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A meta-analysis of the exchange hazards–interfirm governance relationship: An informal institutions perspective

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Abstract
The existing literature is ambiguous on how exchange hazards influence interfirm governance. Drawing on institutional theory, this study revisits this relationship by examining the moderating effects of national culture. By meta-analyzing 167 articles involving 38,183 interfirm relationships in 35 countries, we found support for the moderating effects of three facets of national culture: collectivism, power distance, and uncertainty avoidance. We discuss the implications of the findings for theory and practice.
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INTRODUCTION

The extent to which interfirm governance should be deployed is a key decision that firms make in managing their collaborative relationships (Choi & Contractor, 2016; Li, Eden, Hitt, & Ireland, 2008). Extensive studies have investigated how exchange hazards—the vulnerabilities that firms face when engaging with exchange partners (Williamson, 1996)—influence the extent of interfirm governance (e.g., Luo, 2005; Zhou & Poppo, 2010). However, findings on the exchange hazards–interfirm governance relationship are mixed. To address this pattern of inconsistent findings, recent literature has suggested that this relationship could be context dependent and has investigated the boundary conditions of this relationship. However, the moderating effects of institutional factors have been overlooked. The tripod strategy perspective suggests that, in addition to factors at the firm and interfirm levels, institutional factors critically influence organizational decisions (Peng, Sun, Pinkham, & Chen, 2009; Peng, Wang, & Jiang, 2008). The interfirm governance literature recognizes institutional environments as important moderators, with a particular focus on formal institutions (e.g., Zhou & Poppo, 2010). However, the role of informal institutions, which are "arguably more primary and

deep-seated than formal institutions" (Crossland & Hambrick, 2011: 800), remains largely unexplored.

To fill this gap, we conducted a meta-analysis to examine how exchange hazards–interfirm governance relationships are moderated by national culture, the commonly shared values and beliefs that distinguish people in one country from people in another country (Hofstede, 2001).

THE MAIN RELATIONSHIP BETWEEN EXCHANGE HAZARDS AND INTERFIRM GOVERNANCE

In an interfirm collaborative relationship, firms have three major concerns: (1) how to safeguard investments specific to the relationship (Subramani & Venkatraman, 2003), (2) how to adapt pre-specified agreements to environmental changes (Rindfleisch & Heide, 1997), and (3) how to evaluate partners' performance (Sutcliffe & Zaheer, 1998). These concerns form three main types of exchange hazards, i.e., asset specificity, environmental uncertainty, and behavioral uncertainty (Williamson, 1996).

Transaction cost economics (TCE) argues that firms need to match *transactions* that have exchange hazards with *governance mechanisms* in a cost-effective manner (Williamson, 1985). In particular, to respond to increasing exchange hazards, firms can develop complex contracts that specify the terms of each firm's obligations, rights, and contingency management procedures (Luo, 2005; Malhotra & Lumineau, 2011; Poppo & Zenger, 2002). Following TCE, interfirm governance literature generally argues for a positive relationship between exchange hazards and *contractual governance*.

In addition to TCE, the relational theory (e.g., Dyer & Singh, 1998) suggests that firms can use *relational governance*, the extent to which interfirm relationships are coordinated through informal rules and procedures (Abdi & Aulakh, 2012; Zaheer & Venkatraman, 1995), to address exchange hazards. Relational governance emerges from the values, norms, and expectations developed in the social processes of repeated exchanges (Heide & John, 1992). The values and norms help firms address exchange hazards by discouraging opportunistic behaviors (Jap & Ganesan, 2000), facilitating information sharing and mutual adjustment (Heide & John, 1992), and encouraging firms to work toward mutual interests (Liu, Luo, & Liu, 2009). Consequently, it is argued that exchange hazards are positively related to relational governance.

Although the theoretical arguments that exchange hazards are positively related to contractual and relational governance are compelling, the empirical support is mixed. Many studies have shown a positive relationship (e.g., Carson, Madhok, & Wu, 2006; Reuer & Ariño, 2007; Zaheer & Venkatraman, 1995), whereas others have shown a negative relationship (e.g., Aulakh & Gençtürk, 2008; Gaur, Mukherjee, Gaur, & Schmid, 2011; Mooi & Ghosh, 2010). The mixed findings suggest that the positive exchange hazards–interfirm governance relationship, as per theory, is not consistently supported. To address this puzzle, this study investigates the moderating effects of national culture.

INSTITUTIONAL PERSPECTIVE: MODERATING EFFECTS OF NATIONAL CULTURE

Institutional theory suggests that national culture is an important aspect of informal institutions (Peng et al., 2009; North, 1990). Because firms are embedded in a set of shared cultural values and norms in a society (North, 1990), national culture influences their preferences for certain managerial practices (Griffin, Guedhami, Kwok, Li, & Shao, 2017; Rabl, Jayasinghe, Gerhart, & Kühlmann, 2014) and the ways that firms understand and interpret different situations (Abdi & Aulakh, 2012; Steenkamp & Geyskens, 2012). In the interfirm governance context, national culture shapes firms' attitudes toward exchange hazards (Handley & Angst, 2015) and signals which governance mechanisms are more acceptable in a society (Cao & Lumineau, 2015).

We argue that national culture moderates the exchange hazards–interfirm governance relationship by influencing the acceptance of specific interfirm governance mechanisms as legitimate ways to address exchange hazards. Institutional theory states that a mechanism is less likely to be accepted (and used) as a legitimate way of doing things when it is less consistent with the dominant institutional orders (DiMaggio & Powell, 1991; Phillips, Lawrence, & Hardy, 2004). Thus, when a type of governance mechanism is less (more) consistent with a certain national culture, it is less (more) likely to be accepted (used) as legitimate in managing exchange hazards.

We focus on three dimensions of national culture: collectivism, power distance, and uncertainty

avoidance. These dimensions are more widely recognized as key dimensions related to exchange hazards and/or interfirm governance (Cao & Lumineau, 2015; Handley & Angst, 2015; Homburg, Cannon, Krohmer, & Kiedaisch, 2009) than masculinity or indulgence dimensions.

Collectivism

Collectivism is the extent to which individuals are integrated into groups (Hofstede, 2001). It emphasizes group membership rather than individual autonomy (Oyserman, Coon, & Kemmelmeier, 2002). In high collectivist cultures (e.g., China, Colombia), group cohesiveness, group goals, and social relationships are considered important (Doney, Cannon, & Mullen, 1998; Steensma, Marino, Weaver, & Dickson, 2000).

We argue that the use of contractual governance to address exchange hazards is largely inconsistent with collectivism. Contractual governance relies on detailed formal contracts, with specific requirements of duties and obligations of each party. With its focus on meeting these strict terms, contractual governance may undermine the sense of group cohesiveness (Lumineau, 2017) and create an emphasis on vigilance (Ferrin, Bligh, & Kohles, 2007). Thus, contractual governance may not be compatible with collectivism (Richards, 2014; Steensma et al., 2000). For example, Sako and Helper (1998) found that complex and lengthy contracts are not welcome in Japan, which has a high level of collectivism. In contrast, in individualist cultures (e.g., Australia), firms emphasize individual autonomy and value arms–length relationships, and consequently, contractual governance is more consistent with such cultures (Steensma et al., 2000; Tiessen, 1997). The inconsistency of contractual governance with collectivist cultures makes contractual governance less likely to be used to address exchange hazards. Thus, as exchange hazards increase, firms in high collectivist cultures (as opposed to low collectivist) will use less contractual governance to handle exchange hazards. Therefore:

Hypothesis 1a: Collectivism weakens the relationship between exchange hazards and contractual governance.

Relational governance to address exchange hazards is more consistent with collectivist cultures. Collectivist cultures value social relationships in a group (Chen, Chen, & Meindl, 1998), and business relationships are more likely to be social rather than instrumental (Cannon, Doney, Mullen, & Petersen, 2010). Collectivist cultures also value group goals (Chen et al., 1998), and therefore, individuals in collectivist cultures are more willing to work together, providing more opportunities for interfirm interactions (Ketkar, Kock, Parente, & Verville, 2012). This experience of working together makes firms in collaborative relationships understand one another better, facilitating the development of shared expectations of each firm's behavior (Nooteboom, Berger, & Noorderhaven, 1997). Thus, when exchange hazards arise, firms in collectivist cultures are more likely than firms in less collectivist cultures to use informal methods to address them.

Hypothesis 1b: Collectivism strengthens the relationship between exchange hazards and relational governance.

Power Distance

Power distance is the extent to which individuals accept unequal distribution of power in their society (Hofstede, 2001). In a culture with high levels of power distance (e.g., Malaysia), individuals, regardless of their power positions, are likely to consider differences in power levels as natural and difficult to change (Hofstede, 2001).

