acquirer pair relative GPR multiplied by the weight

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<sup>21</sup> The countries included in the dataset of Caldara, and Iacoviello (2019) are: Argentina, Brazil, China, Colombia, India, Indonesia, Israel, South Korea, Malaysia, Mexico, Philippines, Russian Fed, Saudi Arabia, South Africa, Thailand, Turkey, Ukraine, and Venezuela.

of each US target-foreign acquirer pair. Each weight is calculated as the number of bids by acquirers from each of the 18 aforementioned countries relative to the total number of bids by acquirers from all 18 countries for US target firms in a given year. Our results show a strong negative relation (at the 1% level) between the weighted average relative GPR and acquisition bids to US target firms from each of the 18 foreign countries reinforcing our previous findings.

Overall, the evidence from cross-border deals looking at the target firm side, which is the mirror image of our main findings looking at the acquirer side, shows that GPR has a negative effect on acquisition activity.

### *3.5. Deal Quality*

The uncovered negative relation between geopolitical risk and acquisition likelihood lends support to the predictions of the real options theory and contradicts the predictions of the empire building theory. Nevertheless, empire building could still play a role (albeit not dominant) in the way geopolitical risk relates to merger decisions. To shed further light on this issue, we focus on the quality of acquisition deals by looking into acquirer short-run and long-run abnormal returns. On the one hand, the real option theory predicts a positive association between geopolitical risk and acquirer returns. Specifically, when uncertainty is high, acquirers become more cautious in the investments they undertake delaying most of their risky and large investments; those acquirers who ultimately decide to engage in M&A deals, undertake their highest NPV projects. On the other hand, the empire building theory predicts a negative association between geopolitical risk and acquirer returns. Specifically, in times of high uncertainty, opportunistic managers of poorly governed firms may undertake suboptimal deals which maximise their personal gains at the expense of their shareholders (Duchin and Schmidt, 2013).

Specifications (1) and (2) of Table 10 report the OLS regressions for the short-run returns. The dependent variable is the acquirer three-day (-1, +1) cumulative abnormal return (CAR)

surrounding the acquisition announcement.<sup>22</sup> The returns are calculated using the market model with the market model parameters estimated over the period starting 255 days and ending 46 days prior to the announcement. The CRSP value-weighted index return is the market return. In addition to firm- and macro-level variables used in the previous analysis, we include several deal-specific dummy variables that prior literature has shown to affect acquirer returns. These are: stock deal, cash deal, high tech, diversifying deal, hostile deal, public target, and competing bidder. We find that GPR carries a positive and significant coefficient in both specifications we run. In economic terms, a one unit increase in geopolitical risk is associated with 0.50% increase in acquirer CAR on average. The economic magnitude of such increase translates into \$20.45 million value enhancement for our sample average acquiring firm (whose market value is \$4.09 billion).

In specifications (3) to (5) of Table 10 we complement our short-run results with an investigation of the effect of geopolitical risk on acquirer long-term stock performance. Such analysis allows us to conclude whether the positive effect of GPR on acquirer returns reflects the information incorporated in the event or there are market inefficiencies at the acquisition announcement which are corrected in the long-run. If acquirers indeed undertake better quality deals during high GPR periods, then the positive association should persist in the long-run. Our dependent variable is the 1-, 2-, and 3-year buy-and-hold abnormal returns (BHARs) using the matched firm adjusted method suggested by Barber and Lyon (1997) and Lyon, Barber, and Tsai (1999) as a proxy for long-term stock performance. We perform OLS regression analysis using the same control variables as in Panel A. We find that GPR is associated with an increase in acquirer long-term performance by 3.4%, 8.8% and 13.8% over one, two, and three years after the event, respectively. These results confirm our previous finding that acquirers undertake value-increasing deals during periods of high GPR reinforcing our argument of a real option channel in the geopolitical risk-M&A relationship.

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<sup>22</sup> Our results are qualitatively similar when we use: i) a 5-day event window (-2, +2) surrounding the acquisition announcement; ii) market-adjusted returns; or iii) equally-weighted market return as a benchmark.

### *3.6. Geopolitical threats (GPT) index versus geopolitical acts (GPA) index*

An advantage of the geopolitical risk index relative to existing uncertainty proxies is that it allows to isolate periods of elevated geopolitical risk due to the realization of events. This is done by decomposing the GPR index into two sub-indices: the geopolitical threats index (GPT) and the geopolitical acts (GPA) index. The GPT index is constructed by searching articles that include words in categories 1 to 4 (these are the groups which directly mention risks that are not contemporaneously associated with geopolitical acts, such as tensions building up before wars or after terrorist attacks), while the GPA index searches only for words included in categories 5 and 6 (these are the groups that refer to adverse events that could induce an increase in geopolitical threats). Caldara and Iacoviello (2019) highlight that the significant negative effect of disaster risk on stock returns is sparked by heightened threats rather than acts of adverse geopolitical events.

To investigate which part of the GPR index drives our results, in Table 11 we examine the effect of GPT and GPA on acquisition likelihood (specifications (1) and (2)) and acquirer announcement returns (specifications (3) and (4)). Consistent with the findings of Caldara and Iacoviello (2019) for stock returns, we find that GPT rather than GPA affects acquisitions. In particular, we find that both GPT and GPA are negatively associated with acquisition likelihood but the coefficient of GPT is significantly larger (about two times) than the one of GPA. Additionally, GPT is positively associated with acquirer CARs, while GPA does not exhibit any significant relationship with acquirer returns. In sum, this evidence suggests that the relation between GPR and M&As is mostly driven by the threat of adverse geopolitical events rather than their realization, consistent with the findings of Caldara and Iacoviello (2019) on the effects of geopolitical risk on stock returns.

### *3.7. Types of deals and implications for acquiring firms that make a bid during high GPR*

#### *3.7.1. Types of deals*

Our results so far support the predictions of a real options economic mechanism. When there is high geopolitical risk, acquiring firms are discouraged to get involved in acquisitions deals. A

question that arises is what happens to firms that ultimately decide to make a bid when geopolitical risk is high? In fact, when there is macroeconomic uncertainty it is more likely that the target firm's value will change in the interim period between the announcement date and the completion date, which would reduce the incentives of acquiring firms to make acquisitions, particularly of those which are on average subject to a longer interim period (Bhagwat et al., 2016). Supporting this view, Bhagwat et al. (2016) develop the interim risk channel hypothesis showing that the negative effect of the VIX on merger activity is strongest for (large) public deals.

To test whether our results on the acquisition sample (i.e., sample with announced acquisition deals) are driven by the interim risk channel, in Table 12, Panel A we divide our sample into high and low geopolitical risk periods (above and below the sample median, respectively) and compare variables correlated with actual and expected interim risk in a univariate type of analysis. The first variable, which captures actual interim risk, is the time (number of days) from the announcement of the deal to completion. If geopolitical risk has a stronger negative effect on acquisitions with longer interim periods, then the average interim period of deals announced in periods of high geopolitical risk should be shorter than in periods with low geopolitical risk as firms will have incentives to shorten the time-to-completion window under the pressure of high geopolitical risk. Indeed, we find that this is the case. The second and third variables, which capture expected interim risk, are public and large public deals, respectively. Typically, private deals are completed faster than public deals, and also the integration of smaller targets is easier than larger targets (Alexandridis, Fuller, Terhaar, and Travlos, 2013). In support of this view, Bhagwat et al. (2016) provide evidence of heightened interim risk in public deals, while the effect on acquisition activity even doubles for large public deals relative to their baseline models. Similarly, we find evidence of existence of interim risk in announced deals as acquirers are involved in less public and large public deals, respectively, during periods of high geopolitical risk than periods of low geopolitical risk. The fourth variable, which also captures expected interim risk, is tender offers. Interim periods of tender offers are typically less than half as long as interim periods of mergers (Offenberg and Pirinsky, 2015). Hence, if geopolitical risk operates primarily through the interim risk channel, then

periods with high geopolitical risk should be associated with relatively more tender offers. We find that this is the case. In Panel B, we perform multivariate analysis controlling for the same firm and macro characteristics as in previous analysis. We generally confirm our univariate results as GPR exhibits negative association with time to completion, public deals, and large public deals and it does not lead to less tender offers. In sum, these tests provide evidence that the interim risk channel drives the relation between GPR and acquisition activity in deals that have been ultimately attempted by acquiring firms during periods of high geopolitical risk.

### *3.7.2. Implications of geopolitical risk on target firm's negotiation power*

In the last section we are interested in the implications of our finding that acquirers that ultimately make a bid during periods of high geopolitical risk are subject to interim risk. The fact that under the real options channel potential acquirers will delay their acquisitions in periods of high geopolitical risk implies that those who ultimately decide to bid are selected from the population of firms for which delaying is relatively more costly. Hence, apart from the effect that this has on the type of deals conducted (i.e., less public deals, less large public deals, more tender offers), it also leads to the prediction that target firms should be able to negotiate better deal terms when geopolitical risk is high.

To test our prediction, we examine the effects of GPR on offer premium and target firm's termination fees. In particular, if during periods of high geopolitical risk target firms' negotiation power increases, we should expect that they should be able to receive a higher offer price from acquirers, implying a positive relation between GPR and offer premium. Additionally, target termination fee is a special clause in the M&A deals where the target firm needs to pay a particular fee to the bidder if the merger agreement dissolves or the target firm accepts a bid from another party (Bates and Lemmon, 2003). In this regard, target termination fees reflect the relative bargaining power of the target firms as those with stronger negotiating position are less likely to include a termination fee clause in the deal. We therefore predict a negative relation between GPR and target firm's termination fees. Table 13 presents the results of this analysis.



Specification (1) presents the results for the 4-week offer premium reported by SDC, which is calculated as the difference between the offer price and the target firm's stock price four weeks before the acquisition announcement divided by the latter. Specification (2) presents the results for target firm's termination fees, which is a dummy variable that takes the value of one if the target firm agrees to pay a termination fee for a specific deal, and zero otherwise. We use the same control variables as the ones used in stock returns analysis of Table 9. In support of our predictions, we find that periods of high GPR are associated with higher takeover premium and lower likelihood of having a target firm termination fee, consistent with increased negotiating power on the part of the target firm. Overall, these results reinforce our view that acquirers who ultimately make a bid during periods of high geopolitical risk are subject to interim risk.

