



Competing globally, allying locally: Alliances between global rivals and host-country factors

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Abstract

An emerging literature highlights the relationship between competitive intensity and the likelihood that two rival firms will form an alliance. Placing this argument in an international context, we first suggest that the global competitive intensity between two rival multinationals positively affects the likelihood that they will ally in any host country. Additionally, we highlight how a number of host-country contextual factors moderate the relationship between global competitive intensity and alliance formation in a given host country. We test our hypotheses with a sample of 13 global automobile companies operating in 27 countries, and the results largely support our predictions.

Journal of International Business Studies (2013), **44**, 117–137. doi:10.1057/jibs.2012.37

Keywords: research methods; incorporating country variables; global competition; alliances and joint ventures

INTRODUCTION

Competition and cooperation may appear paradoxical, but they are often inextricably linked. Competitive pressures between firms frequently induce cooperative behavior (Park & Zhou, 2005), and several studies have predicted that firms might react to intensifying rivalry by partnering with their direct rivals (e.g., Ang, 2008; Garcia-Pont & Nohria, 2002; Silverman & Baum, 2002). In the global arena, too, multinational enterprises (MNEs) often initiate alliances with some of their most formidable rivals in foreign markets (Hamel, Doz, & Prahalad, 1989). For example, Yahoo and Google, fierce competitors globally, formed an alliance expressly for the Japanese market. Similarly, Suzuki and Volkswagen formed alliances focused on specific emerging markets such as India and China.

Given the rise in partnerships among rivals, many studies have examined the interplay between competition and cooperation (Ang, 2008; Gimeno, 2004; Luo, Shenkar, & Gurnani, 2008; Madhavan, Gnyawali, & He, 2004; Park & Zhou, 2005; Silverman & Baum, 2002; Tong & Reuer, 2010). It is reasoned that the quest for market power through increased market concentration and the need for complementary resources controlled by adversaries are possible reasons behind alliance formation between rivals (Garrette, Castañer, & Dussauge, 2009; Khanna, Gulati, & Nohria, 1998; Silverman & Baum, 2002). This reasoning, nonetheless, is generic to all businesses and industries, whether global or

Received: 23 November 2010
Revised: 5 December 2012
Accepted: 12 December 2012
Online publication date: 7 February 2013

otherwise. Not surprisingly, the few studies that have examined the competition–cooperation relationship in global settings find that the proclivity of and reasons for global rivals to form alliances are similar to those of their domestic counterparts (see, e.g., Gimeno, 2004; Yu & Cannella, 2008).

In contrast to domestic settings, in the international business domain alliances among global rivals are often put in place in specific countries that have unique industry structures and institutional environments. These environments can influence the interplay between global rivalry among MNEs, and the likelihood of their engaging in alliances. Yet the nature of this influence specific to the competition–cooperation nexus in international markets remains to be systematically understood. Our study is based on the belief that the understanding of how various host-country contextual factors influence MNEs’ decisions to form alliances in specific international markets is a critical component of global strategy, and an essential aspect of managing modern MNEs.

Following Nielsen (2011), we view alliances between MNEs as nested within multiple contextual environments of the host country. While we recognize global rivalry as an important driver of alliance formation, in this study we focus explicitly on how host-country factors at multiple contextual levels (namely, the MNE dyad, industry, and institutional levels) moderate the relationship between the rivalry among global competitors and their likelihood of forming alliances in a given host country. We posit that each of these contextual factors influences the global rivalry–alliance formation relationship by affecting how rivals perceive common benefits from allying (Khanna et al., 1998). Consistent with prior research, we define alliances as formal inter-firm agreements involving the exchange, sharing, or co-development of products, technologies, or services (Gulati, 1998).¹ Our study contributes to the existing literature in the following ways. First, we improve the understanding of strategic alliances in the international arena by circumscribing our attention to a special and important subset of alliances – those between two global rivals and executed in host countries that are foreign to both rivals. We chose not to focus on alliances between global companies and local firms (although we do control for these alliances in our empirical models), because such international alliances have already been widely examined by prior studies (Gomes-Casseres, 1989; Newman, 1992). Second, although alliances are inherently multilevel

in nature, existing research has mostly studied alliances at a single level of analysis (Nielsen, 2011). In response to the call for greater attention to the role of multilevel contexts in management research (Bamberger, 2008; Nielsen, 2011), our study examines the contextual effect of a number of host-country factors (namely, the mutual importance of the host country, the competitive intensity in the host country, host-government restrictions, and relative cultural distance from the host country) across different levels of analysis on alliance formation. Such an approach has the potential to better capture the complexity of MNE alliances and offer greater predictive power and managerial relevance (Hitt, Beamish, Jackson, & Mathieu, 2007; Tong & Reuer, 2010). Finally, our study also “globalizes” competition–cooperation research, which has focused largely on the interplay between competition and cooperation only in domestic settings. Our study extends this line of work by validating the expectation that multinational rivals are also prominent alliance partners.

THEORY DEVELOPMENT

The focus of our inquiry is twofold:

- (1) How does global rivalry drive MNEs to form alliances?
- (2) How do host-country contextual factors moderate that relationship?

Figure 1 depicts our research framework.

The Rivalry–Alliance Nexus

Evidence suggests that rival alliances are riskier than vertical alliances (Bleeke & Ernst, 1992; Kogut, 1989; Park & Russo, 1996). Typically, rivals lack goal alignment, and have strong incentives to behave opportunistically to gain private benefits. Thus rivals are likely to form an alliance only when each potential partner needs the other to advance its individual interest. Also, both rivals must perceive disadvantages in seeking private benefits at the expense of common benefits (Khanna et al., 1998).

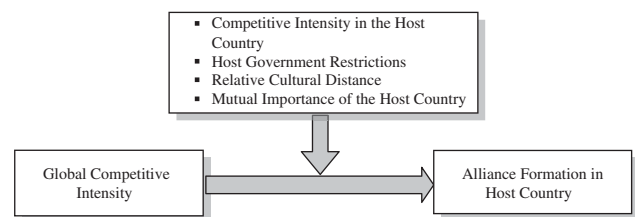


Figure 1 Rival alliance formation in a host country.

The common benefits that may draw two rivals together can be derived from two sources: enhanced market power, and access to complementary resources.

Industrial organization (IO) economists have emphasized that rivals collude to increase their market power and profitability (Scherer, 1980). Some oligopoly models, for example, show that when rivals have an acute awareness of their mutual interdependence, they are more likely to collude and reduce rivalry against each other (Bernheim & Whinston, 1990; Edwards, 1955; Knickerbocker, 1973). Rooted in such insights from IO economics, Porter (1980) and a few other strategy scholars contend that rivals can indeed take actions to mold their industry structures so as to yield higher performance outcomes (Yu, Subramaniam, & Cannella, 2009). As one such action, alliances have been shown to help rivals increase the level of market concentration, dampen the intensity of rivalry (e.g., Tong & Reuer, 2010; Vernon, 1983), and raise barriers to entry (Vickers, 1985). Rivals jockeying for market power may even enter into “alliance races” as they each strive to improve or sustain their competitive position (Silverman & Baum, 2002). Such races are characterized by preemption of rivals through forming alliances ahead of them, or by blocking rivals from forming alliances with key partners (Gomes-Casseres, 1996; Gulati, 1995; Nohria & Garcia-Pont, 1991).

Another reason why rivals choose to ally comes from the resource-based view. Alliances provide access to complementary resources that are uniquely available only from other rivals (Das & Teng, 1998, 2000). Rivals are strong candidates in the search for complementary resources, as they naturally hold complementary competitive positions (Porter, 1980). Doz and Hamel (1998) observed that, as a result, it is the complementarity of strengths and assets between competitors that attracts them to one another as alliance partners. Similarly, Gulati (1995) found that firms occupying complementary niches have higher likelihoods of alliance formation. The competitive proximity of close rivals also makes them particularly familiar with their respective competencies, and thus better placed to absorb the complementary resources they seek from one another (Argyris & Schön, 1978; Dosi, 1988; Fiol & Lyles, 1985; Moingeon & Edmondson, 1996). Supportive evidence comes from Dussauge, Garrette, and Mitchell (2000), who found that competing firms are more likely to create a context that favors

inter-partner learning, and hence are more likely to form alliances.