The use of contractual governance to address exchange hazards is inconsistent with the norms of high power distance cultures. In high power distance cultures, the acceptance of power inequality makes firms with greater power believe that they have the right to ask for more from their partners than what their contracts define (Richards, 2014). Firms with less power tend to consider the greater privileges of their more powerful partner as acceptable. As a result, firms with greater power are more likely to shirk their efforts and appropriate more value from the cooperation (Gulati & Sytch, 2007), whereas firms with less power are accustomed to responding to requests from more powerful partners, even if those requests are not included in the contracts (Wuyts & Geyskens, 2005). In this case, neither party welcomes contractual governance. For firms with greater power, contracts "set parameters on what the more powerful party can legitimately do" (Lusch & Brown, 1996: 21) and may legitimately constrain their requests of extra efforts from their partners. For firms with less power, they may not believe that contracts can effectively protect their interests: accepting the privileges of the more powerful party makes them respond to

the requests from the more powerful party, regardless of the content of the contracts.

Thus, contractual governance is less likely to be accepted as a legitimate way to manage exchange hazards in cultures with higher power distance. Consequently, as exchange hazards increase, firms in high power distance cultures will use less contractual governance to handle exchange hazards than firms in low power distance cultures. Thus, we propose the following:

Hypothesis 2a: Power distance weakens the relationship between exchange hazards and contractual governance.

We argue that the use of relational governance rather than contractual governance to address exchange hazards is more consistent with high power distance cultures. Two characteristics of relational governance make it more attractive in high power distance cultures. First, relational governance is generally implicit (Cao & Lumineau, 2015), a characteristic that nudges firms with greater power in high power distance cultures to exert more influence on their partners to appropriate more value. Second, relational governance is beneficial to the development of social capital (Gulati, 1998). Although relational governance may put firms with lower power at a disadvantage (as their more powerful partners may appropriate more value from them), it allows these firms to access more resources via social ties with their more powerful partners. Thus, for firms with less power, relational governance is also welcomed.

The use of relational governance to address exchange hazards is less consistent with low power distance cultures. Relational governance requires (1) information exchange and (2) close interaction between collaborative parties. However, both requirements are difficult to fulfill in low power distance cultures. Firms in such cultures are less accepting of power inequity, and thus, "there may be ongoing competition for power" (Lawler, Walumbwa, & Bai, 2008: 12). Since information is a basis of power (Gaski, 1984), information sharing may reduce a firm's power and cause it to depend on its partner (Griffith & Myers, 2005). Thus, firms in low power distance cultures, regardless of their power positions, are not willing to share information with their partners (Griffith & Myers, 2005). Likewise, since close interaction improves mutual understanding between partners, which threatens the power positions of both parties, close interaction is less likely for firms in low power distance cultures.

Thus, relational governance is more consistent with high power distance cultures. As exchange hazards increase, firms in low power distance cultures tend to use less relational governance to address exchange hazards than firms in high power distance cultures. Thus, we propose the following:

Hypothesis 2b: Power distance strengthens the relationship between exchange hazards and relational governance.

Uncertainty Avoidance

Uncertainty avoidance is the degree to which members of a society feel uncomfortable with uncertainty and ambiguity (Hofstede, 2001). The use of contractual governance to address exchange hazards is compatible with high uncertainty avoidance cultures. In the interfirm cooperation context, firms can alleviate the discomfort caused by the unpredictability of exchange hazards by developing complex contracts. Complex contracts can explicitly define the actions of each party in the event of changes in the environment and/or partners' behaviors, making firms more prepared to cope with uncertainty and ambiguity (Lumineau & Malhotra, 2011). Moreover, because firms in high uncertainty avoidance cultures try to avoid risks, they are less likely to discontinue their existing relationships (Handley & Angst, 2015). Therefore, they are more likely to honor explicit contracts, making the use of contractual governance a legitimate way to address exchange hazards.

When uncertainty avoidance is low, people are more tolerant of uncertainty and ambiguity. In this context, formal rules and structures tend to be less welcomed, whereas flexibility is more valuable (Erramilli, 1996; Wuyts & Geyskens, 2005). Thus, rather than developing complex contracts, firms in such cultures may use simpler contracts to address exchange hazards. As exchange hazards increase, firms in high uncertainty avoidance cultures are likely to use more contractual governance than firms in low uncertainty avoidance cultures. Accordingly, we propose the following:

Hypothesis 3a: Uncertainty avoidance strengthens the relationship between exchange hazards and contractual governance.

Unlike contractual governance, relational governance is implicit and ambiguous regarding the roles and rights of each party (Cao & Lumineau, 2015).

Rather than reducing uncertainty, ambiguities in relational governance may cause more uncertainty. For instance, the less explicit specification of duties and rights due to ambiguity of relational governance may lead to more conflicts between firms, thereby threatening the continuity of an existing relationship (Lumineau & Malhotra, 2011). Because firms in high uncertainty avoidance cultures need formal rules and structures to achieve predictability (Steensma et al., 2000) and maintain existing relationships (Handley & Angst, 2015), they have less confidence in the ambiguous nature of relational governance. Thus, as exchange hazards increase, firms in high uncertainty avoidance cultures are likely to use less relational governance than firms in low uncertainty avoidance cultures. Thus, we propose the following:

Hypothesis 3b: Uncertainty avoidance weakens the relationship between exchange hazards and relational governance.

META-ANALYSIS

Table 1 provides an overview of our meta-analytic methods. We follow the most recent meta-analysis studies (e.g., Krishnan, Geyskens, & Steenkamp, 2016; Marano, Arregle, Hitt, Spadafora, & van Essen, 2016; Zhong, Su, Peng, & Yang, 2017) as the baseline for our analysis.

Moderators and Control Variables

We operationalized collectivism, power distance, and uncertainty avoidance using Hofstede's cultural dimensions because they are widely used in strategy and IB research (e.g., Abdi & Aulakh, 2012; Barr & Glynn, 2004; Handley & Angst, 2015). Following prior practice (e.g., Cao & Lumineau, 2015), we first identified country affiliations of interfirm relationships in each study and then coded information on national cultures pertaining to these countries using Hofstede's cultural dimensions.

We controlled for the confounding effects of three groups of variables (see Appendix Table A1 for the measures of each variable). First, to control for the influence of other institutional variables, we included three measures of formal institutions and one measure of general trust for each country (e.g., Kwon, Haleblian, & Hagedoorn, 2016). Second, we controlled for the specific measures of exchange hazards, contractual governance, and relational governance. Third, we controlled for a series of sample characteristics of each study.

RESULTS

Meta-Analytic Results on the Exchange Hazards–Interfirm Governance Relationship

The correlation-based (*r*-based) and partial correlation-based (*pr*-based) meta-analytic results are shown in Table 2. Panel A shows the results for the exchange hazard–contractual governance relationship. The *r*-based effect size of the relationship was 0.04 (95% confidence interval (CI) = 0.03/0.05), suggesting that as exchange hazards increase by 1 SD, contractual governance increases by 0.04 SD on average. The *pr*-based effect size was similar. Both effect sizes were below 0.07, suggesting a small average effect size between exchange hazards and contractual governance (Doucouliagos, 2011). The *Q* statistics of the *r*-based and *pr*-based calculations were large and significant, suggesting a high variance in the distribution of both the *r*-based and *pr*-based effect sizes. The large values of I^2 (0.90 and 0.83) provided further evidence for the high variance (Huedo-Medina, Sánchez-Meca, Marín-Martínez, & Botella, 2006). The funnel plots in the first row of Figure 1 show that the distributions of both *r* and *pr* were wide.

The results in Panel B show that the *r*-based effect size of the exchange hazards–relational governance relationship was 0.12 (95% CI = 0.11/0.13). The results suggest that as exchange hazards increase by 1 SD, relational governance increases by 0.12 SD. The *pr*-based effect size was similar. Both the *r*-based and *pr*-based effect sizes were greater than 0.07 (Doucouliagos, 2011), suggesting a medium relationship between exchange hazards and relational governance. Thus, it seems that exchange hazards have a stronger relationship with relational governance than with contractual governance. As with the results in panel A, we also found large *Q* statistics and I^2 values, and the distributions of the correlations and partial correlations in the second row of Figure 1 were wide, all of which indicated the existence of heterogeneity across the studies.

In sum, the results show that exchange hazards are positively related to both contractual and relational governance. However, the mean effect size for each relationship was heterogeneous.

