

Nation-dyadic history and cross-border corporate deals: Role of conflict, trade, generational distance, and professional education

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Abstract

Research Summary: This paper explores why and how nation-dyadic history impacts aggregated firm decisions involving cross-border activities (acquisitions, joint ventures, and alliances). We contextualize history and illustrate the negative effect of historical conflict on cross-border deals. Nation-dyads with historical conflict incorporate negative sentiments into their social and collective memories and national identities. Members of society assume the socially constructed national identity via primary and secondary socialization. National identities incorporate sentiments towards other nations and condition individuals' preferences, culminating in a preference-biased search for or preference-supporting evaluation of information concerning cross-border deals. An increased generational distance from prior conflict and a higher percentage of graduates with common professional identities constructed by higher education in the social sciences, law, and business dampen the negative influence of historical conflict.

Managerial Summary: There is a reciprocal relationship between international trade and conflict across two nations: as the potential for conflict increases, trade levels fall, and as trade levels increase, the potential for conflict rises. We disentangle this relationship and determine the implications of historical conflict between two nations for cross-border corporate deals (i.e., acquisitions/joint ventures/alliances). We show that, controlling for other

factors, more frequent historical conflict discourages cross-border corporate deals. We see this finding as a result of biased decision making based on preferences which reflect sentiments formed by national identities. Two mechanisms dampen the negative relationship between binational conflict and cross-border deals: a higher percentage of business/law/social sciences graduates and a higher number of generations passed since the last conflict.

KEY WORDS

conflict, cross-border deals, decision making, history, identities, international relations and trade, sentiments, socialization

1 | INTRODUCTION

On August 6, 1945, a U.S. bomber dropped an atomic bomb on Hiroshima, followed by a bomb on Nagasaki days later. The initial death count surpassed 150,000, and over 400,000 lives were lost due to the after effects. On August 14, Japan surrendered. From 1945 to 1952, Allied Forces enacted sweeping reforms, sustaining the recovery of trade and commerce with the United States (U.S. Department of State, Office of the Historian). A survey of Japanese citizens showed that “the bombs started a warm relationship and turned mortal enemies into friends” even though the expectation was “heightened antagonism and anger across generations” (Ambrose & Brinkley, 2010, p. 161). The generation that experienced the destruction admired the “magnanimity of the victorious Americans” and was thankful for their “noble generosity” (Kennedy, 1999, p. 428).

In sharp contrast, the relationship between China and Japan continued to deteriorate following the occupation of Chinese territory in 1931–1945 despite Japanese financial support and cultural exchanges (Inoguchi & Ikenberry, 2013). A recent survey of 1,296 Chinese individuals (80% of which were students) aged 15–35 years showed that 67.8% of the participants considered historical issues when asked about Japan, and 50.2% (35.3%) believed that the relationship between China and Japan would remain the same or deteriorate (improve) in the future (Walczak, 2010).¹

These two examples highlight that the impact of nation-dyadic historical contexts on long-lasting attitudes that are influential in international relations and bilateral trade varies. The annual foreign direct investment (FDI) by U.S. (Japan) firms in Japan (the United States) accounted for at least 31% (20%) of the total annual inward FDI between 1996 and 2013.² During the same period, the annual percentage of inward and outward FDI between China and Japan remained less than 6% of each country's total FDI. The contrast echoes the central question in

¹In 2014, an opinion survey was concurrently conducted in China and Japan for the 10th time by the Genron NPO and China Daily. Results show that 2.6% (11.7%) of the Japanese (Chinese) respondents perceived the Chinese (Japanese) national character to be “trustworthy.” The detailed report is available at http://www.genron-npo.net/en/pp/docs/10th_Japan-China_poll.pdf (accessed December 15, 2018).

this paper: how does history, specifically antagonistic national sentiments, impact firms' inclination to engage in cross-border deals?

Trade and conflict between pairs of nation-states (nation-dyads) have been extensively studied as mutual causes and deterrents. On the one hand, by creating mutual dependence, international trade deters conflict (Polacheck, 1980); on the other hand, economic interdependencies can cause conflict (Barbieri, 2002). Conflict can facilitate trade, as in the case of Japan and the United States, and trade relations might not alleviate the animosity stemming from historical conflicts, as in the case of Japan and China. Similarly, predictions of corporate activities, such as mergers and acquisitions (M&A), are less clear when shifting from the national to the firm level. While trade relations may encourage corporate activity in a nation-dyad, historical conflict with lingering negative sentiments may diminish such activity. This paper explores theoretically and empirically why and how nation-dyadic history impacts aggregated firm decisions concerning cross-border activity. This exploration is performed by contextualizing the history between nation-dyads and illustrating how the incidence of such activity is negatively impacted by historical conflict.

In this paper, we contend that the omission of historical context or its implicit aggregation within national culture or "environment" results in imprecise measures, vague constructs, and more broadly, a superficial view of contextual impact. Dimming the historical lens deprives us of recognizing long-lasting and deeply rooted historical and temporal social effects, resulting in premature assumptions about why and how firms make strategic decisions. Omitting the historical context obscures the interface across national institutional systems and conceals how animosity among nations, societies or people preconditions or biases firms' decisions concerning a country, a regime, or a political system. Theoretically, the lack of historical contextualization can lead to misrepresentations of causal relationships; empirically, it can lead to sample selection and endogeneity issues.

We propose an integrative framework in which history between nations and their societies impacts the context in which firms operate and influences aggregated cross-border corporate activity. The results illustrate the benefits of historical contextualization and the salience of causality at the aggregated level of cross-border activities.³ Our approach integrates research streams in international economics, international relations, and strategic management, including research documenting the role of nation-dyadic history under animosity to determine the prevalence and mode of firm cross-border alliances (Arikan & Shenkar, 2013). We extend this newly emerging line of inquiry by incorporating nation-dyadic history as a key determinant of aggregated cross-border corporate activities. We draw on the general assumptions of decision making framing and the social constructionist views of national and professional identities to theoretically and empirically test the boundary conditions of the relationship between nation-dyadic historical conflict and aggregated cross-border deals. National identities reflect collective memories of dyadic conflicts and trigger stronger sentiments among the generation with first-hand experience with such conflicts. Generational distance from historical conflicts dampens the salience and impact of such sentiments on cross-border business decisions. Similarly, professional identities shaped by higher education in law, business, and social sciences reflect common paradigms that cut across borders related to business decisions.

²We calculated the percentages of inward and outward FDI between Japan and the United States, and between Japan and China using Regional Direct Investment Position (Assets) data provided by the Bank of Japan (available at <https://www.boj.or.jp/en/statistics/br/bop/index.htm/>).

³The word "aggregated" may be omitted at times to reduce repetition. We use "corporate deals" and "corporate activities" interchangeably to label cross-border acquisitions, joint ventures, and strategic alliances.

We find that nation-dyads with historical conflicts are less likely to engage in cross-border deals. As the predictability of nation-dyadic conflict decreases, the likelihood of observing cross-border deals decreases. As the generational distance to nation-dyadic historical conflicts increases, the likelihood of within-dyad corporate activity increases. With one generational distance to the most recent historical conflict, the negative impact of nation-dyadic animosity on the odds of observing cross-border corporate activities disappears. If the most recent conflict is two generations old, the odds of cross-border deals in a nation-dyad with historical conflict increase. A higher ratio of graduates with higher-education degrees in the social sciences, business and law, increases the likelihood of cross-border corporate activity only in nation-dyads with historical conflict. These results suggest that in dyads with historical conflict, policies aiming to increase the percentage of such graduates could increase cross-border corporate deals, which, in turn, will decrease the likelihood of future conflict.

2 | THEORETICAL BACKGROUND

2.1 | Historical conflict between nation-states

Strategy researchers adopted tools from economics and the behavioral sciences to focus on the multiple facets of individual, group, or social choices. These choices were either aggregated from the individual to the societal level, such as in the case of “institutions,” or decomposed into amorphous entities assumed to exist and function, such as “markets.” While older schools of thought provided insight into social, cultural, and political life, these conceptualizations were descriptive in nature and lacked explanatory power. Early research grounded in political economy (Veblen and Commons), behavioral (Cyert and March), and social (Parsons and Selznick) theories aggregated individual and group impact. In contrast, the analytic traditions of organizational economists (Nelson & Winter, 2002; Williamson, 1975) and economic historians (North, 1990; Posner, 2005) allowed social-choice theories at the individual level to intermingle with collections of customs, regulations, and conventions across broader groups. This paper utilizes both types of multilevel theorizing: while we explore the implications of historical conflict between two nations in individual decision making in the context of cross-border deals, we aggregate such managerial decisions to the nation-dyad level.

Incorporating historical context into organizational level analyses ultimately requires a study of individual decision makers and the institutional environment, bridging the micro–macro divide. We therefore applied a high-level approach, while acknowledging other routes. In this section, we build our theoretical arguments by interweaving how history is absorbed and enacted in the sustenance of national identity (Smith, 1991) and memory at the societal level (Olick & Robbins, 1998), and how firm decision making is impacted by a nation-dyad's history such that preferences are conditioned by the nature of the bilateral relations between a pair of nations.

We begin by contextualizing nation-state dyadic history, focusing on historical conflicts and animosity between nation-states (Arikan & Shenkar, 2013). Necessarily, this part of our theorizing is performed at the macrolevel between nations. We conceptualize nation-dyadic historical conflicts as both discrete events and significant contributors to the idiosyncratic, multifaceted, dynamic, historical, and sociological interaction of national identities that impact dyadic conflict. We hypothesize that both sources of conflict have an impact on aggregated cross-border corporate activity. Subsequently, we identify the decision making mechanism (i.e., preference-supporting search for and evaluation of information) at the individual level that is susceptible to the nation-dyadic historical context previously outlined. This type of contextually triggered individual-level decision making mechanism should hold when aggregated to the macrolevel in the absence of any strong-form market correction

since decision makers are uniformly unaware of such mechanisms (Russo, 2013). Finally, we highlight the following two macrolevel mechanisms (i.e., social memory and national sentiments, professional communities) that dampen the influence of a nation-dyadic history of conflict via on the occurrence of cross-border corporate activity: generational distance from the last conflict and level of tertiary education in the social sciences, business and law (i.e., professional education).

2.1.1 | Contextualizing nation-dyadic history

The historical context aids in the understanding of an interrelated sequence of events, and the relationships between institutions and organizations can be better understood by considering how and why the embedded individual and groups behave. Crucially, such contextualization allows us to account for differences between processes (North, 1990), formal political and legal regimes, cultural norms that shape economic behavior (Hansen, 2007), and the individual cognition underlying corporate decisions (Cyert & March, 1963; Hodgson, 2005).

Generalization concerning corporate deals poses two difficulties. First, firms operate in a nation-state and, hence, must adhere to a set of fundamental political, social, and legal rules that establish norms for the production, exchange, and distribution of goods and services (Davis & North, 1971). These rules are set by institutions that regulate, monitor, smooth, and facilitate these activities (North, 1990). In this equation, all variables are interrelated and change over time. Second, because “all behavior is historical” (Zald, 1996, p. 256), assuming that the individuals who make firm decisions are inherently unaffected by their socially constructed national sentiments and cultural aspects, which also change by how social historical events are retained in their individual, group, and collective memories, resulting in disconnected micro-macrolevel analyses and the loss of perspective (Zald, 1993).

The closest springboard for considering the role of nation-dyadic history in strategic management is the concept of culture, which is a set of norms, values, and beliefs that in combination define a group of people in organizations, nations, and clusters of nations (Hofstede, 2001; Ronen & Shenkar, 1985). Extant literature on the cross-border firm-level decisions, mainly focus on dyadic cultural differences while disregarding dyadic historical relations between nations until recently (Arikan & Shenkar, 2013; Shenkar & Arikan, 2009; Shenkar, Luo, & Yeheskel, 2008). The present paper extends this newer stream of research by focusing on the role of dyadic historical conflict in cross-border strategic decisions.

2.2 | National identities and historical conflicts

On the one hand, since national identity is considered to involve “...some sense of political community, history, territory, patria, citizenship, common values and traditions” (Smith, 1991, p. 9), one can assume that nation-dyadic history of events, such as conflicts and wars, is incorporated into national identities. The same conflict is socially constructed and preserved in the social and collective memories that sustain national identities (Olick & Robbins, 1998), and the parties involved in the nation-dyadic conflict could portray the other nation as a not-to-be-trusted adversary, enemy or rival via a “(a) rich collection of sociohistorical works on commemoration, narrative, and symbolization” (Cerulo, 1997, p. 390). On the other hand, since national identities include claims over a historic territory or homeland, common myths and historical memories, a common culture, common legal rights and duties of all members, and a common economy with territorial mobility among the members (Smith, 1991, p.14), competing national identities can create nation-dyadic conflicts even if real

economic or strategic value is largely absent. For instance, Greece and Turkey have a long-standing conflict over islands in the Aegean Sea despite their negligible value.

Nation-dyads with historical conflict infuse their negative sentiments and animosity into their social and collective memory (Halbwachs, 1950) through socially constructed (destroyed) memory records, such as books, commemorations, names of places, statuses, monuments, museums, and other artifacts of culture for reminiscing (forgetting) (e.g., McLean, 1998; Schwartz, 1982; Zerubavel, 1991) to preserve the national identity. A naming issue that seems negligible to nonmembers of a dyad may be significant to those within the dyad. For instance, in response to the long-standing Greek complaint, the Republic of Macedonia agreed to change its name to “Northern Macedonia” to signal that it had no territorial ambitions towards the Greek province of Macedonia (Katz, 2018).

Regardless of the accuracy of historical accounts, the emanated feelings influence decisions (Gruder, 1971), and behavioral and organizational expressions are driven by the parties' divergent expectations and interests (Deutsch, 1973). Groups, whose members identify as a unitary body, pursue self-interest and the alignment with partners' interests varies across different governance modes (Barkema, Shenkar, Vermeulen, & Bell, 1997). The underlying mechanisms influence how the historical context and perceptions among the nations of the parent companies affect group trust (Guiso, Sapienza, & Zingales, 2009), build social identities based on common and collective assets (Mannheim, 1997), and operate to form in- and out-group perceptions pertaining to group identities. These identities are used by individuals and groups to process information and interact with each other (Hamilton & Trolier, 1986). For instance, strategic alliance partners emphasize protective behaviors and precautionary motivations when frictions arise due to stereotypes and national prejudices (Desivilya, 1998). This emphasis could negatively impact the formation and duration of corporate deals, such as alliances and JVs (Arikan & Shenkar, 2013).