In sum, competitive intensity impels rivals to form alliances either for enhancing market power or for gaining access to complementary resources. Hence we expect that the higher the global rivalry between two MNEs, the more likely they are to form an alliance.

Hypothesis 1: The greater the global competitive intensity between two MNEs (referred to henceforth as the focal dyad), the higher is the likelihood of their alliance formation in any host country.

The Contextual Effects of Host-Country Factors

Several scholars have appealed for the greater consideration of context in management theory (Cappelli & Scherer, 1991; Johns, 2006; Klein, Tosi, & Cannella, 1999; Roberts, Hulin, & Rousseau, 1978). For example, Roberts et al. (1978: 6) called on organizational researchers to concentrate their efforts on observing and explaining behavior within particular, specified contexts. More recently, Johns encouraged scholars to examine those contexts that offer “situational opportunities and constraints that affect the occurrence and meaning of organizational behavior as well as functional relationships between variables” (Johns, 2006: 386). In response to these calls for the “generation and testing of context theories of management” (Bamberger, 2008: 839), our study explores how and why unique host-country contexts influence the strategic actions of MNEs, such as their alliance formations.

As noted by Nielsen (2011) and a few other scholars (e.g., Hagedoorn, 2006), alliances generally result from the simultaneous behaviors of multiple actors interacting within multiple contexts. To systematically characterize the contextual environments within which an MNE alliance is embedded, we adopted the “strategy tripod” perspective. According to this perspective, the strategic choices of MNEs “are not only shaped by industry conditions and firm capabilities, but are also a reflection of the formal and informal constraints of a particular institutional framework that managers confront” (Peng, Wang, & Jiang, 2008: 923). The strategy tripod perspective indeed is in line with other well-established frameworks, such as the eclectic paradigm put forward by Dunning (1980). Building on the strategy tripod perspective, we

categorized the host-country contextual environments in which MNE alliances are nested into three levels: industry level, MNE dyad level, and institutional level. Based on these three levels, we identified four key contextual factors:

- (1) the mutual importance of the host country (defined as the degree of prominence of the host country to the two multinational rivals);
- (2) the competitive intensity in the host country (defined as the level of competitive action exchanges between other multinational rivals in the host country);
- (3) host-government restrictions (defined as the rules and regulations imposed on the local operations of multinational firms in the host country); and
- (4) relative cultural distance from the host country (defined as the asymmetric cultural distance of the two multinational rivals from the host country).

We selected these factors, first, because they are global by nature. Second, and equally important, is the fact that they are likely to govern the impact of global rivalry on alliance formation primarily because they affect the perceived common benefits that the two prospective partners can derive from allying, that is, overcoming resource constraints and improving market power. Below we explain the contextual effects of these four factors in more detail.

Competitive intensity in the host country (industry-level contingency)

IO economists have long observed strong associations between the structural characteristics of an industry and a variety of firm strategies. Whereas many early studies in IO economics analyzed global industries as single units with overarching global attributes, studies in international business have highlighted that, even within a single global industry, characteristics can vary widely across countries. Such differences constitute an impactful dimension of the contextual environment in the host country, which will influence an array of MNE actions, including alliances (Yu et al., 2009).

Many industry characteristics affect the likelihood of alliance formation (Dess & Beard, 1984; Isobe, Makino, & Montgomery, 2000; Luo, 2002). We focus on one such characteristic, which is how highly contested a host market is by other global rivals (excluding the focal dyad). We expect that the incentive for allying driven by global rivalry is

likely to be amplified in those host markets that are highly competitive. Gimeno (2004) suggested that common threats could align the incentives of rivals, and motivate them to ally for common benefits. In a highly contested host-country market, the perceived common benefits for two multinational rivals to cooperate will further increase, because doing so can enhance market power for both prospective partners.

For example, Ford and General Motors are among the fiercest rivals worldwide. However, when they entered China, the market was already hotly contested. Other global rivals, including Toyota, Volkswagen, and Honda, were competing aggressively on price, product features, and customer services. To improve their respective competitive positions and further strengthen their existing cooperative relationship, General Motors and Ford immediately joined forces to share suppliers and distribution networks, as well as research new technology in China. While the global rivalry between Ford and General Motors provides the overarching motivation for their cooperation, the intense competition in China further aligned their interests, as they sought to match and neutralize other global rivals' advantages (Sedgwick, 1997). Hence:

Hypothesis 2: The competitive intensity in a host country will positively moderate (strengthen) the relationship between a focal dyad's global competitive intensity and the likelihood of their alliance formation in that host country.

Host government restrictions (institutional-level contingency)

In addition to industry contexts, alliances are also located within specific institutional environments (Jandik & Kali, 2009; Luo, 2002; Makino & Delios, 1996). As a result, a different approach to capture host-country contextual effects comes from institutional theory, which, according to Doz and Prahalad (1991: 150), provides the "most helpful theoretical base to researchers" in multinational management. One of the underpinnings of institutional theory is that social action is both constrained and enabled by institutions (Berger & Luckmann, 1966; North, 1990; Powell & DiMaggio, 1991; Scott, 2002). Within the global arena, research has shown that the actions of MNEs are influenced by a multitude of institutional pressures arising from distinctive cultural heritages and

regulatory systems that are unique to each host country (Biggart & Guillén, 1999; Guler, Guillén, & Macpherson, 2002; Henisz & Delios, 2001; Khanna & Palepu, 2000; Kostova & Roth, 2002; Xu & Shenkar, 2002).

Among the multiple institutional spheres confronted by MNEs, we choose to focus on the regulative facet, and how this facet moderates the relationship between global rivalry and alliance formation. Institutional theory highlights the importance of the regulative environment in shaping firm behavior (North, 1990; Scott, 2001). Research has shown that government regulation affects MNEs' entry mode (Henisz & Delios, 2001), location choice (Delios & Beamish, 1999), internationalization process (Loree & Guisinger, 1995), strategy and performance (Gomes-Casseres, 1990; Rugman & Verbeke, 1998). Usually, host governments put restrictions on MNEs to protect local firms and offer them asymmetric advantages. Examples of such restrictions are abundant in the global auto industry. For instance, in the 1990s, the Brazilian government doubled the import tax for four leading foreign auto-makers when its domestic industry was facing problems. In 2000, the central bank of China stopped a loan scheme that was created to help the sales of foreign automakers, in response to an appeal from domestic automakers. These government regulations directly increase the costs and risks of conducting transactions for MNEs (Davidson, 1980; Henisz & Delios, 2001; Loree & Guisinger, 1995; Yu & Cannella, 2007). To overcome such challenges, a multinational firm may have to seek complementary resources from a partner. However, the source of complementary strengths to overcome host-government restrictions is unlikely to be found in another multinational firm, which may also face the same set of adversities. In other words, a multinational firm may foresee no particular advantage in allying with another multinational, firm as the regulatory restrictions are stacked equally against both of them.²

Furthermore, as noted above, alliances between rivals are inherently hazardous, because rivals lack goal alignment (Khanna et al., 1998; Kogut, 1988). Host-government restrictions may push global rivals into competing more intensively as they struggle to overcome the adversities (Yu et al., 2009). As a result, the challenges associated with restrictive government regulation in an already tempestuous relationship may further complicate the execution of rival alliances, by tempting

prospective partners to pursue their own individual interests rather than mutual interests. To conclude, if global rivals do not have much to gain through complementary resources, but have a good deal to lose, their desire to form alliances propelled by global rivalry will be attenuated.

Hypothesis 3: The extent of governmental restrictions in a host country will negatively moderate (weaken) the relationship between a focal dyad's global competitive intensity and the likelihood that they will form an alliance in that host country.

