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Abstract

This study examines how transactional characteristics and the institutional environment influence contractual governance for international joint ventures (IJVs). Unlike previous studies that view joint venture contractual governance as a unidimensional construct (clause specificity), thus causing a debate upon whether IJV contracts should be more specific, contractual governance herein is defined as a three-dimensional construct that includes the extent to which contractual terms are clearly specified (term specificity), possible contingencies are accounted for (contingency adaptability), and joint venture parties are legally bound to the contract (contractual obligatoriness). Our analysis of IJVs in China suggests that term specificity and contractual obligatoriness increase when the proprietariness of resources to be invested in the IJV or the incompleteness of the host country's legal system increase. Contractual obligatoriness appears to be an increasing function of economic exposure and environmental volatility, whereas contingency adaptability in a contract rises when interparty dependency, investment uncertainty, and knowledge proprietariness intensify or when environmental hazards escalate. These results suggest that an IJV contract, if structured multidimensionally as above, can curtail opportunism and guide venture evolution at the same time. These contractual dimensions should not be prefixed but properly aligned with transactional and institutional characteristics. This alignment has strong implications in reducing transaction costs and spurring IJV evolution in the complex and volatile institutional environment.

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Introduction

Opportunism is a central concept in the study of hybrid governance structures (Williamson, 1991), especially cross-border, cross-organizational joint ventures (Hennart, 1988; Parkhe, 1993; Oxley, 1997). One means to mitigate opportunism is to improve appropriate contractual governance that stipulates each party's rights, duties, and responsibilities as well as the joint venture's goals, orientations, and plans. Appropriate contractual governance can reduce conflicts, spur interpartner cooperation, and protect proprietary knowledge (Hill, 1990; Oxley, 1999; Reuer and Arino, 2002). It is incorrect, however, to assume that *all* transaction-specific investments necessitate the same contractual governance. Macneil (1978) and Williamson (1991) hold that contractual governance should vary according to the type of transaction, namely classical (e.g., sales), neoclassical (e.g.,

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franchise), or relational (e.g., joint venture). This is because these different types of transaction or governance mode have heterogeneous transactional characteristics in terms of uncertainty, recurrence frequency, and asset specificity (Williamson, 1979).

Departing from Williamson's (1979, 1981, 1991) research, this study argues that, *within* a particular type of governance mode, namely equity joint ventures in an international setting, contractual governance is determined by transactional characteristics as well as by the institutional environment facing transacting parties. Unlike governance modes that define different types of transaction, such as one-shot sales, licensing or franchising agreement, contractual alliance, equity joint venture or greenfield investment, contractual governance for an equity joint venture is specifically concerned with contract specification and codification that describes each party's rights and responsibilities and guides joint decisions and activities ahead. Oxley (1999) suggests that institutional environments such as intellectual property protection regime, political risk, and investment regulations exert an important influence on the choice between equity and contractual alliance. In particular, firms adopt more hierarchical governance modes when intellectual property protection is weak. Oxley (1999) further demonstrates that transactional characteristics and institutional environments affect governance modes at the same time. Since Oxley (1999) focused on the choice between equity and contractual alliance forms as a dependent variable, and did not examine how such transactional and institutional parameters may influence a joint venture contract's specification, we seek to extend her study by modeling the contract stipulation for one particular form of alliance (equity-based international joint ventures, or IJVs) as a dependent variable. Using IJVs in China as the analytical setting, this study tries to verify whether contractual governance is influenced by certain transactional characteristics (knowledge proprietariness, economic exposure, and interpartner dependence) *and* by the institutional environment (appropriability hazards, governmental interference, and environmental volatility). As Masten (1993), Oxley (1999), and Reuer and Arino (2002) state, empirical efforts to diagnose these determinants, especially in an international setting, have thus far been inadequate. We propose that contractual attributes for an IJV differ based on characteristics of the transaction and the institutional environment. We submit that

IJV parties use contractual design to counteract investment risks and attenuate hazards stemming from the institutional environment.

To further our understanding of contractual governance, this study defines it as a multidimensional construct comprising three dimensions or attributes, namely the extent to which (1) contractual terms are clearly specified (term specificity), (2) possible contingencies are accounted for (contingency adaptability), and (3) joint venture parties are legally bound to the contract (contractual obligatoriness). This conceptualization captures the functions of contractual design, such as reducing opportunism without losing adaptation. IJVs are a rich setting for assessing the transactional and environmental determinants of contractual governance because they often involve far more unanticipated events than do domestic business contracts or non-recurring transactions (e.g., one-time sales). Despite its single-country limitation, this study's country seeing – China – is appropriate for studying IJVs, especially for checking how the nation's institutional environment impacts on contractual governance.

Contractual governance in IJVs

Every contract has the purpose of facilitating exchange and mitigating the threat of opportunism. Contractual terms that stipulate each party's rights, duties, and responsibilities under various sets of environmental conditions have strong implications for transaction cost minimization and joint payoff maximization (Cheung, 1983; Macneil, 1974). Such terms can attenuate the leeway for opportunism, restrain moral dilemmas in a cooperative relationship, and protect each party's knowledge from uncompensated leakage (Hackett, 1993). Williamson (1979) holds that more complex (and often costly) governance structures are chosen for transactions prone to these hazards so as to minimize the threat of opportunistic behavior.

Opportunism is an especially important issue for economic activities that involve long-term investments in human and physical capital. Given the complex and evolving relationship between investing parties, IJVs are highly susceptible to opportunistic behavior generated by costly subgoal pursuits. This hazard, along with the prospect of frequent conflict between partners, necessitates a well-specified complete contract that codifies each party's responsibilities and rights. On the other hand, IJVs face many contingencies during the long course of their evolution in host countries, and

contingencies in a new territory are largely unanticipated and unpredictable. Thus, contracting parties cannot incorporate all possible contingency plans into their contract, owing to bounded rationality (Bernheim and Whinston, 1998; Busch and Horstmann, 1992). We suggest that resolving the dilemma of how to prevent opportunism while allowing leeway for adaptation requires contractual governance to be structured as a multidimensional construct that can simultaneously balance strong incentives for joint venture evolution and collaboration and reduce the likelihood of opportunistically seeking unilateral benefits. When contractual governance is interpreted only as a unidimensional concept, such as term specificity (e.g., Al-Najjar, 1995; Spier, 1992), it becomes too rigid to respond to environmental changes, and cannot simultaneously promote adaptation while mitigating opportunism. Such rigidity is magnified when contracts involve long-term, cross-border cooperation in which environmental deterrents such as intellectual property rights protection and governmental policies are largely unpredictable.

This study treats contractual governance as a three-dimensional concept containing term specificity, contingency adaptability, and contractual obligatoriness. *Term specificity* is the extent to which all relevant terms and clauses are included and specified in a contract; it influences contractual governance by controlling opportunism and specifying how a joint venture should be established, organized, and managed. For instance, some IJV contracts may not specify such terms as production scope and scale, managerial duties, or *force majeure* conditions. Moreover, various managerial and organizational issues such as labor management, financing, unit of working currency, financial budget, and employee welfare may or may not be specified in an IJV contract, depending on transactional needs and environmental conditions. For a specific clause or issue, degree of specification may also vary, depending on the needs or conditions being faced. For example, on the accounting issue, a highly specified contract may explicitly delineate the fiscal year period, dividend policies, allocation of retained earnings, currency and language used in bookkeeping and financial statements, auditing, working capital management, and report policies to board members. In contrast, an ambiguous specification may describe only how to share and allocate retained earnings after tax. With respect to financial information reporting to board members, one

contract may explicitly specify that IJV managers should electronically submit the balance sheet and the income statement to each board member every month, whereas another contract may only generally specify that 'accounting information should be reported to the board whenever needed'. Term specificity codifies the rights, duties, and responsibilities of each party, thus restraining each party from taking opportunistic action. Specificity alone, however, does not sufficiently define contractual governance, because it fails to reflect how much a contract allows for adaptation. Many issues relating to IJV operations and interpartner cooperation cannot be accurately and explicitly specified in a contract. Such lack of specificity often affords an elastic framework around which real working relations vary. If term specificity represents the entire governance of the contract, it is unlikely to be cost-effective to place high specificity *ex ante* for complicated IJV operations in the future.