Table 1 An overview of the methodology

Literature search and filtering	Four complementary methods were used to identify relevant published and unpublished studies between 1985 and 2013: 1-Search of the ABI/Inform, Business Source Complete, Science Direct, and Web of Science database 2-Manual search through ten top-tier journals in management and related areas 3-Snowball technique and manual search through the reference and citations of the included papers and the relevant review papers (e.g., Geyskens et al., 2006; Schepker et al., 2014) to identify studies that we may have missed in the two prior steps 4-Contact of the authors for correlation matrixes when they were not reported Using all these approaches, we identified 2,591 articles We further narrowed down the identified studies in the following steps: 1-Exclusion of redundant and irrelevant studies 2-Exclusive of non-quantitative studies 3-Exclusion of studies whose unit of analysis is neither interfirm nor inter-organizational dyads 4-Exclusion of studies that did not report the minimum information (e.g., sample size) required by meta-analysis 5-To ensure that all samples in the selected studies were independent, exclusion of studies which used the same sample for the same effect size with other studies in the literature pool After the five steps, we had a final dataset of 167 articles
Study coding	Following the recommendations of Lipsey and Wilson (2001), we designed a protocol to code relevant information: 1-Using this protocol, the first author coded and an RA checked all *calculation-based information* (e.g., effect size), as such information is not highly subjective. For the *non-calculation-based information* (e.g., construct measurement), which required subjective judgment, the first two authors and the RA developed a coding strategy by examining 15 papers together 2-The first author and the RA then coded the rest of the articles independently, and inter-rater reliabilities (kappa) ranged from 93 to 98% for different relationships 3-All disagreement was resolved through discussion
Analysis procedures	We conducted our analysis in two stages: 1-We followed the HOMA meta-analytic procedures (Hedges & Olkin, 1985) and aggregated the effect sizes in each study to assess the *overall effect size* of the exchange hazards–interfirm governance relationship. We calculated the Q and I^2 statistics to assess the homogeneity of the effect size. As a robustness check, we also used Hunter and Schmidt's (2004) method to calculate the aggregated effect size 2-We used meta-regression analysis to examine our hypotheses. Because of the nested structure of our data, we used a multilevel modeling technique to address the interdependency of the effect sizes (Bijmolt & Pieters, 2001) In both stages, we used the partial correlation coefficient (*pr*) as an alternative effect size of correlation (*r*) (e.g., Marano et al., 2016)

Results of the Moderating Effects of National Culture

In this section, we present the meta-regression results of the moderating effects of national culture. It is noteworthy that the correlations among the three measures of formal institutions, among national cultural dimensions, and between national culture and formal institution measures were generally very high (see Table 3 for an illustration), an issue that has also been noted in the prior literature (Smith, 2006). To mitigate the multicollinearity concerns, we did not include formal institutional control variables when these variables had high correlations with certain national culture variables. For the same reason, we did not include all variables in a full model.

Table 4 displays the *r*- and *pr*-based meta-regression results for the exchange hazards–contractual governance relationship. In Model 1 (*r*-based), the coefficient for individualism was positive and significant ($\beta = 0.001$, $p < 0.05$), suggesting that as individualism increases by 1 SD (i.e., 29.49), the correlation between exchange hazards and contractual governance increases by approximately 0.03. Considering that the mean correlation between exchange hazards and contractual governance is approximately 0.04, the moderating effect of individualism is not small. Thus, H1a, which suggests that collectivism weakens the exchange hazards–

Table 2 Meta-analysis results for the exchange hazards–*interfirm governance* relationship

	K	*N*	*Mean*	*s.d.*	*95% C.I.*	*Q(p)*	I^2	*Fail-safe N*
Panel A. The relationship between exchange hazards and contractual governance								
Correlation-based calculation								
Exchange hazards	168	46,524	0.04	0.00	0.03/0.05	1718.94 (0)	0.90	441
• Asset specificity	90	24,786	0.06	0.01	0.05/0.08	1145.41 (0)	0.92	479
• Environmental uncertainty	58	14,289	−0.00	0.01	−0.02/0.02	345.59 (0)	0.84	62
• Behavioral uncertainty	20	7,494	0.02	0.01	−0.00/0.04	194.83 (0)	0.90	19
Partial correlation-based calculation								
Exchange hazards	75	17,699	0.05	0.01	0.04/0.07	445.96 (0)	0.83	312
• Asset specificity	36	7,979	0.10	0.01	0.08/0.13	158.78 (0)	0.78	337
• Environmental uncertainty	28	5,539	0.03	0.01	0.01/0.06	189.76 (0)	0.86	64
• Behavioral uncertainty	11	4,181	−0.02	0.02	−0.05/0.01	51.69 (0)	0.81	35
Panel B. The relationship between exchange hazards and relational governance								
Correlation-based calculation								
Exchange hazards	440	93,129	0.12	0.00	0.11/0.13	5819.89 (0)	0.92	4824
• Asset specificity	251	53,828	0.22	0.00	0.21/0.23	2232.09 (0)	0.89	5390
• Environmental uncertainty	146	29,646	−0.02	0.01	−0.03/−0.01	1711.1 (0)	0.92	460
• Behavioral uncertainty	43	9,655	−0.03	0.01	−0.05/−0.01	485.84 (0)	0.91	186
Partial correlation-based calculation								
Exchange hazards	167	34,828	0.08	0.01	0.07/0.09	1795.94 (0)	0.91	1124
• Asset specificity	96	19,157	0.15	0.01	0.13/0.16	654.17 (0)	0.85	1307
• Environmental uncertainty	52	10,848	0.01	0.01	−0.01/0.03	644.84 (0)	0.92	4
• Behavioral uncertainty	19	4,823	−0.05	0.01	−0.07/−0.02	287.45 (0)	0.94	107

Note: k = number of effect sizes; N = total sample size; mean = mean of population correlation (ρ); s.d. = standard deviation of ρ; 95% C.I. = 95% confidence interval of ρ; $Q(p)$ = Cochran's homogeneity test statistic (probability of Q); I^2 = scale free index of heterogeneity; fail-safe N = the measure of non-publication bias.

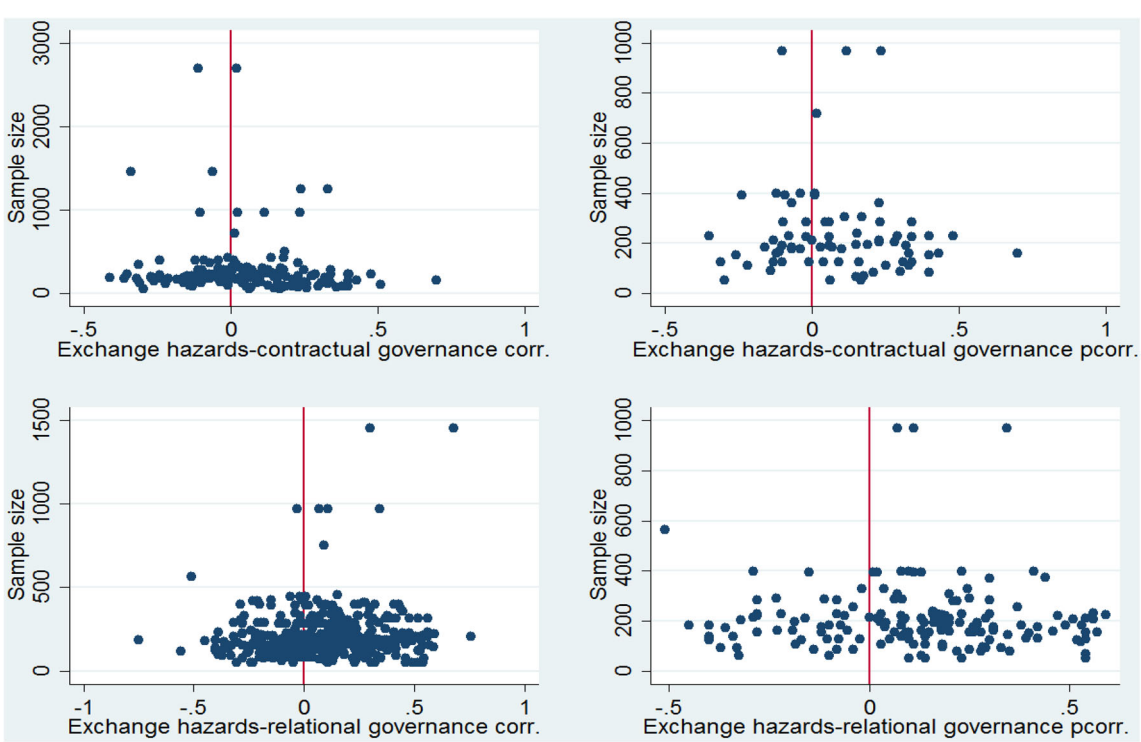

Figure 1 Funnel plots for the exchange hazards–interfirm governance relationships.