Institutions adopt characteristics that resemble other institutions to gain legitimacy by adopting what is socially acceptable (Aldrich & Ruef, 2006; Kieser, 1994; Lee & Pennings, 2002). While firms may seek legitimacy, they could be co-driven by reasons such as the need to increase technical efficiency or improve performance (Greeve, 1995). Firms often adopt exemplars from the leading organizations in their context (Haveman, 1993) to attain legitimacy (Nelson, 1994). Therefore, given the nation-dyadic historical context firms face, decision makers weigh the potential benefits and costs of cross-border corporate deals not only based on rational economic factors but also given the preferences, biases, and stereotypes emanating from comparing their own versus others' socially constructed national identities. These preferences reflect deeply rooted prior beliefs that distort evaluations of information about strategic alternatives in other countries or emerge during the decision making process while evaluating information gathered for constructing relative preferences (Russo, Meloy, & Wilks, 2000).⁴

We are interested in the notion that managers are subject to preference-based decision making and that these preferences can be traced to the macrolevel of nation-dyads. For instance, when presented with the same scenarios and given the same set of criteria, strategic alliance partner selection policies between managers of Chinese and Russian firms significantly differ due to different institutional environments (Shenkar, 2001). Chinese managers emphasize partner selection criteria reflecting long-term orientation, while Russian managers focus on criteria reflecting short-term gains from potential partners. Similarly, at the nation-dyadic level, the existence of historical conflicts can culminate in preference-supporting biases and prejudices over time, leading to either a preference-biased search for or preference-supporting evaluation of information gathered pre- and post-choice

⁴While it is crucial to determine the conditions and decisions that are riddled with absolute and pre-choice preferences versus preferences emerging during the decision process, we do not consider this issue.

while deciding (Chaxel, Russo, & Kerimi, 2013) whether to engage in cross-border corporate activities.

As a hypothetical example, we consider a U.S. firm poised to engage in cross-border activity. Consistent with economic value maximization, the managers of the focal firm are neutral about the nationality of the firms that could be acquired or allied with. Once the search for alternatives commences, specific options are identified. We assume that the focal U.S. firm can form an alliance with a Finnish firm or an Iraqi firm. The U.S.-Iraq history has conflict, but the U.S.-Finland history does not. If the nationality of the partnering firms is irrelevant, the U.S. manager is expected to be indifferent. In fact, according to Gallup polls,⁵ when Americans are asked about their overall opinion of Iraq, unfavorable responses range from 93% in 2003 (when the war started) to 82% in 2007 and 73% in 2018. Interestingly, while the overall sentiments towards Iraq are consistently and highly unfavorable, when asked by Gallup in 2007 whether they favor or oppose the U.S. Iraq war, 61% (31%) of Americans opposed (favored) the war. In this example, nation-dyadic sentiments, especially the negative sentiments, are long lasting and pervasive even though the attitudes towards the specific historical conflict have changed.

Holding all else equal and accounted for, the notion of preference-supporting decision making predicts the selection and formation of an alliance with the Finnish firm. Next, we assume that the managers of the same U.S. firm succumb to a preference-supporting search for alternatives and, therefore, do not even consider or seek potential deals with Iraqi firms given the historical conflict between the two countries. Thus, the choice set is more exclusive, and the U.S. firm ultimately deals with the Finnish firm. Clearly, an ex-post analysis could document the same outcome, although the decision-making mechanisms are different. However, the effect of the historical context is the same for both mechanisms.

Notably, decision makers do not necessarily abandon rational decision making in determining whether and where to engage in cross-border corporate activities. Our theorizing acknowledges that while many managers are aware of confirmatory biases in their search for and strive to eliminate seeking only confirmatory pre-choice information (Chaxel et al., 2013), they are unaware of their preference-supporting bias in information evaluation (Russo, 2013). Hence, it is reasonable to make the following two assumptions: individuals' preference-supporting decisions can be aggregated to a macrolevel construct if the root cause of the preference is also at the macrolevel, and such preference-supporting decisions can be persistent. Thus, we expect that aggregated managerial decisions regarding cross-border corporate deals are influenced by nation-dyadic historical conflict, leading to Hypothesis 1a.

Hypothesis 1a (H1a). *Nation-dyads with increased frequency of historical conflicts are less likely to have cross-border corporate deals.*

2.2.1 | Nation-dyads prone to conflicts

While national identities create rivalries, not all nation-dyads experience conflict ranging from unarmed disputes to war, and the latter is defined as armed conflict resulting in the loss of human life

⁵National Archives Library Information Center compiles documents about the War in Iraq, which are available at <https://www.archives.gov/research/alic/reference/military/war-in-iraq.html>. This webpage is linked to Gallup's webpage (available at <https://news.gallup.com/poll/1633/iraq.aspx>), which compiles all its polling results of American people about the war in Iraq since 2003.

(Polacheck, 1980). Similarly, while the principle of national comparative advantage (Ricardo, 1817) views international trade as a “natural” phenomenon, not all nation-dyads have trade relations. Hence, we follow newer theoretical and empirical stances in political science and international relations and conceptualize conflict and trade (Polacheck, 1980) at the nation-state dyadic level of analysis (e.g., Bremer, 1992) rather than at the system level, which is captured by such perspectives as “the *spiral model* of war and peace (Jervis, 1976, chap. 3)” (italicized in the original, cited in Levy & Thompson, 2010, p. 30). The spiral model envisions wars as more likely to occur when states act to increase their security (preventive), while their adversaries perceive these actions as increasingly threatening (aggressive). We assume the position that all nation-dyads have the potential to experience conflict and that the likelihood of conflict is not entirely predictable. Thus, the occurrence of a nation-dyadic conflict harbors both risk (predictable) and uncertainty (unpredictable).

The likelihood of nation-dyadic conflict is very important to firms in international business since activities in foreign markets are inherently riskier. Cross-border corporate deals bear the additional risks of loss of profits and/or investments due to changes in political, social, and cultural institutions in host and home countries (Cosset & Roy, 1991; Ghoshal, 1987). Managers are tasked with managing international business risk (Miller, 1992), which includes the likelihood of a nation-dyadic conflict. However, the occurrence of a nation-dyadic conflict is a rare event (King & Zeng, 2001).⁶ Similar to markets for insurance against rare events (Kunreuther & Pauly, 2004), decision makers are more likely to disregard the probability of a nation-dyadic conflict if the risk of such event is uniform across all nation-dyads or the probability is *known* to be low with certainty in a given nation-dyad.

Considerable theoretical and empirical effort has been dedicated to predicting nation-dyadic propensity to have conflict and, more importantly, war. “Dangerous dyads” emerge between nations with the following, in order of declining importance: contiguity but without alliances, more advanced economy, democratic polity, overwhelming preponderance of power (e.g., area, population, and materials capabilities) and the presence of a major power (Bremer, 1992, p. 309; Levy & Thompson, 2010, p. 35). Ironically, due to their geographic proximity, neighboring nation-states are perhaps the most likely to gain from trade due to at least lower transportation costs (Anderson & van Wincoop, 2003; Tinbergen, 1962). The conflicting effect of geographic proximity, which is one of the most straightforward and unambiguously definable dyadic characteristics, highlights the problem of reciprocal causation in the relationship between trade and conflict. Hence, the predictability of nation-dyadic conflict is not trivial and far from certain.

On the one hand, the increased gains from trade reduce the future threat of conflict (Polacheck, 1980). On the other hand, the interaction among national identities is likely to incorporate interdependencies (e.g., economic, geographic, and cultural) that can trigger conflict. Relatedly, how national identities are perceived by the other dyad nation impacts the likelihood of cross-border corporate deals. For instance, the reputation effects of antagonism based on relationships with nations outside the dyad decrease the aggregated number of cross-border alliances, dampening the prior nation-dyadic experience (Arikan & Shenkar, 2013). While a rational explanation of the economic gains obtained from commercial cooperation and trade generates positive sentiments associated with nation-dyadic deals, the probability of dyadic conflict distilled in the minds of the decision makers remains nontrivial and increases the perceived likelihood of negative interactional outcomes.

As evidenced by extensive and ongoing research seeking to understand nation-dyadic conflict, the set of explanatory variables identified is not exhaustive and, therefore, does not completely determine the nation-dyadic risk of conflict. Hence, international conflict is not entirely predictable.

⁶A dataset of all nation-dyads per year since World War II includes approximately 300,000 observations, and only approximately 1,000 of these dyads engaged in war (King & Zeng, 2001).

Related statements include “war is more likely between neighboring states, weaker states are less likely to attack stronger states—are close to trivial, have important exceptions, and for the most part stand outside any consistent body of theory” (Bernstein, Lebow, Stein, & Weber, 2000, p. 44). The likelihood of a nation-dyadic conflict is a key consideration in determining the overall political risk and uncertainty associated with international business (Miller, 1992).

Given that the concepts of political risk and uncertainty include a possible nation-dyadic conflict (Kobrin, 1979; Miller, 1992; Ring, Lenway, & Govekar, 1990), the predictability of such events is relevant to cross-border deals. After considering the observable nation-dyadic characteristics that systematically contribute to the emergence of nation-dyadic conflict, an unsystematic (or idiosyncratic) set of nation-dyadic attributes that can increase the probability of a conflict remain. For instance, social science experts attempt to address questions, such as

“Will China’s ascent increase the probability of great-power war? Will an era of U.S.-Chinese tension be as dangerous as the Cold War? Will it be even worse, because China, unlike the Soviet Union, will prove a serious economic competitor as well as a geopolitical one?

These issues have been addressed by a wide range of experts—regionalists, historians, and economists—all of whom can claim insight into certain aspects of the situation. But China’s unique qualities, past behavior, and economic trajectory may well turn out to be less important in driving future events than many assume—because how a country acts as a superpower and whether its actions and those of others will end in battle are shaped as much by general patterns of international politics as by idiosyncratic factors” (Glaser, 2011, p. 80).

Decision makers, fretful of a nation-dyadic conflict, which is a rare event with adverse effects, could consider searching for new information, which is costly, when they “do *not* have perfect knowledge of that probability” (Kunreuther & Pauly, 2004, p. 6, italicized in the original).

The lower predictability of nation-dyadic conflict increases political uncertainty. Investment decisions, such as cross-border deals, that are at least partially irreversible with less than certain costs and payoffs are more likely to be deferred as the uncertainty surrounding the decision increases (Pindyck, 1991, p. 1117). The increased uncertainty surrounding the likelihood of a nation-dyadic conflict encourages subjective, superficial, and ethnocentric evaluations of international business decisions (Kobrin, 1979). As unpredictability increases, the value of waiting to invest in the future (e.g., new information resolving the uncertainty) or abandoning the investment alternative (e.g., another investment alternative) also increases (Pindyck, 1991). We hypothesize that the decreased predictability (increased unpredictability) of a potential conflict within a given nation-dyad is likely to deter managers from engaging in cross-border deals.

Hypothesis 1b (H1b). *As the predictability of a potential conflict within a given nation-dyad decreases, the likelihood of cross-border deals decreases.*

While we theorize that the occurrence of nation-dyadic historical conflicts and the unpredictability of such events deter cross-border deals, we propose the following two macrolevel mechanisms that counter the impact: generational distance from the nation-dyadic historical conflict, which can dampen antagonism and negative sentiments, and tertiary education in professions that infuse common paradigms in the social sciences, business, and law, which is relevant in the business context.

2.3 | Generational distance from nation-dyadic historical conflict

First-hand experiences with nation-dyadic conflict are the seeds of collective and social memories of such events. At the societal level, not all members have first-hand experience with historical conflicts. While some generations have experienced the events first hand, other generations have only been told about such events. Following the surrender of Japan, the *senzenha* (prewar generation) were humiliated by the defeat, the *senchuha* (war generation) suffered misery and demise, and these generations joined the *sengoha* (postwar generation) in admiring their victors (Suzuki, 2013, p. 161). This trend changed after the 1980s, when an educational reform in Japan soured the positive sentiments. For individuals educated in past events, realities are not only products of historians' interpretations but also impacted by governmental policies, national interests and politics articulated via the educational system. The social constructionist perspective of reality identifies two levels of the socialization of individuals (Berger & Luckmann, 1967) imprinted in collective and social memories.

Primary socialization is the first socialization an individual undergoes in childhood, through which he becomes a member of society. Secondary socialization is any subsequent process that inducts an already socialized individual into new sectors of the objective world of his society...The first social structure in which the individual meets the objective world (e.g., family with parents) is the first filter of subjective reality, which becomes the individual's objective world that is socially constructed. Naturally, primary socialization is the strongest mechanism of imprinting, effects of which is hard to reverse or alter because learning is not merely cognitive but also emotional (Berger & Luckmann, 1967, pp. 150–151).

Consequently, "...primary socialization is so much more firmly entrenched in consciousness than worlds internalized in secondary socializations" (Berger & Luckmann, 1967, p. 154). As expected, education is one of the most significant primary socialization mechanisms in a nation because of the learning sequences (e.g., K-12 education precedes college-level education), which are socially defined (Berger & Luckmann, 1967, p. 156). Similar to the social construction of reality, an individual's national identity is imprinted mainly through primary socialization. In structural-functionalism, the educational subsystem plays a strong socialization role supporting the broader system in which it is embedded; in fact, reinforcing the collective identity is not auxiliary but rather is the *primary* function of the educational subsystem in a social system (Parsons, 1956). The role of education is well established as a tool used to build national identities (Lall, 2008). Via their educational systems, nations construct networks of socialized individuals who act as generational and social cohorts (Meyer, Ramirez, Rubinson, & Bennett, 1977).