Contingency adaptability refers to the extent to which a contract accounts for possible contingencies and delineates relevant guidelines for handling these contingencies. Contracts for long-term hybrid governance structures (such as IJVs) require adaptive, elastic mechanisms that can realign the venture, and restore efficiency when it is beset by unanticipated environmental disturbances. With contingency adaptability stipulations, an IJV contract becomes an adjustable framework within which working relations develop over time. Unlike a classical contract, an IJV contract should allow for unanticipated disturbances that require adaptation. Contingencies can be forestalled by stipulating a tolerance zone or excuse doctrine within which misalignments are absorbed, and by delineating principles, guidelines, and possible solutions for times when doubt, unanticipated situations, or conflicts arise. Describing approximate future states and possible solutions for various environmental conditions provides better guidelines for parent managers and venture executives to follow when facing unanticipated hazards (Bazerman and Gillespie, 1999). For example, IJV parties can arrange one or several special clauses stipulating solutions for dealing with conflicts, or they can write a subclause under a major term describing the guidelines for handling changes in governmental policies. Unlike term specificity, which refers to how specific and detailed contract terms are, contingency adaptability involves how to respond contractually to future problems, conflicts, and contingencies. These two dimensions, each capturing different

aspects of governance, may or may not move together, depending on an IJV investment's needs and environments.

Contractual obligatoriness involves the extent to which partners to an IJV are legally bound to the contract; it includes such clauses or terms as legal binding force of the overall contract (legal effectiveness of the contract, applicable law, *force majeure*, amendments, alternations, discharge of the contract, and settlement of disputes), penalization against the breaching party, and protection for the aggrieved party. Contractual obligatoriness influences contractual governance by regulating a contract's binding force and each party's legal obligations. Such pre-codified obligatoriness impels subsequent enforcement of the contract, and offers legal mechanisms to ensure each party's rights and duties during enforcement. In the absence of this obligatoriness, term specificity cannot restrain opportunism and contingency adaptability cannot facilitate IJV evolution. Given IJV partners' asymmetric information and different strategic goals, managerial philosophies, and cultural backgrounds (Gatignon and Anderson, 1988), contractual obligatoriness is an invaluable mechanism in executing contracts. Without obligatoriness, contractual governance is weak no matter how explicitly specified or contingently adaptive are its terms. High obligatoriness increases each party's sensitivity to its duties and responsibilities, and, in turn, its commitment to building a new IJV. Without obligatoriness, one party may take an opportunistic 'wait and see' attitude, avoiding its own responsibilities until the partner firm has fulfilled certain duties (Ayres and Gertner, 1989). In a typical IJV contract, a clause specifies the responsibilities of the breaching party and the measures the IJV will undertake. Such a clause often states that if one party fails to pay its contracted contributions on schedule, the other party has the right to terminate the contract and claim damages. To further bind IJV partners, some contracts also denote the conditions under which the contracts may be amended, altered, or terminated; the clause usually stipulates that amendments to the contract come into force only after a written agreement is signed by both parties and approved by the board.

Since the above dimensions of contractual governance are distinct from one another and capture different aspects of contractual design, they may not necessarily move in a same direction in all circumstances, nor with the same rates of change in response to environmental or transactional

dynamics. Generally, high term specificity is needed when control over IJV activities becomes necessary. This control limits each party from pursuing private benefits, and provides a framework within which future venture operations proceed. The need for control is driven by environmental uncertainty, incomplete legal systems, and transactional uncertainty, among others. High contingency adaptability is required when it is necessary to ensure an IJV's adaptive evolution; this necessity is stronger when dealing with an uncertain environment, elevated governmental interference, or pronounced economic exposure. High contractual obligatoriness may be desirable if legal systems are incomplete, the environment is volatile, or knowledge protection is essential. Accordingly, term specificity, contingency adaptability, and contractual obligatoriness may move in either the same or different directions in relation to environmental and transactional parameters, depending on a transaction's needs or its environment. Specificity and adaptability may both be high if a transaction simultaneously necessitates term specifications to restrain opportunism and descriptions of contingency handling to foster IJV adaptation; however, they may be opposite if contract negotiations are solely concerned with adaptability (e.g., the environment or transaction is too uncertain to meaningfully maintain high term specificity). In such a circumstance, high adaptability and low specificity may coexist because high specificity would otherwise limit adaptability *ex post*. Thus, a relatively complete contract means not only specification of terms but also coverage of contingencies and codification of contractual obligations for each party. The level of governance dimensions, however, varies among different IJV contracts because of different transactional needs and different institutional environments.¹

At this time, it is worth noting that an important characteristic of IJVs is that they are usually governed by a combination of contract and ownership. Ownership is an equity-based control mechanism, whereas contract is a method of non-equity-based control (Beamish and Banks, 1987; Geringer and Hebert, 1989). Parent companies rely on equity ownership to gain voting control and occupy key managerial positions in the expectation that they will thereby achieve effective control of IJV activities as a whole (Yan and Luo, 2001). Parent companies, even minority shareholders, can also achieve effective control through non-equity approaches such as contractual governance and

managerial governance in specific areas (Schaan, 1988). Consequently, minority shareholders are likely to be more concerned with contractual governance than majority shareholders, *Ceteris paribus*, and the importance of contractual design to the parent firms is likely to be asymmetric. This asymmetry is particularly evident when examining contractual negotiation and structure from the perspective of individual parent companies. In this study, we emphasize how contractual governance designed jointly by partner firms is associated with certain environmental and transactional conditions they commonly face in the eye of IJV executives who participated in contract negotiations.

Theory development

Institutional environment and contract governance

Williamson (1991) argues that the institutional environment is a locus of shifting parameters. Changes in these parameters induce modifications in the comparative costs of governance; degrees of elasticity in contractual governance are influenced by the vigor of these disturbances. Williamson further classifies environmental disturbance as inconsequential, consequential, or highly consequential. Inconsequential disturbances are those for which deviation from efficiency is too small to recover the costs of adjustment or realignment. Consequential disturbances are ones to which neoclassical contract law applies; such application affords a tolerance zone within which misalignments are absorbed, and it also provides for arbitration in the event that voluntary agreements fail. Relational long-term contracts (such as IJV contracts) must deal with highly consequential disturbances that require both nurturing adaptations and controlling defections. The impact of these disturbances on *ex ante* preparations and *ex post* execution of cross-border transactions is particularly strong because countries have different legal systems, regulatory stringency, and environmental conditions. Although the efficacy of all forms of governance may deteriorate in the face of a frequently problematic environment (Oxley, 1999), IJVs are the most susceptible because these hybrids cannot adapt unilaterally (as with market governance) or by fiat (as in a hierarchy); rather, they require mutual consent between parties (Anderson and Gatignon, 1986; Hennart, 1988).

The institutional environment influencing contractual design is multifaceted. Oxley (1997, 1999) posits that workable laws, such as intellectual property rights protection, influence governance choice. Obviously, legal system incompleteness is not the sole dimension of an institutional environment. Levy and Spiller (1994) suggest that political institutions also influence regulatory processes and economic conditions, and determine the institutional endowments that can affect firm behavior such as long-term investment. Corroborating this notion, Oliver (1991) maintains that government interference constitutes one of the core elements of institutional environment when an economy is in transition. Henisz (2000) further documents that, as political hazards increase, investing parties will face an increasing threat of opportunistic expropriation by the government. He defines political hazards as the feasibility of host government policy change that adversely affects a foreign investor's return on assets. Finally, Oxley (1997) and Luo and Peng (1999) suggest that institutional environment volatility is common in many emerging markets, and increases the challenge of avoiding external hazards. Under the above circumstances, IJV activities face greater transaction costs (Williamson, 1991), and autonomous parent firms have stronger incentives to defect (Buckley and Casson, 1988). These difficulties necessitate a better alignment between environmental dynamics (legal systems, governmental interference, and environmental volatility) and contractual design (term specificity, contingency adaptability, and contractual obligatoriness).

Just as institutional environment varies across national markets, it may also vary within one market, affecting firms in diverse industries or sectors differently. For example, in this study's empirical setting (China), different IJVs are treated differently under Chinese law. IJVs in governmentally encouraged sectors (e.g., high-tech and infrastructure) or firms located in special economic zones or open coastal cities enjoy longer taxation holidays or lower income tax rates. Treatment in resource procurement, industry access, product distribution, and bank loans also differs among wholly-owned foreign subsidiaries, majority joint ventures, and minority joint ventures. IJVs with longer duration, higher percentage of retained earnings, greater degree of localization, or higher proportion of export output also benefit from lower taxation or priority in infrastructure access. In addition, IJVs in various sectors or with different

export ratios or ownership types confront idiosyncratic intervention and interference from the Chinese government. This interference also depends on who an IJV's local partner is (e.g., state-owned vs privately owned): those owned by the state or that maintain stronger connections with the government are subject to lower regulatory stringency and institutional interference. Finally, IJVs in China often face different disturbances from both environmental and industrial environments: economic and regulatory policies are heterogeneous for IJVs in different industries, IJVs' socio-cultural environments vary according to their regional locations, and consumer behaviors and competitive pressures also differ across regions, industries, and products.