#### **4. Conclusions**

This study revisits the effects of uncertainty on M&A activity by examining the impact of a previously unexplored dimension of uncertainty – namely geopolitical risk. Drawing on a new metric developed by Caldara and Iacoviello (2019), we provide robust evidence that geopolitical risk has a negative impact on firm-level acquisition activity. The economic magnitude of the effect is significant. A one standard deviation increase in the GPR index (from its mean) is associated with a 1% decrease in acquisition likelihood, or an 8.27% of the unconditional probability of announcing an acquisition. Additionally, we observe persistence of the effect as it lasts for three years, implying that acquisitions tend to be lost rather than simply delayed.

The uncovered negative relation between geopolitical risk and acquisition activity lends support to a real options channel and rejects the theoretical predictions of the risk management hypothesis and empire building theory. Cross-sectional evidence validates our interpretation of the real options channel. In particular, we find that the negative impact of geopolitical risk on M&A activity is significantly more pronounced when acquiring firms have foreign business segments or they are financially constrained, and when target firms have relatively more irreversible assets or they operate in industries with lower competition. In such deals the option value to delay an

investment is higher reinforcing our interpretation. We provide further evidence in line with the real options channel by showing that during periods of high geopolitical risk bidders are more cautious and conduct better quality deals that increase shareholders' value in the short-run, as well as in the long-run.

Moreover, by investigating inbound cross-border deals, we find that when US geopolitical risk is high or the GPR in the US is higher relative to GPR in each of 18 foreign countries, US target firms are less likely to receive a bid, which is the mirror image of the previous findings. Additionally, by decomposing the GPR index into the geopolitical threats index (GPT) and the geopolitical acts (GPA) index, we identify that the relation between GPR and M&As is mostly driven by the threat of adverse geopolitical events rather than their realization. Moreover, we focus on announced deals to examine whether interim risk is another force at play for firms that ultimately make a bid during periods of high geopolitical risk; we investigate whether actual and expected interim risk differ between high and low geopolitical risk periods providing evidence in support of the interim risk explanation for deals that are announced when geopolitical risk is high.

Furthermore, one implication of the interim risk explanation is that acquisitions conducted during periods of high geopolitical risk are mostly from firms for which delaying an investment is excessively costly. Consistent with this prediction, we find that target firms exploit periods of high geopolitical risk by negotiating better deal terms translated into higher offer premium received and lower likelihood of having a termination fee.

Finally, in a period characterized by important geopolitical events across the globe, our findings have important implications for policymakers and corporate managers. Government policymakers who are responsible for undertaking different policies related to the US exposure to global politics should take into account geopolitical risk and its effect on M&As bearing in mind the importance of M&A activity in driving economic growth. Similarly, corporate decision-makers, who are responsible for assessing different risks and uncertainties that may affect strategically important investment decisions like M&As, should also pay particular attention on the impact of geopolitical risk and its effects on investment and shareholder value.

## References

- Abel, A.B., 1983. Optimal investment under uncertainty. *American Economic Review* 73, 228-233.
- Agnew, J., 2006. Religion and geopolitics. *Geopolitics* 11, 183-191.
- Alexandridis, G., Fuller, K.P., Terhaar, L., Travlos, N.G., 2013. Deal size, acquisition premia and shareholder gains. *Journal of Corporate Finance* 20, 1-13.
- Ali, A., Klasa, S., Yeung, E., 2009. The limitations of industry concentration measures constructed with compustat data: implications for finance research. *Review of Financial Studies* 20, 3839-3871.
- Almeida, H., Campello, M., 2007. Financial constraints, asset tangibility, and corporate investment. *Review of Financial Studies* 20, 1429–1460.
- Almeida, H., Campello, M., Hackbarth, D., 2011. Liquidity mergers. *Journal of Financial Economics* 102, 526-558.
- Almeida, H., Campello, M., Weisbach, M., 2004. The cash flow sensitivity of cash. *Journal of Finance* 59, 1777-1804.
- Antonakakis, N., Gupta, R., Kollias, R., Papadamou, S., 2017. Geopolitical risks and the oil-stock nexus over 1899–2016. *Finance Research Letters* 23, 165-173.
- Baker, S., Bloom, N., Davis, S., 2016. Measuring economic policy uncertainty. *Quarterly Journal of Economics* 131, 1593-1636.
- Barber, B.M., Lyon, J.D., 1997. Detecting long-run abnormal stock returns: The empirical power and specification of test statistics. *Journal of Financial Economics* 43, 431-372.
- Balcilar, M., Bonato, M., Demirer, R., Gupta, R., 2018. *Economic Systems* 42, 295-306.
- Bates, T., Lemmon, M., 2003. Breaking up is hard to do? An analysis of termination fee provisions and merger outcomes. *Journal of Financial Economics* 69, 469-504.

- Bekaert, G., Ehrmann, M., Fratzscher, M., Mehl, A., 2014. The global crisis and equity market contagion. *Journal of Finance* 69, 2597-2649.
- Berkman, H., Jacobsen, B., Lee, J., 2011. Time-varying rare disaster risk and stock returns. *Journal of Financial Economics* 101, 313-332.
- Bernanke, B., 1983. Irreversibility, uncertainty, and cyclical investment. *Quarterly Journal of Economics* 98, 85-106.
- Bertrand, M., Duflo, E., Mullainathan, S., 2004. How much should we trust differences-in-differences estimates? *Quarterly Journal of Economics* 119, 249-275.
- Bessembinder, H., Panayides, M., Venkataraman, K. 2009. Hidden liquidity: an analysis of order exposure strategies in electronic stock markets. *Journal of Financial Economics* 94, 361-383.
- Bhagwat, V., Dam, R., Harford, J., 2016. The real effects of uncertainty on merger activity. *Review of Financial Studies* 29, 3000-3034.
- Billett, M.T., King, T-H., D., Mauer, D., 2004. Bondholder wealth effects in mergers and acquisitions: New evidence from the 1980s and 1990s. *Journal of Finance* 59, 107-135.
- Bilmes, L., Stiglitz, J., 2006. The economic costs of the Iraq war: An appraisal three years after the beginning of the conflict. Working paper, National Bureau of Economic Research.
- Bloom, N., 2009. The impact of uncertainty shocks. *Econometrica* 77, 623-685.
- Bloom, N., Bond, S., Van Reenen, J., 2007. Uncertainty and investment dynamics. *Review of Economic Studies* 74, 391-415.
- Bonaime, A., Gulen, H., Ion, M., 2018. Does policy uncertainty affect mergers and acquisitions? *Journal of Financial Economics* 129, 531-558.
- Boutchkova, M., Doshi, H., Durnev, A., Molchanov, A., 2012. Precarious politics and return volatility. *Review of Financial Studies* 25, 1111-1154.
- Butler, K., Joaquin, D., 1998. A note on political risk and the required return on foreign direct investment. *Journal of International Business Studies* 29, 599-607.
- Caballero, R.J., 1991. On the sign of the investment-uncertainty relationship. *American Economic Review* 81, 279-288.
- Caldara, D., Iacoviello, M., 2019. Measuring geopolitical risk. Working paper, Board of Governors of the Federal Reserve Board.
- Carney, M., 2016. Uncertainty, the economy and policy. Bank of England.
- Desbordes, R., Vicard, V., 2009. Foreign direct investment and bilateral investment treaties: An international political perspective. *Journal of Comparative Economics* 37, 372-386.
- Desai, R., 2013. Geopolitical economy: After US hegemony, globalization and empire. The future of world capitalism. London: Pluto Press.
- Dixit, A., Pindyck, R., 1994. Investment under uncertainty. Princeton, N.J: Princeton University Press.
- Dong, M., Hirshleifer, D., Richardson, S., Teoh, S.H., 2006. Does investor misvaluation drive the takeover market? *Journal of Finance* 61, 725-762.
- Duchin, R., Schmidt, B., 2013. Riding the merger wave: Uncertainty, reduced monitoring, and bad acquisitions. *Journal of Financial Economics* 107, 69-88.
- Edmans, A., Goldstein, I., Jiang, W., 2012. The real effects of financial markets: The impact of prices on takeovers. *Journal of Finance* 67, 933-971.
- Fama, E., French, K., 1997. Industry costs of equity. *Journal of Financial Economics* 43, 153-193.
- Furfine, C., Rosen, R., 2011. Mergers increase default risk. *Journal of Corporate Finance* 17, 832-849.
- Garfinkel, J., Hankins, K., 2011. The role of risk management in mergers and merger waves. *Journal of Financial Economics* 101, 515-532.
- Giambona, E., Graham, J., Harvey, C., Bodnar, G., 2018. The theory and practice of corporate risk management: evidence from the field. *Financial Management* 47, 783-832.
- Goel, A.M., Thakor, A.V., 2010. Do envious CEOs cause merger waves? *Review of Financial Studies* 23, 487-517.