Table 3 Means and correlations for the exchange hazards–*contractual governance* relationship

	Mean	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Individualism	65.21	29.49	1.00												
(2) Power distance	50.66	16.47	−0.91	1.00											
(3) Uncertain avoidance	48.70	14.07	0.22	−0.47	1.00										
(4) Common law	0.53	0.50	0.66	−0.50	−0.15	1.00									
(5) Political constraint index	0.62	0.35	0.91	−0.95	0.57	0.48	1.00								
(6) Freedom index	69.98	10.34	0.89	−0.87	0.26	0.67	0.86	1.00							
(7) General trust	0.46	0.12	−0.30	0.36	−0.58	−0.48	−0.44	−0.33	1.00						
(8) Published	0.98	0.14	0.24	−0.11	−0.08	−0.04	0.20	0.22	0.04	1.00					
(9) Top journal	0.39	0.49	0.17	−0.02	−0.30	0.20	0.02	0.11	0.17	0.11	1.00				
(10) Single country	0.85	0.36	−0.01	0.13	−0.41	0.30	−0.13	0.03	0.12	−0.06	0.30	1.00			
(11) Cross-border	0.21	0.40	−0.17	0.09	0.08	−0.15	−0.09	−0.16	0.05	−0.16	0.05	0.08	1.00		
(12) Cultural distance	0.50	1.23	−0.20	0.19	−0.22	−0.14	−0.24	−0.22	0.24	−0.05	0.16	0.05	0.81	1.00	
(13) Manufacturing	0.62	0.49	0.00	0.12	−0.24	−0.01	−0.12	−0.03	0.20	0.08	0.05	−0.07	−0.12	0.05	1.00
(14) SME	0.19	0.39	−0.08	0.01	0.27	−0.38	0.03	−0.08	0.21	0.07	−0.26	−0.45	−0.09	−0.11	0.11
(15) Respondents' sp. inv.	0.38	0.49	0.15	−0.07	0.00	0.18	0.11	0.14	−0.07	0.01	0.20	0.18	−0.18	−0.22	0.09
(16) Partners' specific inv.	0.11	0.31	−0.09	0.03	−0.03	−0.02	−0.09	−0.10	−0.02	−0.11	−0.10	−0.03	0.15	0.10	0.00
(17) Market uncertainty	0.20	0.38	−0.12	0.14	−0.22	−0.12	−0.18	−0.16	0.22	−0.05	−0.09	0.03	0.33	0.43	0.13
(18) Technological unc.	0.14	0.33	0.02	0.01	0.04	0.06	0.04	0.03	−0.10	0.06	0.06	−0.05	−0.06	−0.09	0.00
(19) Behavioral unc.	0.11	0.32	0.04	−0.10	0.15	−0.12	0.07	0.01	0.01	0.05	−0.07	−0.20	−0.18	−0.14	−0.11
(20) Cg_formative	0.09	0.29	−0.01	−0.03	0.37	−0.20	0.12	0.05	−0.12	0.05	−0.12	−0.06	0.09	−0.13	−0.36
(21) Cg_single	0.25	0.43	0.38	−0.31	0.02	0.40	0.36	0.36	−0.17	0.08	0.06	−0.05	−0.26	−0.21	0.05

	Mean	SD	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
(14) SME	0.19	0.39	1.00							
(15) Respondents' sp. inv.	0.38	0.49	−0.07	1.00						
(16) Partners' specific inv.	0.11	0.31	0.00	−0.27	1.00					
(17) Market uncertainty	0.20	0.38	−0.08	−0.41	−0.18	1.00				
(18) Technological unc.	0.14	0.33	0.06	−0.33	−0.15	−0.12	1.00			
(19) Behavioral unc.	0.11	0.32	0.20	−0.28	−0.12	−0.18	−0.15	1.00		
(20) Cg_formative	0.09	0.29	0.13	0.08	−0.11	−0.10	−0.07	−0.04	1.00	
(21) Cg_single	0.25	0.43	−0.13	0.02	−0.05	−0.07	0.23	−0.11	−0.08	1.00

Note: $k = 152$.

Table 4 Multilevel meta-regression results of the exchange hazards–*contractual governance* relationship

	Correlation-based calculation			Partial correlation-based calculation		
	Model 1	Model 2	Model 3	Model 1′	Model 2′	Model 3′
H1a: individualism (+)	0.001*			0.001		
	(0.000)			(0.001)		
H2a: power distance (−)		−0.002*			−0.000	
		(0.001)			(0.002)	
H3a: uncertainty avoidance (+)			−0.001			0.004
			(0.002)			(0.004)
Common law		−0.056	−0.038		−0.049	0.131
		(0.070)	(0.124)		(0.036)	(0.134)
Political constraint index			0.176			
			(0.108)			
Freedom index			−0.002			−0.007
			(0.004)			(0.006)
General trust	0.272*	0.211	0.241	−0.142	−0.329	−0.015
	(0.128)	(0.156)	(0.345)	(0.166)	(0.233)	(0.256)
Published	−0.002	−0.006	−0.019			
	(0.038)	(0.029)	(0.060)			
Top journal	−0.145***	−0.137***	−0.140***	0.010	0.033	0.025
	(0.040)	(0.040)	(0.040)	(0.043)	(0.038)	(0.033)
Single country	−0.005	0.031	0.017	−0.039	−0.002	−0.024
	(0.060)	(0.075)	(0.076)	(0.074)	(0.077)	(0.073)
Cultural distance	−0.003	0.002	−0.002	−0.006	−0.003	−0.006
	(0.012)	(0.014)	(0.015)	(0.014)	(0.014)	(0.015)
Manufacturing	−0.051	−0.042	−0.046	−0.034	−0.041	−0.043
	(0.066)	(0.066)	(0.064)	(0.086)	(0.098)	(0.084)
SME	−0.113	−0.116	−0.122	−0.032	0.012	0.054
	(0.067)	(0.062)	(0.070)	(0.072)	(0.084)	(0.063)
Respondents' specific	0.027	0.021	0.032	0.093	0.101	0.100
Investments	(0.089)	(0.080)	(0.084)	(0.074)	(0.074)	(0.077)
Partners' specific	0.017	−0.000	0.018	0.389***	0.387***	0.379***
Investments	(0.051)	(0.054)	(0.056)	(0.084)	(0.085)	(0.085)
Market uncertainty	−0.059	−0.067	−0.058	0.132	0.130	0.123
	(0.071)	(0.068)	(0.071)	(0.084)	(0.084)	(0.088)
Technological uncertainty	0.007	0.001	0.013	0.089	0.092	0.092
	(0.071)	(0.065)	(0.067)	(0.070)	(0.071)	(0.071)
Behavioral uncertainty	−0.052	−0.061	−0.043	0.061	0.060	0.056
	(0.055)	(0.050)	(0.053)	(0.089)	(0.090)	(0.090)
Cg_formative	0.236	0.212	0.218	0.134	0.028	0.003
	(0.152)	(0.149)	(0.157)	(0.124)	(0.139)	(0.074)
Cg_single	−0.072	−0.042	−0.060	−0.104	−0.105	−0.131*
	(0.117)	(0.132)	(0.134)	(0.066)	(0.069)	(0.065)
Constant	0.006	0.254	0.163	−0.100	0.067	0.102
	(0.245)	(0.214)	(0.257)	(0.289)	(0.236)	(0.278)
Observations	152	152	152	61	61	61
# of study (# of country)	64 (16)	64 (16)	64 (16)	29 (10)	29 (10)	29 (10)
Variance (study)	0.001	0.000	0.000	0.000	0.000	0.000
Variance (country)	0.000	0.000	0.000	0.000	0.000	0.000

Note: Standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; publication year dummies included.

contractual governance relationship, was supported. The result was not significant in Model 1′ (*pr*-based). However, it could be attributed to the small sample size in this model ($k = 61$). In Model 2, the coefficient for power distance was significantly negative ($\beta = -0.002$, $p < 0.05$), suggesting that as power distance increases by 1 SD (i.e., 16.47), the correlation between exchange hazards and contractual governance decreases by approximately 0.03. Thus, H2a, which suggests a

negative moderating effect of power distance, was supported. The coefficient for power distance was not significant in Model 2′. Regarding uncertainty avoidance, we found that its coefficient was not significant in Models 3 and 3′, suggesting that uncertainty avoidance did not significantly moderate the exchange hazards–contractual governance relationship. Thus, H3a was not supported.

The results in Table 5 display the *r*- and *pr*-based meta-regression results for the exchange hazards–relational governance relationship. The coefficient for individualism was not significant in Model 1. However, the coefficient for *individualism* was significantly negative in Model 1′ ($\beta = -0.001$, $p < 0.01$), suggesting that as individualism increases by 1 SD, the partial correlation between exchange hazards and relational governance decreases by 0.027. Thus, H1b, which suggests that collectivism strengthens the exchange hazards–relational governance relationship, was moderately supported. In Models 2 and 2′, the coefficients for power distance were both significant and positive ($\beta = 0.003$ in both models), indicating that as power distance increases by 1 SD, the correlation and partial correlation between exchange hazards and relational governance increase by 0.046. Thus, H2b was supported. The coefficient for uncertainty avoidance was significantly negative ($\beta = -0.005$, $p < 0.01$) in Model 3, but not significant in Model 3′, suggesting that as uncertainty avoidance increases by 1 SD, the correlation between exchange hazards and relational governance decreases by 0.042. Thus, H3b was moderately supported.