Legal system incompleteness

The completeness of a nation's legal system in governing foreign direct investment refers not only to the completeness of the legal framework but also to how various laws are enforced throughout the country (Greif, 1997). The strength of the legal regime that governs IJV formation and operations, especially its efficacy in protecting an investor's intellectual property rights and ownership benefits, affects the costs of transactions, information scanning, and operations monitoring (Teece, 1983; Oxley, 1997). When the external legal system is incomplete, firms may have a stronger incentive and ability to cheat. In the absence of strong litigation systems, IJV parties have to rely more on internal contractual remedies, such as arbitration, to resolve disputes. To protect relationship-specific investments when legal protection is weak, firms will tend to adopt stronger contractual governance that includes higher levels of term specificity, contingency adaptability, and contractual obligatoriness (Joskow, 1990). This inverse alignment enhances adaptation while restricting opportunism. Thus, high specificity of contractual terms mitigates cheating and defection. IJV parties can agree in the contract to use third-country laws or international treaties to create a highly obligatory contract that can compensate for the threat of a limited legal infrastructure. However, to avoid getting stuck with long-term investments arising from weak legal systems, high contingency adaptability often accompanies legal system incompleteness and ensures the *ex post* operational flexibility necessary for coping with such systems. Thus:

H1: Legal system incompleteness in a host country will be positively associated with (a) term specificity, (b) contingency adaptability, and (c) contractual obligatoriness in an IJV contract.

Governmental interference

Governmental interference through changing regulatory rules and policies that is unexpected to IJV investors is part of political risk, and increases the unpredictability of the regulatory environment. In most emerging economies, especially China, this interference is abrupt, complex, and opaque in nature, and thus very difficult to predict, verify, and control by investors (Luo, 2002). As economic decentralization and deregulation progress in these economies, IJV investors have to confront greater interference from local governments in addition to central government agencies, which further increases the above difficulty. In this situation, contractual ambiguity may be better (Anderlini and Felli, 1994). Moreover, the extent of such intervention often depends on location, time, industry, local partner, project contribution, export orientation, and technological level, adding even more uncertainty to the process. Given such uncertainty and complexity, IJV parties need term ambiguity to be better able to adapt to unpredictable host government policies and regulations. Overly specific codification or harsh obligatoriness would hamper the ability of the IJV to adjust strategy and protect the interests of both parties. Moreover, term ambiguity is particularly necessary for long-term agreements such as IJVs because of operational needs for flexibility and heightened monitoring costs during contract enforcement (Crocker and Masten, 1988). Thus, term specificity and contractual obligatoriness are likely to be negatively related to governmental interference. It is true that this interference may asymmetrically affect local parties *vis-à-vis* foreign parties since a host government often tries to protect the interests of indigenous firms (Brouthers and Bamossy (1997). Henisz and Williamson (1999) theorize, which was later validated by Henisz (2000), that the potential benefit to a local partner of manipulating the political system for its own interest at the expense of a foreign party increases as governmental interference and contractual hazards increase, thereby diminishing the hazard-mitigating benefit of forming an IJV. In our view, such asymmetry holds true with respect to IJV operations. During original contract negotiations, however, it is important for

both parties to have less stringent and less specific term constraints so that the joint venture and both parties can adjust to regulatory changes. To local investors, lower contractual binding may bring even more leeway for them to utilize governmental interference for their own gains during IJV operations.

In contrast, we predict that contingency adaptability may move in a different direction compared with term specificity and contractual obligatoriness. As most regulatory hazards and institutional changes are outside organizational control, hindrance from such an environment will stimulate firms to maintain a higher, rather than lower, level of contingency adaptability. Under such circumstances, IJV parties might prepare more flexible responses to unexpected changes in the regulatory environment. According to Williamson (1979, 251), when confronted by high interference, joint venture contracts need to declare admissible adjustment dimensions such that flexibility is provided under terms in which both parties have confidence. As government interference is often unverifiable (Oliver, 1991), contingency adaptability and term ambiguity are needed when the risk of such interference is high (Anderlini and Felli, 1994). Since an IJV's joint payoff is more dependent on regulatory stringency in this situation (Oliver, 1991), the interests of foreign and local parties are likely to be aligned, thereby making the IJV more adaptive. Thus:

H2: Expected interference by a host country government will be negatively related to (a) term specificity and (b) contractual obligatoriness, but (c) positively related to contingency adaptability in an IJV contract.

Environmental volatility

Environmental volatility concerns the extent to which various environmental segments (e.g., economic, regulatory, competitive) are unpredictable and variable (Dess and Beard, 1984). This environmental condition necessitates embedding greater situational flexibility in the governance structure (Goldberg, 1976). Thus, higher contingency coverage is required in the contractual mechanism. By describing more choices and guidelines for dealing with various contingencies, obstructions due to environmental volatility will virtually vanish. In general, the wider the coverage of contingencies in the *ex ante* governance mechanism, the more strategic flexibility the joint venture will have

(Kogut, 1988) and the more credible are the commitments each party undertakes in support of the venture (Williamson, 1981). This coverage safeguards a stable partnership and promotes joint venture growth. Similarly, term specificity is also likely to be positively linked to environmental volatility. When an IJV confronts a higher level of environmental volatility, managerial control becomes more necessary. This control attenuates the impact of external hazards on firm performance and reduces partner opportunism associated with environmental uncertainty (Hennart, 1988). Lastly, high obligatoriness may be necessary in a volatile environment. Since volatility implies either opportunity or threat in the market (Dess and Beard, 1984), a volatile environment could encourage the pursuit of private payoffs instead of common goals. Strong binding forces will help constrain opportunism. Thus:

H3: Expected environmental volatility will be positively related to (a) term specificity, (b) contingency adaptability, and (c) contract obligatoriness of an IJV contract.

Transactional characteristics and contract design

Contractual governance does not depend solely on the institutional environment in which an IJV operates (Oxley, 1999). In Williamson's shift parameters framework (1991), investment project-related characteristics that affect monitoring and transaction costs are considered important parameters that affect contractual design, together with the institutional environment. Oxley (1999, 290) states that one cannot reliably unveil the determination of contractual attributes in IJVs without also including transactional attributes in the empirical model. We suggest that knowledge proprietariness, economic exposure, and interpartner dependency are three major transactional attributes associated with IJVs. These transactional characteristics are not directly equivalent to Williamson's transactional traits (asset specificity, transactional uncertainty, and the frequency with which transactions recur), but they share his logic that behavioral uncertainty and transactional complexity, exacerbated by bounded rationality, generate transaction and monitoring costs. These challenges also set in motion measures, both *ex ante* and *ex post*, as investing parties attempt to reduce the risk of opportunism (Parkhe, 1993; Al-Najjar, 1995; Oxley, 1997). Contractual design is an important *ex ante* measure. During this period, Williamson's

transactional traits that reveal an IJV's actual operations (e.g., transactional uncertainty, recurrent frequency, and asset specificity-related free-riding risks) have not really emerged. In this stage, firms use perceived transactional characteristics, such as knowledge proprietariness, economic exposure, and expected interdependence, to assess anticipated opportunism or uncertainty and thereby arrange contractual governance (Crocker and Masten, 1991).

Knowledge proprietariness is the extent to which the resources, capabilities, or competencies to be contributed by an IJV's parent firms are difficult to codify and imitate as well as how able they are to generate sustainable returns or competitive advantages (e.g., Coca-Cola's syrups and concentrate formulas constitute highly proprietary knowledge that translates into a difficult-to-imitate competitive edge). Knowledge proprietariness represents a sunk cost that is difficult to trade in the open market, especially when facing incompleteness in the legal system (Oxley, 1997, 1999). Economic exposure is the extent to which joint venture activities are vulnerable to environmental changes, corresponding levels of sunk/exit costs, and difficulty of making operational adjustments. High sunk/exit costs arising from complex transactions often lead to high economic exposure. Meanwhile, economic exposure also involves how much an IJV's future earning power is affected by changes in environmental dynamics such as exchange rate, governmental policy, and economic climate. An IJV's future prices, sales, and costs depend on these changes. Different IJV investments are affected differently by the host country environment. For example, various IJVs in China's automobile industry are treated idiosyncratically by the government, depending on their locations, partners, durations, and market orientations. Varying infrastructure conditions under which different IJVs operate also impose different economic exposures. Interpartner dependency refers to the degree of expected dependence or 'mutual hostage' between two partners in terms of resources and cooperation. When two parties maintain autonomy but are bilaterally dependent to a significant degree, relief from strict contractual enforcement may facilitate continuity and promote efficient adaptation (Williamson, 1991).