- Greenwald, B., Stiglitz, J., 1990. Macroeconomic models with equity and credit rationing. In *Asymmetric Information, Corporate Finance, and Investment*, R. G. Hubbard, ed. Chicago, IL: University of Chicago Press, 15-42.
- Grenadier, S.R., 2002. Option exercise games: an application to the equilibrium investment strategies of firms. *Review of Financial Studies* 15, 691-721.
- Hadlock, C.J., Pierce, J.R., 2010. New evidence on measuring financial constraints: moving beyond the KZ index. *Review of Financial Studies* 23, 1909-1940.
- Harford, J., 2005. What drives merger waves? *Journal of Financial Economics* 77, 529-560.
- Hartman, R., 1972. The effects of price and cost uncertainty on investment. *Journal of Economic Theory* 5, 258-266.
- Hegre, H., Oneal, J., Russett, B., 2010. Trade does promote peace: new simultaneous estimates of the reciprocal effects of trade and conflict. *Journal of Peace Research* 47, 763-774.
- Hoberg, G., Phillips, G., 2010. Product market synergies and competition in mergers and acquisitions: a text-based analysis. *Review of Financial Studies* 23, 3773-3811.
- Huang, T., Wu, F., Yu, J., Zhang, B., 2015. Political risk and dividend policy: Evidence from international political crises. *Journal of International Business Studies* 46, 574-595.
- Jenter, D., Lewellen, K., 2015. CEO preferences and acquisitions. *Journal of Finance* 70, 2813-2852.
- Julio, B., Yook, Y., 2012. Political uncertainty and corporate investment cycles. *Journal of Finance* 67, 45-83.
- Jurado, K., Ludvigson, S.C., Ng, S., 2015. Measuring uncertainty. *American Economic Review* 105, 1177-1216.
- Kaplan, S.N., Zingales, L., 1997. Do investment-cash flow sensitivities provide useful measures of financing constraints? *Quarterly Journal of Economics* 112, 169-215.
- Kim, H., Kung, H., 2017. The asset redeployability channel: how uncertainty affects corporate investment. *Review of Financial Studies* 30, 245-280.
- Lyon, J.D., Barber, B.M., Tsai, C-L., 1999. Improved methods for tests of long-run abnormal stock returns. *Journal of Finance* 54, 165-201.
- Maksimovic, V., Phillips, G., 2001. The market for corporate assets: who engages in mergers and asset sales and are there efficiency gains? *Journal of Finance* 56, 2019-2065.
- Mitchell, M.L., Mulherin, J.H., 1996. The impact of industry shocks on takeover and restructuring activity. *Journal of Financial Economics* 41, 193-229.
- Morrow, J., 1999. How could trade affect conflict? *Journal of Peace Research* 36, 481-489.
- Nguyen, T., Petmezas, D., Karampatsas, N., 2020. Does safety uncertainty affect acquisitions? Working paper, University of Surrey.
- Nguyen, N., Phan, H., 2017. Policy uncertainty and mergers and acquisitions. *Journal of Financial and Quantitative Analysis* 52, 613-644.
- Offenberg, D., Pirinsky, C., 2015. How do acquirers choose between mergers and tender offers? *Journal of Financial Economics* 116, 331-348.
- Pan, W., 2019. Geopolitical risk and R&D investment. Working paper, University of Reading.
- Pease, D., 2000. US imperialism: Global dominance without colonies, in, H. Schwarz, S. Ray, (ed.). *A companion to postcolonial studies*. London: Routledge, 203-220.
- Rhodes-Kropf, M., Robinson, D.T., Viswanathan, S., 2005. Valuation waves and merger activity: the empirical evidence. *Journal of Financial Economics* 77, 561-603.
- Rhodes-Kropf, M., Viswanathan, S., 2004. Market valuation and merger waves. *Journal of Finance* 59, 2685-2718.
- Rodrik, D., 1991. Policy uncertainty and private investment in developing countries. *Journal of Development Economics* 36, 229-242.
- Shleifer, A., Vishny, R., 1992. Liquidation values and debt capacity: A market equilibrium approach. *Journal of Finance* 47, 1343-1365.
- Shleifer, A., Vishny, R.W., 2003. Stock market driven acquisitions. *Journal of Financial Economics* 70, 295-311.

- Stock, J.H., Yogo, M., 2002. Testing for weak instruments in linear IV regression. Working paper, National Bureau of Economic Research.
- UNCTAD, 2002. World investment report 2002: Transnational corporations and export competitiveness, UN, New York. Available at: <https://doi.org/10.18356/a7fb1820-en>.
- Wang, X., Wu, Y., Xu, W., 2019. Geopolitical risk and investment. Working paper, Southern University of Science and Technology, Rutgers University, and Clemson University.
- Whited, T., 1992. Debt, liquidity constraints, and corporate investment: evidence from panel data. *Journal of Finance* 47, 1425-1460.
- Wolfers, J., Zitzewitz E., 2009. Using markets to Inform Policy: the case of the Iraq war. *Economica*, 76, 225-250.
- Yim, S., 2013. The acquisitiveness of youth: CEO age and acquisition behavior. *Journal of Financial Economics* 108, 250-273.

## Appendix

Variables	Definitions	Source
<b>Panel A: Geopolitical Risk Variables</b>		
Geopolitical risk	It is the natural logarithm of the monthly average of the Caldara and Iacoviello (2019) US geopolitical risk (GPR) over a 12-month period calculated at the end of each calendar year.	Available at <a href="http://www.policyuncertainty.com/gpr.html">http://www.policyuncertainty.com/gpr.html</a>
Weighted average relative GPR	It is the US target-foreign acquirer pair relative GPR multiplied by the weight of each US target-foreign acquirer pair. Each weight is calculated as the number of bids by acquirers from each of 18 countries relative to the total number of bids by acquirers from all 18 countries for US target firms in a given year. The 18 countries are the following: Argentina, Brazil, China, Colombia, India, Indonesia, Israel, South Korea, Malaysia, Mexico, Philippines, Russian Fed, Saudi Arabia, South Africa, Thailand, Turkey, Ukraine, and Venezuela.	<a href="http://www.policyuncertainty.com/gpr.html">http://www.policyuncertainty.com/gpr.html</a> & SDC
<b>Panel B: Main Control Variables</b>		
Size	The natural logarithm of the book value of assets.	Compustat
Book leverage	Long-term debt (item DLTT) plus debt in current liabilities (item DLC), divided by total assets (item AT).	Compustat
Market to book	The ratio of the market value of assets to the book value of assets.	Compustat
ROA	Return on assets, measured as income before extraordinary items (annual item IB) plus interest expense (item XINT) plus income taxes (item XINT), divided by total assets (item AT).	Compustat
Sales growth	The company year-on-year difference of year-end sales.	Compustat
Cash to assets	Cash and short-term investments (item CHE) divided by total assets (item AT).	Compustat
Stock returns	Cumulative returns during the 12-month period ending at the end of the firm's fiscal year. This is measured using monthly returns from the CRSP monthly database.	CRSP
Non-cash working capital	The ratio of (working capital – cash) to the book value of assets.	Compustat
Firm age	Number of years that a firm appears in Compustat.	Compustat
Firm volatility	The standard deviation of the firm's daily returns from month $t-13$ to $t-2$ .	CRSP
Investment opportunities (First principal component)		
1. Consumer confidence	The monthly, survey-based index of consumer confidence developed by the University of Michigan.	Available at <a href="http://www.sca.isr.umich.edu/">http://www.sca.isr.umich.edu/</a>
2. CFNAI	The Chicago Fed National Activity Index, which is designed to measure current economic activity and inflationary pressure based on 85 monthly economic indicators.	Available at <a href="https://www.chicagofed.org/research/data/cfnai/historical-data">https://www.chicagofed.org/research/data/cfnai/historical-data</a>

3. Expected GDP growth	The average one-year-ahead GDP forecast from the biannual Livingstone Survey of Professional Forecasters	The Philadelphia FED
Industry economic shock	It is constructed based on the following seven firm-level indicators: net income to sales (IB/SALE), sales to assets (SALE/AT), R&D to assets (XRD/AT), capital expenditures to assets (CAPX/AT), employment growth (percentage change in item EMP), return on assets (IB/AT), and sales growth (percentage change in item SALE). For each of the 48 industries in the Fama and French (1997) classification, each year, we take the industry median of the absolute (annual) change in each of the above variables.	Compustat
Rate spread	The spread between Baa rated bonds and the Federal Funds rate. To match the annual frequency of the firm-level data, we use calendar-year averages of this (monthly) spread variable.	The St. Louis FED
Shiller's CAPE ratio	The cyclically adjusted price-earnings (CAPE) ratio developed by Robert Shiller.	Available at <a href="http://www.econ.yale.edu/~shiller/data.htm">http://www.econ.yale.edu/~shiller/data.htm</a>
Industry median Q	The annual, median value of Tobin's Q for each of the Fama and French (1997) 48 industries. Tobin's Q is measured as the book value of assets minus book value of equity plus the market value of equity, divided by book value of assets.	Compustat
Industry median past returns	The annual median of firm-level 36-month cumulative returns for each of the Fama and French (1997) 48 industries. Each calendar year $t$ , we calculate each firm's cumulative returns using the 36 months leading up to the last month of the fiscal year ending in $t$ .	CRSP
Industry $\sigma$ past returns	The annual median of firm-level 36-month return volatility for each of the Fama and French (1997) 48 industries. Each calendar year $t$ , we calculate the standard deviation of each firm's returns, using the 36 monthly return observations leading up to the last month of the fiscal year ending in $t$ .	CRSP
Macroeconomic uncertainty (First principal component)		
1. JLN uncertainty index:	Monthly index of macro-economic uncertainty developed by Jurado et al. (2015) as the unforecastable component in a system of 279 macroeconomic variables.	Available at <a href="https://www.sydneyludvigson.com/data-and-appendixes">https://www.sydneyludvigson.com/data-and-appendixes</a>
2. VXO index	Daily index of implied volatility released by the Chicago Board Options Exchange, calculated based on trading of S&P 100 options.	Available at <a href="http://www.cboe.com/products/vix-index-volatility/volatility-on-stock-indexes">http://www.cboe.com/products/vix-index-volatility/volatility-on-stock-indexes</a>
3. CS $\sigma$ past returns	The cross-sectional standard deviation of cumulative returns from the past three months, calculated each month.	CRSP