To better understand the effects of national culture on the direction, other than the magnitude, of the exchange hazards–interfirm governance relationship, we calculated the predicted values of the effect size (correlation) of the relationship when the values of national culture increased from the mean − SD to the mean + SD based on the results in Tables 4 and 5. The results in Table 6 show that when the national cultural dimensions increase from their mean − SD to mean + SD, the predicted correlation between exchange hazards and contractual (relational) governance can flip (e.g., from −0.05 to 0.01). These results suggest that national culture can change both the magnitude and the direction of the relationship. Thus, national culture is an important factor explaining the inconsistent findings on the exchange hazards–interfirm governance relationship.

Robustness, Endogeneity Bias, and Non-Publication Bias

We checked for robustness, endogeneity, and non-publication bias using several steps. First, we reran the results in Tables 4 and 5 using the cultural scores in the GLOBE cultural framework and found similar results. Second, we assessed the endogeneity bias by calculating the impact threshold for a confounding variable (Frank, 2000). The results suggest that endogeneity bias was not significant for all relationships. Third, we assessed non-publication bias using the fail-safe N method and the "trim-and-fill" method (Hunter & Schmidt, 2004; Geyskens, Krishnan, Steenkamp, & Cunha, 2009). The results from both methods indicate that non-publication bias was not a serious issue, except with respect to the relationships between behavioral uncertainty and contractual and relational governance. All results are available upon request.

DISCUSSION

Theoretical Contributions

This study contributes to the literature in three main ways. First, the study refines our understanding of the exchange hazards–interfirm governance relationship by quantitatively aggregating existing empirical studies. To our knowledge, this is the first meta-analysis study on this relationship (see Appendix Table A2 for an overview of related meta-analyses). Our findings confirm that despite the past mixed results, exchange hazards, on average, have a positive though relatively small association with both contractual and relational governance. Thus, the arguments in TCE and relational theory that firms will use more contractual and relational governance to address exchange hazards were supported.

Second, our study furthers knowledge on the generalizability of the exchange hazards–interfirm governance relationship by examining its boundary conditions from a cultural perspective. We found that the exchange hazards–interfirm governance relationship was moderated by collectivism, power distance, and uncertainty avoidance. Therefore, future research should pay more attention to the moderating role of cultural factors when examining the exchange hazards–interfirm governance relationship. Moreover, by focusing on national culture, our study contributes to the existing IB literature by showing that not only formal (Zhou

Table 5 Multilevel meta-regression results of the exchange hazards–*relational governance* relationship

	Correlation-based calculation			Partial correlation-based calculation		
	Model 1	Model 2	Model 3	Model 1′	Model 2′	Model 3′
H1b: individualism (−)	−0.001			−0.001**		
	(0.001)			(0.000)		
H2b: power distance (+)		0.003*			0.003***	
		(0.001)			(0.001)	
H3b: uncertainty avoidance (−)			−0.005**			0.001
			(0.002)			(0.001)
Common law		0.079**	−0.015			
		(0.026)	(0.033)			
Political constraint index			−0.017			−0.177*
			(0.070)			(0.085)
Freedom index			−0.000			0.001
			(0.001)			(0.002)
General trust	0.419*	0.506**	0.102	0.262***	0.223***	0.188
	(0.175)	(0.172)	(0.117)	(0.057)	(0.045)	(0.112)
Published	−0.160*	−0.138	−0.171	0.070	−0.004	0.087
	(0.075)	(0.076)	(0.104)	(0.040)	(0.020)	(0.046)
Top journal	0.020	0.014	0.012	−0.066**	−0.052*	−0.054*
	(0.037)	(0.037)	(0.034)	(0.024)	(0.021)	(0.027)
Single country	−0.059	−0.113	−0.120*	0.002	−0.036	0.006
	(0.053)	(0.057)	(0.051)	(0.042)	(0.047)	(0.056)
Cultural distance	−0.003	−0.005	−0.008	−0.009	−0.012	−0.013
	(0.009)	(0.008)	(0.007)	(0.020)	(0.020)	(0.023)
Manufacturing	−0.000	0.000	−0.000	−0.006	−0.003	−0.003
	(0.004)	(0.004)	(0.004)	(0.033)	(0.030)	(0.033)
SME	−0.025	−0.027	−0.025	0.008	0.017	0.015
	(0.018)	(0.020)	(0.017)	(0.034)	(0.027)	(0.032)
Respondents' specific investments	0.082	0.089	0.101	0.041	0.042	0.047
	(0.065)	(0.065)	(0.065)	(0.087)	(0.085)	(0.095)
Partners' specific investments	0.218***	0.227***	0.238***	0.148*	0.149*	0.156*
	(0.055)	(0.055)	(0.055)	(0.058)	(0.059)	(0.072)
Market uncertainty	−0.148*	−0.135*	−0.131*	−0.123	−0.116	−0.112
	(0.064)	(0.064)	(0.064)	(0.074)	(0.075)	(0.085)
Technological uncertainty	−0.043	−0.034	−0.024	−0.022	−0.023	−0.019
	(0.060)	(0.062)	(0.062)	(0.088)	(0.087)	(0.095)
Behavioral uncertainty	−0.109	−0.101	−0.105	−0.148	−0.153	−0.146
	(0.104)	(0.106)	(0.104)	(0.116)	(0.115)	(0.124)
Trust	−0.079***	−0.055*	−0.056*	−0.074**	−0.070**	−0.078**
	(0.021)	(0.026)	(0.024)	(0.028)	(0.025)	(0.024)
Norms	−0.010	−0.007	−0.003	−0.046	−0.048	−0.042
	(0.028)	(0.028)	(0.029)	(0.038)	(0.037)	(0.045)
Rg_single	−0.141	−0.134	−0.128	−0.185**	−0.130*	−0.158*
	(0.084)	(0.073)	(0.068)	(0.061)	(0.051)	(0.068)
Constant	0.249*	−0.026	0.642**	0.137	−0.011	0.056
	(0.123)	(0.125)	(0.208)	(0.087)	(0.112)	(0.308)
Observations	420	420	420	161	161	161
# of study (# of country)	136 (33)	136 (33)	136 (33)	64 (16)	64 (16)	64 (16)
Variance (study)	0.005	0.005	0.002	0.000	0.000	0.000
Variance (country)	0.000	0.000	0.000	0.000	0.000	0.000

Note: Standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; publication year dummies included.

& Poppo, 2010) but also informal institutions matter to the exchange hazards–interfirm governance relationship.

Third, this study enhances our understanding of the role that national culture plays in interfirm governance. While extant studies show that

Table 6 An example of the predicted effect sizes between exchange hazards and interfirm governance[a]

National culture	Predicted correlation between exchange hazards and contractual governance			Predicted correlation between exchange hazards and relational governance		
	Mean − SD[b]	Mean	Mean + SD	Mean − SD	Mean	Mean + SD
Individualism	−0.05	−0.02	0.01	0.05	0.02	−0.00
Power distance	0.02	−0.02	−0.06	−0.002	0.03	0.07
Uncertainty avoidance	0.00	−0.01	−0.02	0.12	0.06	−0.00

Notes:
[a] The values of the rest of variables are set at their means, except for dummy variables. Depending on the choice of the values of the dummy variables, the results in this table may change.
[b] Mean and SD represent the mean and standardized deviation of the corresponding national cultural dimensions.

national culture moderates the relationship of interfirm governance with its *consequences* (Abdi & Aulakh, 2012; Handley & Angst, 2015), our study shows that national culture can also moderate the relationship of interfirm governance with its *antecedents*. The moderating effects of national culture on the latter relationship may be inconsistent with the effects on the former relationship. For instance, although Handley and Angst (2015) found that relational governance is more effective in reducing opportunism in higher uncertainty avoidance cultures, we found that, in such cultures, firms are less likely to *use* relational governance to address exchange hazards. As such, the true impact of relational governance on opportunism reduction in high uncertainty avoidance cultures may be lower than that estimated by Handley and Angst (2015). Thus, our study highlights the importance of investigating the effect of national culture not only on the relationship of interfirm governance with its consequences but also on the relationship with its antecedents.