Knowledge proprietariness

When the resources or knowledge exchanged in a transaction are rare, difficult to imitate, and can

generate a sustainable advantage, the degree to which a durable investment is incurred will increase (Inkpen and Beamish, 1997; Williamson, 1979).² According to Oxley (1997, 1999), project-level appropriability hazards – that is, the risk of leakage in the absence of a well-established intellectual property rights system – are an increasing function of knowledge proprietariness. Heightened appropriability hazards then require a stronger contractual mechanism for curtailing opportunism and bolstering adaptation in the IJV (Anderlini and Felli, 1994; Reuer and Arino, 2002). This alignment translates into higher term specificity and contractual obligatoriness in a contract aimed at attenuating opportunism and higher contingency adaptability for spurring contractual adaptation. These positive linkages help optimize the function of proprietary knowledge of creating maximum joint payoff for both parties, without giving rise to uncompensated leakage of such knowledge. As stated by Parkhe (1993, 804), contractual safeguards inflict penalties for the omission of cooperative behaviors or commissions of violative behaviors. Such safeguards are structurally embedded deterrents to opportunism, and can be expected to vary proportionally with the perception of opportunistic behavior and appropriability hazards.

As local partners in an emerging market often leak foreign partners' knowledge to other local firms (Luo and Peng, 1999), appropriability hazards associated with proprietary knowledge are even more severe in this type of market. Preventing these hazards requires high term specificity and obligational constraints, legally binding each party in order to prevent appropriability hazards while ensuring knowledge-sharing or technology transfer within the IJV. Meanwhile, interpartner cooperation in this situation requires detailed contractual descriptions of the procedures and rules for handling various future contingencies. In fact, most IJV contracts involving sharing or transferring proprietary knowledge require a separate supplementary agreement detailing these procedures and rules. High contingency adaptability is thereby expected when a transaction involves proprietary knowledge. According to the above, we propose:

H4: The expected level of proprietariness of knowledge contributed to an IJV will be positively associated with (a) term specificity, (b) contingency adaptability, and (c) contractual obligatoriness in an IJV contract.

Economic exposure

Economic exposure grows when dependence on host country resources increases or IJV operations are more susceptible to environmental hazards such as foreign exchange fluctuations, industrial regulation, foreign investment control, and market volatility (Hitt *et al.*, 2000). Both sunk and exit costs are also significantly higher for IJV investments faced with greater economic exposure (Chow *et al.*, 1997). When IJV parties expect more economic exposure facing the joint venture, they are likely to increase the contract's term specificity to guide the IJV management's decisions and monitor each investing party's commitment. It is agreed that vulnerability to environmental changes heightens the need for internal control and managerial discretion (Teece, 1983). Increased specificity in an IJV contract accords with this need, and directs the IJV to deal with volatile environments on which the venture depends. Without pre-specified guidance or directions, more conflicts between parties will arise later when market outlook becomes highly uncertain (Parkhe, 1993). With pre-specified guidance or directions, IJV managers will be able to optimize the venture's financial and operational positions over time to minimize external threats, and parental managers will be able to adjust resource commitment to the venture.

Contingency adaptability in an IJV contract may also increase when investing parties anticipate higher economic exposure. Reducing economic exposure requires flexibility of business activities, which in turn requires adaptive contingency plans or at least the principles to handle the contingencies to be documented in the contract. If the contract does not entail adaptive contingency plans or principles, it will be harder, or take longer, for the IJV to cope effectively with fluctuated environments on which the venture relies. In order to curtail the risks stemming from economic exposure, an IJV must be equipped with an ability to adjust its business strategies and to maneuver its product-market mix in a timely fashion. Contingency adaptability in an IJV contract is therefore important for nourishing adjustment.

In addition, controlling an IJV's economic exposure necessitates higher contractual obligatoriness because opportunism increases along with economic exposure and adaptation. Although both parties in an IJV have a long-term interest in effecting adaptations that maximize profit, each party also has a vested interest in appropriating as much of the gain as possible when an adjustment occurs

(Williamson, 1979). Moreover, controlling economic exposure requires coordinated responses, lest the individual parties operate at cross-purposes or otherwise fail to act optimally. Lack of coordination may arise because IJV partners can sometimes read and react to signals differently, even though their shared purpose is to achieve a timely and compatible combined response. Without a highly binding contract, the dominant party may behave opportunistically by distorting information or disclosing it in an incomplete or selective fashion. Since inexplicit contracts need to be adjusted as the IJV evolves, high obligatoriness in an IJV contract helps assuage hazardous opportunism and promote coordinated realignment over time. Pursuant to the above reasoning, we hypothesize:

H5: The expected level of economic exposure an IJV faces will be positively associated with (a) term specificity, (b) contingency adaptability, and (c) contractual obligatoriness in an IJV contract.

Interpartner dependency

All hybrid modes work out of a semi-legalistic contractual regime (Goldberg, 1976; Macneil, 1980). In this situation, contractual governance is affected by expected interpartner dependency (Williamson, 1991). When anticipated interdependency is high, *ex ante* codification of the contract is likely to feature low specificity of various terms and low contractual obligatoriness. Mutual hostages mitigate contractual hazards and reduce the need for internal control within an IJV (Hennart, 1988). Thus, the two control-related contractual attributes, namely term specificity and contractual obligatoriness, become less imperative. Specifically, high dependency facilitates what Williamson called 'Type C' adaptability, or adaptation of interpartner cooperation (1991, 279). In this case, long-term contracts are supported by added contractual safeguards and administrative devices such as information disclosure and standards for dispute settlement. The need for continued cooperation within the IJV dispels the need for a rigid blueprint for term stipulation. In this case, the implicit portion of an agreement may work better – and the entire relationship may end up more beneficial to both parties – if the set of discretionary choices is expanded to include verifiable actions (Bernheim and Whinston, 1998).

Contingency adaptability may not move in the same direction as term specificity and contractual

obligatoriness when interpartner dependency is high. In a situation characterized by high interdependence between two parties, an IJV requires adaptive evolutions over the long course of cooperation (Parkhe, 1993). Delineating procedures for handling various contingencies helps the parties to better share resources and stimulates interfirm learning in the dynamic, complex environment. Resource sharing and interfirm learning are frequently associated with many contingencies, problems, and conflicts owing to the possibility of uncompensated usage of the other party's proprietary knowledge (Inkpen and Beamish, 1997; Reuer and Arino, 2002). In this situation, term ambiguity and contingency adaptability spur the prospect of *ex post* forbearance and collaboration between dependent parties (Buckley and Casson, 1988; Oxley, 1997). From the above discussion, we expect:

H6: Expected interpartner dependency will be negatively associated with (a) term specificity and (b) contractual obligatoriness but (c) positively associated with contingency adaptability in an IJV contract.

Research methods

Empirical setting

China's dynamic and complex environment, attributable largely to structural transformation, institutional uncertainty, a unique business culture, and regional economic discrepancies, furnishes a rich setting for deciphering the influence of environmental dynamics on contractual arrangements. We conducted a survey of IJV senior executives in China during 1998–1999. Our cover letter explicitly asked that a responding general or deputy general manager in an IJV should reply only if he or she had actively taken part in the IJV contract negotiations, and added a dummy variable (1 if actively participated; 0 otherwise) in the questionnaire. Sample firms were identified from among several sources, the primary ones being the *List of Foreign-Invested Enterprises in China* published by China's State Statistical Bureau in 1994 and the *Directory of Foreign-Invested Enterprises* compiled in 1996 by the Ministry of Foreign Trade and Economic Cooperation (MOFTEC), China.³ About 400 IJVs located in Southern China and Beijing were randomly selected from these sources. After sending several reminders and removing seven surveys answered by executives who did not actively participate in

contract negotiations, 110 usable questionnaires were obtained, a 27.5% response rate. About 95% of these sample firms had one foreign parent and one Chinese parent (a Chinese partner existed in every sample firm). For those IJVs having more than one foreign or more than one Chinese parent, we asked the respondents to refer to the parent with the larger equity share. Of the informants, 43 were foreign expatriates and 67 were local nationals.⁴ The IJVs were involved in industries focused on technological- or capital-intensive sectors such as electronics, telecommunications, medical equipment, and electric equipment. Major countries of origin of investment included the US, Hong Kong, Japan, Germany, France, the UK, Italy, Singapore, Australia, and South Korea (a total of 22 different countries of origin). The average length of operations was 3.8 years (at the end of 1997). The average number of employees and the amount of total investment by all parties were 640 and \$10.5 million, respectively.⁵

The development of our survey items was guided by theoretical considerations, previous literature, field interviews, and consultation with experts. Both English and Chinese versions (standard back-translation was followed) were cross-checked by two bilingual business professors in China. In a pilot test, the preliminary version of the questionnaire was sent to eight IJV executives in the city of Nanjing, who were asked to identify any ambiguities in the questionnaire's terms or concepts. We then held a discussion session with these executives to double-check their input and ensure their feedback was properly incorporated. The questionnaire was adjusted and modified accordingly.