Relative cultural distance from the host country (MNE dyad level contingency)

Finally, as an inter-organizational phenomenon, alliances are also embedded within inter-organizational relationships. The resource-based view of the firm suggests that resource bundles and capabilities are heterogeneously distributed across firms, and that each firm is idiosyncratic because of the different resources it has acquired, and the various routines it has developed to manage them (Barney, 1991; Peteraf, 1993; Teece, Pisano, & Shuen, 1997). In the global arena, rivals from different home countries acquire and accumulate idiosyncratic resource bundles, which can result in asymmetric competitive positions across different host markets. Essentially, the resource-based view indicates that the analysis of rival alliances should focus on the MNE dyad level, as each multinational firm will experience different degrees of competitive tension and cooperative propulsion, from each of its global competitors (Chen, 1996).

As one MNE dyad level construct, relative cultural distance is indeed a contextual factor that spans the levels of firm dyad and home-country institution. Culture is one defining feature of a country's institutional environment (Scott, 2001). A country's culture is the bedrock on which its fundamental business practices are based. The basic premises behind many business decisions may be uniquely different, country by country, simply because of underlying differences in cultural attributes (McKendrick, 2001). Differences in national cultures also result in the accumulation of idiosyncratic resource bases, for example through different organizational and administrative practices. Therefore it is likely that the more culturally distant two countries are, the more heterogeneous will be the resources that firms from these two

countries accumulate over time (Kogut & Singh, 1988). Thus, similar to host-government restrictions, cultural differences not only pose significant challenges to multinational firms (Yu et al., 2009), but also prod them to look for complementary resources that can help them overcome such challenges.

When one prospective partner is culturally closer to a given host country than the other, a situation captured by relative cultural distance in this study, the level of resource complementarities is increased, and along with it the motivation for the two partners to form an alliance. For instance, if South Korea is the host country, Renault (a French company) is more likely to ally with Nissan (a Japanese company) than with Peugeot (another French company), given the same intensity of global rivalry between Renault-Nissan and Renault-Peugeot. This is because of the higher *relative* cultural distance of the Renault-Nissan dyad from South Korea compared with the Renault-Peugeot dyad. Assuming the underlying motivation of Renault and Nissan to ally derives from their global rivalry, Nissan's relative closeness to South Korea, its better understanding of the Korean market, and its resources that may help Renault attract Korean customers will offer additional benefits for the alliance, other things being equal (Hamel et al., 1989).³ As a result, the likelihood of allying between Nissan and Renault driven by their global rivalry is likely to be amplified in South Korea, which is culturally close to Nissan and culturally distant from Renault. Hence:

Hypothesis 4: The relative cultural distance between a focal dyad and a given host country will further strengthen the relationship between their global competitive intensity, and the likelihood that they will form an alliance in that host country.

One may argue that the above logic explains the benefits only to one partner. For instance, in the previous example, it seems that only Renault benefits from the alliance, as Nissan may not learn much about the Korean market from Renault. It is important to note, however, that a reduction in rivalry will benefit both partners (Yu & Cannella, 2008). Moreover, if Renault gains more from the alliance than Nissan, Nissan could extract rents from the relationship either through more favorable contractual agreements or by exploiting Renault's knowledge, which may help Nissan

strengthen its competitiveness in other product/and or geographic markets.

Mutual importance of the host country (MNE dyad level contingency)

The mutual importance of the host country captures the fact that the market power and competitive position of each competitor can vary across countries. As a result, the motivation for each pair of competitors to compete/cooperate in each host country may be affected by the importance of each market in their overall strategic portfolio (Chen, 1996; Gimeno, 1999). When competing in a host country that is mutually important to both rivals in a dyad, the rivals will be more likely to pay special attention to how they are positioned, and therefore be more motivated to alter the structural forces in that market (through means such as alliances) to strengthen or reinforce their market power. Additionally, firms are more likely to devote more resources to their important markets. As a result, they will have more incentives to assimilate complementary resources (through means such as alliances) from other firms to strengthen their competitive positions in such markets. Hence we expect that the motivation to ally because of global rivalry is likely to be amplified in a host country that is mutually important to both prospective partners.

Furthermore, competitive dynamics research provides empirical evidence to substantiate the motivational effect of market importance on firm strategic behavior. It has been shown that a firm tends to be more motivated to initiate actions in markets it considers critical, where failure to act could lead to the erosion and atrophy of a valuable position, or result in the loss of a promising opportunity (Ferrier, Smith, & Grimm, 1999). Thus, from a competitive point of view, the high interest surrounding strategically vital markets provides greater common benefits for two multinational rivals to form partnerships in their defense against other competitors. In sum, we expect that the mutual importance of a given host country will magnify the effect of global rivalry on alliance formation in that country.

Hypothesis 5: The mutual importance of a host country to a focal dyad will positively moderate (strengthen) the relationship between their global competitive intensity and the likelihood of their alliance formation in that host country.

METHODS

Data

We tested our hypotheses using data describing the alliances, rivalry, and other organizational characteristics of 13 major global automakers operating in 27 countries from 1 January 1995 to 30 December 2001. The prevalence of alliances and the heterogeneity in dyadic rivalry engagements make this industry an appropriate one for our study. The global auto industry is known for simultaneous competitive and cooperative relationships between the major players (Gomes-Casseres, 1994; Hamel et al., 1989). The 13 sample firms are Daimler-Chrysler, Fiat, Ford, General Motors, Honda, Hyundai, Mitsubishi, Nissan, PSA Peugeot Citroen, Renault, Suzuki, Toyota, and Volkswagen.⁴ Between 1995 and 2001, our sample firms accounted for between 76 and 88% of world motor vehicle production. The 27 countries in our sample together represent approximately 99% of world motor vehicle sales during the study period. In addition to the US and Japan, 13 EU countries are represented in our sample: Austria, Belgium, France, Germany, Ireland, Italy, the Netherlands, Poland, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. The developing countries in the sample are Argentina, Brazil, China, India, Indonesia, Korea, the Philippines, Malaysia, Mexico, Russia, and Thailand.

Measures

Alliance formation

To test Hypothesis 1, we selected the dyad-year as our unit of analysis. Any N objects can be used to create $N \times (N-1)/2$ non-directional dyads. In our case, the 13 global automakers yielded 78 dyads ($13 \times 12/2$). To measure alliance formation we summed the alliances formed by each dyad each year across the 27 countries. To test Hypotheses 2–5, we selected the dyad-country-year as our unit of analysis, and analyzed the emergence of cooperative agreements between dyad members in 27 countries. To gauge alliance formation, we summed the alliances formed by each dyad, each year, in each host country. To be clear, our sample included one observation per dyad-country-year, including only those countries where both dyad partners had operations. The auto industry is highly stable regarding entry or exit. We had no entries or exits of any of our 13 automakers in any of our 27 countries during the sample period (1995–2001).

Data on alliances between global automakers were obtained from the Securities Data Corporation (SDC) database. SDC draws alliance information from Securities and Exchange Commission (SEC) filings, the SEC's international counterparts, trade publications, wires, and news sources (see Schilling, 2009, for more information regarding the advantages and disadvantages of using this data set). Consistent with prior research (Gimeno, 2004; Silverman & Baum, 2002), we interpreted the term "alliance" broadly, to include cooperative relationships ranging from manufacturing and marketing cooperation to equity-based strategic alliances involving joint operations and revenue pooling. To check the overall accuracy and comprehensiveness of SDC as a data source for alliances, we also used structured content analysis of *Automotive News* articles to identify cooperative agreements between our sample firms (Jauch, Osborn, & Martin, 1980; Miller & Friesen, 1977). To accomplish this, one author first read all the articles published by *Automotive News* in 1995 and generated a list of keywords (e.g., "cooperation," "collaboration," "alliances") that were likely to indicate cooperative events. We then searched all *Automotive News* articles between 1995 and 2001 to identify those that mentioned one or more of our sample firms and included at least one keyword. We read each identified article to glean information about the cooperation events reported. We found the details of the cooperative events reported by SDC to be confirmed by *Automotive News* articles in every case. Additionally, we note that none of our sample alliances is global in scope. Rather, all are limited to specific countries, and the overwhelming majority (more than 70%) are limited to a single country.