Managerial Implications

Our study has implications for managers in charge of interorganizational relationships. Our findings show that the exchange hazards–interfirm governance relationship is moderated by national culture, and this relationship may reverse at different levels of cultural characteristics. In particular, the same culture may have different effects on the relationships between exchange hazards and different types of governance mechanisms. For instance, while power distance reduces the use of contractual governance to address exchange hazards, it increases the use of relational governance. Thus, we encourage managers to first assess their national culture and then to use appropriate governance mechanisms to address the exchange hazards in interfirm cooperation.

Limitations and Future Research

This study is subject to several limitations. First, as the effect sizes used in this study are correlations and partial correlations, a causal link between exchange hazards and interfirm governance cannot be established. Second, TCE suggests that asset specificity, environmental uncertainty, and behavioral uncertainty may have joint effects on governance. However, limited by the availability of data on interaction terms, we were not able to investigate the effects of the interaction terms. Future studies could extend our findings by considering additional interaction variables. Third, as other review studies have indicated (Geyskens, Steenkamp, & Kumar, 2006), it is almost impossible to account for all relevant studies. Although we have tried our best, we may have failed to consider certain studies in our analysis. Fourth, we encourage future research to extend our study with other factors at the individual and organizational levels, such as the rich literature on trust at multiple levels.

CONCLUSION

This study contributes to the interfirm governance literature by performing a meta-analysis of the exchange hazards–interfirm governance relationship. Our results highlight that the relationship is more complex than has been assumed. In particular, it is moderated by national culture, an important aspect of informal institutions.

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APPENDIX

Table A1 Measure of the control variables

Variables	Measure
Common law	= 1 if a country relied on a common law system (vs. other law systems such as civil laws)
Political constraint index	We used the variable POLCON V in the Political Constraint Index dataset (Henisz, 2000), which measures the extent of restrictions on policy changes and power distribution
Freedom index	We used the Index of Economic Freedom, which measures the quality of business behavior regulations in each country. This variable is compiled by the Heritage Foundation
General trust	Two items in the World Value Survey (i.e., most people can be trusted; do you think most people try to take advantage of you or to be fair to you) were averaged to form the measure of general trust
Published	= 1 is a study is published in a peer-reviewed journal; = 0 otherwise
Top journal	= 1 if a study is published in one of the top journals; = 0 otherwise. Top journals include: *Academy of Management Journal*, *Journal of International Business Studies*, *Journal of Marketing*, *Journal of Marketing Research*, *Journal of Management*, *Journal of Management Studies*, *Journal of Operations Management*, *Organization Science*, *Strategic Management Journal*
Single country	= 1 if a sample was from a single country; = 0 otherwise
Cross-border	= 1 if an interfirm relationship was cross-border; = 0 otherwise
Cultural distance	The mean cultural distance in a study that involved a cross-border relationship
Manufacturing	= 1 if the industry was manufacturing; = 0 otherwise
SME	= 1 if a study included only small and medium enterprises; = 0 otherwise
Respondents' specific investment	= 1 if the specific investments were made by the respondents; = 0 otherwise
Partners' specific investment	= 1 if the specific investments were made by the respondents' partners; = 0 otherwise
Market uncertainty	The ratio of the items measuring market uncertainty to all measures of environmental uncertainty
Technological uncertainty	The ratio of the items measuring technological uncertainty to all measures of environmental uncertainty
Behavioral uncertainty	= 1 if the exchange hazards are about behavioral uncertainty (e.g., performance ambiguity); = 0 otherwise
Cg_formative	= 1 if the measures of contractual governance were formative; = 0 otherwise
Cg_single	= 1 if the measure of contractual governance was a single item; = 0 otherwise
Trust	= 1 if the measure of relational governance focuses on trust; = 0 otherwise
Norms	= 1 if the measure of relational governance focuses on relational norms; = 0 otherwise
Rg_single	= 1 if the measure of relational governance is a single item; = 0 otherwise
Publication year	The dummies for the publication year of each study

Table A2 Review papers on exchange hazards–interfirm governance–performance relationships[a]

Review methods	Interfirm relationships		Non-interfirm	
	Exchange hazards–governance	Governance–performance	Exchange hazards–governance[b]	Governance–performance
Quantitative: meta-analysis	Gap addressed in our study	Cao & Lumineau (2015), Crosno & Dahlstrom (2008), Geyskens et al. (2006), Krishnan et al. (2016) and Zhong et al. (2017)	Crook, Combs, Ketchen, and Aguinis (2013), Geyskens et al. (2006), Kirca et al. (2011), Steenkamp & Geyskens (2012) and Zhao, Luo, and Suh (2004)	Geyskens et al. (2006) and Steenkamp & Geyskens (2012)
Quantitative: vote counting	David & Han (2004)	–	David & Han (2004)	–

Review methods	Interfirm relationships		Non-interfirm	
	Exchange hazards–governance	Governance–performance	Exchange hazards–governance[b]	Governance–performance
Qualitative	Carter & Hodgson (2006), Macher & Richman (2008), Rindfleisch & Heide (1997) and Shelanski & Klein (1995)	Macher & Richman (2008) and Rindfleisch & Heide (1997)	Carter & Hodgson (2006), Macher & Richman (2008), Rindfleisch & Heide (1997) and Shelanski & Klein (1995)	Macher & Richman (2008)

[a] Although Geyskens et al. (2006) and Steenkamp and Geyskens (2012) investigate the relationships between exchange hazards and relational governance, we do not classify these two studies into the group under the interfirm group. The focus of these two studies is the choice between hierarchical and relational governance, not the choices of different interorganizational governance mechanisms (e.g., contract, trust, relational norms).
[b] Governance mechanisms include vertical integration, hierarchy vs. relational governance, ownership-based entry mode, and multinationality.

Table A3 Studies included in the meta-analysis and the reported effect sizes

Study	Publication	Country	*N*	Contractual governance		Relational governance	
				# of *r*/*pr*	Average *r*/*pr*	# of *r*/*pr*	Average *r*/*pr*
Abdi and Aulakh (2012)	JIBS	USA	184	4/4	−0.03/−0.05	4/4	0.07/0.07
Adler, Scherer, Barton, and Katerberg (1998)	JAMStudies	USA	181	10/	−0.15/	–	–
Andersen and Buvik (2001)	Omega	USA	126	–	–	2/	0.32/0.18
Andersen and Buvik (2001)	Omega	USA	49	–	–	2/	0.32/0.46
Antia and Frazier (2001)	JMkt	USA	213	3/3	0.03/0.02	3/	0.02/
Ariño, Ragozzino, and Reuer (2008)	JMS	Spain	67	2/	0.21/	–	–
Arranz and de Arroyabe (2012)	BJM	Europe	163	3/	−0.02/	3/	0.03/
Arranz and de Arroyabe (2012)	BJM	Europe	208	3/	0.01/	3/	−0.04/
Artz and Brush (2000)	JEBO	USA	393	–	–	6/6	0.04/0.19
Artz and Norman (2002)	JMI	USA	393	2/2	−0.17/−0.13	–	–
Aulakh and Gençtürk (2008)	JMS	USA	91	3/1	−0.10/−0.21	–	–
Aulakh, Kotabe, and Sahay (1996)	JIBS	USA	181	–	–	8/	0.11/
Barthelemy and Quelin (2006)	JMS	USA and Europe	82	2/2	0.31/0.14	–	–
Bello and Gilliland (1997)	JMkt	USA	160	–	–	2/2	−0.01/0.00
Bello, Chelariu, and Zhang (2003)	JBR	USA	290	–	–	6/2	0.03/0.02
Bensaou and Anderson (1999)	OS	USA and Japan	447	–	–	3/	−0.02/
Bercovitz, Jap, and Nickerson (2006)	OS	USA	182	–	–	2/2	0.02/0.06
Bianchi and Saleh (2010)	IMR	Bangladeshi	204	–	–	1/	0.25/
Bianchi and Saleh (2010)	IMR	Chile	232	–	–	1/	0.11/
Bianchi and Saleh (2011)	JBR	Chile	204	–	–	1/1	−0.32/−0.07
Blome, Schoenherr, and Kaesser (2013)	JSCM	Austria, Germany, and Switzerland	97	1/	0.23/	1/	0.02/
Brown, Crosno, and Dev (2009)	JMTP	North America	358	–	–	2/	0.30/
Brush and Rexha (2007)	JIM	Singapore	374	–	–	1/1	0.44/−0.04
Burkert, Ivens, and Shan (2012)	IMM	Germany	297	1/	−0.04/	1/	0.14/
Burki and Buvik (2013)	Working	Pakistan	131	2/	0.11/	2/2	0.41/0.21
Buvik (2002)	JBBM	USA	160	1/1	0.33/0.10	–	–
Buvik and Grønhaug (2000)	Omega	Norway	157	–	–	2/2	0.33/0.30
Cai and Yang (2008)	JSCM	China	278	3/	0.22/	1/2	0.22/0.21
Cannon, Achrol, and Gundlach (2000)	JAMS	USA	424	3/	0.10/	3/	−0.03/