To check the risk of common method variance associated with using a single rater source, we followed the *post hoc* procedural method suggested by Podsakoff and Organ (1986). In 1999, we re-sent the same questionnaires to 36 of the senior IJV managers who had responded to the early round, identified from code numbers stamped on each questionnaire. They were asked to respond to each item again. Correlation analysis of 28 responses (the other eight did not respond) exhibited a strong consistency between the two different periods (all at $P < 0.0001$), suggesting no fundamental variance. After completing this *post hoc* procedural method, a statistical remedy was employed. We conducted Harman's one-factor test, in which all variables in the questionnaire were entered into a factor analysis. Neither a single factor emerged nor was there a general factor that could account for the

majority of the covariance in these variables. Despite these efforts, however, the common method variance is unlikely to be totally removed. This limitation can be addressed in future research using the primary data or multiple informants from each sample firm.

Measurement and reliability

Appendix A1 reveals the detailed survey items for measuring major variables proposed in this study. We conducted a global factor analysis (using Varimax rotation) to examine the underlying patterns of all the multidimensional survey items (a total of 26 subitems) and to determine whether the information could be condensed into the factors (dimensions) as proposed. Table 1 presents the results. It suggests that there are clear nine factor-loading patterns consistent with the proposed variables (three contractual governance variables, three transactional characteristics variables, and three institutional environment variables).

The three dimensions (constructs) of contractual governance were largely designed by us and specifically developed for this study. Each was measured using the mean of responses, on a seven-point Likert scale, to the multiple question items listed in Appendix A1. As they were new constructs, not based on previous studies, we checked both discriminant validity (via factor analysis) and convergent validity (via covariance structure analysis). As shown in the global factor analysis, three factors were generated: term specificity (factor 1), contingency adaptability (factor 2), and contractual obligatoriness (factor 3). The covariance structure analysis was performed using a structural equation modeling technique. All path coefficients for the dimensions of contractual governance were significant at least at the 0.01 level in relation to overall contractual governance (a seven-point scale item in the questionnaire measuring an informant's assessment of the overall completeness of the IJV contract). The model estimates (fit criterion=0.95; $\chi^2=96.66$, $P<0.001$; Bentler and Bonett's normed fit index=0.89) validated the content (convergent) validity of the three dimensions of contract governance and further suggested that the model could not be expected to improve by dropping any of the contractual governance dimensions. In addition, the unidimensionality and reliability of each contractual governance construct were validated by the high level of communality

estimates (0.83–0.92) and Cronbach's alphas (0.68–0.75), respectively.

Among the institutional environment variables, legal system incompleteness was measured based on our review of several previous studies including Rapp and Rozek (1990), Mansfield (1994), and Oxley (1997), and the governmental intervention construct was developed following Child's (1994) logic. We also followed Tan and Litschert (1994) to measure environmental volatility. As Appendix A1 shows, each institutional environment variable was measured by the average of responses (on a seven-point Likert scale) to a pair of questions, with multiple items under each question. The reported communality estimates that we obtained from factor analysis (0.72–0.90) and Cronbach's alpha coefficients (0.64–0.78) confirmed the measurement reliability and construct validity of these variables. The above global factor analysis also validated that the three institutional environment constructs were loaded, respectively, in three different factors (factors 7–9).

To develop the measurement of transactional characteristics variables, we built on Barney's VIO framework (1996, 145–155) to operationalize knowledge proprietariness, utilized the work of Chow *et al.* (1997) and Whitcomb (1984) to measure economic exposure, and referred to Harrigan (1986) and Parkhe (1991) to define interpartner dependency. Each of these transactional variables was measured by the average response to multiple items on a seven-point Likert scale (see Appendix A1). The dimensionality (communality estimates: 0.73–0.93) and reliability (Cronbach's alpha: 0.66–0.83) of this group of constructs were validated. The above global factor analysis also verified that knowledge proprietariness, economic exposure, and interpartner dependency were loaded in three distinct factors (factors 4–6).

This study controlled for several variables in analyzing the relationship between contractual governance and transactional/environmental variables. First, board composition may be linked with the perceived importance of the IJV and its contract. Using survey information, this variable was measured by the percentage of foreign members with respect to the total number of people on the board. Second, the total amount of investment in an IJV (in \$million) implies the size or the complexity of the project, which may influence the stipulation of various terms. Information about investment size was obtained from the aforementioned *List* and the *Directory*. Third, contractual

**Table 1** A global factor analysis of survey variables (Varimax rotation)

Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9
<i>Term specificity</i>									
1. Specification about formation	0.75	0.17	0.15	0.23	0.17	0.08	−0.06	0.22	0.07
2. Specification about operations	0.82	0.09	0.12	−0.25	0.21	0.18	0.12	0.13	0.19
3. Specification about cooperation	0.77	0.14	0.19	0.14	0.09	0.06	−0.05	0.20	0.11
4. Specification about termination	0.83	0.18	0.21	0.33	−0.27	0.18	0.16	0.24	0.08
<i>Contingency adaptability</i>									
5. Flexibility under uncertainty	−0.02	0.86	−0.05	0.20	0.04	0.08	0.18	0.14	0.17
6. Contingency principles	0.20	0.83	0.13	0.03	0.09	0.20	0.18	0.29	0.07
7. Alternatives and solutions	0.24	0.77	0.14	0.36	0.18	0.02	0.07	0.19	0.08
<i>Contractual obligatoriness</i>									
8. Overall legally binding	0.10	0.13	0.86	0.20	0.07	0.21	0.17	0.19	0.21
9. Breach penalization	0.23	0.21	0.74	0.18	0.41	0.28	−0.18	0.03	0.15
10. Reparations to aggrieved	0.35	0.16	0.72	0.34	0.08	0.32	0.28	0.19	0.29
<i>Knowledge proprietariness</i>									
11. Knowledge rareness	0.28	−0.12	0.28	0.66	0.20	0.51	0.04	0.11	−0.12
12. Difficult to codify	0.20	0.08	−0.21	0.73	0.42	0.05	0.18	0.18	0.16
13. Difficult to imitate	0.04	0.30	0.07	0.77	0.11	0.12	0.33	0.12	0.08
14. Return sustainability	0.15	0.23	0.08	0.62	0.23	0.07	0.10	0.36	0.17
<i>Economic exposure</i>									
15. Vulnerability to environment	0.12	0.27	0.07	0.08	0.69	−0.13	0.46	−0.15	0.21
16. Level of sunk cost	0.14	0.22	−0.11	0.22	0.64	0.07	0.23	0.31	0.18
17. Level of exit cost	0.28	−0.05	0.39	0.12	0.61	0.11	0.14	0.22	−0.11
<i>Interpartner dependency</i>									
18. Resource interdependence	0.22	0.15	0.10	0.04	−0.13	0.80	0.07	0.16	0.10
19. Collaboration interdependence	0.23	0.15	0.10	0.06	0.07	0.84	0.29	0.19	0.26
20. Solution interdependence	0.07	0.30	0.25	−0.19	0.10	0.88	0.06	0.20	0.28
<i>Legal system incompleteness</i>									
21. System under – development	0.24	0.17	0.08	0.05	0.22	−0.11	0.70	0.33	0.30
22. System under – enforcement	0.18	0.06	0.11	0.07	0.15	−0.04	0.63	0.43	0.13
<i>Governmental intervention</i>									
23. Central government intervention	0.19	0.22	0.12	0.09	0.06	0.15	0.24	0.68	0.20
24. Local government intervention	0.11	−0.13	0.25	0.07	0.03	0.26	−0.10	0.75	0.34
<i>Environmental volatility</i>									
25. Environment unpredictability	−0.09	0.18	0.30	0.16	0.10	0.05	0.25	−0.15	0.81
26. Environment volatility	0.40	−0.09	0.17	0.13	0.24	0.28	0.06	0.11	0.88
Proportion of variance accounted for (%)	16.44	13.62	12.47	10.99	6.87	11.56	7.03	4.18	6.35

governance may differ among transactions in different industries. Transactions in asset-intensive industries are likely to be more complicated than those in others. We thus included asset intensity (fixed assets/sales) of an IJV's industry during the year the venture was formed: this information was obtained from various editions of the *China*