Global competitive intensity

Data on competitive actions between our sample firms were gathered from *Automotive News*. We used structured content analysis to identify competitive actions (Jauch et al., 1980, Miller & Friesen, 1977). First, one author read all the articles published by *Automotive News* in 1995 and generated a list of keywords (e.g., "rivalry," "competition," "war") that were likely to indicate competitive events. We then searched all *Automotive News* articles between 1995 and 2001 to identify those that mentioned one or more of our sample firms and included at least one keyword from our list. This step yielded 6648 news articles. We then carefully read each article and identified 2207 dyad-level competitive actions and the dates on which they occurred.

To give some examples of the competitive actions we identified, in 2000, in response to General Motors' (GM) loyalty program, Ford offered pickup owners a \$500 discount coupon to buy a 1999 Ford F-150 or F-250. In 1999 Honda launched the Insight, a gasoline-electronic two-seat coupe, in Europe to compete head-to-head with the Ford Puma and Opel Tigra. Among our sample firms (during our study window of 1995–2001), globally, Ford and GM comprise the most competitive dyad, followed by GM–Volkswagen. In terms of host-country markets, the US is the most contested host country, followed by France and Germany.

We screened the data to remove duplicate reports of competitive actions. To check the overall comprehensiveness of *Automotive News* as a data source for competitive actions, we drew 30 competitive actions at random and searched for them in other major business publications. We found 26 of the 30 actions (87%) in other publications, and confirmed the details reported by *Automotive News* in every case. To check the reliability of our coding of competitive actions, we asked one academic expert in strategic management to separately re-code a random sample of individual firm actions (100). The consistency rate between his coding and our coding is above 90% (Cohen's kappa was 0.916).

The independent variable *global competitive intensity* was the sum of competitive actions initiated by either dyad member against the other during the previous year across the 27 countries.

Competitive intensity in the host country

Competitive intensity in the host country was measured as the sum of actions that outside-dyad rivals initiated against one another during the previous year in the focal host country.

Host-government restrictions

We assessed the degree of regulatory restrictions on MNEs in the focal host country using the Executive Opinion Survey conducted each year by the World Economic Forum. Four variables from the survey were chosen to measure MNE managers' perceptions of host-government restrictions on their entry decisions and daily operations.

The first variable – access to capital markets – is the average response of executives to the statement “Local capital markets are equally accessible to domestic and foreign companies.” The second variable – ease of establishing cross-border ventures – is the average response to the statement “Cross-border

ventures can be negotiated with foreign partners without government imposed restraint.” The third variable – level of red tape – is the average response to the statement “Senior management spends very little of its time dealing with government bureaucracy.” The last variable – level of corruption – is the average response to the statement “Irregular payments connected with import and export permits, business licenses, exchange controls, tax assessments, police protection or loan applications are not common.” We reverse-coded the above variables to reflect the MNE managers' perceived restrictions on their businesses. We then factor-analyzed these four variables (annually) and created a composite measure for host-country restrictions. A reasonably high Cronbach's α (0.88) confirms the internal reliability of our regulatory restrictions measure. This measure was updated annually, and for each observation reflects the results of the previous year's survey.

Relative cultural distance from the host country

We gauged cultural distance between each dyad partner's home country and the focal host country using four dimensions of the Hofstede index: power distance, uncertainty avoidance, masculinity/femininity, and individualism (Hofstede, 1980). We had to drop long-term orientation because of too many missing values. We combined the four dimensions into a Euclidean distance measure (the square root of the sum of the squares of the four distances). To capture the asymmetric home–host cultural distance between two dyad members (relative cultural distance), we first calculated the ratio of the smaller home–host cultural distance of one dyad member to the larger home–host cultural distance of the other. Then we subtracted this number from 1. As a result, the value of our relative cultural distance variable ranges from 0 to 1, with higher values representing larger relative cultural distances. As cultural distance is time-invariant, this measure is a constant for a given dyad-country.

Mutual importance of the host country

To capture the dependence of each dyad member on the focal host country, we calculated the proportion of each dyad member's sales that occurred in the host country, and used the average to measure the importance of the host country to the dyad during the previous year.

Control variables

To rule out plausible alternative explanations that might influence the likelihood of alliance formation in host countries, we controlled for several global-level and local-level characteristics. First, at the global level, we controlled for the degree of *multimarket contact* between the two dyad members worldwide, using the dyadic measure developed by Baum and Korn (1996). This measure takes into account the strategic significance (centrality) of each country the two firms compete in (the proportion of each firm's total sales represented by each country). The measure was updated annually, and lagged to reflect the multimarket contact during the previous year.

Second, we controlled for *shared threats* that the two dyad members faced worldwide. To measure this construct, we identified which other sample firms tended to attack each dyad member the most during the past 12 months worldwide. For each dyad, each year, we identified the top five rivals for each member (excluding the other dyad member). We then summed the number of rivals that were the same for the two dyad members. This measure was updated annually.

Third, we controlled for *prior alliances*, measured as the number of cooperative agreements reached by the dyad in the previous 12 months across the 27 countries. This measure was updated annually.

Fourth, we controlled for *dyad size difference*, measured as the ratio of the smaller dyad member to the larger one, to capture the asymmetric resource endowments of the dyad members. For each dyad member, size was measured as world production (number of vehicles) in a given year. This measure was updated annually.

Fifth, we controlled for *dyad cultural distance*. We gauged cultural distance between two dyad members using four dimensions of the Hofstede index: power distance, uncertainty avoidance, masculinity/femininity, and individualism (Hofstede, 1980). We combined the four dimensions into a Euclidean distance measure (the square root of the sum of the squares of the four distances). As culture is a constant during our study period, this measure is a constant for each given dyad.

Finally, we controlled for *industry cooperation*. To capture the alliances formed at the industry level (excluding the two dyad members), we first created an annual table of all alliances between our 13 global automakers. We assumed that each alliance lasted for 5 years.⁵ We generated a 13 × 13 symmetric matrix (similar to a correlation matrix), with

alliance counts in the cells (ignoring cells on the diagonal). Then we counted the number of alliances between the remaining 11 global automakers, not counting any alliance that involved either firm in the dyad. This measure was updated annually.

At the local level, we first controlled for annual percentage *GDP growth rate*, as reported in the World Development Indicator database. Second, we controlled for host *market concentration*, measured as the percentage of the host country's total sales represented by the four largest rivals in that country. We also included *market concentration*,² because research has shown that there is an inverted U-shaped relationship between market concentration and the competitive intensity within an industry (Knickerbocker, 1973). Third, we controlled for *local action exchange*, measured as the sum of competitive actions initiated by either dyad member against the other during the previous 12 months in the focal host country. Fourth, we controlled for the strength of *single-market competitors* in the focal host country, measured as the market share of single-market competitors (in terms of sales) in the focal host country. Fifth, we controlled for *political hazard* in the focal host country using the Political Constraint Index (POLCON) data set. Finally, we controlled for the average number of *local alliances* of the two dyad members in the focal host country (excluding the 11 other global automakers). These local alliances represent alliances with local rivals, banks, government agencies and local suppliers. All of the control variables were updated annually.

Finally, year dummies (fixed effects) were included in all models.