Study	Publication	Country	*N*	Contractual governance		Relational governance	
				# of *r*/*pr*	Average *r*/*pr*	# of *r*/*pr*	Average *r*/*pr*
Carson, Madhok, and Wu (2006)	AMJ	USA	125	3/2	−0.08/−0.01	3/	0.08/
Celly, Spekman, and Kamauff (1999)	JIBS	USA	163	–	–	2/2	0.22/0.16
Chao (2011)	IJBM	Tanzania	85	4/	0.12/	4/4	0.00/−0.05
Charterina and Landeta (2010)	EJIM	Spain	106	1/	0.24/	1/	0.25/
Chung and Jin (2011)	JBIM	Korea	109	–	–	1/	0.31/
Claro, Hagelaar, and Omta (2003)	IMM	The Netherlands	174	–	–	9/6	0.17/0.04
Claro, de Oliveira Claro, and Hagelaar (2006)	SCMIJ	The Netherlands	67	–	–	2/1	0.34/0.49
Corsten, Gruen, and Peyinghaus (2011)	JOM	Germany	346	–	–	1/	0.09/
Dahlstrom, McNeilly, and Speh (1996)	JAMS	USA	189	–	–	6/	−0.01/
de Jong and Klein Woolthuis (2009)	IMPP	The Netherlands	391	1/1	0.01/0.04	1/	−0.04/
Delerue-Vidot (2006)	MD	Europe	344	1/	−0.31/	–	–
Dewald, Hall, Chrisman, and Kellermanns (2007)	ETP	Canada	49	–	–	1/	0.52/
Dyer and Chu (2003)	OS	USA, Japan, and Korea	344	–	–	2/	0.04/
Ebers and Oerlemans (2016)	JoM	Germany	223	4/	−0.04/	2/	0.14/
Everaert, Sarens, and Rommel (2010)	SBE	Belgium	119	–	–	3/	0.00/
Everaert et al. (2010)	SBE	Belgium	126	–	–	3/	−0.09/
Fallan (2000)	JAAR	Norway	117	–	–	1/	−0.25/
Gainey and Klaas (2003)	JoM	USA	151	2/2	0.07/−0.03	2/1	0.38/0.12
Ganesan (1994)	JMkt	USA	52	–	–	8/2	0.16/0.24
Ganesan (1994)	JMkt	USA	120	–	–	8/	0.13/
Gaur, Mukherjee, Gaur, and Schmid (2011)	JMS	Germany	565	–	–	1/1	−0.51/−0.32
Gençtürk and Aulakh (2007)	JIM	USA	129	–	–	1/	0.06/
Ghosh and John (2009)	JMR	USA	191	3/3	0.09/0.02	–	–
Gilliland and Bello (2002)	JAMS	USA	314	1/	0.01/	1/	0.31/
Gopal and Koka (2012)	MISQ	India	105	–	–	2/2	0.09/0.29
Gulati and Nickerson (2008)	OS	USA	222	–	–	2/2	0.05/−0.00
Han, Trienekens, and Omta (2011)	IJPE	China	229	4/4	0.21/0.25	4/4	0.09/0.15
Handfield and Bechtel (2002)	IMM	North America	97	2/	0.20/	2/2	0.23/0.13
Heide and John (1990)	JMR	USA	155	–	–	15/8	0.13/0.12
Heide and John (1992)	JMkt	USA	155	–	–	1/	0.16/
Heide and Miner (1992)	AMJ	USA	60	–	–	3/3	0.04/−0.05
Heide and Miner (1992)	AMJ	USA	155	–	–	3/3	−0.06/−0.00
Hendrikse and Windsperger (2011)	NDTN	Austria	52	3/3	−0.02/−0.15	3/	0.11/
Hoffmann, Neumann, and Speckbacher (2010)	EMR	Austria and Germany	151	–	–	3/	−0.11/
Homburg, Cannon, Krohmer, and Kiedaisch (2009)	JIM	USA	227	3/3	0.13/0.20	3/3	−0.02/0.12
Homburg et al. (2009)	JIM	Germany	284	3/3	0.13/0.05	3/3	−0.02/0.03
Hui and Tsang (2006)	JQME	Hong Kong	74	–	–	4/	−0.01/
Jap and Ganesan (2000)	JMR	USA	1457	2/	−0.20/	2/	0.49/
Jean, Sinkovics, and Kim (2010)	JIM	Taiwan	100	–	–	1/	0.12/
Jean et al. (2010)	JIM	Taiwan	133	–	–	1/	0.23/
Joshi and Campbell (2003)	JAMS	USA	221	–	–	4/4	0.12/0.12
Joshi and Stump (1999b)	JBBM	USA	183	–	–	3/	0.20/
Joshi and Stump (1999a)	JAMS	Canada	184	–	–	6/3	0.02/0.13
Judge and Dooley (2006)	BJM	USA	91	1/	0.13/	1/	−0.11/

Study	Publication	Country	*N*	Contractual governance		Relational governance	
				# of *r*/*pr*	Average *r*/*pr*	# of *r*/*pr*	Average *r*/*pr*
Katsikeas, Skarmeas, and Bello (2009)	JIBS	USA	214	–	–	6/3	−0.02/0.03
Kim, Park, Ryoo, and Park (2010)	JBR	Korea	69	–	–	1/	0.24/
Klijn, Reuer, Van den Bosch, and Volberda (2013)	JMS	The Netherlands	94	1/	−0.14/	1/	−0.39/
Krishnan, Martin, and Noorderhaven (2006)	AMJ	India	126	–	–	2/	−0.04/
Kumar, Scheer, and Steenkamp (1995)	JMR	USA	289	–	–	2/	−0.30/
Kumar et al. (1995)	JMR	The Netherlands	417	–	–	2/	−0.22/
Kumar, Heide, and Wathne (2011)	JMkt	USA	80	–	–	12/	0.00/
Kwon and Suh (2004)	JSCM	USA	171	–	–	3/3	0.09/−0.08
Lado, Dant, and Tekleab (2008)	SMJ	USA	409	–	–	2/	0.28/
Lai, Li, and Lai (2013)	DS	China	208	–	–	4/2	0.52/0.38
Lai, Tian, and Huo (2012)	IJPR	China	119	–	–	2/	−0.37/
Lane, Salk, and Lyles (2001)	SMJ	Hungary	78	–	–	1/	−0.05/
Lee and Johnson (2010)	DS	USA	128	1/	0.22/	1/	0.11/
Li and Lin (2006)	DSS	USA	196	–	–	3/3	−0.03/−0.03
Li and Ng (2002)	IBR	China	206	–	–	1/	0.76/
Li, Humphreys, Yeung, and Edwin Cheng (2007)	IJPE	Hong Kong	142	–	–	2/	0.28/
Li, Li, Liu, and Yang (2010)	JOM	China	140	1/	0.10/	1/	0.13/
Li, Poppo, and Zhou (2010)	SMJ	China	168	1/	−0.18/	1/	0.11/
Lin, Huang, Lin, and Hsu (2012)	IMM	Taiwan	195	2/2	0.17/0.18	–	–
Liu, Luo, and Liu (2009)	JOM	China	225	1/	−0.07/	2/	0.47/
Lo, Frias, and Ghosh (2012)	OS	USA	191	3/	−0.25/	6/	0.32/
Lui and Ngo (2004)	JoM	Hong Kong	233	1/	−0.05/	2/	0.14/
Lui, Ngo, and Hon (2006)	JBR	Hong Kong	228	1/	−0.08/	1/1	0.03/−0.16
Lui, Wong, and Liu (2009)	JBR	Hong Kong	230	1/1	−0.08/−0.20	1/1	0.56/0.85
Lumineau and Malhotra (2011)	SMJ	Europe	102	1/	0.51/	–	–
Lumineau and Oxley (2012)	OS	Europe	102	–	–	1/	−0.07/
Luo, Liu, Zhang, and Huang (2011)	JAMS	China	225	1/	0.10/	2/1	0.17/0.14
Luo (2002)	JoM	China	255	–	–	1/1	−0.04/−0.06
Luo (2005)	JIBS	China	110	3/3	0.12/0.13	–	–
McNally and Griffin (2004)	JSCM	USA	126	–	–	4/4	−0.04/−0.07
Mellewigt, Madhok, and Weibel (2007)	MDE	Germany	68	1/1	0.18/0.06	1/	0.07/
Mesquita and Brush (2008)	AMJ	USA	239	12/1	0.14/0.22	12/1	0.15/0.22
Mesquita, Anand, and Brush (2008)	SMJ	USA	253	–	–	12/	0.18/
Mohr and Puck (2013)	MIR	China	110	–	–	1/	−0.08/
Mooi and Ghosh (2010)	JMkt	The Netherlands	718	1/1	0.02/−0.05	–	–
Mooi and Gilliland (2013)	IJRM	The Netherlands	497	1/	0.18/	–	–
Mumdziev and Windsperger (2013)	MDE	Germany	127	–	–	3/	−0.12/
Murray and Kotabe (2005)	JBR	USA	103	–	–	1/	0.13/
Nesheim (2001)	EJPSM	Norway	78	–	–	3/4	0.28/0.24
Nooteboom, Berger, and Noorderhaven (1997)	AMJ	The Netherlands	97	–	–	1/	0.02/
Nyaga, Whipple, and Lynch (2010)	JOM	USA	255	–	–	1/1	0.37/−0.02
Nyaga et al. (2010)	JOM	USA	370	–	–	1/1	0.30/0.04
Omar and Blankson (2000)	JSM	UK	120	–	–	1/	−0.03/
Palmatier, Dant, and Grewal (2007)	JMkt	USA	396	–	–	4/2	0.35/0.03
Parkhe (1993)	AMJ	USA	111	1/	0.26/	–	–