Statistical Yearbook. Fourth, cultural distance between home and host countries is likely to affect negotiation style and contracting behavior (Shenkar and Zeira, 1992). This variable was computed according to the composite index used by Kogut and Singh (1988) and data contained in Hofstede (2001). Fifth, the expected duration of an

IJV project may influence each party's assumptions about the future: these assumptions might vary in the presence of interpartner asymmetry regarding stakes and goals for the IJV, thus affecting contractual arrangements. Information about this variable (in number of years) was obtained from the aforementioned *List* and the *Directory*. Sixth, considering that industry sectors encouraged by a host government may tend to have different contractual features when compared with restricted industries, we controlled for whether or not a participating industry is encouraged by the Chinese government. We employed a dummy variable (1 if encouraged, 0 otherwise) based on the *Orientation Directory of Industries for FDI*, compiled by the State Council, China. Finally, country of origin (1 if from a developed country, 0 otherwise) is salient because firms from developed countries often have strategies, goals, and behaviors that are different from those of developing countries, especially during international expansion. Table 2 presents descriptive statistics and Pearson correlation matrix for all related variables.

Analysis and results

We used the hierarchical GLM (general linear model) regression technique to examine the influence of transactional and environmental attributes on contractual governance (Table 3).⁶ This test provides the results of three models under each dependent variable (i.e., contractual governance attribute). R^2 values across various models suggest that the two groups of transactional characteristics and institutional environmental dimensions share similar predictive power for variance in term specificity, contingency adaptability, and contractual obligatoriness, thus exerting similar influences on contractual governance.⁷ As shown in Models 3, 6, and 9, legal system incompleteness is positively associated with all three contractual governance attributes ($p < 0.10$ or lower), suggesting that firms use contractual systems to remedy weaknesses in the host country's legal system. Thus, when the legal system is more incomplete, an IJV contract needs to be more completely stipulated. Although firms cannot avoid all hazards arising from an underdeveloped legal system, contractual arrangements can help stabilize venture operations, resolve conflicts, attenuate opportunism, and promote collaboration. The above evidence leads to acceptance of H1a, H1b, and H1c. To further verify this economic effect, we computed the λ value (how much a dependent variable varies, as a percentage

Table 2 Descriptive statistics and Pearson's correlation matrix ($N=110$)

Variables	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Term specificity	5.28	0.93															
2 Contingency adaptability	4.29	0.99	0.12														
3 Contract obligatoriness	4.89	0.89	0.06	0.10													
4 Knowledge proprietariness	3.97	1.14	0.24**	0.32***	0.21*												
5 Economic exposure	4.97	1.48	-0.20*	0.34***	0.25**	0.22*											
6 Interpartner dependence	4.19	0.91	-0.13	0.24**	0.26**	-0.06	0.14										
7 Legal system incompleteness	5.50	1.46	0.20*	0.21*	0.28***	-0.22*	0.16	0.15									
8 Governmental interference	5.46	0.87	-0.25**	0.36***	-0.09	-0.04	0.29***	0.05	0.21*								
9 Environmental volatility	5.18	1.33	-0.22*	0.25**	0.33***	-0.03	0.38***	0.17	0.08	0.15							
10 Expected duration	17.50	3.31	0.17	0.06	0.20*	0.22*	-0.01	0.19*	-0.07	-0.02	0.04						
11 Industry asset intensity	0.68	0.45	0.21*	-0.03	0.10	0.26**	0.08	0.14	-0.07	0.18	0.13	0.23**					
12 Transaction size	10.80	19.2	0.01	0.14	0.06	0.15	0.17	0.06	0.01	-0.08	-0.06	0.09	0.29***				
13 Cultural distance	6.53	2.82	0.26**	0.19*	0.11	0.23**	0.04	0.23**	-0.06	0.15	0.14	0.12	0.19*	0.21*			
14 Board composition	0.45	0.51	0.12	0.09	0.02	0.35***	-0.02	0.17	0.16	-0.03	-0.13	-0.08	0.11	-0.12	0.15		
15 Sector (encouraged)	0.61	0.48	-0.11	-0.07	-0.20*	0.16	-0.08	-0.11	0.15	-0.39***	-0.21*	0.17	0.09	-0.04	-0.06	0.24**	
16 Country (developed)	0.43	0.49	0.24**	0.13	0.06	0.29***	-0.05	0.16	-0.09	0.19*	0.11	0.05	0.24**	0.25**	0.31***	0.03	-0.08

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

Table 3 Investment characteristics and institutional environments in relation to contractual governance: Hierarchical GLM regression analysis (N=110)^{a,b}

Variables	Term specificity			Contingency adaptability			Contract obligatoriness		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Intercept	0.29 (0.16)	2.79 (0.66)***	0.73 (0.19)***	0.30 (0.26)	0.41 (0.27)	-0.38 (0.17)*	0.51 (0.18)**	0.72 (0.15)***	-0.35 (0.29)
<i>Institutional environments</i>									
Legal system	0.12 (0.06) [†]		0.12 (0.06) [†]	0.10 (0.05) [†]		0.08 (0.04) [†]	0.16 (0.07)**		0.20 (0.07)**
incompleteness									
Governmental intervention	-0.30 (0.10)**		-0.27((0.12)*	0.32 (0.08)***		0.32 (0.09)***	-0.15 (0.13)		-0.17 (0.15)
Environmental volatility	-0.18 (0.09)*		-0.15 (0.08) [†]	0.26 (0.09)**		0.17 (0.07)*	0.62 (0.16)***		0.48 (0.14)***
<i>Investment characteristics</i>									
Knowledge		0.38 (0.11)**	0.32 (0.10)**		0.62 (0.15)***			0.16 (0.08)*	0.15 (0.08) [†]
proprietaryness									
Economic exposure	-0.18 (0.09)*		-0.20 (0.09)*		0.49 (0.12)***	0.47 (0.13)**		0.22 (0.09)*	0.18 (0.08)*
Interpartner dependency	-0.10 (0.08)		-0.07 (0.09)		0.34 (0.11)**	0.32 (0.12)*		0.15 (0.10)	0.13 (0.11)
<i>Control variables</i>									
Expected duration	0.03 (0.02)	0.01 (0.01)	0.02 (0.02)	0.21 (0.21)	0.23 (0.20)	0.16 (0.17)	0.27 (0.13)*	0.23 (0.12)*	0.22 (0.11)*
Industry asset intensity	0.15 (0.04)**	0.12 (0.03)**	0.11 (0.03)**	-0.06 (0.06)	-0.04 (0.05)	-0.08 (0.08)	0.11 (0.10)	0.13 (0.10)	0.09 (0.09)
Transaction size	0.01 (0.01)	0.02 (0.01)	0.01 (0.01)	0.06 (0.05)	0.05 (0.04)	0.03 (0.05)	0.04 (0.08)	0.04 (0.08)	0.05 (0.09)
Cultural distance	0.11 (0.06) [†]	0.13 (0.06) [†]	0.10 (0.05) [†]	0.08 (0.04) [†]	0.09 (0.05) [†]	0.07 (0.05)	0.12 (0.08)	0.12 (0.09)	0.10 (0.07)
Board composition	0.09 (0.10)	0.08 (0.09)	0.08 (0.09)	0.11 (0.10)	0.14 (0.12)	0.10 (0.11)	0.09 (0.15)	0.06 (0.15)	0.08 (0.14)
Sector (encouraged)	-0.10 (0.07)	-0.09 (0.07)	-0.08 (0.07)	-0.10 (0.07)	-0.06 (0.07)	-0.12 (0.08)	-0.14 (0.06)*	-0.15 (0.07)	-0.15 (0.07)*
Country (developed)	0.15 (0.07)*	0.16 (0.07)*	0.15 (0.06)*	0.09 (0.06)	0.12 (0.07)	0.07 (0.06)	0.07 (0.07)	0.09 (0.07)	0.08 (0.07)
Model F	8.55	10.26	12.62	8.08	11.34	14.55	9.74	7.55	10.04
P<	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
R ²	0.39	0.42	0.49	0.39	0.45	0.50	0.43	0.38	0.48

^aThe entries in the table are regression coefficients and their significance levels with standard errors in parentheses where [†]p<0.10; *p<0.05; **p<0.01; ***p<0.001.^bVIF values in the full models (Models 3, 6, 9) are below 3.27.

of its standard deviation, in response to one standard deviation change in the independent variable in question). As Table 4 shows, λ values for legal system incompleteness are moderately high in relation to all the three dependent variables.