Analytical Methodology

Three characteristics of our data made the use of ordinary least-squares (OLS) methods inappropriate. First, there were repeated observations for the same sample firms across time, so the residual error terms are likely to be correlated. This characteristic violates the OLS assumption of independent observations. Second, the data were likely to be heterogeneous in the variance of the disturbance terms across different cross-sectional units (dyad-countries), presenting the heteroskedasticity issue that causes problems for OLS methods. Finally, our dependent variable was a non-negative count measure, thus violating the OLS assumption of a normally distributed dependent variable. To deal with these concerns, we used a panel data methodology designed to account for unobserved

heterogeneity (frequently a source of autocorrelation and heteroskedasticity). The approach involved modeling random effects for the dyad-country-year (or dyad-year). It is important to note that fixed effects for dyad-country would have been preferred, but were precluded by lack of variance in both dependent and independent variables across time. For example, some of the dyad-country combinations had no alliances during our study period, and the cultural distance measures were invariant across time.

Because we had a non-negative count measure as our dependent variable, our analytical choices were Poisson regression and negative binomial regression. The Poisson assumption is that the conditional mean of the outcome is equal to the conditional variance. Should this assumption be violated (the dependent variable is “over-dispersed”), negative binomial might be an improvement over Poisson (McCallagh & Nelder, 1983). Greene (2008) provides a direct comparison of negative binomial (the MLE version) and Poisson regression, as the two models are effectively nested. When applied to our data, his test indicated that Poisson was a slight, but significant, improvement over negative binomial for our study. Therefore we report Poisson regressions in Tables 2 and 3. Further, because of the panel data format, we also needed to account for unobserved heterogeneity in our cross-sectional units (either dyad-years or dyad-country-years). We thus included dummy variables for each year to control for unobserved temporal heterogeneity, and random intercepts for dyad (Table 2) or dyad-country (Table 3).

As we noted earlier, a proper test of Hypothesis 1, which predicts that the global competitive intensity between two MNEs is positively related to the likelihood of their alliance formation in any host country, requires a different level of analysis from the other hypotheses. As a result, using the same data sources, we created two data sets (see Appendix for more details), one using dyad-year as the unit of analysis to test Hypothesis 1, and the other one using dyad-country-year as the unit of analysis to test Hypotheses 2–5.

RESULTS

Table 1 provides means, standard deviations, and correlations for all variables used in the dyad-country-year data set. The values provided in Table 1 suggest no critically collinear variables (e.g., correlations >|0.8|; Kennedy, 2003).

As noted earlier, Hypotheses 1–5 were tested using two data sets: a dyad-year data set (to test Hypothesis 1); and a dyad-country-year data set (to test Hypotheses 2–5). Table 2 presents the results for our test of Hypothesis 1 using the dyad-year data set. In this table, Model 1 provides a baseline model with only control variables. In Model 2, we added the main effect of global competitive intensity. Table 3 presents the results for our tests of Hypotheses 2–5 using the dyad-country-year data set. In this table, Model 1 provides a baseline model with only control variables. In Model 2 we added global competitive intensity and all four moderating variables. In Models 3–6 we added the four interaction effects, one at a time. Finally, in Model 7 we included all interaction terms.

Hypothesis 1 predicted that the global competitive intensity between dyad members would be positively associated with the likelihood that they would form an alliance in any host country. The evidence from Table 2 strongly supports this hypothesis. For example, in Model 2 of Table 2, the coefficient for global competitive intensity is positive and significant ($b=0.10$; $p<0.001$).

Hypothesis 2 predicted that the effect of global competitive intensity would be strengthened in a focal host country with a high level of rivalry from outside the dyad. The evidence from Model 3 of Table 3 provides support for this hypothesis.⁶ In Model 3, the interaction term between global competitive intensity and host-country competitive intensity from other global rivals is positive and strongly significant ($b=0.23$; $p<0.01$). Following prior research on how to plot interaction terms in non-linear regressions (Petersen, 1985), we created Figures 2–4. Figure 2 offers further support for Hypothesis 2.

Hypothesis 3 predicted that the effect of global competitive intensity would be attenuated in a focal host country where there are stronger government restrictions. The evidence in Model 4 and Model 7 of Table 3 provides strong support for this hypothesis. For example, in Model 4, the coefficient of the interaction term between global competitive intensity and host-government restrictions is negative and significant ($b=-0.39$; $p<0.001$). An interaction plot (Figure 3) provides further support for Hypothesis 3.

Hypothesis 4 predicted that the effect of global competitive intensity would be strengthened when the relative cultural distance of the dyad members from a host country is large. The evidence in Model 5 and Model 7 of Table 3 fails to support this

Table 1 Descriptive statistics and correlations[†]

Variable	Mean	Standard deviation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1. Alliance formation	0.03	0.20																		
2. Multimarket contact	0.42	0.17	0.02																	
3. Shared threats	1.95	1.53	-0.05	0.42																
4. Prior alliances	0.23	0.71	0.09	0.19	-0.01															
5. Dyad size difference	0.56	0.23	-0.05	0.01	0.08	-0.07														
6. Dyad cultural distance	46.09	26.66	0.09	-0.16	-0.19	0.023	-0.22													
7. Industry cooperation	15.98	11.09	0.04	-0.20	-0.37	0.08	0.09	-0.01												
8. GDP growth rate	2.89	2.84	0.01	-0.05	-0.15	-0.03	0.01	-0.01	0.03											
9. Market concentration	0.65	0.14	-0.01	0.08	0.05	0.03	-0.01	-0.05	0.03	-0.04										
10. Local action exchange	0.41	1.06	0.01	0.11	0.20	0.06	-0.03	-0.13	-0.06	-0.01	-0.04									
11. Single-market competitors	12.05	19.93	0.01	-0.010	-0.03	-0.01	-0.01	-0.01	-0.01	0.31	-0.08	-0.07								
12. Political hazard	0.41	0.17	-0.01	0.03	0.03	-0.01	-0.01	0.01	-0.04	-0.16	0.13	0.06	-0.29							
13. Local alliances	0.26	0.69	0.03	0.03	0.03	0.03	-0.04	0.01	-0.04	0.29	-0.23	-0.06	0.58	-0.45						
14. Global competitive intensity	3.18	5.93	0.01	0.49	0.32	0.18	0.05	-0.26	-0.22	0.03	0.06	0.37	-0.02	0.01	0.05					
15. Host-country competitive intensity	23.98	26.84	0.01	-0.11	-0.11	-0.07	0.07	-0.02	0.02	-0.06	-0.02	0.13	-0.17	0.16	-0.19	-0.06				
16. Host government restrictions	0	0.75	0.06	-0.01	-0.12	0.12	0.01	0.01	0.39	0.07	0.20	-0.21	0.27	-0.34	0.33	-0.08	-0.46			
17. Relative cultural distance	0.31	0.32	0.02	-0.17	-0.04	-0.02	-0.08	0.47	0.01	-0.05	-0.09	0.01	-0.20	0.08	-0.14	-0.17	0.03	-0.19		
18. Host-country mutual importance	2.99	5.25	0.02	-0.09	-0.02	-0.05	0.04	-0.08	0.03	0.05	0.09	0.13	-0.04	-0.01	-0.07	-0.07	0.35	-0.06	0.03	

[†]Correlations $> |0.021|$ are significant at $p < 0.05$.

We report only the descriptive statistics and correlations for the dyad-country-year data set. The descriptive statistics and correlations for the dyad-year data set are available upon request from the first author.

Table 2 Poisson regressions of rival alliances (level of analysis: dyad-year)

Variable	Model 1	Model 2
Multimarket contact	0.65 (1.03)	0.33 (1.06)
Shared threats	-0.02 (0.01)***	-0.01 (0.01)*
Prior alliances	0.03 (0.09)	0.02 (0.09)
Dyad size difference	0.20 (0.70)	-0.04 (0.72)
Dyad cultural distance	0.01 (0.01) [†]	0.01 (0.01)*
Industry cooperation	0.04 (0.03)	0.04 (0.03)
Year 1996	0.40 (0.94)	0.20 (0.96)
Year 1997	3.45 (1.06)**	2.52 (1.20)*
Year 1998	1.34 (0.81) [†]	0.94 (0.85)
Year 1999	2.43 (0.88)**	2.00 (0.93)*
Year 2000	2.12 (0.53)***	1.89 (0.55)**
Global competitive intensity		0.10 (0.02)***
Intercept	-1.44 (1.41)	-1.96 (1.45)
Log likelihood	-274.71	-273.36
Wald chi-square	71.41 ***	73.48***

[†] $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

hypothesis. Opposite to our prediction, we found that the effects of global rivalry are weakened, not strengthened, by relative cultural distance.