National educational institutions are strongly influenced by national agendas and are used to diffuse governmental philosophies and policies. For instance, in tandem with the Communist Party agenda, Soviet era textbooks have been substantially revised in post-Soviet Russia. Education geared towards the young tends to show stronger signs of government intervention and indoctrination than that geared towards older cohorts. Given that most of the population is required to attain at least an elementary school education, national stereotypes and biases tend to form early in life (Bourdieu, 1990). Furthermore, youngsters are more likely to develop biases via the constant and systematic diffusion of educational information (Pruitt & Rubin, 1986). The biases instilled impact people's perceptions of and stereotypes about their counterparts' trustworthiness, reliability, dependability, and predictability and are a result of their prior biases, which are mostly affected by school education (Guiso et al., 2009). For instance, history education in Italy emphasizes the country's struggles

leading to its reunification in the late 19th century and, therefore, highlights the major battles with Austria during this period (Guiso et al., 2009). Thus, the collective memory of Italian history can foster negative biases towards Austrians. The results of the Eurobarometer surveys performed in the late 1990s show that Italians (Austrian) rate Austrians (Italians) lower on the trustworthiness scale than the average rating of respondents from other European Countries (Guiso et al., 2009, p. 33).

The context of historical relations between two nations affects their members either contemporaneously through first-hand experiences with their counterparts or retrospectively through inherited historical interpretations from previous generations. Individuals are intrinsically affected by national sentiments, which are affected by cultural aspects, history and how history is retained in people's minds as a collective memory (Klein & Ettenson, 1999). Hence, the sentiments that affect individuals' trust and decision making affect economic exchange (Guiso et al., 2009). As individuals' memories accumulate, the remembrance of these collective assets and their coherence gain validity in the group context (Halbwachs, 1939). These cohorts represent generations that share attributes and experiences that are chronologically distinguished from those of other groups (Mannheim, 1997). Cohorts experience the same significant events during a time frame, and depending on their shared and accumulated attributes, these cohorts are designated generations (Glenn, 1977). In the same society, several generations exist simultaneously; however, their reaction to oncoming events and their interpretation of past events differs (Spitzer, 1973). Hence, at the societal level, collective memories influence and shape national policies, and institutions act as "memory vaults" since their evolution is slower than that of other societal actors and they can retain more information due to their processes.

At the individual level, the collective memory is manifested as stereotyping and directly applies to the formation of in-group and out-group perceptions (Linville, Salovey, & Fischer, 1986). Based on attributes related to a group identity, individuals form generalizations about a category. Categorizations aggregate into group identities. Individuals use these cognitive categorizations, that is, stereotypes, to process information about others with whom they interact (Hamilton & Trolier, 1986). Based on how similar the traits are between the perceiver and the focal group, categories of in-group and out-group are formed. Individuals perceive, retain, and process information about in-group members more favorably than out-group members (Hamilton & Trolier, 1986). If decision makers have a negative collective memory about their counterparts, they could label them an out-group. This homogeneous categorization is most often biased and prejudicial (Linville et al., 1986), resulting in strict contracting parameters or the outright dismissal of potential corporate interaction and cooperation.

Given their nature, functions, and formal mechanisms, institutions could retain more memories than individuals; hence, their influence could impact how decision makers gather and process information. As the time gap increases, the existence of multiple generations between events and decision markers decreases the likelihood of each cohort converging on a collective memory (Mannheim, 1997). As the number of generations following an event increases, the initial sentiments of prior historical realities decay, and decision makers diverge from the widely accepted prejudices of the current historical context. Hence, nonoverlapping collective memories fade across generations if not reinforced by multiple generations. Decision makers extrapolate, filter, and process information consistent with their position. If decision makers lack first-hand or readily available, concrete information, they refer to the widely accepted conventional wisdom. More recent historical events intensify the magnitude of the perceived assigned probabilities of similar events occurring in the future (Maoz, 2009). The less desirable attributes are remembered more often and easily than the desirable attributes, and decision makers feel safer basing their decisions on their negative perceptions (Hamilton & Trolier, 1986).

The effects of memory versus recency are particularly interesting in studies investigating firms' corporate governance decisions. At the national level, long-term memory (or history) preserves the general behavior and forms expectations about potential future outcomes, while short-term memory is the direct response to recent behaviors and influences the priors (Ward, 1982). At the individual level, recency often fortifies the priors, rendering them more powerful and impactful (Furnham, 1986). For an individual, each interaction represents a data point that either fortifies or abates the perceived likelihood of failure or threats. In the absence of first-hand interaction, reputation, which is built over time and is indicative of expectations (Dyer & Chu, 2003), serves as a proxy. If information about a future partner is lacking and learning is improbable, a referent entity is used. The vicarious experiential dimension of observed reputations across constituents reduces informational gaps (Crescenzi, 2007) and increases the legitimacy of extrapolation and the possible accuracy of the prediction (Deephouse, 1996). Individuals use referents to draw inferences about their counterparts and other firms (Gulati, 1998). Long-standing negative sentiments act as inhibitors of first-hand information gathering (Terlaak & Gong, 2008); therefore, the vicarious learning mechanisms utilize inferences even though these inferences are subjected to biases, prejudice and stereotypes.

Individual level prejudice, stereotypes, and biases may be sustained for a lifetime through interactions with others in a cohort and the education system in which socialization occurs; individual beliefs become a part of societal and cultural traditions. Cultural traditions are passed on from generation to generation and become a self-fulfilling reality (Bar-Tal, 2000). One can easily observe country-of-origin effects or consumer ethnocentrism in which individuals show strong preference for or against products from a nation or firms identified with a given nation (Klein & Ettenson, 1999); it is more difficult to observe the phenomena at the corporate governance level, as many decisions, with their drivers and processes, are not made public.

The dynamics described above manifest in generational attitudes towards nation-dyadic historical conflicts. Consequently, we propose that while cross-border organizational activities are impacted by national sentiments (Arikan & Shenkar, 2013; Shenkar & Arikan, 2009), strong variation exists across generations. Hence, we propose the following hypothesis:

Hypothesis 2 (H2). *As the number of generations between historical conflicts increase, corporate activities between those nations increase.*

2.4 | Professional identities with knowledge of social sciences, business and law

Generational distance is not the only mechanism that may dampen the negative effect of nation-dyadic historical conflict via the erosion of first-hand experience, hence reshaping social and collective memory. While primary socialization imprints individuals with national identity along with the sense of socially constructed reality, secondary socialization imparts knowledge regarding institutional "subworlds" (Berger & Luckmann, 1967, p. 158). "Secondary socialization is the acquisition of role specific knowledge, the roles being directly or indirectly rooted in the division of labor." (Berger & Luckmann, 1967, p. 158). Tertiary (postsecondary) education institutions are the main mechanisms of secondary socialization.

Learning in secondary socialization is less emotional and more formal; the role of secondary socialization is relatively anonymous and disconnected from its individual performers (i.e., different teachers can teach the same knowledge). Notably, the individual functionaries are generally

interchangeable while subjectively differentiated in various ways (e.g., nice) (Berger & Luckmann, 1967). Hence, educational programs (e.g., medical education) geared towards specialized skills share basic tenets of the disciplines they are based on and are less influenced by national identities, sharing universal themes with limited global variation (Lall, 2008).

At the individual level, education helps lower anxiety produced by interpersonal conflicts, which has been shown to inhibit cognitive functioning (Wilson, Butler, Cray, Hickson, & Mallory, 1986). Education enhances familiarity, results in information sharing and decreases social uncertainty (Jehn & Mannix, 2001). Through their postsecondary education, individuals are socialized into epistemic communities (e.g., business managers, lawyers) whose members are bonded by "...their shared belief or faith in the verity and the applicability of particular forms of knowledge or specific truths" (Haas, 1992, p. 3, footnote 4). An epistemic community can be described by a specific paradigm that is "an entire constellation of beliefs, values, techniques, and so on shared by members of a given community" (Kuhn, 1970, p. 175). Practitioners (professionals and scientists) of an epistemic community are governed by the shared paradigm with generally unanimous professional judgments (Kuhn, 1970, p. 177) in common decisions.

The professional identities of individuals (Cohen-Scali, 2003) who belong to the same epistemic community are shaped by secondary socialization mechanisms, such as formal education, job training, and professional associations, and reflect the shared governing paradigm of their profession. For example, natural scientists are members of the most global epistemic community (Kuhn, 1970) with similarly identifiable subgroups that correspond to professional identities because of the similarities in the tertiary education across nations (e.g., chemist and physicist). Consequently, to the extent that different nations share a common paradigm within a professional epistemic community, the professional identities of individuals across these nations exhibit similarities.

Science and technology (S&T) fields, as epistemic communities, are charged with identifying and solving physical, technological, or natural problems for the betterment of humanity. Yet, advancements in these fields include "increasing number of 'natural constants' (space, time, sources of energy, climate, genetic structure) that are coming to be objects of social choice and the manner in which choices made by different societies are perceived to affect patterns of international exchange and domination" (Ruggie, 1975, p. 560). For instance, the White House archives in 1995, from the Clinton era, include extensive policy guidelines related to the dependence of national security and prosperity on the advancements and developments in S&T.⁷

The larger role of governments in S&T fields (as opposed to other fields) is corollary to the increasing role of these fields as the scaffolding for national security, military power, and other national interests. However, pursuit of clashing national interests can create international conflict. In many countries, governments support "scientific and technical research; for example, through grant-providing agencies (like the National Science Foundation (NSF) in the United States) or through tax incentives (like the R&D tax credit)" (Bernanke, 2011, p. 1). After WWII, the role of the U.S. government's funding in the national research in S&T has been around 70% in the 1960s and 1970s, and remained above 60% until 2010s. Conversely, in 2016, only 5% of the U.S. federal expenditure in research and development across all of higher education is allocated to the social sciences and the fields other than S&T (e.g., art and humanities). In addition to direct funding and

⁷White House archives from 1995 include a document titled "Maintaining Military Advantage Through Science & Technology Investment" which details the role of basic and applied research in science and technology. It also lists the disciplines of interest dominated by the 12 major basic science fields such as computer sciences, biological and medical sciences, mechanics, materials sciences, physics, mathematics, cognitive and neural sciences, and 19 technology fields. Available at <https://clintonwhitehouse4.archives.gov/WH/EOP/OSTP/nssts/html/chapt2.html>, accessed February 4, 2019.

indirect tax subsidies, governments are involved in the S&T fields through numerous policies⁸ to ensure their national interests. This politicization of science and technology at the national level can be linked to the emergence or proliferation of conflict between nations at the international level. For instance, science and technology policy instruments, including intellectual property protection, can serve as tools for leverage or retaliation in international trade relations (Mowery, 1998). Therefore, it is not clear that tertiary education in “hard” sciences and technology fields, although they create universal epistemic communities, will have a dampening effect on the nation-dyadic conflict.

Higher education in social science fields and professional studies, such as political science, economics, business, and law, also establishes supranational professional commonalities.⁹ Compared to S&T fields, these fields have limited government involvement, which in turn limits the role of nationalistic concerns such as security, military power, and prosperity to infuse these professional communities. In fact, by the late 1970s, the U.S. and Canadian governments, academia, and firms identified the need to focus on foreign language and international business education (Beamish & Calof, 1989; Kwok, Arpan, & Folks, 1994). In a survey of 500 business schools, the respondents stated that the main purpose of international business education is to impart a “general awareness” of the global business environment (Kwok et al., 1994, p. 609). Structurally, higher education institutions may dramatically vary among nations (e.g., more examinations in Japan). More importantly, although the knowledge content is relatively consistent across nations in S&T fields and professional studies in business, law, and social sciences (Clark, 1983), proliferation of professional communities in S&T fields might be less likely to motivate cross-border corporate deals in nation-dyads with historical conflict.

One of the common elements of the paradigms of professional communities requiring higher education in law, business, and social sciences is the expectation that students learn to focus on facts and evidence, implying lower proclivity towards various biases in business decisions suggesting more of private choice rather than social choice (Ruggie, 1975). This socialization is fortified by the explicit focus on work-related experiential learning to acquire applicable knowledge and skills, further prioritizing professional identities to take precedence in work-related decision making (Cohen-Scali, 2003). Furthermore, the professional identity is “... mobilized first and foremost in relation to other identities” in the professional context (Blin, 1997, p. 182 cited in Cohen-Scali, 2003, p. 238). We expect that the increased number of professionals graduating with higher education degrees in law, business or the social sciences could enable the formation of professional communities that transcend national boundaries based on shared paradigms, emphasizing gains from economic activities and dampening the negative effects of prejudice traceable to historical conflict between nations.¹⁰

⁸There are more than 5,213 policy initiatives (4,608 policy instruments) in 59 countries tracked by European Commission and OECD in the following database: EC/OECD (2019), STIP Compass: International Database on Science, Technology and Innovation Policy (STIP), edition April 2, 2019, <https://stip.oecd.org>.

⁹We are not focusing on the arts and humanities because of their relative remoteness to the business context and economic transactions such as corporate deals.

¹⁰We thank one of our reviewers for suggesting that if aggregate corporate activities are expected to increase, then the number of students attending tertiary education in related professional fields is also likely to increase. We address this concern by lagging the rate of graduates and including an exhaustive set of factors that may influence the occurrence of cross-border deals. More importantly, a “snowball effect” of reinforcing economic ties may exist while indirectly and endogenously disincentivizing conflict when educational policies encourage education in law, business, or social sciences based on shared paradigms.

Hypothesis 3 (H3). *In a nation-dyad with historical conflict, as the combined percentage of graduates from tertiary education in the social sciences, business, and law increases, the likelihood of observing cross-border corporate activities between these nations increases.*

3 | DATA AND VARIABLES

3.1 | Sample

We constructed a comprehensive panel dataset using various national-, institutional-, and firm-level databases. Each record represents a nation-dyad with data regarding the dyadic relations (e.g., trade and conflict), national characteristics (e.g., material capabilities), and their dyad distance (e.g., geographic proximity). Firm-level cross-border deals are aggregated at the nation-dyad level. Table B1 (in Appendix B) lists the sources of each database used to construct the dataset, provides references associated with each database, and indicates the main website address, if available, for information and/or access. This section briefly explains why we utilized this specific dataset.