4. CS $\sigma$ past sales growth	The cross-sectional standard deviation of year-on-year sales growth (percentage change in the Compustat quarterly item SALEQ), calculated each calendar quarter.	Compustat
<b>Panel C: Instrumental Variables</b>		
Religious tension index	It is a score ranging from 1 to 6 given by the International Country Risk Guide (ICRG). The lower the score, the greater the religious tension. We multiply scores with $-1$ to have a similar interpretation as the GPR index.	ICRG Database
Mutual fund outflows variable	Mutual fund outflow is calculated following Edmans et al. (2012).	CRSP Mutual Fund Database and Thomson Reuters Mutual Fund Holdings Database
<b>Panel D: Variables Used in Table 4</b>		
Foreign Business Segments	A firm belongs to a foreign business segments group if it has non-domestic business operations.	Compustat
Purely Domestic Business Segments	A firm belongs to a purely domestic business segments group if it does not have any non-domestic business operation.	Compustat
<b>Panel E: Variables Used in Table 5</b>		
Credit ratings: constrained	A firm is classified as financially constrained if it has positive debt in their balance sheet but never had their public debt rated during our sample period	Compustat
Credit ratings: unconstrained	A firm is classified as financially unconstrained if its debt has been rated at least once during our sample period	Compustat
Size-age index: constrained	A firm is classified as financially constrained when it belongs to the top quartile of the Size–Age Index of Hadlock and Pierce (2010).	Compustat
Size-age index: unconstrained	A firm is classified as financially unconstrained when it belongs to the bottom quartile of the Size–Age Index of Hadlock and Pierce (2010).	Compustat
KZ index: constrained	A firm is classified as financially constrained when it belongs to the top quartile of Kaplan-Zingales (1997) index.	Compustat
KZ index: unconstrained	A firm is classified as financially unconstrained when it belongs to the bottom quartile of Kaplan-Zingales (1997) index.	Compustat
<b>Panel F: Variables Used in Table 6</b>		
High capital intensity	Target firm industry capital intensity ratio, which is measured as the industry-level (at 2-digit SIC code) mean PP&E to total assets ratio. From the targets' industry capital intensity ratio, we construct the high capital intensity dummy which equals 1 if the ratio is greater than the median capital intensity ratio for all industries that year, and 0 otherwise.	Compustat

Low redeployability	Low Redeployability is a dummy variable that takes the value of 1 if a firm makes a bid for a target with an asset redeployability score (developed by Kim and Kung, 2017) lower than the median value in a given year, and 0 otherwise.	Available at <a href="http://blogs.cornell.edu/hyunseobkim/asset-redeployability/">http://blogs.cornell.edu/hyunseobkim/asset-redeployability/</a>
Durable industries	It is a dummy variable that takes the value of 1 if a firm makes a bid for a target with Fama–French 48 industry classification code 6, 9, 12, 17, 18, 19, 20, 21, 22, 24, 25, 26, 27, 35, 36, 37, or 39 and 0 otherwise.	SDC
<b>Panel G: Variables Used in Table 7</b>		
High Herfindahl	High Herfindahl is a dummy variable that takes the value of 1 if a firm makes a bid for a target which has a value above the median Compustat sales–based Herfindahl index, and 0 otherwise.	Compustat
Low deal volume	Low deal Volume is a dummy variable that takes the value of 1 if a firm makes a bid for a target which operates in an industry with a deal volume (i.e., the number of targeted firms in the same Fama–French 48 industry scaled by the total number of firms in the industry) below the median industry deal volume the previous year, and 0 otherwise.	SDC
<b>Panel H: Dimensions of Uncertainty (Variables Used in Table 8)</b>		
EPU	It is the economic policy uncertainty (EPU) index developed by Baker, Bloom, and Davis (2016).	Available at <a href="http://hobergphillips.usc.edu">http://hobergphillips.usc.edu</a>
VXO	It is the CBOE implied volatility index (VXO).	Available at <a href="http://www.cboe.com/products/vix-index-volatility/volatility-on-stock-indexes">http://www.cboe.com/products/vix-index-volatility/volatility-on-stock-indexes</a>
Variation of GDP forecast	It is the variation of GDP forecast using the GDP forecast data from the Philadelphia Federal Reserve’s Livingston survey.	Available at <a href="https://www.philadelphiafed.org/">https://www.philadelphiafed.org/</a>
Political uncertainty	It is the election indicator that takes the value of 1 for a presidential election year during the sample period, and zero otherwise.	The World Bank Database of Political Institutions (DPI)
Future profitability variation	It is the annual cross–sectional standard deviation of firm profit growth.	Compustat
Recession periods	It is based on National Bureau of Economic Research (NBER) business–cycle data.	Available at <a href="https://www.nber.org/cycles.html">https://www.nber.org/cycles.html</a>
<b>Panel I: Alternative Measures of Geopolitical Risk (Variables Used in Table 8)</b>		
Number of crises	Natural log of the total number of international crises at the end of the calendar year.	The International Crisis Behaviour (ICB) (available at <a href="https://sites.duke.edu/icbdata/">https://sites.duke.edu/icbdata/</a> )
Violent breaks	Natural log of the total number of international crises that started with violence at the end of the calendar year.	The International Crisis Behaviour (ICB) (available at <a href="https://sites.duke.edu/icbdata/">https://sites.duke.edu/icbdata/</a> )
US initiations	Natural log of the total number of international crises initiated by the United States at the end of the calendar year.	The International Crisis Behaviour (ICB) (available at <a href="https://sites.duke.edu/icbdata/">https://sites.duke.edu/icbdata/</a> )

US military	Natural log of the total number of internal crises with the active involvement of the US military at the end of the calendar year.	The International Crisis Behaviour (ICB) (available at <a href="https://sites.duke.edu/icbdata/">https://sites.duke.edu/icbdata/</a> )
Political	Natural log of the total number of international crises with the threat of overthrow of the regime, change of institutions, replacement of elite, intervention in domestic politics, and subversion at the end of the calendar year.	The International Crisis Behaviour (ICB) (available at <a href="https://sites.duke.edu/icbdata/">https://sites.duke.edu/icbdata/</a> )
Territorial	Natural log of the total number of international crises with the threat of integration, the annexation of part of a state's territory and separatism at the end of the calendar year.	The International Crisis Behaviour (ICB) (available at <a href="https://sites.duke.edu/icbdata/">https://sites.duke.edu/icbdata/</a> )
War	Natural log of the total number of international crises that lead to full war at the end of the calendar year.	The International Crisis Behaviour (ICB) (available at <a href="https://sites.duke.edu/icbdata/">https://sites.duke.edu/icbdata/</a> )
Major clash	Natural log of the total number of international crises that involved major clash at the end of the calendar year.	The International Crisis Behaviour (ICB) (available at <a href="https://sites.duke.edu/icbdata/">https://sites.duke.edu/icbdata/</a> )

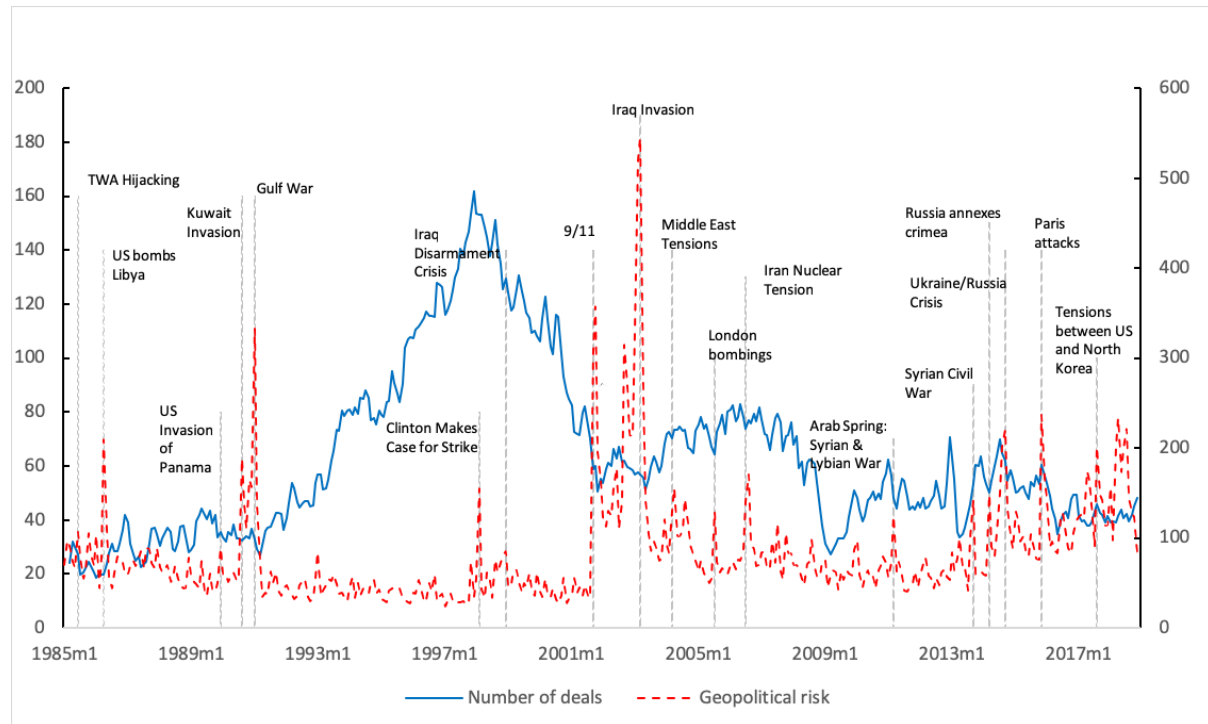
**Panel J: Extra Variables Used in Table 10**

Acquirer CARs (-1,+1)	The returns are calculated using the market model with the market model parameters estimated over the period starting 255 days and ending 46 days prior to the announcement. The CRSP value-weighted index return is the market return.	CRSP
Buy-hold abnormal returns (BHARs)	Buy-and-hold abnormal returns (BHARs) are estimated using the matched firm adjusted method suggested by Barber and Lyon (1997) and Lyon, Barber, and Tsai (1999) for 1-, 2- and 3-year period after the acquisition.	CRSP
Stock deal dummy	A dummy variable that takes the value of 1 if the payment is 100% in stock, and 0 otherwise.	SDC
Cash deal dummy	A dummy variable that takes the value of 1 if the M&A deal is 100% funded by cash, and 0 otherwise.	SDC
High tech dummy	A dummy variable that takes the value of 1 if an acquirer's 4-digit SIC code is equal to 3571, 3572, 3575, 3577, 3578, 3661, 3663, 3669, 3671, 3672, 3674, 3675, 3677, 3678, 3679, 3812, 3823, 3825, 3826, 3827, 3829, 3841, 3845, 4812, 4813, 4899, 7371-7375, 7378, or 7379, and 0 otherwise.	Compustat
Diversification deal dummy	A dummy variable that takes the value of 1 if the acquirer and target belong to different 2-digit SIC code industries, and 0 otherwise.	Compustat
Hostile deal dummy	A dummy variable that takes the value of 1 if the M&A deal is a hostile takeover, and 0 otherwise.	SDC
Public target	A dummy variable that takes the value of 1 if the target is a publicly listed firm, and 0 otherwise.	SDC