Finally, Hypothesis 5 predicted that the effect of global competitive intensity would be strengthened in a focal host country that is strategically important to both dyad members. The evidence from Models 6 and 7 of Table 3 provides strong support. For example, in Model 6, the coefficient of the interaction term between global competitive intensity and mutual importance of the host country is positive and strongly significant ($b=0.17$; $p < 0.01$). Figure 4 offers further support for Hypothesis 5.

With respect to the effects of our control variables, drawing upon Table 3 we can see that, all else being equal, two rivals are more likely to form an alliance in a focal host country when they have a prior history of alliances, face threats from the same competitors, have more local partners, come from culturally different countries, and have different sizes, and when the host country has high

Table 3 Random effects panel Poisson regressions: Dependent variable is count of rival alliances

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Multimarket contact	-0.12 (0.57)	-0.70 (0.62)	-0.77 (0.63)	-0.42 (0.64)	-0.48 (0.63)	-0.71 (0.63)	-0.37 (0.65)
Shared threats	0.34 (0.10)***	0.32 (0.10)**	0.31 (0.10)**	0.29 (0.11)**	0.33 (0.10)***	0.31 (0.10)**	0.29 (0.11)**
Prior alliances	0.23 (0.07)***	0.21 (0.07)**	0.22 (0.07)**	0.24 (0.07)***	0.24 (0.07)***	0.22 (0.07)**	0.26 (0.07)***
Dyad size difference	-0.71 (0.38) [†]	-0.93 (0.40)*	-0.87 (0.40)*	-0.89 (0.40)*	-0.87 (0.40)*	-0.92 (0.40)*	-0.85 (0.40)*
Dyad cultural distance	0.03 (0.00)***	0.04 (0.01)***	0.04 (0.01)***	0.034 (0.01)***	0.03 (0.005)***	0.04 (0.01)***	0.04 (0.01)***
Industry cooperation	-0.01 (0.01)	-0.01 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
GDP growth rate	-0.07 (0.03) [†]	-0.07 (0.04)*	-0.07 (0.04)*	-0.08 (0.04)*	-0.07 (0.040)*	-0.07 (0.04)*	-0.08 (0.04)*
Market concentration	37.09 (7.63)***	34.08 (7.70)***	33.61 (7.71)***	34.17 (7.72)***	34.16 (7.70)***	34.27 (7.73)***	34.13 (7.73)***
(Market concentration) ²	-26.84 (5.54)***	-24.74 (5.57)***	-24.37 (5.58)***	-24.76 (5.60)***	-24.755 (5.58)***	-24.94 (5.60)***	-24.76 (5.609)***

Local action exchange	0.05 (0.09)	-0.03 (0.09)	-0.08 (0.09)	-0.07 (0.09)	-0.01 (0.09)	-0.10 (0.10)	-0.12 (0.1)
Single-market competitors	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.007)
Political hazard	-1.33 (0.64)*	-1.43 (0.69)*	-1.37 (0.69)*	-1.30 (0.69)†	-1.52 (0.69)*	-1.36 (0.69)*	-1.33 (0.69)†
Local alliances	0.25 (0.14)†	0.26 (0.14)†	0.30 (0.15)*	0.33 (0.15)*	0.25 (0.15)†	0.26 (0.14)†	0.32 (0.15)*
Year 1996	-3.22 (1.04)**	-3.19 (1.05)**	-3.16 (1.05)**	-3.11 (1.05)**	-3.18 (1.05)**	-3.16 (1.05)**	-3.09 (1.05)**
Year 1997	-0.79 (0.42)†	-1.14 (0.47)*	-1.47 (0.53)**	-1.37 (0.50)**	-1.04 (0.47)*	-1.22 (0.48)*	-1.379 (0.53)**
Year 1998	-1.17 (0.41)**	-1.27 (0.43)**	-1.24 (0.43)**	-1.22 (0.43)**	-1.23 (0.43)**	-1.26 (0.43)**	-1.19 (0.43)**
Year 1999	1.15 (0.28)***	1.08 (0.29)***	1.11 (0.29)***	1.16 (0.29)***	1.10 (0.28)***	1.11 (0.29)***	1.17 (0.29)***
Year 2000	2.12 (0.33)***	2.01 (0.33)***	2.00 (0.34)***	2.05 (0.34)***	2.09 (0.34)***	2.01 (0.33)***	2.07 (0.34)***
Host-country mutual importance (HCMI)		0.03 (0.02)†	0.17 (0.09)†	0.15 (0.09)†	0.16 (0.09)†	0.16 (0.09)†	0.16 (0.09)†
Host-country competitive intensity (HCCI)		0.00 (0.00)	0.16 (0.12)	0.14 (0.12)	0.09 (0.12)	0.14 (0.12)	0.15 (0.13)
Host-government restrictions (HGR)		-0.07 (0.19)	-0.04 (0.15)	-0.02 (0.15)	-0.041 (0.14)	-0.03 (0.15)	-0.01 (0.14)
Relative cultural distance (RCD)		0.45 (0.41)	0.10 (0.10)	0.09 (0.10)	0.12 (0.09)	0.10 (0.09)	0.09 (0.09)
Global competitive intensity (GCI)		0.05 (0.02)**	0.39 (0.11)***	0.27 (0.11)*	0.11 (0.14)	0.35 (0.11)***	0.23 (0.15)
GCI × HCCI			0.23 (0.09)**				0.05 (0.11)
GCI × HGR				-0.39 (0.11)***			-0.29 (0.14)*
GCI × RCD					-0.22 (0.11)*		-0.13 (0.10)
GCI × HCMI						0.17 (0.06)**	0.12 (0.06)†
Intercept	-17.69 (2.60)***	-17.14 (2.60)***	-16.30 (2.61)***	-16.62 (2.61)***	-16.74 (2.61)***	-16.50 (2.61)***	-16.70 (2.62)***
Model log likelihood	-772.37	-765.05	-761.81	-759.08	-762.81	-761.20	-755.96
Wald chi-squared	193.50***	202.240***	199.51***	203.00***	205.94***	205.61***	208.09***

† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

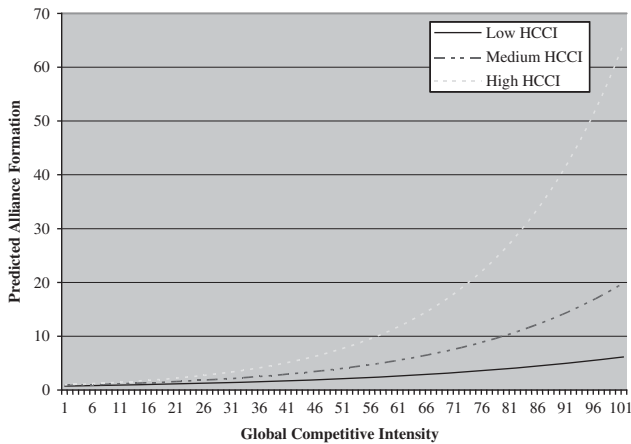


Figure 2 Interaction between global competitive intensity and host-country competitive intensity (HCCI).