We obtained data related to firm-level cross-border alliances, joint ventures, and acquisitions from 1988 to 2003 from the Securities Data Corporation (SDC) database, which is available from Thompson Financial Services. We used the National Material Capabilities (NMC) dataset, which is provided as a part of the Correlates of War Project (COW), to obtain data regarding the variables of national trade, military power and capabilities from 1816 to 2001 (Bayer et al., 2005). The geographic distance dataset (GeoDist) includes bilateral and geographical data of 225 countries commonly used to estimate the gravity models of trade (Sousa, Mayer, & Zignago, 2012; Anderson & van Wincoop, 2003; Tinbergen, 1962) and is maintained by Centre d'Études Prospectives et d'Informations Internationales (CEPII).¹¹ We obtained annual data regarding bilateral international trade volumes and gross domestic products (GDP) from 1948 to 2000 using the Expanded Trade and GDP data (Gleditsch, 2002).

The International Crisis Behavior Project (ICB2) maintains a database of system-level conflicts (1918–2001) and includes 1,228 crisis * dyad * year observations (Brecher & Wilkenfeld, 2000). This database is more comprehensive than the COW dataset but is less detailed regarding the specifics of each war (Gleditsch & Ward, 1999). We used the Conflict and Peace Data Bank (COPDAB) (1948–1978) (Azar, 1980) and World Event Interaction Survey (WEIS) (McClelland, 1984) databases to supplement the data of nation-dyadic conflicts. We also used the COW Formal Interstate Alliance Data for interstate alliances (1816–2000) with three different levels of commitment (Gibler & Sarkees, 2004). Moreover, this dataset identifies the (historical) perceptual side of conflict (Rodik, Penzar, & Srbljinovic, 2003). For example, if only one nation in a dyad perceives the other nation as hostile, the crisis is coded as one-sided.¹²

¹¹CEPII is the French institute for research on international economics.

¹²The RDS uses the COW-MID dataset criteria and classifications at the following two levels: dispute- and participant-levels. At both levels, the dataset covers the dispute outcome, form of settlement, fatality level, level of hostility, reciprocation level, impact on the target, etc. However, we refrained from further classifying the type of animosity as it is often problematic to define the root causes or quantify the lingering effects of a conflict after it has officially been declared to be resolved (Reuveny & Kang, 1996a, 1996b).

3.2 | Variable construction and measures

This section briefly presents the variables. Table for descriptive statistics is available from the corresponding author. Additionally, we provide a detailed list of all variables and their definitions in Table 1.

3.2.1 | Dependent variable

Our main dependent variable is the occurrence of nation-dyadic corporate activity (acquisitions, JVs, and strategic alliances), that is, CORPDEALS, between nation i and j in year t . We coded the aggregated corporate activity as a dummy variable at the dyadic level. This variable has a value of 1 if in a given year, at least one firm-level cross-border deal occurred in a given dyad; otherwise, the value is 0.¹³ Notably, our comprehensive nation-dyadic panel dataset also includes observations with no corporate deals of any type given that we completed the conflict and trade datasets to include all possible dyads with zero conflict and/or trade.

3.2.2 | Independent variables

To test Hypothesis 1a, we constructed a cumulative count measure of dyadic conflicts between nations (CONFLICT). CONFLICT is a cumulative count of conflicts since 1816 to $t - 1$ per dyad, where $t = \{1988, \dots, 2000\}$. Hypothesis 1b focuses on the negative relationship between the unpredictability of nation-dyadic conflict and the occurrence of aggregated cross-border activity. The predictability of conflict depends on the anticipation of reaction from the other nation in the dyad, while considering trade a given; hence, “conflict is thus in the error term” (Stein, 2003, p. 116). As previously stated, managers are likely to face increasing search costs for information, which increases the value of waiting/forgoing cross-border activity, as the predictability of nation-dyadic conflict decreases. Hence, the degree to which the probability of a conflict in a given nation-dyad is predictable using models developed by international relations/political science experts is a reasonable proxy of the expected managerial search costs. We used the residuals from a rare-event logistic regression estimated to predict the probability of nation-dyadic conflict as a proxy for the degree to which nation-dyadic conflict is less than predictable.

To test Hypothesis 2, we constructed a count variable (GENDIST) representing the total number of generations between the first and final conflict between nations i and j in the previous year. We adopted a perspective (e.g., Edmunds & Turner, 2005; Eyerman & Turner, 1998) that combines the

¹³The results do not substantially change when the dependent variable is a count variable. Our theorizing is more consistent with the occurrence of cross-border corporate deals (indicator dependent variable) than the intensity of such activity (count variable); hypothesizing about the intensity of aggregated corporate deals requires more nuanced theorizing in terms of the mechanisms invoked. For instance, how national identities and collective memories that incorporate historical conflict influence the intensity of cross-border deals (as in quantity) is unclear. The usage and/or coverage intensity of the mechanisms by which national identities are built (e.g. coverage intensity in history books) could potentially impact the role of historical conflict in national identity and collective memory, which, in turn, might alter the intensity of cross-border deals.

¹⁴Bourdieu defines habitus as follows: “The conditionings associated with a particular class of conditions of existence produce *habitus*, systems of durable, transposable dispositions, structured structures predisposed to function as structuring structures, that is, as principles which generate and organize practices and representations that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary in order to attain them. Objectively “regulated” and “regular” without being in any way the product of obedience to rules, they can be collectively orchestrated without being the product of the organizing action of a conductor.” (1990, p. 53, italicized in the original).

TABLE 1 List of variables

Variable code	Variable label	Description
ALLIANCE _{ijt-1}	Dyad has at least one bilateral national alliance	Indicator (Yes = 1, 0 otherwise)
ANTOG _i , ANTOG _j	Cumulative number of conflicts that nation i (j) was perceived as the antagonist in the previous year excluding j (i)	Cumulative number of (ICB database classified) conflicts with nations other than the one in the focal dyad in which nation i (j) was the initiator
CAPCITYDIST _{ij}	Logged distance between the capital cities (km)	Continuous, uses the geographic coordinates of capital cities
CINC _{it} , CINC _{jt}	Composite index score for the six ratios	Composite index score for a nation = $[M1 + M2 + IS + EC + TP + UP]/6$
[Ratio for a capability = Value for the nation/Total Value for the World], Capabilities ratios = {Military personnel ratio (M1), military expenditure ratio (M2), iron and steel production ratio (IS), energy consumption ratio (EC), total population ratio (TP), and urban population ratio (UP)}		
COLONIAL _{ij}	Dyad has a colonial relationship before 1945	Indicator (Yes = 1, 0 otherwise)
COMMONLANG _{ij}	Dyad has a language that is spoken by at least 9% of the population in both countries	Indicator (Yes = 1, 0 otherwise)
CONFIDUM _{ij}	Dyad has at least one conflict in 1918–1987	Indicator (Yes = 1, 0 otherwise)
CONTIGUITY _{ij}	Dyad share a common border	Indicator (Yes = 1, 0 otherwise)
CORPDEALS _{ijt}	Nation-dyadic corporate deals	Indicator (Yes = 1, 0 otherwise)
CONFLICT _{ijt-1}	Cumulative number of conflicts	Standardized
CRISIS _{ijt-1}	Dyad had a conflict in the previous year	Indicator (Yes = 1, 0 otherwise)
DURCONFLICT87 _{ij}	Dyadic cumulative historical conflict weighted by the duration of each conflict in 1918–1987	Continuous. Weights are the total number of calendar years spanned for each conflict, standardized
EST_CONFLICT _{ijt}	Simultaneously estimated conflict	Continuous. Linear prediction based on logit estimation of Conflict (Appendix A, Table 2, Model 6)
EST_TRADE_SIMUL _{i→j,t-1}	Simultaneously estimated exports	Continuous, based on OLS estimation of exports from the simultaneous equations model (Table 2, Model 3)
EST_ZEROTRADE _{i→j,t-1}	Estimated zero-probability of exports	Continuous, based on Equation (A.1). Model 5, Table A1, Appendix A
EXPORT _{i→j,t-1}	Exports from nation i to j (\$ millions in t)	Continuous
GDP _{it} , GDP _{jt}	Logged real gross domestic product per capita	Continuous
GENDIST _{ijt-1}	Generational distance	Count the total number of generations between the first and the last conflict

TABLE 1 (Continued)

Variable code	Variable label	Description
	Assign chronologically ordinal values from 1 to 9 to the calendar years of first and last conflict using the following categories by Strauss and Howe (1991) and take the absolute value of the difference. 1 = Gilded (1822–1842), 2 = Progressive (1843–1959), 3 = Missionary (1860–1882), 4 = Lost (1883–1900), 5 = G.I. (1901–1924), 6 = Silent (1925–1942), 7 = Boom (1943–1960), 8 = Thirteenth (1961–1981), and 9 = Millennial (1982–current).	
MULTIALLIANCE _{ijt}	Dyad has at least one multinational interstate alliance	Indicator (Yes = 1, 0 otherwise)
OFFLANG _{ij}	Dyadshare a common official language	Indicator (Yes = 1, 0 otherwise)
PROFESSIONAL _{ijt-1}	Average percentage of business, law, and economics students of nations i and j in $t - 1$	[(% of tertiary level social sciences, business and law students) _i + (% of tertiary level social sciences, business and law students) _j]/2
REL_ENERGY_UPOP _{ijt-1}	Relative ratio of dyadic national energy consumption over urban population in $t - 1$	Ln[(Total energy consumption/Urban population)/(Total energy consumption/Urban population) _j]
REL_MILEXP_TRADE _{ijt-1}	Relative ratio of military expenditure over total trade	Ln[(Total military expenditure/Total trade) _i /(Total military expenditure/Total trade) _j]
REL_MILPER_POP _{ijt-1}	Relative ratio of military personnel over total population	Ln[(Total military personnel/Total population)/(Total military personnel/Total population) _j]
REL_TOTTRADE _{ijt}	Relative ratio of total trade by nations	Ln[(Total of imports and exports)/(Total of imports and exports)]
RES_CONFLICT _{ijt}	Estimated residual dyadic conflict	Continuous. Estimated using Appendix A, Table A1, Model 5
RES_TRADE_SIMUL _{ijt}	Simultaneously estimated residual dyadic trade	Continuous. Estimated residual from OLS of exports in the simultaneous equations model (Table 2, Model 3)
TRADE_IMBALANCE _{ijt-1}	Relative economic animosity between in a dyad	Ln[(Total imports from _{i→j,t})/(Total trade _j)]/[[(Total imports _{i→j,t})/(Total trade _j)]]
TREND _t	Trend	Calendar year–1988
YEAR DUMMIES	Year dummies (1989–2001)	13 Indicators (for each Yes = 1, 0 otherwise)

conventional sociological approach (Mannheim, 1997) and the notion of habitus¹⁴ proposed by Bourdieu's (1990, 1993), which recognizes the interaction among historical resources, contingent circumstances, and the social formation regarding milestone events to distinguish the separation of cohorts and generations across nations. Using this perspective, instead of focusing on only nation-specific traumatic events, we were able to capture cohorts that shared similar attributes related to global events, albeit in different nations. We used generations to capture the time frames

surrounding the events following Strauss and Howe (1991), who have integrated the impact of global leaders and events into nine distinct cohorts and generations identified with blocks of time, starting with 1822.¹⁵

To test Hypothesis 3, we used the Global Education Database and constructed a continuous variable, that is, PROFESSIONAL, to represent the combined average percentage of tertiary level social sciences, business and law students in nations i and j in the previous year $t - 1$. The education data were obtained from the Global Education Database compiled by the UNESCO Institute for Statistics, which conducts Demographic and Health Surveys (DHS) globally and reports the percentages of graduates in major fields of study in each country since 1999.

3.2.3 | Control variables

Given that the dependent variable is the aggregated cross-border activity at the nation-dyadic level, we need to control for alternative explanations of observing corporate deals, which constitute a form of international economic activity. Nation-dyadic factors influencing international trade or conflict could also determine the occurrence of cross-border deals. Therefore, we include the most relevant explanatory variables referenced in political science and international trade studies in which the dependent variable is nation-dyadic trade.

We control for the effect of the following variables, which were calculated for each nation-dyad by using relevant data for nations i and j .¹⁶ Relative economic animosity, which is linked to the nation-dyadic trade imbalance (TRADE_IMBALANCE), is calculated as the annual imbalance in the imports between two nations with respect to each one's total trade during that year. As nation i 's import imbalance increases, the importing nation is more likely to consider nation j antagonistic (Arikan & Shenkar, 2013; Nijssen & Douglas, 2004). FDI flows in a nation-dyad play a critical role in import imbalance (Tran & Dinh, 2014). To fix the imbalance, governments can initiate policies that ultimately deter cross-border corporate deals.¹⁷

Geographic distance (CAPACITYDIST) impacts target selection for cross-border corporate deals (e.g., Chakrabarti & Mitchell, 2013; Erel, Liao, & Weisbach, 2012; Reuer & Lahiri, 2014). We control for the collaborative relations in a nation-dyad (e.g., defense alliance) (ALLIANCES), shared borders (CONTIGUITY), and overlap in the languages spoken (COMMONLANG), any of which might create familiarity (e.g., Coval & Moskowitz, 2001) that encourages cross-border deals. The differences in the national capabilities¹⁸ (CINC) (Singer et al., 1972) and energy consumption by the urban population (REL_ENERGY_UPOP) represent market opportunities for cross-border deals. We control for the time effects either by indicator variables per year (1988–2000) or a trend variable ($t - 1988$).

¹⁵For example: The 1968 Czech uprising impacted Hungary, although it had no uprisings in 1956–1989. The generations in these countries experienced the political conflict either first- or second-hand (Edmunds & Turner, 2005).

¹⁶The order of the nation subscripts corresponds to the directionality of imports, that is, first exporter and second importer.

¹⁷For instance, U.S.-based manufacturing firms increased the FDI in China to lower manufacturing costs, which allowed these firms to successfully import their goods into the United States, eventually contributing to the trade imbalance. In turn, the increased trade deficit between the United States and China encouraged the United States to impose large tariffs on imports from China and tax foreign income of U.S. firms. China can retaliate not only by reciprocating these actions but also by implementing policies that are adverse to a large number of U.S. subsidiaries.

¹⁸The Composite Index of National Capability (CINC) score (Singer, Bremer, & Stuckey, 1972) integrates the following six national indicators of material capabilities ratios (capability of nation i /total value of the capability worldwide): military personnel, military expenditure, total and urban (cities with population greater than 100,000) populations, iron and steel production (1,000 tons), and energy consumption (1,000 coal-ton); the composite index score ranges from 0 (no capabilities) to 1 and informs about the relative standing of each nation in the system of nations.