<b>Panel K: Alternative Dimensions of GPR (Variables Used in Table 11)</b>		
Geopolitical threats	The threats of geopolitical risk as measured by the Caldara and Iacoviello (2019) geopolitical threats (GPT) index.	Available at <a href="http://www.policyuncertainty.com/gpr.html">http://www.policyuncertainty.com/gpr.html</a>
Geopolitical acts	The realization of geopolitical risk as measured by the Caldara and Iacoviello (2019) geopolitical acts (GPA) index.	Available at <a href="http://www.policyuncertainty.com/gpr.html">http://www.policyuncertainty.com/gpr.html</a>
<b>Panel L: Variables Used in Table 12</b>		
Time to completion (days)	It is measured as the number of days from deal announcement to completion.	SDC
Public deals	It is measured as the annual average deal volume of total acquisitions involving publicly traded targets.	SDC
Large public targets	It is measured as the annual average deal volume of total acquisitions involving deal size greater than the median deal size and publicly traded targets.	SDC
Percentage of tender offers	It is measured as the annual percentage of tender offers.	SDC
<b>Panel M: Variables Used in Table 13</b>		
4-week offer premium	It is calculated as the difference between the offer price and the target firm's stock price four weeks before the acquisition announcement divided by the latter.	SDC
Target termination fee dummy	It is a dummy variable that takes the value of one if the target firm agrees to pay a termination fee for a specific deal, and zero otherwise.	SDC

**Figure 1**  
**GPR index and aggregate volume of acquisitions by US public firms.**

This figure plots the Caldara and Iacoviello (2019) three-month moving average geopolitical risk (GPR) index and aggregate volume of acquisitions conducted by US public firms from January 1985 to December 2017. The GPR index corresponds to the dashed red line and left axis and the volume corresponds to the solid blue line and right axis.

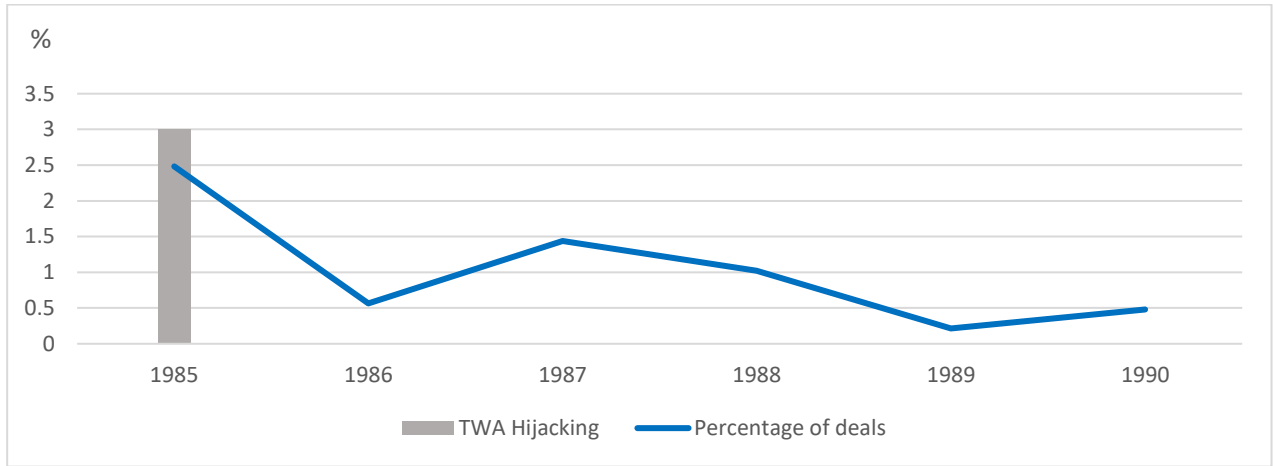


**Figure 2**

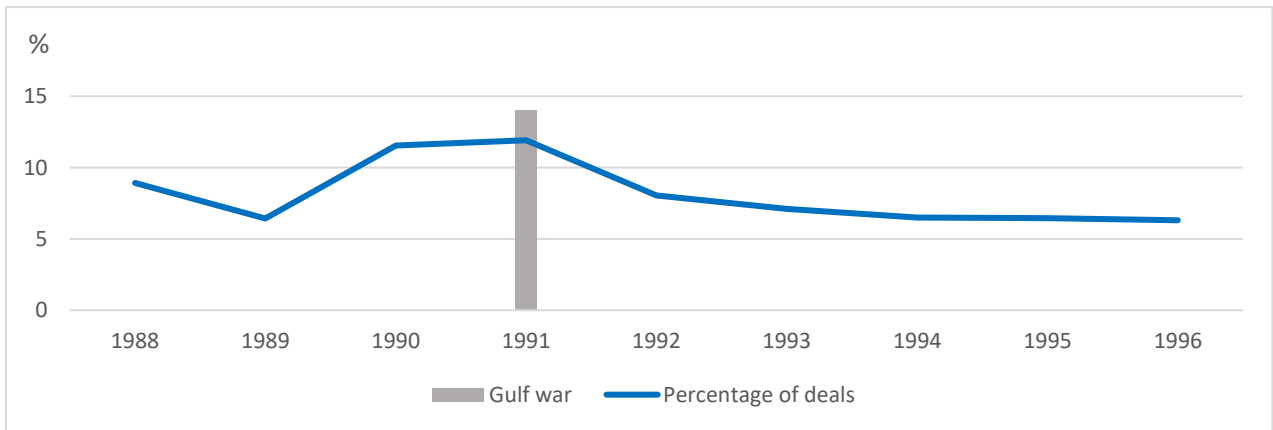
**Examples of the impact of geopolitical risk on specific industries**

This figure plots the percentage number of deals in the “aeroplane industry” (graph 1) and “oil industry” (graph 2), to the total number of M&A deals after two major geopolitical events: TWA hijacking (graph 1) and Gulf war (graph 2), respectively. The horizontal axis shows the years and the vertical axis the percentage of the number of M&A deals in each of the two above industries to the total number of M&A deals. The vertical grey bar shows the year of the geopolitical event in question.

*Graph 1: Annual percentage of number of M&A deals in the aeroplane industry to total number of M&A deals*



*Graph 2: Annual percentage of number of M&A deals in the oil industry to total number of M&A deals*



**Table 1**

**Sample descriptive statistics.**

This table presents summary statistics for a sample of US publicly listed firms with data available on CRSP and Compustat over the period 1985-2017, and for a sample of acquisitions initiated by US public acquirers over the period 1986-2018. Specifically, it reports the number of observations, mean, median, 25<sup>th</sup> percentile, 75<sup>th</sup> percentile, and standard deviation, for firm and macroeconomic variables for the overall sample (Panel A), and for firm, macroeconomic, and deal characteristics for the acquisition sample (Panel B). The definitions of all variables are provided in the Appendix.

	<b>Observations</b>	<b>Mean</b>	<b>Q1</b>	<b>Median</b>	<b>Q3</b>	<b>Standard Deviation</b>
<b>Panel A: Full Sample</b>						
Geopolitical risk	116,501	4.24	3.92	4.20	4.57	0.456
Geopolitical threats	116,501	4.23	3.88	4.22	4.65	0.492
Geopolitical act	116,501	4.25	3.96	4.19	4.50	0.421
Size	116,501	5.74	4.18	5.60	7.18	2.126
Book leverage	116,501	0.23	0.03	0.19	0.35	0.216
Market-to-book	116,501	2.76	1.03	1.80	3.24	4.885
ROA	116,501	-0.05	-0.05	0.03	0.07	0.271
Sales growth	116,501	0.17	-0.06	0.05	0.21	0.623
Cash to assets	116,501	0.18	0.03	0.10	0.27	0.211
Stock returns	116,501	0.14	-0.17	0.12	0.41	0.571
Non-cash working capital	116,501	0.08	-0.04	0.07	0.21	0.203
Firm age	116,501	11.79	3.16	8.08	17.30	11.257
Firm volatility	116,501	0.04	0.03	0.04	0.05	0.016
Investment opportunities	116,501	59.97	56.08	61.67	63.60	7.591
Industry economic shock	116,501	0.23	0.14	0.19	0.27	0.147
Rate spread	116,501	3.84	2.40	4.06	4.99	1.521
Shiller's CAPE ratio	116,501	24.44	19.64	24.11	26.41	7.512
Industry median Q	116,501	1.65	1.27	1.48	1.84	0.551
Industry median past returns	116,501	0.44	0.26	0.44	0.61	0.279
Industry $\sigma$ past returns	116,501	0.14	0.11	0.13	0.16	0.038
Macroeconomic uncertainty	116,501	11.38	8.19	11.74	14.52	4.735
<b>Panel B: M&amp;A Sample</b>						
Geopolitical risk	20,235	4.23	3.78	4.20	4.57	.480
Geopolitical threats	20,235	4.18	3.75	4.15	4.48	0.519
Geopolitical acts	20,235	4.22	3.96	4.19	4.46	0.409
Size	20,235	6.58	5.29	6.54	7.81	1.822
Book leverage	20,235	0.26	0.07	0.24	0.38	0.212
Market-to-book	20,235	2.97	1.35	2.15	3.47	4.425
ROA	20,235	0.00	0.00	0.04	0.07	0.200
Sales growth	20,235	0.33	0.01	0.13	0.37	0.711
Cash to assets	20,235	0.15	0.02	0.08	0.22	0.175
Stock returns	20,235	0.20	-0.07	0.18	0.44	0.532
Non-cash working capital	20,235	0.07	-0.02	0.06	0.17	0.160