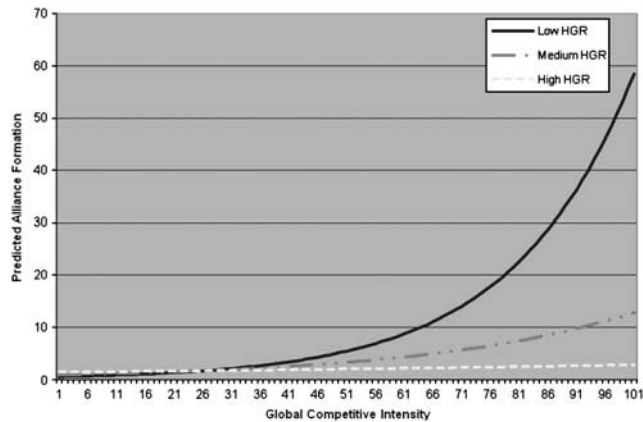


Figure 3 Interaction between global competitive intensity and host-government restrictions (HGR).

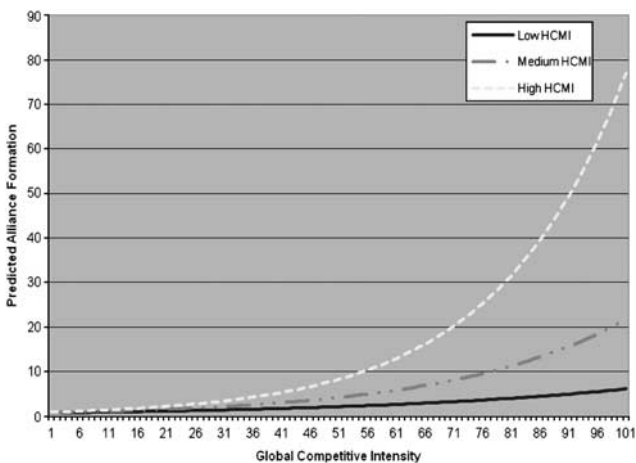


Figure 4 Interaction between global competitive intensity and host-country mutual importance (HCMI).

GDP growth rate and low political hazard. Also, there is an inverted U-shaped relationship between host market concentration and alliance formation between rivals.

While our study is focused on factors that moderate the impact of global rivalry on alliance formation, we also acknowledge that the four moderating variables may have main effects on alliance formation independent of global rivalry. For instance, we found that the mutual importance of a given host country to a focal dyad increases the likelihood of alliance formation in that country. This provides direct support to the existing literature, which has shown that rivals normally have a greater desire to reduce rivalry in their prominent markets (Gimeno, 1999). Although the main effects are outside the scope of our study, they nonetheless offer intriguing venues for future research.

Sensitivity Tests

To test the robustness of our results, we ran a number of supplementary analyses. First, in addition to the Poisson model, we also ran panel-based logistic regression (with the dependent variable converted from a count to a zero–one dichotomy) and negative binomial regression, and the results were highly consistent with those reported in Tables 2 and 3.

Second, we considered a number of alternative measures of our independent variable and moderators. For instance, in analyses reported here, we measured global competitive intensity using the sum of competitive actions initiated by either partner against the other during the previous 12 months. For our sensitivity analyses, we also analyzed the sum of competitive actions during the previous 6 months. The conclusions from those analyses were very similar to those reported here. In analyses reported here, we used the total number of cooperative agreements formed between two dyad members in the previous 12 months to capture prior alliances. In our sensitivity analyses, we tried 1-month, 6-month, and 60-month intervals. The conclusions from these alternative measures were highly consistent with those reported in Table 3.

Third, to measure shared threats, we identified the top five rivals (attackers) for each dyad member. In our sensitivity analyses, we also considered the top three rivals, the top three targets (firms being targeted by each dyad member), and the top five targets. The results were highly comparable with those reported here.

Fourth, a reviewer astutely noted that our model is effectively a cross-nested one, and a linear mixed



model might be appropriate. We reran the analyses in Table 3 using linear mixed models with a Poisson specification, including random effects for country and dyad. The significance levels were a bit lower, but the conclusions from that analysis were highly consistent with those reported here. A copy of these supplementary analyses is available upon request from the first author.

Fifth, to measure prior alliances, we did not distinguish between different types of alliances. In our supplemental analyses, we categorized alliances into different types (equity-based alliances vs non-equity-based alliances; horizontal alliances vs vertical alliances), and results were highly consistent with those reported in Tables 2 and 3.

Finally, Hofstede's (1980) measures have been criticized on a number of grounds. However, they are available for a very large number of countries. As robustness checks, we tried a number of alternative measures of cultural distance. We began with Ronen and Shenkar's (1985) culture cluster measure and Schwartz's (1994) cultural value measure, but were forced to drop them because they are not available for many of our sample countries. Still, we were able to run analyses using seven alternative measures of cultural distance, such as language (CEPII database), religion (La Porta, Lopez-de-Silanes, & Shleifer, 1999), work-related values (Inglehart, Basanez, & Moren, 1998), and social axioms (Leung & Bond, 2004). The results (available from the first author on request) are highly consistent with those reported here.

DISCUSSION

Our study specifically focuses on how host-country contextual factors sharpen the effects of global rivalry as a driver of alliance formation between multinational rivals. Our findings strongly suggest that global competitive intensity positively influences the likelihood that rivals will form alliances. Given that international alliances are ultimately enacted in specific host countries, we also examined how host-country contextual conditions at multiple levels moderate the relationship between global competitive intensity and alliance formation. We found that the mutual importance of the host country and the competitive intensity in the host country strengthen the positive relationship between global competitive intensity and alliance formation. We also found that host-government restrictions weaken the same relationship.

These findings provide several new insights into alliances between multinational rivals. First, our

study validates an important premise about the competition-cooperation nexus in the specifics of a global setting. That is, we confirm through systematic analysis that global rivalry indeed enhances the likelihood of alliance formation among global automakers. However, a more novel aspect of our findings is what we observed in the moderating influence of host-country contextual factors, and this aspect deserves special emphasis. For instance, our evidence that the mutual importance of the host country further reinforces the likelihood of global automakers forming an alliance in that particular country reflects the fact that an alliance is an important strategic initiative for global automakers. When, under intense rivalry, global automakers specifically choose to ally in those markets that are most important to them, it tells us that these firms truly believe that alliances help them gain competitive advantage. Otherwise, we would have seen alliances between global automakers as a secondary alternative reserved for less critical markets. Put differently, this finding lends emphatic testimony to the partners' perceived common benefits of allying with their multinational rivals.

Additionally, our findings also demonstrate that alliances are not always the preferred solution or a universal strategic priority for multinational rivals. Particularly when tough restrictions from host governments handicap all global automakers similarly, the rivals are savvy enough to realize that alliances with those in the same boat may not help. This finding has important implications for research on partner selection, which has focused predominantly on how host-government restrictions affect the emergence of alliances between multinational firms and local firms (Contractor & Lorange, 1988). In contrast to prior research suggesting that host-government restrictions increase the likelihood of a multinational firm allying with a local partner, our study shows that such restrictions also dampen the positive influence of global rivalry on alliance formation between multinational rivals.

Moreover, the international business literature has long recognized the significance of cultural distance between two potential partners (*dyadic cultural distance*) for the likelihood of their forming alliances (Kogut & Singh, 1988). The counter-intuitive finding of our research indicates that the *relative* cultural distance of the dyad from the host country may also matter when MNEs decide with whom to ally. In our prediction, the basic premise was that asymmetry in culture between rivals

would lead to more opportunities to learn about the host country: hence MNEs driven into an alliance because of their global rivalry will prefer to partner with a firm that is closer in culture to the host country than themselves. However, we found the opposite effect. Global automakers driven into an alliance because of their global rivalry prefer to partner with those rivals who are in fact closer to their own home-country cultures. This seems to suggest that global automakers may perceive alliances with their rivals primarily as ways to reduce competitive uncertainty, and would prefer to achieve that objective without having to deal with the frictions associated with asymmetric cultures. This is consistent with the observation that alliances between rivals are generally difficult to manage, because rivals lack goal alignment. Asymmetric cultures may further complicate an already tempestuous relationship. Another possible explanation for our finding is that an alliance among global automakers with asymmetric cultures benefits one rival more than the other, leading to other unanticipated problems because of perceived unfairness. Although counterintuitive, the evidence we report is intriguing, and we hope future research can explore this issue further.