TABLE 2 Estimation of trade and conflict using simultaneous equation estimation

	Model 1		Model 2		Model 3	
	(a)		(b)		(a)	
	Conflict	Exports	Conflict	Exports	Conflict	Exports
Estimated conflict _{ijt} from(a)	-0.25	0.04	-0.001	0.001	-0.98	0.64
Estimated trade _{ijt} from(b)	2.48	0.70	1.25	0.59	1.00	0.22
Estimated residual conflict _{ij,t-1}			0.21	0.02	-0.15	0.35
Estimated residual conflict _{ij,t}			0.09	0.01	0.11	0.09
Estimated residual conflict ² _{ij,t}			-0.67	0.43	-1.24	0.38
Estimated zero-probability of dyadic trade _{ijt}			-0.14	0.85	33.00	6.64
Estimated residual trade _{i→j,t-1}			-0.09	0.04	-39.39	11.78
Estimated residual trade _{i→j,t} × [Estimated residual conflict _{i→j,t}]					-9.63	0.18
Cumulative conflict (weighted by duration) in 1918–1987 _{ij}	-1.08	0.30	0.24	0.01	-0.57	0.19
Relative ratio of military expenditure over total trade _{ij,t-1}	0.42	0.12	0.22	0.04	0.70	0.23
GDP per capita _{ijt}	0.52	0.07	0.27	0.02	0.95	0.19
GDP per capita _{ij,t-1}	0.20	0.05	0.18	0.02	0.95	0.19
Distance between the capital cities _{ij}	-0.48	0.22	-0.02	0.05	-0.24	0.25
Distance between the capital cities _{ij} ²	-0.09	0.09	-0.08	0.09	0.02	0.33
Common official language _{ijt}	0.05	0.36	0.29	0.10	0.44	0.37
Share a common border _{ijt}	-4.93	1.58	1.99	0.15	-2.08	1.51
At least one conflict _{ij,t-1}	0.96	1.18	2.50	0.86	-0.10	0.10
Ratio of total trade _{ij,t-1}	1.80	0.51	1.62	0.43	0.49	0.46
Cumulative number of conflicts _{ij,t-1}	0.72	0.20	0.37	0.16	-0.12	0.16
Number of conflicts nation perceived as the antagonist _{i,t-1}	2.23	0.63	1.63	0.55	0.72	0.54

TABLE 2 (Continued)

	Model 1		Model 2		Model 3	
	(a)		(b)		(a)	
	Conflict	Exports	Conflict	Exports	Conflict	Exports
Number of conflicts nation perceived as the antagonist _{j,p-1}	1.95	0.56	1.87	0.50	2.89	0.58
Colonial relationship prior to 1945 _{ij}	1.61	1.41	1.11	1.28	-1.81	1.34
Constant	-9.48	0.63	-2.08	0.35	-9.35	0.02
Simultaneous equations model	Logit	OLS	Logit	OLS	Logit	OLS
R ² (adjusted)		0.06		0.06		0.07
R ² (pseudo)	0.47		0.49		0.53	
F-statistic		233.82		163.41		150.26
χ ² statistic	546.66		563.33		567.2	
Log-likelihood of full model	-313.063		-87.463.28		-77.917.03	
Log-likelihood of null	-586.88		-88.525.85		-78.977.62	
Likelihood-ratio χ ² against the null, df	547.64, 13	2,125.14, 8	522.01, 15	2,121.18, 11	550.595, 18	2,169.25, 13
Likelihood-ratio χ ² against 1		77.41, 2	19,092.50, 3	28.68, 3		48.07, 2
Number of observations	36,735	36,735	32,087	32,087	32,087	32,087

Note: Estimated values for trade and conflict are obtained from Models 5 and 6 in Tables 1 and 2. Each model has the coefficients (SEs) in its first (second) column. Chi-square test statistics have $p < .001$.

As previously mentioned, trade and conflict are simultaneously and endogenously determined. Therefore, including the observed trade levels as control variables poses several conceptual and econometric problems. Thus, we include the predicted (EST_TRADE) and residual (RES_TRADE) values of dyadic trade generated by the estimation of a simultaneous equations model, which is explained in detail in the following section.

4 | EMPIRICAL STRATEGY

4.1 | Resolving anticipated methodological concerns

Theoretically, firms do not pursue cross-border deals in isolation from the macroenvironment in which they are embedded. Empirically testing the connection between nation-dyadic histories and the occurrence of within-dyad aggregated cross-border deals poses several challenges that we explicitly address in this paper. First, to align the empirical model with the theoretical argument, we focus on aggregated cross-border deals. When aggregated to the nation-dyad level, cross-border deals are classified as an international economic activity, such as trade. Factors that influence bilateral trade likely influence the incidence of cross-border deals. Second, although we are interested in nation-dyadic historical conflicts as an independent variable, theoretically and empirically, historical conflict is simultaneously and endogenously determined with trade, rendering observed historical conflict a “messy” variable. Extensive but nonconclusive international economics and international relations studies suggest that the causality between trade and conflict is bidirectional; thus, the econometric modeling of nation-dyad relations requires laborious and complex effort. We expect these problems to naturally spillover to the empirical models predicting the incidence of nation-dyadic corporate deals.

Specifically, our empirical strategy addresses the following concerns: (a) endogeneity and simultaneity biases, that is, nation-dyadic trade and conflict are both endogenously and simultaneously determined (reciprocal causation) and this dynamic is likely to bias any inferences about the likelihood of cross-border deals if the observed values of both conflict and trade are used to estimate the incidence of nation-dyadic cross-border deals, (b) sample selection bias, that is, only a small fraction of all possible nation-dyads have trade and/or conflict, and the unobservable nation and dyadic characteristics can drive conflict, trade and the likelihood of cross-border deals, and (c) rare-event bias, that is, using a standard logistic regression analysis underestimates the odds of observing rare events, such as nation-dyadic conflict.

We present our empirical analysis in two stages. The first stage addresses the above-listed concerns. This approach facilitates the validity and robustness of the main analysis performed in the second stage. The second stage models the incidence of nation-dyadic cross-border deals to test our hypotheses regarding the role of nation-dyadic historical conflict.

4.2 | First-stage analysis of the nation-dyadic context

A systematic approach disentangling unavoidably complicated econometric modeling requires the separate estimation of nation-dyadic trade (i.e., exports from nation i to j) and conflict (Tables A1 and A2 in Appendix A). Then, we estimate trade and conflict using a simultaneous equations model (Table 2) in which the explanatory variables are identified in separate estimations as discussed in Appendix A. To conserve space, a detailed discussion of the empirical specifications is presented in

Appendix A. The code names of the variables in the text along with their calculations are provided in Table 1.

4.2.1 | Simultaneity bias due to reciprocal causation of nation-dyadic trade and conflict

Recent work in political science argues that trade and conflict are reciprocal and simultaneous (Keshk, Pollins, & Reuveny, 2004; Timpone, 2003). Our separate analyses estimating trade and conflict verify this assertion (see Appendix A). The simultaneous equations estimation technique has to accommodate a continuous dependent variable (TRADE) and a dichotomous endogenous explanatory variable (Timpone, 2003). We modified the STATA program code for the CDSIMEQ command (Keshk, 2003) from the two-stage probit least squares estimation of the simultaneous equations models to a two-stage least square estimation and rare-event logit as presented (Equations (1.1) and (1.2)). We use the covariates determined in the independent estimations of trade (Equations (A.1) and (A.2)) and conflict (Equation (A.1)) (see Appendix A). We also controlled for the joint effect of the unaccounted for and idiosyncratic trade- and conflict-specific characteristics of the dyad (RES_TRADE \times RES_CONFLICT), which were obtained from the estimations in Appendix A. The simultaneous equations estimation is presented below.

$$\text{TRADE}_{ijt} = \beta_0 + \beta'D + \beta_1\hat{c}_{ijt-1} + \beta_2\hat{c}_{ijt} + \beta_3\hat{c}_{ijt}^2 + \beta_4\hat{v}_{ijt} + \beta_5[\hat{v}_{ijt-1} \times \hat{c}_{ijt-1}] + s_{ijt} \quad (1.1)$$

$$\text{DUMCONF}_{ijt} = \beta_0 + \beta'F + \beta_1\hat{m}(u_{ijt}) + \beta_2\hat{c}_{ijt-1} + \beta_3\hat{v}_{ijt-1} + \beta_4[\hat{v}_{ijt-1} \times \hat{c}_{ijt-1}] + a_{ijt} \quad (1.2)$$

where the vector of variable $\mathbf{D} = [\text{DUMCONF}_{ijt} \text{ DURCONF87}_{ij} \text{ REL_MILEXP_TRADE}_{ijt-1} \text{ GDP}_{it}$
 $\text{GDP}_{jt} \text{ CAPACITYDIST}_{ij} \text{ OFFLANG}_{ij} \text{ CONTIGUITY}_{ij}]$ and the vector of variable $\mathbf{F} = [\text{TRADE}_{ijt}$
 $\text{DURCONF87}_{ij} \text{ REL_MILEXP_TRADE}_{ijt-1} \text{ CAPACITYDIST}_{ij} (\text{CAPACITYDIST}_{ij})^2 \text{ OFFLANG}_{ij}$
 $\text{CONTIGUITY}_{ij} \text{ CRISIS}_{ijt-1} \text{ MULTIALLIANCE}_{ijt} \text{ CONFLICT}_{ijt-1} \text{ ANTOG}_{it-1} \text{ ANTOG}_{jt-1}$
 $\text{COLONIAL}_{ij}]$.

The results of this analysis are presented in Table 2. Model 1 shows evidence of simultaneity between trade and conflict. The coefficients of *predicted dyadic conflict* (EST_DUMCONF) and *predicted trade level* (EST_TRADE) are statistically important. Increased trade increases the likelihood of conflict, which, in turn, decreases the level of trade. Our results are consistent with the notion that "... 'primacy of politics' in the trade-conflict relationship that is, the evidence that conflict reduces trade is markedly stronger..." (Keshk et al., 2004, p. 156).

In Models 2 and 3, we include the predicted and residual values from the independently estimated models of trade (Equations (A.1) and (A.2)) and conflict (Equation (A.3)). If the predicted and residual values of trade and conflict are valid, the significant simultaneity in Model 1 should decrease. Conceptually, depending on the known set of factors, nation-dyads that are inexplicably more likely to have conflicts (RES_CONFLICT) are also likely to increase the level of trade as deterrence. In contrast, in Model 2, the estimated zero probability of dyadic trade (EST_ZEROTRADE) and the estimated *residual value of lagged bilateral trade* (RES_TRADE) had negative but statistically non-significant coefficients, suggesting that the trade-specific characteristics of the dyad are not effective deterrents of conflict alone.

In Model 3, we include the predicted and residual values of conflict and the interaction term of the residuals. These additions increase the statistical significance of EST_ZEROTRADE and the 1-year lagged RES_TRADE. In fact, this result suggests that dyads with a decreased likelihood of

trade also have a decreased likelihood of conflict. Increased RES_CONF increases both the likelihood of conflict and the level of trade. However, the relative risk of conflicts exhibits larger increases in dyads with an unexplained increase in the level of expected trade during the previous year (RES_TRADE) than in dyads with an unexplained increase in the expected probability of conflict (RES_CONFLICT) during the prior year.

4.3 | Second-stage analysis for testing the hypotheses

Since the study focuses on the relationship between nation-dyadic conflict and the incidence of nation-dyadic cross-border deals, we include the observed variable of CONFLICT in Equation (1.3); thus, it would be ill-advised to include the observed trade level as a control. Instead, we use the following two estimated variables associated with dyadic trade from the simultaneous equations estimation (Equation (1.1)): simultaneously estimated level of bilateral trade (EST_TRADE_SIMUL) and its dyadic error term (RES_TRADE_SIMUL), \hat{s}_{ijt} , as a proxy for the unidentified and idiosyncratic characteristics impacting dyadic trade. As previously mentioned, the estimated error term (RES_CONFLICT), \hat{c}_{ijt} , represents the unexplained and idiosyncratic propensity of nation-dyadic conflict proneness.

$$\begin{aligned} \text{DUMDEALS}_{ijt} = & \underbrace{\text{Conflict}_{ijt-1}}_{H1a} + \underbrace{\hat{c}_{ijt-1}}_{H1b} + \text{Gendist}_{ijt-1} + \underbrace{\text{Gendist}_{ijt-1} \times \text{Conflict}_{ijt-1}}_{H2} \\ & + \text{Professional}_{ijt-1} + \underbrace{\text{Professional}_{ijt-1} \times \text{Conflict}_{ijt-1}}_{H3} + \text{Est-Trade-Simul}_{ijt} + \hat{s}_{ijt-1} + \beta' K + e_{ijt} \quad (1.3) \end{aligned}$$

where $\mathbf{K} = [\text{TRADE_IMBALANCE}_{ijt-1} \text{ CAPACITYDIST}_{ij} \text{ CONTIGUITY}_{ij} \text{ COMMONLANG}_{ij} \text{ ALLIANCES}_{ijt-1} \text{ REL_ENERGY_UPOP}_{ijt-1} \text{ YEA RDUMMIES CINC}_{it} \text{ CINC}_{jt}]$.

5 | RESULTS

The results pertaining to the testing of Hypotheses 1a and 1b are presented in base Model 1 in Table 3. As we hypothesized in H1a, increased cumulative number of prior dyadic conflicts (CONFLICT) decreases the odds of observing dyadic corporate deals. The residual probability of conflict (RESID_CONFLICT),¹⁹ which represents the unexplained and idiosyncratic propensity of nation-dyadic conflict proneness, has higher economic significance and is more robust across various models than the observed historical conflict within nation-dyads.

In Model 2, we include the independent variable GENDIST (total number of generations between the first and final conflict between nations i and j in $t - 1$) to test H2. Including the generational distance in Model 1 dampens the direct effect of CONFLICT on the incidence of nation-dyadic cross-border deals as hypothesized. The coefficient of RESID_CONF is not impacted, which is consistent with the theorized stability of socially constructed national identities that incorporate societal memories of historical conflict and sentiments towards other nations, providing evidence that the national level historical context influences business decisions, such as cross-border deals.