**Table 1 (Continued)**

	<b>Observations</b>	<b>Mean</b>	<b>Q1</b>	<b>Median</b>	<b>Q3</b>	<b>Standard Deviation</b>
Firm age	20,235	13.32	3.00	9.00	20.00	12.461
Firm volatility	20,235	0.04	0.03	0.04	0.05	0.016
Stock deal	20,235	0.124	-	-	-	0.330
Cash deal	20,235	0.314	-	-	-	0.464
High tech deal	20,235	0.312	-	-	-	0.463
Diversifying deal	20,235	0.377	-	-	-	0.484
Hostile deal	20,235	0.015	-	-	-	0.122
Public target	20,235	0.196	-	-	-	0.397
Competing bidder	20,235	0.018	-	-	-	0.133

**Table 2**



### Geopolitical risk and firm acquisition likelihood.

This table presents the results for the effect of geopolitical risk, as measured by the Caldara and Iacoviello (2019) geopolitical risk (GPR) index, on acquisition likelihood for all publicly traded firms in the CRSP/Compustat Merged Annual database from 1986 to 2018. Panel A presents marginal effects from probit regressions. Panel B presents the results of a two-stage instrumental variable (IV) probit regression analysis using as an instrument in the first stage regression the Religious Tension Index provided by the International Country Risk Guide (ICRG). The dependent variable in Panel A and in the second stage in Panel B takes the value of 1 if a firm makes at least one acquisition bid in year  $t+1$ , and 0 otherwise. All firm-level variables are measured at the end of the prior fiscal year  $t$ ; macroeconomic variables are measured as averages over the prior calendar year  $t$ . The definitions of all variables are provided in the Appendix. In all models we control for time trend and Fama–French 48 industry fixed effects. Heteroscedasticity–robust standard errors clustered by both firm and year are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

<b>Panel A: Probit</b>	<b>(1)</b>	<b>(2)</b>
Geopolitical risk	-0.024*** (0.010)	-0.022*** (0.008)
Size	0.018*** (0.002)	0.018*** (0.001)
Book leverage	-0.003 (0.007)	-0.001 (0.007)
Market to Book	0.001*** (0.000)	0.001 (0.001)
ROA	0.030*** (0.007)	0.030*** (0.007)
Sales growth	-0.000 (0.000)	-0.000 (0.000)
Cash to assets	0.009 (0.013)	0.008 (0.008)
Stock returns	0.034*** (0.004)	0.035*** (0.002)
Non-cash working capital	0.036*** (0.010)	0.035*** (0.009)
Firm age	-0.013*** (0.003)	-0.012*** (0.003)
Firm volatility	-0.112 (0.057)	-0.280 (0.188)
Investment opportunities (First principal component)		-0.000 (0.000)
Industry economic shock		-0.010 (0.032)
Rate spread		-0.000 (0.002)
Shiller's CAPE ratio		0.001 (0.001)
Industry median Q		-0.000 (0.000)
Industry median past returns		0.019*** (0.006)
Industry $\sigma$ past returns		0.281** (0.124)
Macroeconomic uncertainty (First principal component)		0.000* (0.000)
Time trend	0.001*** (0.000)	0.001*** (0.000)
Industry fixed effects	Yes	Yes
Observations	116,605	116,501
Pseudo R <sup>2</sup>	0.0418	0.0441

Table 2 (Continued)

<b>Panel B: Two-Stage IV Analysis</b>	<b>First Stage</b>	<b>Second Stage</b>	<b>First Stage</b>	<b>Second Stage</b>
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
Religious tension index	0.652*** (0.002)		0.763*** (0.003)	
Instrumented geopolitical risk		-0.045*** (0.004)		-0.037*** (0.003)
Firm-level controls	Yes	Yes	Yes	Yes
Macro-level controls	No	No	Yes	Yes
Time trend	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Kleibergen-Paap rk	70,051.51		63,868.37	
LIML size of nominal 10% Wald	16.38		16.38	
Observations	113,623	113,623	113,529	113,529

**Table 3**

**Persistence of the effect of geopolitical risk on firm acquisition likelihood.**

This table presents marginal effects from probit regressions for the persistence of the impact of geopolitical risk, as measured by the Caldara and Iacoviello (2019) geopolitical risk (GPR) index, on acquisition likelihood for all publicly traded firms in the CRSP/Compustat Merged Annual database from 1986 to 2018. The dependent variable takes the value of 1 if a firm makes at least one acquisition bid in year  $t+1$  (specification (1)), year  $t+2$  (specification (2)), year  $t+3$  (specification (3)), and year  $t+4$  (specification (4)), respectively, and 0 otherwise. We include the same control variables as in Table 2. All firm-level variables are measured at the end of the prior fiscal year  $t$ ; macroeconomic variables are measured as averages over the prior calendar year  $t$ . The definitions of all variables are provided in the Appendix. In all models we control for time trend and Fama–French 48 industry fixed effects. Heteroscedasticity–robust standard errors clustered by both firm and year are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively

	<b>Dependent Variable: Acquisition Likelihood</b>			
	<i>t +1</i>	<i>t +2</i>	<i>t +3</i>	<i>t +4</i>
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
Geopolitical risk	-0.022***	-0.021*	-0.015*	-0.011
	(0.008)	(0.008)	(0.008)	(0.009)
Firm- and macro-level controls	Yes	Yes	Yes	Yes
Time trend	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Observations	116,501	113,227	110,036	106,719
Pseudo R <sup>2</sup>	0.044	0.042	0.041	0.039

**Table 4**

**Firm exposure to geopolitical risk: Foreign versus purely domestic business segments.**

This table presents marginal effects from probit regressions for the impact of geopolitical risk, as measured by the Caldara and Iacoviello (2019) geopolitical risk (GPR) index, on acquisition likelihood by acquirer geopolitical exposure for all publicly traded firms in the CRSP/Compustat Merged Annual database from 1986 to 2018. A firm belongs to a foreign business segments group if it has non-domestic business operations in year  $t$ . A firm belongs to a purely domestic business segments group if it does not have any non-domestic business operation in year  $t$ . The dependent variable takes the value of 1 if a firm makes at least one acquisition bid in year  $t+1$ , and 0 otherwise. We include the same firm and macro level control variables as in Table 2. All firm-level variables are measured at the end of the prior fiscal year  $t$ ; macroeconomic variables are measured as averages over the prior calendar year  $t$ . The definitions of all variables are provided in the Appendix. In all models we control for time trend and Fama–French 48 industry fixed effects. Heteroscedasticity–robust standard errors clustered by both firm and year are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	Foreign Business Segments	Purely Domestic Business Segments
	(1)	(2)
Geopolitical risk	-0.028***	0.003
	0.007	0.009
Firm and macro-level controls	Yes	Yes
Time trend	Yes	Yes
Industry fixed effects	Yes	Yes
Observations	87,474	18,223
Pseudo R <sup>2</sup>	0.045	0.063

**Table 5**  
**Acquirer financial constraints.**

This table presents marginal effects from probit regressions for the impact of geopolitical risk, as measured by the Caldara and Iacoviello (2019) geopolitical risk (GPR) index, on acquisition likelihood by acquirer financial constraint status for all publicly traded firms in the CRSP/Compustat Merged Annual database from 1986 to 2018. A firm is classified as constrained (unconstrained) based on: i) credit ratings. Financially constrained firms are those that have positive debt in their balance sheet but never had their public debt rated during our sample period. Financially unconstrained are firms whose debt has been rated at least once during our sample period; ii) the Size-Age Index of Hadlock and Pierce (2010). A firm is classified as financially constrained when it belongs to the top quartile of the Size–Age Index and financially unconstrained when it belongs to the bottom quartile of the Size–Age index; iii) Kaplan-Zingales Index (KZ Index). A firm is classified as financially constrained when it belongs to the top quartile of KZ index, and financially unconstrained when it belongs to the bottom quartile of the KZ Index. The dependent variable takes the value of 1 if a firm makes at least one acquisition bid in year  $t+1$ , and 0 otherwise. We include the same control variables as in Table 2. All firm-level variables are measured at the end of the prior fiscal year  $t$ ; macroeconomic variables are measured as averages over the prior calendar year  $t$ . The definitions of all variables are provided in the Appendix. In all models we control for time trend and Fama–French 48 industry fixed effects. Heteroscedasticity–robust standard errors clustered by both firm and year are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	Credit Ratings		Size-Age Index		KZ Index	
	Constrained (1)	Unconstrained (2)	Constrained (3)	Unconstrained (4)	Constrained (5)	Unconstrained (6)
Geopolitical risk	-0.025*** (0.010)	-0.015** (0.007)	-0.045*** (0.016)	-0.018*** (0.007)	-0.034*** (0.009)	-0.021*** (0.007)
Firm- and macro-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Time trend	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	69,882	29,389	23,813	32,622	24,285	25,315
Pseudo R <sup>2</sup>	0.045	0.029	0.060	0.034	0.062	0.0470

**Table 6**  
**Irreversible investments.**

This table presents the results for the effect of geopolitical risk, as measured by the Caldara and Iacoviello (2019) geopolitical risk (GPR) index, on the probability of making irreversible investments for all publicly traded firms in the CRSP/Compustat Merged Annual database from 1986 to 2018. Panel A presents marginal effects from probit regressions. Panel B presents the results of a Heckprobit two-stage analysis using as an instrument in the first stage regression the unanticipated mutual fund outflows variable by Edmans, Goldstein, and Jiang (2012). The dependent variables in Panel A and in the second stage in Panel B are: high capital intensity, which is a dummy variable that takes the value of 1 if a firm makes a bid for a target with a capital intensity ratio greater than the sample median value in a given year, and 0 otherwise; low redeployability, which is a dummy variable that takes the value of 1 if a firm makes a bid for a target with an asset redeployability score lower than the sample median value in a given year, and 0 otherwise; and durable industries, which is a dummy variable that takes the value of 1 if a firm makes a bid for a target from durable industries, and 0 otherwise. We include the same control variables as in Table 2. All firm-level variables are measured at the end of the prior fiscal year  $t$ ; macroeconomic variables are measured as averages over the prior calendar year  $t$ . The detailed definitions of all variables are provided in the Appendix. In all models we control for time trend and Fama–French 48 industry fixed effects. Heteroscedasticity–robust standard errors clustered by both firm and year are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