Expected governmental intervention exerts a strong negative effect on term specificity ($p < 0.05$, Model 3) and a positive effect on contingency adaptability ($p < 0.001$, Model 6). This variable, however, is not significantly related to contractual obligatoriness (Model 9). This finding validates H2a and H2b, but does not support H2c. Consistent with this result, Table 4 reports that the λ value for governmental intervention is 28% in relation to either term specificity or contingency adaptability, but only 15% to contract obligatoriness. Higher intervention drives the organizational need for adaptation and flexibility. Thus, contrary to our hypothesis, contractual obligatoriness does not necessarily decrease when actual or expected interference during IJV contractual arrangements is high, possibly because opportunistic hazards, particularly from local firms that are often governmentally controlled, remain. Lastly, environmental volatility is an important determinant of contractual governance. As Table 3 shows, it is positively linked to contingency adaptability ($p < 0.05$) and contract obligatoriness ($p < 0.001$). This lends support to H3b and H3c. The λ values in Table 4 also suggest that the magnitudes of these two economic effects are both very large (35 and 92%, respectively). This result corroborates our reasoning that

high environmental disturbance increases the need for greater governance adaptability and contractual obligatoriness. However, in contrast with our prediction for H3a, environmental volatility is negatively, rather than positively, associated with term specificity ($p < 0.10$, Table 3). Rejection of H3a may imply that environmental volatility also suggests environmental complexity, thus making it difficult for IJV parties to delineate explicit terms and clauses. This implication concurs with Luo and Peng's study (1999) concluding that environmental volatility and complexity are highly correlated in China.

The regression analysis in Table 3 also suggests that knowledge proprietariness is significantly and positively associated with term specificity ($p < 0.01$), contingency adaptability ($p < 0.001$), and contractual obligatoriness ($p < 0.10$). Table 4 provides additional evidence ($\lambda = 47, 71, 20\%$, respectively) that reinforces the importance of this predicting variable in IJV contract design. These results confirm our early proposition that contractual governance will be stronger when an IJV's resources, as committed by parent companies, tend to be more ownership-specific, difficult to imitate, and able to generate sustainable returns. It further implies that a more detailed, clearly defined contract is established if IJV parties expect appropriability hazards. Such hazards are strong in emerging markets (e.g., China) in which intellectual property rights protection is weak. In accordance with Oxley's studies (1997, 1999), which find that the choice of governance structure in terms of

Table 4 Econometric results derived from regression and standard deviation

Independent variables	Dependent variables					
	Term specificity (s.d. = 0.93)		Contingency adaptability (s.d. = 0.99)		Contract obligatoriness (s.d. = 0.89)	
	β	λ	β	λ	β	λ
<i>Institutional environment</i>						
1. Legal system incompleteness (s.d.=1.46)	0.12	0.19	0.10	0.15	0.16	0.26
2. Governmental interference (s.d.=0.87)	-0.30	-0.28	0.32	0.28	-0.15	-0.15
3. Environmental volatility (s.d.=1.33)	-0.18	-0.26	0.26	0.35	0.62	0.92
<i>Investment characteristics</i>						
1. Knowledge proprietariness (s.d.=1.14)	0.38	0.47	0.62	0.71	0.16	0.20
2. Economic exposure (s.d.=1.48)	-0.18	-0.29	0.49	0.73	0.22	0.37
3. Interpartner dependence (s.d.=0.91)	-0.10	-0.10	0.34	0.31	0.15	0.15

This table reports how much (relative to one standard deviation) a dependent variable varies in response to 1 s.d. change in an independent variable. This estimate is reflected in $\lambda = [\beta_i \times \text{s.d.}(IV_i)] / \text{s.d.}(DV_j)$, where β_i is the regression coefficient (see Table 3), $\text{s.d.}(IV_i)$ is one standard deviation of independent variable i , and $\text{s.d.}(DV_j)$ is one standard deviation of dependent variable j .

organizational form is affected by appropriability hazards, the present study shows that contractual design, an important governance structure within a particular organizational form (i.e., an IJV), is also contingent on appropriability hazards. This configuration helps control opportunism and nurture adaptation as needed for IJV evolution and interfirm collaboration. H4a, H4b, and H4c are supported by the above findings.

The above models in Table 3 also show that an IJV's anticipated economic exposure is positively associated with contingency adaptability ($p < 0.01$, Model 6) and contractual obligatoriness ($p < 0.05$, Model 9). This relationship confirms that, when economic exposure is stronger, firms tend to maintain more contingency coverage and higher contractual obligatoriness, thus lending support to H5b and H5c. Table 4 reports a strong magnitude of λ values (73 and 37%, respectively) associated with these two hypotheses. Contrary to our expectations, however, term specificity (H5a) is not positively but inversely and significantly related to economic exposure ($p < 0.05$, Model 3; $\lambda = 29\%$). The result might be explained by the possibility that firms encountering stronger economic exposure may prefer greater strategic ambiguity, allowing them to maintain flexibility and respond better to unverifiable events. This explanation aligns with Bernheim and Whinston's normative study (1998), which showed that lower specificity is preferred in situations where some elements of transactions are unverifiable or some conditions are non-contractable.

With respect to H6, our regression analysis in Table 3 suggests that interpartner dependence is not systematically and negatively linked to term specificity (Model 3), implying that the degree of interpartner dependency does not change the contractual requirement for term specificity. Terms seem to be specified and codified irrespective of how much the parties depend on each other. Moreover, interpartner dependency does not significantly affect contractual obligatoriness (Model 9). Obligatoriness is not heightened when parties are more reliant on each other. However, interfirm dependency could serve as an additional mechanism for binding each party to the venture through unstated responsibilities and rights. Our results (Table 4) also indicate that term specificity and contract obligatoriness do not substantially vary in response to interpartner dependence ($\lambda = 10, 15\%$, respectively). Dependency, nevertheless, has a strong influence on contingency

adaptability ($p < 0.05$, Model 6), just as we proposed. This adaptability significantly varies with changes in interpartner dependence ($\lambda = 31\%$). Contingency coverage helps two interdependent parties cooperatively adapt to the external environment and solve internal problems. In sum, H6b is supported by our findings, but H6a and H6c are rejected.

To examine the multivariate effect of each transactional or environmental variable on overall contractual governance, we also performed a MANOVA test with the GLM procedure (Bartlett's sphericity = 87.45, $p < 0.001$). The results show that each of these individual predictors is important to overall contractual governance (Wilk's lambda ≤ 0.91 , $F \geq 5.71$, $p < 0.01$ or lower), with the strongest effects from knowledge proprietariness, economic exposure, and environmental volatility. This outcome validates that the three transactional characteristics and three environmental attributes we proposed are important determinants of overall contractual governance.

Several control variables also demonstrate some influence on contractual governance. Expected IJV duration, which averaged 17.5 years in our sample, is positively related to contractual obligatoriness. This implies that the greater the anticipated longevity of a venture, the more legally binding the contract will be. Second, industry asset intensity is significantly and positively associated with term specificity (Models 1–3), suggesting that IJV contracts tend to be more specific when the industry requires greater commitment of capital or fixed assets. Third, cultural distance is found to have a positive link with term specificity and contingency adaptability, demonstrating that foreign firms that are more culturally distant from the host country will be more specific in stipulating clauses and will provide more guidelines and/or possible solutions for handling contingencies. Fourth, IJV parties tend to arrange higher contract obligatoriness when the industry sector in which they participate is not encouraged by the government (Model 9). Unfavorable institutional conditions may drive up their need for this obligatoriness. Finally, all else being equal, foreign investors from developed countries appear to opt for higher term specificity than those from developing countries. Neither transaction size, as measured by the total investment amount in an IJV, nor board composition, as defined by the percentage of foreign members on the board, appears to be significantly related to contractual governance.