The weakened statistical significance of CONFLICT is consistent with the hypothesized interaction effect (H2). In Model 3, the coefficient of the interaction term between these two variables

¹⁹We obtain the residual values of dyadic conflict from the estimation in Equation (A.3) as specified in (Appendix A) Model 5 in Table A2.

TABLE 3 Impact of conflict (H1a and H1b) and generational distance (H2)

	Base Model 1		Model 2		Model 3		Model 4	
	[All]	[All]	[All]	[All]	[All]	[All]	[All]	[Dyads with U.S.]
Cumulative number of conflicts _{<i>ijt-1</i>}	-0.10	0.04	-0.07	0.05	-0.12	0.06	-0.28	0.10
Relative economic animosity _{<i>ijt-1</i>}	-0.07	0.05	-0.06	0.05	-0.05	0.05	-0.07	0.08
Estimated residual conflict _{<i>ijt-1</i>}	-0.97	0.20	-0.92	0.19	-0.99	0.20	-0.41	0.45
Simultaneously estimated level of trade _{<i>i-j,t-1</i>}	0.67	0.27	0.75	0.28	0.77	0.28	0.35	0.51
Simultaneously estimated residual trade _{<i>i-j,t-1</i>}	-0.85	0.43	-0.90	0.42	-0.85	0.44	0.01	0.78
Distance between the capital cities (km) _{<i>ijt</i>}	-0.33	0.15	-0.34	0.15	-0.34	0.14	-0.33	0.42
Share a common border _{<i>ijt</i>} (Y=1)	-0.15	0.77	0.04	0.70	-0.04	0.70		
Common language (spoken by at least 9% of both populations) _{<i>ijt</i>}	0.83	0.40	0.80	0.39	0.76	0.39	-0.07	0.47
At least one bilateral national alliance _{<i>ijt-1</i>}	0.26	0.44	0.11	0.44	0.08	0.44	1.46	0.91
Relative ratio of national energy consumption over urban population _{<i>ijt-1</i>}	1.35	0.19	1.34	0.20	1.35	0.20	2.00	0.43
Composite index score for the material capabilities _{<i>it</i>}	0.34	0.05	0.36	0.05	0.36	0.05	-0.28	0.26
Composite index score for the material capabilities _{<i>jt</i>}	0.24	0.08	0.25	0.08	0.25	0.08	-0.34	0.40
Generational distance _{<i>ijt-1</i>}			-0.55	0.34	-0.91	0.39	-2.16	0.91
[Generational distance _{<i>ijt-1</i>}] × [Cumulative number of conflict _{<i>ijt-1</i>}]	-0.05	0.02	-0.05	0.02	-0.05	0.02	0.25	0.08
Trend _t			-	-	-	-	-	-
Year dummies								
Constant	-6.74	0.31	-6.75	0.33	-6.80	0.33	-0.55	2.16
Empirical model	Logit	Logit	Logit	Logit	Logit	Logit		
SEs	Robust, 1-way cluster							
χ^2	382.29	364.35	375.96				58.67	
R ² (adjusted)	0.53	0.54	0.54				0.33	
Log-likelihood	-1,053.68	-1,045.44	-1,039.38				-314.56	

TABLE 3 (Continued)

	Base Model 1	Model 2		Model 3		Model 4	
	[All]	[All]	[All]	[All]	[All]	[All]	[Dyads with U.S.]
Log-likelihood of the null	-2,252.13		-2,252.13		-2,252.13		-470.70
Likelihood-ratio χ^2 against the null, df	2,396.89,	<i>13</i>	2,413.37,	<i>14</i>	2,425.49,	<i>15</i>	312.27,
Likelihood-ratio χ^2 against 1, df			16.48,	<i>1</i>	28.60,	<i>2</i>	14
Likelihood-ratio χ^2 against 2, df					12.12,	<i>1</i>	
Number of observations	20,906		20,906		20,906		700
Number of clusters (nation dyad)	2,479		2,479		2,479		73

Note: Each model has the coefficients (SEs) in its first (second) column. United States is the only nation which appears in the maximum possible number of 73 nation-dyads. Chi-square test statistics have $p < .001$.

(GENDIST \times CONFLICT) is 0.045 ($p < .01$). The average marginal effect of the same generation that experienced dyadic conflict leads to a 4% decrease ($p < .01$) in the likelihood of nation-dyadic corporate deals. With one unit of generational distance, the likelihood of observing nation-dyadic corporate deals increases by 0.1% ($p < .01$). The asymmetry in the average marginal effects of generational distance is consistent with the notion that the first-hand experience of nation-dyadic conflict has a stronger imprint. For the next generation, the magnitude of the increase in the incidence of corporate deals corresponds to 0.25% of the magnitude of the negative sentiments of the prior generation. The reversal of the negative effect of historical conflict slowly unfolds over multiple generations.

We conducted a robustness check by running the same model on a subsample of nation-dyads with the United States since the definition of the generations are mainly linked to U.S. history. We expect the moderating effect of generational distance to increase. The results of this analysis are presented in Model 4.²⁰ As expected, the coefficient of the interaction term is amplified to 0.245 ($p < .01$). The average marginal effect of one-generation distance increases the incidence of cross-border deals by 1% ($p < .001$) among the U.S.-included dyads.

The results of the testing of Hypothesis 3 are presented in Table 4. Data regarding tertiary education are available starting with the 1999 version of the survey conducted by UNESCO since 1975. Therefore, the inclusion of the education variable considerably decreases the number of observations because of the fewer numbers of years rather than a material change in the cross-sectional coverage. As a robustness check, we replicate the analysis of H1a and H1b (as in base Model 1 in Table 3) with a subsample for which we have data regarding the percentages of tertiary education and present the results in base Model 2 in Table 4.²¹ Base Model 1 is the same in both Tables 3 and 4 for ease of comparability across models. In Model 2, the economic (statistical) significance of the coefficient of CONFLICT is maintained (decreases). Because of their robustness across different samples, the consistency of the findings regarding CONFLICT suggests that the dyadic history of conflict is contextual in its impact on the incidence of dyadic cross-border corporate deals. The set of results related to RES_CONFLICT across the models in Tables 3 and 4 suggests that both are economically and statistically significant in regard to the negative impact on the incidence of nation-dyadic cross-border corporate deals. This finding is consistent with the proposed theoretical argument that national identities, which incorporate national sentiments about other nations mainly through macrolevel primary socialization mechanisms, consistently imprint socially constructed societal memories of historical conflict on members of society. We argued that preference-supporting decision making is closely linked to such imprinting and can influence the incidence of aggregated cross-border deals.

In Models 2 and 3, to test H3, we include the variable PROFESSION, which is measured as the prevalence of professional identities in law, business, and social sciences in a nation-dyad, and its interaction with historical conflict in the same nation-dyad (PROFESSION \times CONFLICT). H3 suggests that the prevalence of these types of professional identities dampens the negative effect of nation-dyadic historical conflict on the incidence of nation-dyadic cross-border corporate deals. The inclusion of PROFESSION strengthened the main results of Model 1 related to CONFLICT and RES_CONFLICT. This effect can potentially be linked to the fact that, on average, higher education leads to greater awareness of the socially constructed reality and incorporates knowledge about the

²⁰There are changes in a few macrolevel variables, but it is not uncommon for percent deviations in such variables to range between -1.2 and 2.8% (e.g. Boldrin, Christiano, & Fisher, 2001).

²¹We do not expect the limited number of years to cause any generalizability concerns since policies regarding education and, hence, the percentage of higher education graduates does not necessarily vary annually. We replicate the analyses in Table 4 with the concurrent value of the variable PROFESSION, and the results do not change.

TABLE 4 Impact of professional identities (H3) and replicate impact of conflict (H1a and H1b)

	Base Model 1		Base Model 2		Model 3		Model 4	
	[All]		[1999–2001]		[1999–2001]		[1999–2001]	
Cumulative number of conflicts _{ijt-1}	-0.10	0.04	-0.09	0.06	-0.09	0.06	-0.19	0.07
Relative economic animosity _{ijt-1}	-0.07	0.05	-0.15	0.08	-0.15	0.08	-0.18	0.08
Estimated residual conflict _{ijt-1}	-0.97	0.20	-0.74	0.34	-0.74	0.34	-0.98	0.35
Simultaneously estimated level of trade _{i→j,t-1}	0.67	0.27	-0.20	0.35	-0.21	0.35	-0.22	0.32
Simultaneously estimated residual trade _{i→j,t-1}	-0.85	0.43	0.62	0.53	0.64	0.53	0.74	0.47
Distance between the capital cities (km) _{ijt}	-0.33	0.15	0.14	0.31	0.14	0.31	0.23	0.31
Share a common border _{ijt} (Yes = 1)	-0.15	0.77	0.09	1.17	0.13	1.16	0.00	1.19
Common language (spoken by at least 9% of both populations) _{ijt}	0.83	0.40	0.71	0.53	0.73	0.52	0.70	0.52
At least one bilateral national alliance _{ijt-1}	0.26	0.44	1.11	0.71	1.11	0.71	0.95	0.74
Relative ratio of national energy consumption over urban population _{ijt-1}	1.35	0.19	1.66	0.38	1.66	0.37	1.56	0.36
Composite index score for the material capabilities _{it}	0.34	0.05	0.28	0.07	0.27	0.07	0.27	0.07
Composite index score for the material capabilities _{ji}	0.24	0.08	0.26	0.12	0.27	0.12	0.34	0.12
Avg % of bus., law, and social studies students _{ijt-1}					0.34	0.61	-0.02	0.62
[Avg % of bus., law, and social studies students _{ijt-1}] × [Cum. number of conflicts _{ijt-1}]						1.57	0.45	0.16
Trend,	-0.05	0.02	(NS when incl.)	-	-	-	-	-
Constant	-6.74	0.31	-7.13	0.54	-7.14	0.54	-7.28	0.56
Empirical model	Logit-robust, 1-way cluster		Logit-robust, 1-way cluster		Logit-robust, 1-way cluster		Logit-robust, 1-way cluster	
χ^2	382.29		157.78		156.48		156.79	
R^2 (pseudo)	0.53		0.55		0.55		0.56	
Log-likelihood	-1,053.68		-133.88		-133.70		-130.64	
Log-likelihood of the null	-2,252.13		-294.69		-294.69		-294.69	
Likelihood-ratio χ^2 against the null, df	2,396.89, 13		321.63, 12		321.99, 13		328.11, 14	
Likelihood-ratio χ^2 against Base Model 2, df					0.36, 1		6.48, 2	

TABLE 4 (Continued)

	Base Model 1	Base Model 2	Model 3	Model 4
	[All]	[1999–2001]	[1999–2001]	[1999–2001]
Number of observations	20,906	2,259	2,259	2,259
Number of clusters (nation i , nation j , year) or (nation dyad)	2,479	1,505	1,505	1,505

Note: Each model has the coefficients (SEs) in its first (second) column. Chi-square test statistics have $p < .001$.

national history, societal artifacts that are a part of the collective memory, and the world in general. As hypothesized in H3, increasing the average percentage of students in tertiary education in the fields of business, law and social sciences increases the odds of observing dyadic corporate deals, dampening the negative impact of historical conflict on the incidence of cross-border deals. When the nation-dyadic average percentage of tertiary level social science, business, and law students in nation-dyads with historical conflict is greater than 25%, the average marginal effect of the moderator on the likelihood of observing nation-dyadic corporate deals is 1% ($p < .001$).²²

6 | DISCUSSION

In this paper, we posit that history between nations impacts individuals in firms and that their decisions are subject to biases and stereotypes when considering cross-border deals. When we assume, albeit implicitly, that constituents are immune to social sentiments and that they share and represent a homogenous body of political, social and economic incentives and motivations, we oversimplify and overgeneralize a complex system. This system is significantly variable across societal generations in which individuals are deliberately conditioned and socialized to conform via education. Neither micro nor macrolevel analyses alone can properly provide directionality in a positivist epistemology since neither approach adequately captures the historical context, thus ignoring the following third component: institutions. According to Zald (1993, p. 517), “organizations are not only instruments for creating products and profits. They are instruments of power and domination.” For instance, when a Japanese firm buys a U.S. or Chinese firm, the exchange cannot be solely explained in pure economic reasoning as it may be influenced by national sentiments (e.g., “winning over a mortal enemy or joining forces with a close ally”) that trigger preference-supporting decision making mechanisms.

In this paper, we incorporate the significance of historical context and contextualization to explain the incidence of aggregated cross-border deals in a nation-dyad. We theorize that national level factors influence societal generations and educational institutions and introduce biases and stereotypes into an individual's preference-supporting decision making. While several generations can coexist in a nation and share the same culture (and aspects, such as religion, language, shared history, social norms, and values), their interpretation and reactions to events vary. This variation may be associated with first-hand experience versus hearsay or recency effects fortifying a person's prior experience or may reflect the role of educational institutions in social conditioning cohorts based on national agendas. Therefore, not all corporate decisions may fit the neoclassical rational doctrine, that is, seeking legitimacy and conformity, as individuals may prefer inefficient outcomes (as in path dependent reasoning) and be socially justified in these choices. Relatedly, national identities may influence how well buyers are able to integrate foreign targets or how effectively partners collaborate.

²²Additional empirical research with a longer period of study is needed to increase the reliability of the magnitudes.

Certain aspects of our research justify further investigation. First, firms incur reputations that transcend their national identities and borders. When a firm has a superior or distinct reputation in an attribute that is highly valuable to industry insiders globally, it is possible that the national identity association of the focal firm is substituted or compensated for. Hence, some firms do not necessarily represent their nations, and given their certain set of unique features, these firms can be considered “small islands” (Collins, 1994).

Second, being under the control of national governments, educational institutions may be tools of propaganda that reflect national agendas, but this may not be the case in professional higher education. The international ranking of institutions and the global attributes of professional identities may override prejudices to a degree, especially if the education is in a third country, but it may not be strong enough to eradicate national identity. Consequently, the impact of education on biases could be a fruitful research venue. For instance, although self-confirmatory bias has little basis in national identities, this bias can be triggered when moderated by national antagonism or vary across generations. An individual may find reasons to support his/her perceptions of another if the historical context is exploited by educational institutions. Future research can explore the role of national sentiments within firms, top management teams (TMTs), corporate boards, and external constituents, such as analysts.