<b>Panel A: Probit</b>						
	<b>High Capital Intensity</b>		<b>Low Redeployability</b>		<b>Durable Industries</b>	
	<b>(1)</b>		<b>(2)</b>		<b>(3)</b>	
Geopolitical risk	-0.010***		-0.013***		-0.009***	
	(0.002)		(0.004)		(0.002)	
Firm- and macro-level controls	Yes		Yes		Yes	
Time trend	Yes		Yes		Yes	
Industry fixed effects	Yes		Yes		Yes	
Observations	116,501		113,147		115,626	
Pseudo R <sup>2</sup>	0.077		0.090		0.153	

<b>Panel B: Heckprobit Two-Stage Model</b>						
	<b>High Capital Intensity</b>		<b>Low Redeployability</b>		<b>Durable Industries</b>	
	<b>First Stage</b>	<b>Second Stage</b>	<b>First Stage</b>	<b>Second Stage</b>	<b>First Stage</b>	<b>Second Stage</b>
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>
Geopolitical risk	-0.116***	-0.019***	-0.092***	-0.025***	-0.116***	-0.014**
	(0.012)	(0.005)	(0.013)	(0.008)	(0.012)	(0.006)
Mutual fund outflows	-0.075***		-0.072***		-0.074***	
	(0.017)		(0.017)		(0.017)	
Firm- and macro-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Time trend	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	116,501	116,501	113,276	113,276	116,501	116,501
Pseudo R <sup>2</sup>	0.044		0.044		0.044	

**Table 7**  
**Industry competition.**

This table presents the results for the effect of geopolitical risk, as measured by the Caldara and Iacoviello (2019) geopolitical risk (GPR) index, on the probability of making acquisitions of target firms operating in highly competitive industries for all publicly traded firms in the CRSP/Compustat Merged Annual database from 1986 to 2018. Panel A presents marginal effects from probit regressions. Panel B presents the results of a Heckprobit two-stage analysis using as an instrument in the first stage regression the unanticipated mutual fund outflows variable by Edmans, Goldstein, and Jiang (2012). The dependent variables in Panel A and in the second stage in Panel B are: high Herfindahl which is a dummy variable that takes the value of 1 if a firm makes a bid for a target which has an above median Compustat sales-based Herfindahl index, and 0 otherwise; and low deal volume, which is a dummy variable that takes the value of 1 if a firm makes a bid for a target which operates in an industry with a deal volume (i.e., the number of targeted firms in the same Fama–French 48 industry scaled by the total number of firms in the industry) below the median industry deal volume the previous year, and 0 otherwise. We include the same control variables as in Table 2. All firm-level variables are measured at the end of the prior fiscal year  $t$ ; macroeconomic variables are measured as averages over the prior calendar year  $t$ . The definitions of all variables are provided in the Appendix. In all models we control for time trend and Fama–French 48 industry fixed effects. Heteroscedasticity–robust standard errors clustered by both firm and year are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

<b>Panel A: Probit</b>				
	<b>High Herfindahl</b>		<b>Low Deal Volume</b>	
	<b>(1)</b>		<b>(2)</b>	
Geopolitical risk	-0.013***		-0.014***	
	(0.004)		(0.004)	
Firm- and macro-level controls	Yes		Yes	
Time trend	Yes		Yes	
Industry fixed effects	Yes		Yes	
Observations	116,501		116,501	
Pseudo R <sup>2</sup>	0.064		0.055	
<b>Panel B: Heckprobit Two-Stage Model</b>				
	<b>High Herfindahl</b>		<b>Low Deal Volume</b>	
	<b>First Stage</b>	<b>Second Stage</b>	<b>First Stage</b>	<b>Second Stage</b>
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
Geopolitical risk	-0.119***	-0.008***	-0.115***	-0.017**
	(0.012)	(0.002)	(0.012)	(0.007)
Mutual fund outflows	-0.096***		-0.072***	
	(0.030)		(0.017)	
Firm- and macro-level controls	Yes	Yes	Yes	Yes
Time trend	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Observations	116,501	116,501	116,501	116,501
Pseudo R <sup>2</sup>	0.044		0.044	

**Table 8****Controlling for several dimensions of uncertainty and using alternative measures of geopolitical risk.**

This table presents marginal effects from probit regressions for the impact of geopolitical risk on acquisition likelihood for all publicly traded firms in the CRSP/Compustat Merged Annual database from 1986 to 2018 by controlling for several dimensions of uncertainty (in Panel A) and using alternative measures of geopolitical risk (in Panel B). In Panel A, geopolitical risk is measured by the Caldara and Iacoviello (2019) geopolitical risk (GPR) index and we control for: i) the economic policy uncertainty (EPU) index developed by Baker, Bloom, and Davis (2016); ii) the CBOE implied volatility index (VXO); iii) the variation of GDP forecast using the GDP forecast data from the Philadelphia Federal Reserve's Livingston survey; iv) political uncertainty; v) the annual cross-sectional standard deviation of firm profit growth as a proxy for future profitability variation; and vi) recession periods, based on National Bureau of Economic Research (NBER) business-cycle data. In Panel B, we use as proxies of geopolitical risk the following variables from the International Crisis Behaviour (ICB) project's index: i) number of crises, which is the natural log of the total number of international crises at the end of the calendar year; ii) violent break, which is the natural log of total number of international crises that started with violence at the end of the calendar year; iii) US initiation, which is the natural log of the number of international crises initiated by the United States at the end of the calendar year; iv) US military, which is the natural log of the total number of internal crises with the active involvement of the US military at the end of the calendar year; v) political, which is the natural log of the total number of international crises with the threat of overthrow of regime, change of institutions, replacement of elite, intervention in domestic politics, and subversion at the end of the calendar year; vi) territorial, which is the natural log of the total number of international crises with threat of integration, annexation of part of a state's territory and separatism at the end of the calendar year; vii) war, which is the natural log of the total number of international crises that lead to full war at the end of the calendar year; and viii) Major Clash, which is the natural log of the total number of international crises that involved major clash at the end of the calendar year. The dependent variable takes the value of 1 if a firm makes at least one acquisition bid in year  $t+1$ , and 0 otherwise. We include the same control variables as in Table 2. All firm-level variables are measured at the end of the prior fiscal year  $t$ ; macroeconomic variables are measured as averages over the prior calendar year  $t$ . The definitions of all variables are provided in the Appendix. In all models we control for time trend and Fama-French 48 industry fixed effects. Heteroscedasticity-robust standard errors clustered by both firm and year are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

<b>Panel A</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>
Geopolitical risk	-0.019*** (0.005)	-0.017** (0.008)	-0.021*** (0.008)	-0.020*** (0.007)	-0.025*** (0.007)	-0.019*** (0.007)	-0.016*** (0.005)
EPU	-0.084*** (0.014)						-0.070*** (0.009)
VXO		-0.002** (0.001)					-0.001* (0.001)
Variation of GDP forecast			-0.032* (0.019)				-0.037* (0.021)
Political uncertainty				-0.0001 (0.006)			-0.007 (0.006)
Future profitability variation					-0.000*** (0.001)		-0.000* (0.000)
Recession periods						-0.041*** (0.008)	-0.032*** (0.010)
Firm- and macro-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	116,119	109,115	116,119	116,119	116,119	116,119	109,115
Pseudo R <sup>2</sup>	0.047	0.044	0.045	0.045	0.046	0.046	0.047



<b>Panel B</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>	<b>(8)</b>
Number of crises	-0.009*** (0.002)							
Violent break		-0.012** (0.002)						
US initiation			-0.011** (0.004)					
US military				-0.004*** (0.001)				
Political					-0.017*** (0.002)			
Territorial						-0.010*** (0.002)		
War							-0.005** (0.003)	
Major clash								-0.008*** (0.002)
Firm- and macro-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	106,057	106,057	106,057	106,057	106,057	106,057	106,058	106,057
Pseudo R <sup>2</sup>	0.045	0.045	0.045	0.045	0.045	0.045	0.048	0.049

**Table 9****Cross-border deals.**

This table presents marginal effects from probit regressions for the impact of geopolitical risk on the likelihood US firms to receive inbound cross-border bids. In specifications (1) and (2) the dependent variable takes the value of 1 if a US firm receives at least one inbound cross-border acquisition bid in year  $t+1$ , and 0 otherwise. Specification (3) presents the estimates for the relative geopolitical risk of the US GPR relative to the GPR of the acquirer's country. The dependent variable takes the value of 1 if a US firm receives at least one inbound cross-border acquisition bid from an acquirer located in one of the following 18 countries in year  $t+1$ , and 0 otherwise. The 18 countries are: Argentina, Brazil, China, Colombia, India, Indonesia, Israel, South Korea, Malaysia, Mexico, Philippines, Russian Fed, Saudi Arabia, South Africa, Thailand, Turkey, Ukraine, and Venezuela. We construct the variable "weighted average relative GPR", which is the US target-foreign acquirer pair relative GPR multiplied by the weight of each US target-foreign acquirer pair. Each weight is calculated as the number of bids by acquirers from each of the aforementioned 18 countries relative to the total number of bids by acquirers from all 18 countries for US target firms in a given year. All US public firm-level variables are measured at the end of the prior fiscal year  $t$ ; macroeconomic variables are measured as averages over the prior calendar year  $t$ . The detailed definitions of all variables are provided in the Appendix. We include the same control variables as in Table 2. In all models we control for time trend and Fama–French 48 industry fixed effects. Heteroscedasticity–robust standard errors clustered by both firm and year are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)
Geopolitical Risk	-0.008*** (0.002)	-0.006* (0.002)	
Weighted average relative GPR			-0.001*** (0.000)
Firm-level controls	Yes	Yes	Yes
Macro-level controls	No	Yes	Yes
Time trend	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Observations	116,605	116,501	108,212
Pseudo R <sup>2</sup>	0.014	0.024	0.062