Study	Publication	Country	*N*	Contractual governance		Relational governance	
				# of *r*/*pr*	Average *r*/*pr*	# of *r*/*pr*	Average *r*/*pr*
Parmigiani and Mitchell (2010)	EMR	North America	193	4/	−0.15/	4/	−0.07/
Perry, Sengupta, and Krapfel (2004)	JBR	USA	106	–	–	1/	−0.07/
Poppo and Zenger (2002)	SMJ	USA	285	6/3	0.10/0.01	18/3	0.03/0.01
Poppo, Zhou, and Ryu (2008)	OS	USA	137	–	–	4/4	−0.13/−0.06
Poppo, Zhou, and Zenger (2008)	JMS	USA	181	–	–	3/1	0.04/0.00
Ren, Oh, and Noh (2010)	IMM	China	224	1/	0.40/	1/1	0.59/0.30
Reuer and Ariño (2002)	JoM	Spain	71	2/	0.20/	–	–
Reuer and Ariño (2007)	SMJ	Spain	88	1/1	0.30/0.23	–	–
Reuer, Ariño, and Mellewigt (2006)	JBV	Germany	66	1/1	0.15/−0.14	–	–
Reuer, Tong, Tyler, and Ariño (2013)	SMJ	China	2700	2/	−0.05/	–	–
Rooks, Raub, and Tazelaar (2006)	JMG	The Netherlands	1252	2/	0.29/	–	–
Rokkan, Heide, and Wathne (2003)	JMR	USA	198	–	–	4/	0.00/
Ryu and Eyuboglu (2007)	IMM	USA	162	–	–	1/1	−0.23/−0.29
Ryu (2005)	SJB	USA	174	–	–	1/	−0.13/
Ryu, Lim, and Hong (2009)	JBBM	USA	172	–	–	2/1	−0.25/−0.26
Ryu, Min, and Zushi (2008)	JBIM	USA	135	–	–	1/	−0.14/
Selnes and Sallis (2003)	JMkt	Scandinavia	315	–	–	8/	0.45/
Sezen and Yilmaz (2007)	JBIM	Turkey	192	–	–	8/6	0.20/0.05
Siguaw, Baker, and Simpson (2003)	JBR	USA	453	–	–	1/	0.15/
Skarmeas and Katsikeas (2001)	IMM	UK	177	–	–	2/	0.27/
Son, Narasimhan, and Riggins (2005)	JMIS	USA	233	–	–	3/	0.06/
Styles, Patterson, and Ahmed (2008)	JIBS	Thailand	125	–	–	3/	0.05/
Styles et al. (2008)	JIBS	Australia	170	–	–	3/	0.09/
Subramani and Venkatraman (2003)	AMJ	Canada	211	–	–	15/10	0.12/0.07
Suh and Kwon (2006)	IMM	USA	170	–	–	/3	/−0.11
Susarla, Barua, and Whinston (2009)	JMIS	USA	167	2/1	−0.05/0.02	2/	0.18/
Svendsen and Haugland (2011)	IBR	Norway, Sweden, and Finland	160	3/3	0.34/0.06	4/1	0.23/−0.07
Tian, Lai, and Daniel (2008)	IMDS	China	115	–	–	1/1	0.53/0.37
Vandaele and Gemmel (2007)	Working	Belgium	124	8/8	0.04/0.02	4/4	0.06/0.02
Wang, Tai, and Grover (2013)	MISQ	Taiwan	144	–	–	4/1	0.09/0.21
Wang, Yeung, and Zhang (2011)	IJPE	China	315	1/	0.06/	1/	0.03/
Wang, Li, Ross Jr, and Craighead (2013)	JAMS	China	400	–	–	2/	0.03/
Wasti and Wasti (2008)	JIBS	Turkey	106	–	–	1/1	0.11/0.01
Wei, Wong, and Lai (2012)	IJPE	Taiwan	154	–	–	1/	0.12/
Whipple, Lynch, and Nyaga (2010)	IMM	USA	334	–	–	1/	0.29/
Wu and Choi (2004)	APJM	Hong Kong	108	–	–	1/	0.31/
Wuyts and Geyskens (2005)	JMkt	The Netherlands	177	3/3	0.00/−0.01	–	–
Yang, Zheng, and Zhao (2014)	SMJ	USA	753	–	–	1/	0.09/
Yang, Su, and Fam (2012)	JMkt	China	205	2/2	0.26/0.18	2/2	0.18/0.27

Study	Publication	Country	*N*	Contractual governance		Relational governance	
				# of *r*/*pr*	Average *r*/*pr*	# of *r*/*pr*	Average *r*/*pr*
Yang, Wacker, and Sheu (2012)	IJPR	17 countries	969	4/3	0.07/0.10	4/3	0.12/0.14
Young-Ybarra and Wiersema (1999)	OS	USA	91	–	–	8/4	0.07/−0.01
Yu, Liao, and Lin (2006)	IMM	China	77	2/	0.22/	1/	0.46/
Zaheer and Venkatraman (1995)	SMJ	USA	329	–	–	9/3	0.08/0.06
Zaheer, McEvily, and Perrone (1998)	OS	USA	107	–	–	4/2	−0.11/0.05
Zhang and Zhou (2013)	IMM	China	343	1/	0.02/	1/	0.12/
Zhang, Jia, and Wan (2009)	Unpub	China	244	–	–	2/	0.04/
Zhao and Wang (2011)	JSM	China	306	3/2	0.11/0.09	3/2	−0.01/0.16
Zhou and Poppo (2010)	JIBS	China	399	3/3	−0.05/−0.04	3/3	−0.04/−0.03
Zhou, Poppo, and Yang (2008)	JIBS	China	361	2/2	0.08/0.13	–	–

Note: AMJ = Academy of Management Journal, APJM = Asia Pacific Journal of Management, BJM = British Journal of Management, DS = Decision Science, DSS = Decision Support System, EJIM = European Journal of Innovation Management, EJPSM = European Journal of Purchasing and Supply Management, EMR = European Management Review, ETP = Entrepreneurship Theory and Practice, IBR = International Business Review, IJBM = International Journal of Business and Management, IJPE = International Journal of Production Economics, IJPR = International Journal of Production Research, IJRM = International Journal of Research in Marketing, IMDS = Industrial Management and Data Systems, IMM = Industrial Marketing Management, IMPP = Innovation: Management, Policy and Practice, IMR = International Marketing Review, JARR = Journal of Applied Accounting Research, JAMS = Journal of the Academy of Marketing Science, JAMStudies = Journal of Applied Management Studies, JBBM = Journal of Business to Business Marketing, JBIM = Journal of Business and Industrial Marketing, JBR = Journal of Business Research, JBV = Journal of Business Venturing, JEBO = Journal of Economic Behavior and Organization, JIBS = Journal of International Business Studies, JIM = Journal of International Marketing, JMG = Journal of Management and Governance, JMI = Journal of Managerial Issues, JMIS = Journal of Management Information Systems, JMkt = Journal of Marketing, JMR = Journal of Marketing Research, JMS = Journal of Management Studies, JMTP = Journal of Marketing Theory and Practice, JOM = Journal of Operations Management, JoM = Journal of Management, JQME = Journal of Quality in Maintenance Engineering, JSCM = Journal of Supply Chain Management, JSM = Journal of Strategic Marketing, MD = Management Decision, MDE = Managerial and Decision Economics, MIR = Management International Review, MISQ = MIS Quarterly, NDTN = New Developments in the Theory of Networks, Omega = Omega, OS = Organization Science, SBE = Small Business Economics, SCMIJ = Supply Chain Management: An International Journal, SJB = Seoul Journal of Business, SMJ = Strategic Management Journal, Unpub = Unpublished, Working = Working Paper.

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