Third, treating firms as national players with national identities may be overly simplistic considering the existence of multinational enterprises (MNEs) operating in many countries. In large MNEs, decisions can be made at the local, regional/divisional, or corporate level, and each is variably exposed to national pressures. In addition, the composition of the TMTs may influence the firms' agendas and their relationship with individual or national agendas.

Fourth, industries vary in their degree of institutionalization, with some viewed as “critical or sensitive” for a nation. Defense, energy, communication infrastructure, and media commonly fall in this category. Nations may also give priority to industries considered economic growth engines. For instance, Singapore prioritizes the biotechnology industry and offers incentives to domestic players and foreign MNEs located in the country. In China, a designation as a “pillar” or “strategic” industry impacts FDI designation as encouraged, acceptable, or prohibited. In France and Canada, cultural industries (e.g., media) are closely protected as symbols of national identity.

Fifth, Zald's “power and domination” arguments (1993) have strong followers when certain cross-border governance choices are considered. A target firm could leverage national sentiments to resist an acquirer from a particular nation. This effect may be augmented by geographic proximity since most cross-border conflicts and wars are fought between neighbors and the aftereffects survive for centuries, and power and domination arguments could inhibit governance choices because of connotations, such as being “defeated or lost,” resonating.

Sixth, we find that while the generational distance from the last nation-dyadic historical conflict has no effect on the occurrence of corporate deals in the nation-dyad, the negative effect of cumulative historical conflict is damped. We define generations using the macrolevel time periods based on the occurrence of global sociocultural shifts, which allowed us to test for the effect of generational distribution at the macrolevel but raises microlevel questions. For instance, the executive age is a demographic characteristic commonly used as a control variable in most TMT studies (Carpenter, Geletkanycz, & Sanders, 2004). Intuitively, a manager's age is significant, but why it is significant may be context specific. For example, age is negatively related to global strategic posture (Tihanyi, Ellstrand, Daily, & Dalton, 2000), which is consistent with our findings regarding the generational impact due to historical conflicts among older executives. Potentially, the negative impact of historical conflicts is stronger among older executives in the context of global strategic posture. Similarly,

further investigations at the individual level of top management in terms of whether historical conflicts at the nation-dyadic level have an influence on foreign market entry decisions could be fruitful.

We believe that this paper is a modest but significant step towards bridging the micro- and macro-explanations of cross-border interorganizational relationships. By performing interdisciplinary and multilevel studies, we incorporate contextual and temporal conditions to explain complex strategy phenomena. This paper offers theoretical and empirical insights that could help decompose what is normally considered error variance in cross-border interorganizational research. We extend neo-institutional theory by including the individual, positing that he/she is subject to prejudice, stereotypes, and biases given his/her generation's historical exposure to antagonism and governments' socialization via educational institutions.

Indeed, opportunities for further research are abundant. For example, what occurs during periods of heightened tension between nations? Does the impact of history extend into divestment, that is, the undoing of deals already consummated? Recently, Lotte, a major South Korean MNE, withdrew from China after the government sought to punish it for leasing land to the U.S. military to station missiles that China considers a threat. Are such incidents simply triggers of deep-seated animosity or the actions of a government attempting to take advantage while encouraging nationalism? Furthermore, to what extent do regional political and economic blocs erode the impact of animosity? France and Germany in the European Union provide one example, and the Irish "backstop" in the Brexit negotiations, another. These and other questions could shed light on a phenomenon that in our opinion is germane to strategy development and implementation and, thus, teach us more about strategic behavior in general.

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APPENDIX A | ESTIMATING NATION-DYADIC TRADE AND CONFLICT

A.1 | Endogeneity of nation-dyadic trade

The occurrence of bilateral trade, measured as exports from one nation to the other nation, is nonrandom—the observed levels of the trade volume are endogenously determined. Cross-border corporate deals are likely to occur between nations with bilateral trade (Erel et al., 2012). However, simply including the observed level of bilateral trade as an explanatory variable to predict the incidence of dyadic cross-border corporate deals could absorb the same endogeneity problem. Hence, we need to account for the incidence of bilateral trade independently and utilize the expected level of nation-dyadic trade using a sample of all possible nation-dyads, including those with no trade.

Interstate trade is commonly estimated via the gravity model (Anderson & van Wincoop, 2003; Tinbergen, 1962) as presented below. The principle is that nations “pull” each other as their “masses”

increase and “push” each other as the distance between them increase. The main set of covariates includes the logged real GDPs per capita of the nations (GDP) and the logged distance between the capital cities of the nations (CAPCITYDIST). Additional research investigating the determinants of dyadic trade levels tested augmented gravity models with several additional covariates, such as colonial ties (COLONIAL) and common official language (OFFLANG) (Glick & Rose, 2002), common border (CONTIGUITY) (Anderson & van Wincoop, 2003), amity (ALLIANCE, MULTI-ALLIANCE) or enmity (Pollins, 1989), and material capability (CINC) (Mansfield & Pollins, 2003).

The level of development and relative trade activity (REL_TOTTRADE) of nations might influence their dyadic relationships. The trade levels of nations are positively correlated with their development stage (Dornbusch, 1992). On the one hand, similarity in the national trade levels might increase their likelihood of dyadic trade (Helpman & Krugman, 1989). On the other, differences in the trade levels between two nations might boost dyadic trade driven by each nation's comparative advantage as in the Ricardian and Heckscher–Ohlin–Samuelson models of international trade (Feenstra, 2004).

Conflict between nations impacts bilateral trade (Glick & Taylor, 2010). We included the sum of dyadic conflict between 1918 and 1987 weighted by the duration of each conflict as a proxy of the level of historical conflict (DURCONF87). Using this variable, we capture the effects of policies that encourage trade relations with nations as a lever to create economic dependence to increase the future cost of conflict (Stein, 2003). We expect the coefficient of this variable to be significant and positive, that is, as the level of dyadic historical conflict increases, the level of dyadic trade increases. Notably, nations could be more reluctant to engage in trade relations if there has been any historical conflict or an increased number of conflicts over time (Helpman, Melitz, & Rubinstein, 2008). We captured these effects by including a dummy variable representing historical conflict (DUMCONF, has a value of 1 if there is conflict) and a count variable of the cumulative number of conflicts during the previous year (CONFLICT).

Military expenditures encourage bilateral trade (Hewitt, 1992). The top seven countries in the early nineties with the highest level of military spending per capita produced two-thirds of all military products, suggesting that all other countries with military budgets are more likely to have bilateral trade with these nations. We constructed the following two related measures: relative ratio of military expenditure over total trade (REL_MILEXP_TRADE) and relative ratio of military personnel over total population in the nations in a dyad (REL_MILPER_POP). The squared terms of GDP, CAPCITYDIST, and REL_MILPER_POP are included to control for nonlinear effects.

Most nation-dyads (in a square matrix of nations) do not have any trade relations. Therefore, we utilize a zero-inflated negative binomial estimation; in the first stage, we estimate the probability of zero-level trade (ZEROTRADE), and in the second stage, we estimate the ordinary-least square estimate of exports from nations i to j in year t (EXPORT) conditional on the likelihood of any trade. The export volume is reported in current-year U.S. dollars (in million). Deflating the export values poses problems in a multinational dataset, and the need dissipated after adding the new time-, country-, and dyad-specific covariates to the original gravity model. Because of its multiplicative form, early applications of the gravity model were transformed into logged values such that these values could be estimated by OLS. Two problems exist using this approach. First, countries and dyads with zero trade are excluded. Second, the addition of other covariates decreases the reliability as all nonlinear effects are forced to be approximated by linear transformation. We report the results pertaining to actual exports²³ in Appendix A, Table A2 with nonlinear estimations and the z -score of exports (within-data) in Table 2 with OLS estimations as a part of the simultaneous equations estimations.

As previously mentioned, we utilize a nation-dyadic panel dataset. Therefore, we address the dependency of the observations due to common nations (i or j) and year t by either 3-way clustering of the SEs or White-Huber SEs . Specifically, we employ a zero-inflated count model (Winkelmann, 2008) to estimate the dyadic trade level and correct the SEs by clustering exporter nation i , target nation j , and year (Matyas, 1997). This estimation involves two parts. The first part estimates the process, $m(u_{ij,t})$, that generates only zero counts with a probability of $q_{ij,t}$, whereas the second process, $n(u_{ij,t})$, generates counts from a negative binomial model with a probability of $(1 - q_{ij,t})$ as follows:

$$\text{TRADE}_{ijt} = 0 \text{ with } \Pr(y_{ijt} | x_{ijt}, z_{ijt}) = q_{ijt} + (1 - q_{ijt})m(u_{ijt}), \text{ and } m(u_{ijt}) = \exp(\beta_0 + \beta' M + e_{ijt}) \quad (\text{A.1})$$

$$\text{TRADE}_{ijt} > 0 \text{ with } \Pr(y_{ijt} | x_{ijt}, z_{ijt}) = (1 - q_{ijt})n(u_{ijt}), \text{ and } n(u_{ijt}) = \exp(\beta_0 + \beta' N + v_{ijt}), \quad (\text{A.2})$$

where the vector of variable $M = [GDP_{it} \ GDP_{jt} \ CAPACITYDIST_{ij} \ DUMCONF87_{ij}]$ and the vector of variable $N = [GDP_{it} \ GDP_{jt} \ CAPACITYDIST_{ij} \ OFFLANG_{ij} \ CONTIGUITY_{ij} \ REL_TOTTRADE_{ijt-1} \ REL_MILEXP_TRADE_{ijt-1} \ REL_MILPER_POP_{ijt} \ DURCONF87_{ij} \ CONFLICT_{ijt} \ DUMCONF87_{ij} \ (GDP_{it})^2 \ (GDP_{jt})^2 \ (CAPACITYDIST_{ij})^2 \ (REL_MILPER_POP_{ijt})^2]$.

The results of this analysis are presented in Appendix A, Table A1. Model 1, which is the base model, includes the gravity model augmented by additional covariates that were recently identified and discussed above and in greater detail in Appendix A. The traditional gravity model is also replicated using our dataset, highlighting the robustness and validity of our approach to estimating bilateral trade. The probability of dyadic trade increases as GDPs, common official language (OFFLANG), and shared border (CONTIGUITY) increase. The increased gap in total trade (TOTTRADE), distance between capital cities (CAPACITYDIST), and national military expenditure scaled by total trade (REL_MILEXP_TRADE) decreases the likelihood of dyadic trade. Model 2 includes variables related to dyadic conflict (i.e., DURCONF87, CONFLICT, and DUMCONF87) and the second-order variables. The explanatory power of the first model is increased by 1%. While increases in the weighted sum of historical conflict between 1918 and 1987 (DURCONF87) increase the likelihood of dyadic trade, the increased cumulative conflict (CONFLICT) in the previous year decreases dyadic trade. This result suggests that the recency effect of dyadic conflict negatively impacts the probability of dyadic trade. A dyad with at least one historical conflict (DUMCONF87) is more likely to engage in dyadic trade if all other variables remain constant.

Model 3 is the same as Model 2, except for the clustering of errors is performed at the three levels of the first exporter nation i , target nation j , and year (Matyas, 1997). After we account for the heteroscedasticity by 3-way clustering, except for the GDPs per capita, all statistical significances are decreased due to increased SEs . Specifically, common language, the weighted sum of historical conflict, and the squared term of the logged GDP per capita of the second nation become statistically nonsignificant, suggesting that these differences rather than the absolute values of GDPs encourage trade.

Models 4 and 5 present the results of the analyses that consider the nonrandom occurrence of dyadic trade by using a zero-inflated negative binomial regression. The choice of performing a zero-inflated negative binomial regression over a negative binomial regression is justified since the coefficient of logged alpha, which is an inflation factor, is an important explanatory factor. Hence, we

²³We chose to estimate the gravity equation by using the z -scores of all continuous variables. Generating the within-year z -score did not substantially impact the results since the correlation between the following pairs of variables are higher than 90%: exports, z -score of exports (within-data), z -score of exports (within-year).