**Table 10**

**Deal quality.**

This table presents the results of OLS regression analysis for the effect of geopolitical risk, as measured by the Caldara and Iacoviello (2019) geopolitical risk (GPR) index, on acquirer short-run (specifications (1) and (2)) and long-run (specifications (3) to (5)) abnormal returns. The sample consists of all merger and acquisition announcements reported in the Securities Data Corporation (SDC) database between 1986 and 2018 that pass the filters described in section 2.1. The dependent variable in specifications (1) and (2) is the acquirer 3-day (-1, +1) cumulative abnormal returns (CARs) with day 0 being the M&A announcement day. The abnormal returns are calculated using the market model with the market model parameters estimated over the period starting 255 days and ending 46 days prior to the announcement. CRSP value-weighted index return is the market return. The dependent variables in specifications (3), (4) and (5) are the acquirer 1-, 2-, and 3-year buy-and-hold abnormal returns (BHARs), respectively, after the completion date. The abnormal returns for long-run analysis are calculated using the matched firm adjusted method suggested by Barber and Lyon (1997) and Lyon, Barber, and Tsai (1999). Apart from deal characteristics controls, we also include the same control variables as in Table 2. All firm-level variables are measured at the end of the prior fiscal year  $t$ ; macroeconomic variables are measured as averages over the prior calendar year  $t$ . The definitions of all variables are provided in the Appendix. In all models we control for time trend and Fama–French 48 industry fixed effects. Heteroscedasticity–robust standard errors clustered by both firm and year are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	Acquirer Short-Run CARs		Acquirer Long-Run BHARs		
	(-1, +1) (1)	(-1, +1) (2)	(1 Year) (3)	(2 Years) (4)	(3 Years) (5)
Geopolitical risk	0.005** (0.002)	0.005** (0.002)	0.034*** (0.012)	0.088*** (0.018)	0.138*** (0.025)
Stock deal	-0.007 (0.005)	-0.006 (0.005)	-0.013 (0.021)	-0.025 (0.031)	-0.078** (0.034)
Cash deal	0.009*** (0.002)	0.009*** (0.002)	0.027** (0.011)	0.046*** (0.015)	0.044** (0.019)
High tech deal	0.000 (0.003)	0.001 (0.003)	-0.009 (0.024)	-0.005 (0.033)	-0.017 (0.046)
Diversifying deal	-0.006** (0.002)	-0.006** (0.002)	-0.018* (0.011)	-0.061*** (0.015)	-0.059*** (0.019)
Hostile deal	-0.008** (0.004)	-0.007* (0.004)	-0.023 (0.028)	0.010 (0.045)	-0.006 (0.062)
Public target	-0.007** (0.002)	-0.005** (0.003)	-0.017 (0.013)	-0.020 (0.018)	-0.012 (0.024)
Competing bidder	-0.009** (0.004)	-0.008* (0.004)	0.025 (0.029)	0.042 (0.041)	-0.028 (0.049)
Firm-level controls	Yes	Yes	Yes	Yes	Yes
Macro-level controls	No	Yes	Yes	Yes	Yes
Time trend	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	16,189	16,175	16,755	16,755	16,755
Adjusted R <sup>2</sup>	0.025	0.026	0.029	0.039	0.045

**Table 11**

### Geopolitical threats (GPT) index versus geopolitical acts (GPA) index.

This table presents the results for the effects of the threats and realization of geopolitical risk, as measured by the Caldara and Iacoviello (2019) geopolitical threats (GPT) index and geopolitical acts (GPA) index, respectively, on acquisition likelihood and acquirer announcement returns. In specifications (1) and (2), which include the same firm and macro level control variables used in Table 2, we present marginal effects marginal probit regressions in which the dependent variable takes the value of 1 if a firm makes at least one acquisition bid in year  $t+1$ , and 0 otherwise. In specifications (3) and (4), which include the same firm, macro, and deal control variables as the ones used in Table 8, we perform OLS regressions in which the dependent variable is the acquirer 3-day (-1, +1) cumulative abnormal returns (CARs) with day 0 being the M&A announcement day. The abnormal returns are calculated using the market model with the market model parameters estimated over the period starting 255 days and ending 46 days prior to the announcement. CRSP value-weighted index return is the market return. We include the controls used in Table 2 for acquisition probability analysis and the controls used in Table 8 for acquirer CARs analysis. All firm-level variables are measured at the end of the prior fiscal year  $t$ ; macroeconomic variables are measured as averages over the prior calendar year  $t$ . The definitions of all variables are provided in the Appendix. In all models we control for time trend and Fama–French 48 industry fixed effects. Heteroscedasticity–robust standard errors clustered by both firm and year are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	Acquisition Likelihood $t+1$		Acquirer CARs (-1, +1)	
	(1)	(2)	(3)	(4)
Geopolitical threats	-0.022*** (0.007)		0.005** (0.002)	
Geopolitical acts		-0.012* (0.007)		-0.002 (0.003)
Firm-level controls	Yes	Yes	Yes	Yes
Macro-level controls	Yes	Yes	Yes	Yes
Deal controls	No	No	Yes	Yes
Time trend	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Observations	116,501	116,501	16,175	16,175
Pseudo R <sup>2</sup> / (Adjusted R <sup>2</sup> )	0.044	0.043	(0.026)	(0.026)

**Table 12****Characteristics of deals that are announced during periods of high geopolitical risk.**

This table presents the results for the characteristics of deals that take place during periods of high and low geopolitical risk. The sample consists of all merger and acquisition announcements reported in the Securities Data Corporation (SDC) database between 1986 and 2018 that pass the filters described in section 2.1. Panel A presents the results of the univariate analysis. It partitions the sample by the level of geopolitical risk and presents mean time to completion, public deal volume, large public deal volume and the percentage of deals involving tender offers. A high (low) geopolitical risk indicates that the geopolitical risk (GPR) index by Caldara and Iacoviello (2019) is below (above) its median value during our sample period. Time to completion is the number of days from deal announcement to completion. The number of public deals is the annual average deal volume of public deals. The number of large public deals is the annual average deal volume of large public deals. The percentage of tender offers is the annual percentage of tender offers. We conduct difference in means tests and present \*\*\*, \*\*, and \* to indicate significance at the 1%, 5%, and 10% levels, respectively. Panel B presents the results of the multivariate analysis. The dependent variables are: time to completion, which is the number of days from deal announcement to completion; public target, which is a dummy variable that takes the value of 1 if a firm makes at least one public bid in a given year, and 0 otherwise; large public target, which is a dummy variable which takes the value of 1 if a firm makes at least one bid for a public target with deal size above (below) the sample median deal value; and tender offer, which is a dummy variable that takes the value of 1 if the firm makes at least one tender offer in a given year, and 0 otherwise. We include the same control variables as in Table 2. All firm-level variables are measured at the end of the prior fiscal year  $t$ ; macroeconomic variables are measured as averages over the prior calendar year  $t$ . The definitions of all variables are provided in the Appendix. In all models we control for time trend and Fama–French 48 industry fixed effects. Heteroscedasticity–robust standard errors clustered by both firm and year are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

<b>Panel A: Univariate Analysis</b>				
	<b>High GPR</b>	<b>Low GPR</b>	<b>High-Low</b>	
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	
Time to completion (days)	55.009*** (0.990)	59.572*** (1.054)	-4.563***	
Public deals	108.603*** (0.384)	149.305*** (0.522)	-40.702***	
Large public targets	84.327*** (0.278)	102.274*** (0.407)	-17.947***	
Percentage of tender offers	0.076*** (0.000)	0.067*** (0.000)	0.009***	
<b>Panel B: Multivariate Analysis</b>				
	<b>Time to Completion</b>	<b>Public Target</b>	<b>Large Public Target</b>	<b>Tender Offer</b>
	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
Geopolitical risk	-5.256*** (1.574)	-0.033** (0.014)	-0.036*** (0.012)	-0.006 (0.006)
Firm- and macro-level controls	Yes	Yes	Yes	Yes
Time trend	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Observations	15,586	18,118	18,118	18,118
Adjusted R <sup>2</sup> / (Pseudo R <sup>2</sup> )	0.115	(0.072)	(0.145)	(0.078)

**Table 13****Target firm negotiation power.**

This table explores target firm's negotiation power by examining the effects of geopolitical risk, as measured by the Caldara and Iacoviello (2019) geopolitical risk (GPR) index, on offer premium and target firm's termination fees. The sample consists of all merger and acquisition announcements reported in the Securities Data Corporation (SDC) database between 1986 and 2018 that pass the filters described in section 2.1. Specification (1) presents the results for the 4-week offer premium reported by SDC, which is calculated as the difference between the offer price and the target firm's stock price four weeks before the acquisition announcement divided by the latter. Specification (2) presents the results for target firm's termination fees, which is a dummy variable that takes the value of one if the target firm agrees to pay a termination fee for a specific deal, and zero otherwise. We use the same control variables as the ones used in Table 8. All firm-level variables are measured at the end of the prior fiscal year  $t$ ; macroeconomic variables are measured as averages over the prior calendar year  $t$ . The definitions of all variables are provided in the Appendix. In all models we control for time trend and Fama–French 48 industry fixed effects. Heteroscedasticity–robust standard errors clustered by both firm and year are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively.

	<b>4-Week Offer Premium</b>	<b>Target Termination Fee Dummy</b>
	<b>(1)</b>	<b>(2)</b>
Geopolitical risk	2.241** (1.132)	-0.007* (0.004)
Firm-level controls	Yes	Yes
Macro-level controls	Yes	Yes
Deal controls	Yes	Yes
Time trend	Yes	Yes
Industry fixed effects	Yes	Yes
Observations	2,340	17,993
Adjusted R <sup>2</sup> / (Pseudo R <sup>2</sup> )	0.017	(0.478)