Finally, our findings reveal that the decision for two potential partners to ally is shaped by the local competitive context in which they are embedded. While global rivalry at the dyadic level may provide the overarching motivation for two firms to collaborate, intensified competition between other firms in a particular host country will further strengthen that motivation for an alliance. This aspect of our study responds to Hagedoorn's (2006) call for more cross-level analyses of inter-firm partnerships. Hagedoorn pointed out that inter-firm partnering is shaped by embeddedness at different levels (dyadic embeddedness, inter-organizational embeddedness, and environmental embeddedness). By factoring in host-country competitive characteristics along with underlying dyadic rivalry, our study takes some early steps toward empirically examining such multilayered antecedents of inter-firm partnerships.

In sum, our findings attest to the notion that context counts and, where possible, should be given more theoretical consideration. Studying context "makes our models more accurate and our interpretation of results more robust" (Rousseau & Fried, 2001: 2). As a result, it is important for researchers to "sacrifice the comforts afforded by staying with the paradigm most tightly linked to

the phenomena of interest, identify surroundings or nested phenomena typically associated with other paradigms that are likely to influence their focal constructs or relationships, and specify how those phenomena are likely to do so" (Bamberger, 2008: 841). Stimulated by many scholars' calls for more research using context-theorizing approaches to build theoretical and empirical bridges across levels, our study examines how rival alliances are affected by the host-country contextual factors at multiple levels. Although some aspects of our contextual factors have already been studied in isolation, our study is the one that offers a comprehensive framework hosting all the factors, resulting in a better understanding of the complexity of rival alliances in an international arena. It is our sincere hope that our research will simulate more advancement in context theory construction and testing in the management literature.

It is important to note a few limitations of our study. First, our findings are based on firms in a single industry over a specific 7-year period. For this reason, our study's conclusions may not be generalizable across other industries. Additionally, our results might reflect some factors specific to the period under study. Future replication of our research in other settings and time periods will help to address this concern.

Second, we view competition and cooperation as two separate and distinct constructs. In fact, the relationship between competition and cooperation is much more complex than might be concluded at first glance. Sometimes, a firm's actions may contain both competitive and cooperative aspects. For instance, GM offered a \$1000 rebate certificate for auto parts with the purchase of a GM car – but the certificate could be redeemed at any rival's outlet. In such a scenario, should a competitor, such as Ford, consider GM's action a cooperative move, which could bolster its sales, or a competitive move? Responding to such questions may be a fruitful avenue for future research.

Finally, as one of the early studies delving into the interface between global rivalry and alliance formation, our research focuses on how a number of host-country contextual factors shape the relationship between global rivalry and alliance formation in a given host country. Future research in fact can bring more ideas from competitive asymmetry to the analysis. For instance, at the firm level, firms possessing asymmetric positions in the competitive ladder may have different motivations to enter an alliance with one another. At the country level,

depending upon different country conditions and firms' different positions in these countries, multinational firms can take advantage of a diverse competitive portfolio. Local markets (i.e., borders) create niches in which global rivals can cooperate without this affecting their competition in other markets or globally. As a result, they can skillfully cooperate in certain markets while competing in other markets. Because of data constraints we are not able to perform a rigorous test of these intriguing ideas, but we hope future research will do so.

Despite these limitations, we believe that our study offers some useful managerial insights into global competitive alliances. It informs managers on the contingencies posed by host-country markets when considering alliances with global rivals. Increasingly, firms are finding themselves in complex webs of competitive and cooperative relationships, particularly in a global context. Also, with the emergence of many new markets such as China, India, Russia, and Brazil, unique host-country issues are becoming more and more significant for global competition. With the present trends in globalization, such complexities are bound to multiply, and correspondingly the need for deeper insights into the interplay between global and local factors increases. Our study offers a step toward developing such insights.

ACKNOWLEDGEMENT

The authors gratefully acknowledge the insightful comments of Hanna Halaburda, Jinyu He, Samina Karim, Ravi Madhavan, and Metin Sengul.

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NOTES

¹This definition of alliances includes equity joint ventures as well as partnerships that do not entail the creation of a separate legal entity. In our study, the terms “cooperation” and “alliance” are used interchangeably.

²As pointed out by one reviewer, this does not mean that allying with a domestic firm is totally risk free, because the domestic firm may use its relationship with the host government against a multinational partner when its private benefits are threatened.

³One may argue that it is in an MNE's best interest to form an alliance with a domestic firm. However, we note that such a relationship is also not risk free for the MNE. First, the domestic firm supported by the host government can simply end the agreement after obtaining the best practice from the MNE. Additionally, the cultural distance between the MNE and the domestic firm may also create tension between the partners.

⁴The automobile industry has undergone some consolidation in recent years. Our sample firms had quite stable ownership structures in the period 1995–2001, with the exception of DaimlerChrysler, which was created by merger in 1998. Considering the well-documented difficulty encountered in merging the two firms, we treated DaimlerChrysler as an American firm. In analyses available from the first author upon request, we dropped DaimlerChrysler from the sample. The conclusions from that analysis do not differ from those presented here.

⁵It is much easier to identify when an alliance starts than when one ends. Alliance terminations are rarely reported.

⁶This interaction effect lost its significance in the full model (Model 7), owing to multicollinearity.

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Appendix

Table A1 Variables included in the dyad-year data set and the dyad-country-year data set

Data set name	Variable name	Measurement
Dyad-year data set	Alliance formation	The total number of alliances formed by each dyad each year across the 27 countries.
	Global competitive intensity	The sum of competitive actions initiated by either dyad member against the other during the previous year across the 27 countries.
	Multimarket contact	The total number of weighted multimarket contacts between the two dyad members across the 27 countries.
	Shared threats	The total number of the top five rivals that are the same for the two dyad members across the 27 countries every year.
	Prior alliances	The total number of cooperative agreements reached by the two dyad members in the previous 12 months across the 27 countries.
	Dyad size difference	The ratio of the smaller dyad member to the larger one. For each dyad member, size was measured as the annual world production (the total number of vehicles).
	Dyad cultural distance	The cultural distance between the two dyad members, using the four dimensions of Hofstede index.
	Industry cooperation	The total number of alliances between our sample firms (not counting any alliances that involved either dyad member) in the past 5 years across the 27 countries.
Dyad-year-country data set	Alliance formation	The total number of alliances formed by each dyad each year in each host country.
	Global competitive intensity	The same as above.
	Multimarket contact	The same as above.
	Shared threats	The same as above.
	Prior alliances	The same as above.
	Dyad size difference	The same as above.
	Dyad cultural distance	The same as above.
	Industry cooperation	The same as above.
	Mutual importance of the host country	We calculated the proportion of each dyad member's sales that occurred in the host country and used the average to measure the importance of the host country to the dyad during the previous year.
	Competitive intensity in the host country	The sum of actions that outside-dyad rivals initiated against one another during the previous year in the focal host country.
	Host government restrictions	A composite measure of host-country restrictions based on four variables derived from Executive Opinion Survey conducted each year.
	Relative cultural distance	We first calculated the ratio of the smaller home–host cultural distance of one dyad member to the larger home–host cultural distance of the other. Then we subtracted this number from 1.
	GDP growth rate	Annual GDP growth rate of the focal host country reported by the World Development Indicator database.
	Host market concentration	The percentage of the host country's total sales represented by the four largest rivals in that country.
	Local action exchange	The sum of competitive actions initiated by either dyad member against the other during the previous 12 months in the focal host country.
	Single-market competitors	The market share of single-market competitors (in terms of sales) in the focal host country.
	Political hazard	Information derived from the Political Constraint Index (POLCON) data set.
Local alliances	The average number of local alliances of the two dyad members formed in the focal host country in the previous 12 months (excluding the 11 other global automakers).	



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Accepted by Ulf Andersson, Area Editor, 12 December 2012. This paper has been with the authors for four revisions.

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