TABLE A1 Estimating the level of dyadic trade while taking into account the estimated probability of zero-trade in a dyad

Dependent variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	Dummy for Export _{ijt} (Yes = 1)		Dummy for Export _{ijt} (Yes = 1)		Dummy for Export _{ijt} (Yes = 1)		Dummy for Zero-Export _{ijt} (Yes = 1)		Dummy for Zero-Export _{ijt} (Yes = 1)	
GDP per capita _{it}	0.86	0.02 0.98	0.02 0.98	0.02 0.98	0.23	1.31	0.05	-1.66 0.10	1.31	0.25 -1.66 0.42
GDP per capita _{jt}	0.56	0.02 0.59	0.02 0.59	0.02 0.59	0.15	0.92	0.03	-2.55 0.33	0.92	0.25 -2.55 2.12
Distance between the capital cities _{ij}	-0.35	0.02 -0.31	0.02 -0.31	0.02 -0.31	0.15	-0.57	0.03	0.95 0.24	-0.57	0.16 0.95 1.31
Common language (spoken by at least 9% of both populations) _{ijt}	0.33	0.04 0.27	0.04 0.27	0.04 0.27	0.25	-14.80	0.59		-14.80	2.78
Share a common border _{ijt}	0.95	0.12 1.29	0.12 1.29	0.12 1.29	0.44	-32.15	0.49		-32.15	2.32
Ratio of total trade _{ijt-1}	-25.72	2.70 -33.71	3.59 -33.71	17.14 -54.65	7.17				-54.65	15.28
Relative ratio of military expenditure over total trade _{ijt-1}	-0.43	0.02 -0.40	0.02 -0.40	0.13 -0.41	0.24				-0.41	0.05
Relative ratio of national energy consumption over urban population _{ij}	0.07	0.04 0.08	0.04 0.08	0.04 0.08	0.29					
Cumulative conflict (weighted by duration) in 1918–1987 _{ij}	0.11	0.02 0.11	0.08	0.20	0.01				0.20	0.06
Cumulative number of conflicts _{ijt-1}	-0.15	0.01 -0.15	0.05	-0.01	0.01				-0.01	0.05
At least one conflict in 1918–1987 _{ij}	1.86	0.17 1.86	0.62			-18.63	0.58			-18.63 1.44
GDP per capita ² _{it}	0.27	0.01 0.27	0.14							
GDP per capita ² _{jt}	0.04	0.02 0.04	0.14							
Distance between the capital cities ² _{ij}	-0.01	0.01 -0.01	0.07							
Relative ratio of national energy consumption over urban population ² _{ij}	0.00	0.01 0.00	0.05							
Constant	0.06	0.07 -0.35	0.10 -0.35	0.48 1.77	0.19 -6.19	0.46	1.77	0.47 -6.19	2.62	

TABLE A1 (Continued)

Dependent variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	Dummy for Export _{ijt} (Yes = 1)	Export _{ijt}	Export _{ijt}	Dummy for Zero-Export _{ijt} (Yes = 1)	Export _{ijt}	Dummy for Zero-Export _{ijt} (Yes = 1)	Export _{ijt}			
ln(Alpha)	—	—	—	—	1.86	0.01	1.86	0.10	1.86	0.10
Empirical model										
SEs	Logit	Logit	Logit	Logit	Zero-inflated negative binomial	Zero-inflated negative binomial	Zero-inflated negative binomial	Zero-inflated negative binomial	Zero-inflated negative binomial	Zero-inflated negative binomial
χ^2	Robust	Robust	3-Way clustering	3-Way clustering	Robust	Robust	Robust	Robust	Robust	Robust
R^2	5,577.89	5,778.86	5,778.86	5,778.86	3,204.01	3,204.01	3,204.01	3,204.01	3,204.01	3,204.01
Log-likelihood	-17,076.86	-16,764.66	-16,764.66	-16,764.66	-109,991.03	-109,991.03	-109,991.03	-109,991.03	-109,991.03	-109,991.03
Log-likelihood of the null	-21,326.38	-21,326.38	-21,326.38	-21,326.38	-118,625.30	-118,625.30	-118,625.30	-118,625.30	-118,625.30	-118,625.30
Likelihood-ratio χ^2 against the null,	8,499.04, 8	9,123.44,	9,123.44,	9,123.44,	17,268.54,	17,268.54,	17,268.54,	17,268.54,	17,268.54,	17,268.54,
df	15	15	15	15	14	14	14	14	14	14
Likelihood-ratio χ^2 against 1, df	—	624.4, 7	—	—	—	—	—	—	—	—
Number of observations	33,266	33,266	33,266	33,266	35,615	35,615	35,615	35,615	35,615	35,615
Number of zero observations	—	—	—	—	12,781	12,781	12,781	12,781	12,781	12,781
Number of clusters (nation i , nation j , year)	—	—	—	—	81, 79, 12	—	—	—	82, 82, 12	—

Note: All continuous variables have been standardized to decrease multicollinearity. 3-way clustering allows the “network-adjusted” SEs to be calculated and provides a feasible substitute for very large networks, such as this, to quadratic assignment procedures available for network analysis of smaller networks using OLS based techniques. Each model has the coefficients (SEs) in its first (second) column. Chi-square test statistics have $p < .001$.

focus on the results of Model 5, which is a more conservative analysis with 3-way clustering of the *SEs*. While the logged GDPs per capita and the logged distance are meaningful explanatory variables of dyadic trade levels, only the logged GDP per capita of exporter nation i is a meaningful covariate explaining the likelihood of dyadic trade. Interestingly, after correcting for selection bias with the first-stage estimation of the probability of zero trade, having a common official language and borders decreases the dyadic trade level. These two covariates increase the likelihood of conflict, which, in turn, decreases the dyadic trade levels. The results also show that historical conflict (DURCONF87 and DUMCONF87) increases the dyadic trade levels, that is, dyads with at least one historical conflict are less likely to have zero trade levels.

A.2. | Endogeneity of nation-dyadic conflict

Dyadic conflict is as endogenously determined as bilateral trade. Consistent with the above discussion regarding trade, including observed nation-dyadic conflict as an independent variable for estimating the incidence of dyadic cross-border deals, another type of economic activity inherits the same endogeneity problem. Above, we estimated the dyadic trade level given dyadic conflict. However, according to Stein, “trade may generate economic and political conflicts, but these may not escalate to the level of militarized disputes. Trade may simultaneously increase disputes between nations yet provide them a means to resolve them...” (2003, p. 116). We estimate the probability of national dyadic conflict while considering the trade relationship in the dyad. Hence, in addition to the relative total trade volume of nations i and j , the empirical specifications of dyadic conflict include the estimated zero probability of bilateral trade (EST_ZEROTRADE), $\hat{m}(u_{ijt})$, and the estimated dyadic error term (RES_TRADE), \hat{v}_{ijt} , as proxies for the unidentified and idiosyncratic characteristics impacting dyadic trade using the above empirical model of dyadic trade.²⁴

Recent prior conflict is expected to increase the likelihood of a new conflict (Beck, Katz, & Tucker, 1998); thus, we controlled for conflict during the previous year (DUMCONF). We also controlled for the cumulative number of dyadic conflicts (CONFLICT). Interdependence between nations positively impacts their relationships (Maoz, Terris, Kuperman, & Talmud, 2007). Having at least one multinational alliance in common (MULTIALLIANCE) impacts the occurrence of dyadic conflict. Dyadic conflict may occur due to a nation's participation in multinational agreements. We control for the number of conflicts in which each nation was perceived as antagonistic (ANTOG) (excluding dyadic conflict) and weighted the sum of historical conflict (DURCONF). We also included dyadic covariates, such as CAPACITYDIST and its second-order effect, CONTIGUITY, OFFLANG, and COLONIAL. The power ratio has been identified as a valid construct in predicting conflict (Russett, 2003). We measure the dyadic power ratio in military spending as the relative ratio of military expenditures to total trade (REL_MILEXP_TRADE). We expect that the presence of within-dyad conflict during the previous year (CRISIS) is likely to increase the odds of conflict during the current year.

We estimate the probability of dyadic conflict using a rare-event logistical regression (King & Zeng, 2001) because as in bilateral trade, the occurrence of conflict is rare among all possible nation-dyads. Similar to the above approach, we implemented a 3-way clustering of the *SEs* and estimate the following specification:

²⁴The estimated values of EST_TRADE and RES_TRADE are obtained from the specification shown in Appendix A, Table A1, Model 5.

TABLE A2 Estimating the probability of dyadic conflict using rare-event logistic regression

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
GDP per capita _{it}	6.28	0.43	6.27	0.43	3.94	0.47
GDP per capita _{jt}	0.64	0.41	0.66	0.41	0.86	0.32
Distance between the capital cities _{ij}	0.75	0.64	0.75	0.64	0.71	0.62
Common language (spoken by at least 9% of both populations) _{ijt}	1.06	0.42	1.04	0.42	0.52	0.35
Share a common border _{ijt}	0.30	0.31	0.30	0.31	0.01	0.30
Ratio of total trade _{ijt-1}	0.12	0.09	0.12	0.09	0.30	0.09
Relative logged ratio of military expenditure over total trade _{ijt-1}	-0.47	0.25	-0.48	0.25	-0.40	0.25
Relative ratio of military personnel over total population _{ijt}	-0.04	0.06	-0.04	0.06	-0.15	0.07
Cumulative conflict (weighted by duration) in 1918–1987 _{ij}		0.03	0.01		0.04	0.02
Cumulative number of conflicts _{ijt-1}			0.03	0.03	0.03	0.03
At least one conflict in 1918–1987 _{ij}			-0.01	0.03	-0.02	0.03
Number of conflicts nation perceived as the antagonist _{tj-1}			1.00	0.37	1.03	0.37
Number of conflicts nation perceived as the antagonist _{tj-1}			2.74	0.45	2.69	0.45
Estimated zero-probability of dyadic trade _{ijt}					-1.15	0.30
Estimated residual trade _{i-j,t-1}	-7.56	0.44	-7.58	0.44	-8.21	0.34
Constant	Logit	Logit	Logit	Logit	Logit	Logit
Empirical model						
SEs						
χ^2	890.15	901.94	1-Way cluster	1-Way cluster	1-Way cluster	1-Way cluster
R^2	0.40	0.40				
Log-likelihood	-354.63	-354.47	-313.06	-312.94	-288.26	-288.26
Log-likelihood of the null	-586.88	-586.88	-586.88	-586.88	-555.57	-555.57
Likelihood-ratio χ^2 against the null, df	464.5, 8	464.83, 9	547.64, 12	547.88, 13	534.63, 14	534.63, 14
Likelihood-ratio χ^2 against 1, df	0.33, 1	83.14, 4	83.39, 5	132.75, 6		

TABLE A2 (Continued)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Number of observations	38,750	38,750	38,750	38,750	35,615	35,615
Number of zero observations (nation dyad)	3,548	3,548	3,548	3,548	3,391	—
Number of clusters (nation <i>i</i> , nation <i>j</i> , year)	—	—	—	—	—	78,78,13

Note: All continuous variables have been standardized to decrease multicollinearity. Each model has the coefficients (SEs) in its first (second) column. 3-way clustering allows the network-adjusted SEs to be calculated and provides a feasible substitute for very large networks, such as this, to quadratic assignment procedures available for network analysis of smaller networks using OLS based techniques. We obtain the estimated values related to trade from Model 5 in Appendix A, Table A1. Chi-square test statistics have $p < .001$, except for Model 2's is $p > .10$.

$$\text{DUMCONF}_{ijt} = \beta_0 + \beta_1 C + \beta_1 \hat{u}_{ijt} + \beta_2 \hat{v}_{ijt} + c_{ijt}, \quad (\text{A.3})$$

where the vector of variable $\mathbf{C} = [\text{COMFLICT}_{ijt-1} \text{ MULTINATIONAL}_{ijt} \text{ COLONIAL}_{ijt} \text{ CONTIGUITY}_{ijt} \text{ OFFLANG}_{ijt} \text{ CAPCITYDIST}_{ijt} \text{ CAPCITYDIST}_{ijt}^2 \text{ REL_MILEXP TRADE}_{ijt-1} \text{ CONFLICT}_{ijt-1} \text{ DURCONF87}_{ijt} \text{ ANTOG}_{ijt-1} \text{ ANTOG}_{ijt-1}]$. Notably, the estimated error term (RES_CONFLICT), \hat{c}_{ijt} , represents the unaccounted for and idiosyncratic nation-dyadic characteristics, representing an unpredictable portion of the conflict-proneness of the nation-dyad. Therefore, we use (RES_CONFLICT), \hat{c}_{ijt} , as a measure of the unpredictability of dyadic conflicts to test for H1b. This approach has been utilized when the identification and measurement of instrumental variables are not feasible (Arikan & Capron, 2010).

The results of this analysis are presented in Appendix A, Table A2. Next, we focus on the results presented in Model 6. The odds of dyadic conflict increase if the countries in the dyad had a conflict during the previous year, have at least one multinational interstate alliance, and share a common border. Interestingly, **CONTIGUITY** increases the odds of dyadic conflict, which is consistent with the earlier finding that having a common border reduces the trade level. In summary, neighbor states have a higher risk of conflict than trade. While the historical conflict level (**DURCONF87**) increases dyadic trade, it lowers the odds of dyadic conflict. Both predicted values of **EST_ZERO TRADE** and **RES_TRADE** are relevant in predicting conflict with opposite signs. Holding all other variables constant, trade deters conflict as (a) the difference in the total trade volumes (**REL_TOTTRADE**) of any given two nations increases or (b) the (unrealized) potential for a larger dyadic imbalance in exports (**RES_TRADE**) increases. As demonstrated, trade and conflict determine each other, and both dyadic relationships are endogenously determined by dyadic covariates. Accordingly, we estimate the simultaneous equations model of trade and conflict.

APPENDIX B

TABLE B1 List of databases

Databases used	Reference for more detail	Website
Securities Data Corporation data (SDC) provided by Thompson Financial Services (paid subscription) includes firm level alliances, joint ventures, and mergers and acquisitions during 1988–2003.		
For national trade, capabilities, and dist. Dataset construction, we used the Correlates of War Project (COW), National Material Capabilities (NMC) data for the nations' material capabilities, which included both variables for power and capabilities as national attributes (1816–2001)	Bayer et al. (2005)	http://www.correlatesofwar.org/ data-sets/ national-material-capabilities/ nmc-codebook-v5-1
GeoDist database, available from CEpii, includes exhaustive set of geographic and	Mayer and Zignago (2011)	http://www.cepii.fr/pdf_pub/wp/ 2011/wp2011-25.pdf

TABLE B1 (Continued)

Databases used	Reference for more detail	Website
bilateral variables used in the gravity models (Anderson & van Wincoop, 2003; Sousa et al., 2012) such as different measures of bilateral distances (in kilometers) available for the majority of the nation-dyads (225 nations), colonial relationships, common language, and ethnicity.		
Database for bilateral international trade and GDP (1948–2000)	Gleditsch (2002)	http://ksgleditsch.com/extradegdp.html
For national (dyadic) conflict dataset construction, we used the International Crisis Behavior Project (ICB2) system level data for conflicts (1918–2001) period, on and 1,228 crisis*dyad*year observations.	Brecher and Wilkenfeld (2000)	https://web.stanford.edu/group/ssds/dewidocs/icpsr9286/cb9286fp.pdf
These databases on interstate conflict are used to complement dyadic conflict ICB2: Correlates of War data (COW), Conflict and Peace Data Bank (COPDAB) (1948–1978) period and World Event Interaction Survey (WEIS)	Azar (1980), Gleditsch and Ward (1999), McClelland (1984)	http://www.icb.umd.edu
Correlates of War Formal Interstate Alliance Data for state level national alliances (1816–2000).	Gibler and Sarkees (2004)	https://data.world/cow/formal-alliances
Global Education Database and constructed a continuous variable, <i>the combined percentage of tertiary level social sciences, business and law students of nations i and j in the previous year starting with 1999</i> . Education data was obtained from the Global Education Database, compiled from the UNESCO Institute for Statistics (1975–present) and the Demographic and Health Surveys (DHS) for tertiary education in social sciences, business and law.		http://data.uis.unesco.org/Index.aspx?DataSetCode=edulit_ds