Conclusion

This study examines how transactional characteristics and aspects of the institutional environment influence contractual governance in IJVs. We argue that contractual governance attributes, namely term specificity, contingency adaptability, and contractual obligatoriness, are not homogeneous among IJV projects. Instead, these attributes are contingent upon transactional characteristics that affect expected opportunism, uncertainty, and monitoring costs, and upon dimensions of the institutional environment such as legal system completeness, regulatory interference, and disturbance. Using China as the empirical setting, this study finds that term specificity increases along with the proprietariness of resources that parental firms plan to contribute to an IJV and the incompleteness of the legal system in a host country. This specificity decreases with an IJV's anticipated economic exposure, governmental intervention, and environmental volatility. We also observe that contingency adaptability is enhanced when all of these transactional or environmental variables increase. In addition, contractual obligatoriness is heightened as a result of increased knowledge proprietariness, economic exposure, legal system incompleteness, and environmental volatility. Multivariate analysis suggests that each of these transactional and environmental factors noticeably influences overall contractual governance.

These findings make several contributions to the field of international business. First, they demonstrate that the governance of an IJV contract should be seen as a multidimensional construct. To the best of our knowledge, this study is among the few systematic attempts to provide dimensions to the concept of contractual governance. This helps clarify the role of contractual governance and advance our understanding of the structure of exchange. Previous studies generally view contractual governance in terms of a single dimension, namely clause specificity. Despite its importance, this single dimension fails to solve the contractual dilemma of favoring adaptability while preventing opportunism. We hold that contractual governance concerns not only term specificity but also contingency adaptability as well as contractual obligatoriness. As individual dimensions of contractual governance relate to different aspects of the contractual framework, yet collectively provide a more complete profile of this framework, it is important to decipher both the unidimensional and the

multidimensional implications of contractual governance in mitigating opportunism, governing interpartner cooperation, and promoting IJV adaptation.

In addition, this study departs from previous studies by demonstrating the fact that contractual governance is contingent on both transactional characteristics *and* the institutional environment. This study casts new light on contractual arrangements in IJVs and documents that these arrangements are determined by major transactional attributes that characterize a particular IJV and its economic exposure, mutual hostage, and appropriability hazards. Contracts are also influenced by the institutional environment that impacts on IJV growth, which is difficult to avoid or mitigate during *ex post* operations. This difficulty invites *ex ante* positioning through appropriate contractual governance mechanisms. The structure of an IJV's contractual governance is simultaneously determined by these two sets of contingent factors. As an IJV is a long-term, ongoing cooperative process straddling different countries and requiring adaptation decisions by both parties, IJV evolution is particularly susceptible to contractual governance that restrains opportunism while allowing adaptation. This research demonstrates that contingency adaptability and contractual obligatoriness in an IJV contract should increase as environmental hazards rise and as transactions become more uncertain. Term specificity should be enhanced when involved resources are more proprietary and the host country's legal system is less complete.

Finally, we address the relationship between contractual governance and transactional and environmental contingencies in the context of a transition economy. Such settings are generally underdeveloped in the field, despite the fact that they are increasingly shaping global integration of world businesses. Transition economies are often characterized by volatile environments and the limited use of contracts. Interpersonal relationships often outweigh the function of contracts in such an environment. As China most notably relies on interpersonal relations (i.e., *guanxi*) rather than contracts, it seems safe to expect that the configurational linkages between contractual governance and its underlying determinants might be even stronger in other emerging or transition economies in which business dealings are less dependent on personal connections.

The above results have some confirmatory and exploratory implications for IJV theories. They

confirm that transaction cost logic remains relevant to theorizing IJV contracting process and structure. Such relevance is recently doubted, especially in the context of boundary-spanning activities such as joint ventures. For instance, Ghoshal and Moran (1996) are skeptical about the theory's assumptions (e.g., opportunism) in structuring boundary-spanning activities. Granovetter (1985) argues that the theory undervalues the role of social exchange in contracting long-term transactions. Based on our results, we suggest that transaction cost logic sheds good light on contracting during IJV formation; social elements such as trust may join in later as an IJV evolves to affect partner behavior, together with transaction cost logic. Similarly, Boisot and Child (1988) suspect the usefulness of transaction cost logic in transition economies such as China. They argue that Chinese firms, especially state-owned, are not highly motivated for contractual design owing to numerous institutional constraints and a long history of 'rule by people' rather than by law. Our findings remind us that when Chinese firms deal with Western partners they are sensitive to contractual safeguard and codification. On the exploratory side, we demonstrate that an IJV contract is a multifaceted construct including not only term specificity but also contingency adaptability and contractual obligatoriness. The unidimensionality (clause specificity) as viewed by previous studies has resulted in contradictory evidence concerning whether an IJV contract should be more complete or incomplete. Transaction cost logic may be enriched by incorporating this multidimensionality so that it can better explain the mid-range balance between opportunism resistance via contract specification and transactional evolution via contingency adaptation.

International managers should realize the importance of coupling contractual completeness with environmental conditions and transactional dynamics. The optimal level of contractual completeness depends on a transaction's characteristics as well as on the institutional environments facing the IJV. Managers must ensure that an IJV contract delineates situational flexibility in areas that are critical but under the influence of an uncertain environment. This flexibility does not necessarily contradict the role of term specificity or contractual obligatoriness, since they each describe idiosyncratic attributes of contractual arrangement. Managers should also realize that overly specifying all terms of an IJV contract in a highly volatile and complex environment is not merited; instead, it

may sometimes increase governance rigidity and impede flexible response to external dynamics. Finally, our findings about control variables validate the importance of IJV duration, industrial condition, and cultural distance in relation to contractual design. Managers should consider these contingencies as well when structuring an IJV contract.

Several limitations of this study need to be addressed by future research. First, the transactional characteristics and institutional environment we examined are those identified during IJV contractual arrangements. However, most informants responded to our questionnaire during the early stage of IJV operations. This time lag may bring up some bias in their responses. Nonetheless, we believe this bias is probably not sizable because transactional and environmental characteristics generally do not change drastically as IJVs make the transition from formation to the early stage of operations. Active participation by our informants in IJV contractual arrangements (those not participating were excluded from the sample) helped ensure response reliability. Ideally, a future survey would be conducted at a time when respondents are actually undergoing IJV contract negotiations.

Another limitation is that the data set for this study is limited in terms of revealing longitudinal changes in contractual governance. Parties to an IJV may restructure and rearrange the entire contract during the course of operations. We believe that collecting and analyzing longitudinal data in search of these insights should be encouraged. If successfully done, one might be able to assess how IJV contracts are dynamically restructured and reconfigured over time in response to organizational needs or environmental changes. It would also be interesting to extend or replicate this study in other countries to see how applicable the framework is to other settings, and how widespread is the relationship between contractual governance and transactional and environmental attributes. Moreover, future research should investigate the performance implications of the alignment between contractual governance and its contingencies. It remains to be seen how the configurations we identified affect IJV formation, cooperation, and operations success.

Finally, it is interesting to see how different parent firms (especially varying equity ownerships and different experience) will perceive differently the relationship between the antecedents we identified and the contractual governance they desire. This study emphasizes the relationship

between contractual attributes and transactional or environmental attributes as perceived by IJV executives who participated in contract negotiations, and did not examine how investing parties with different ownership status or IJV management experience may asymmetrically view the above relationship. This possible asymmetry merits further investigation since these parties may attach different importance to contractual protection in response to environmental and transactional conditions.

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Notes

¹Benchmarking with the industry standard is important when appraising contractual attributes for a specific IJV contract. In this study, all survey informants were asked to scale a contract's governance attributes with reference to the industry's standard.

²The resource-based view recognizes the importance of capability deployment as well. The competitive advantages of firms stem not merely from proprietary knowledge but also from the manner in which the knowledge is deployed (Prahalad and Hamel, 1990). Although this view does not address the issue of contractual governance, it argues that resource deployment should be aligned with external conditions and internal needs. When deployed knowledge is more proprietary or involves higher appropriability hazards, the firm should be more circumspect in the resource commitment process (Teece, 1998).

³Only equity manufacturing joint ventures fall within the scope of the present study. Export-oriented IJVs were excluded as they did not substantially interact with the local environment. The survey letter explained the concept of the three dimensions of contractual govern-

ance, illustrated major items in a typical IJV contract, and asked that a responding general or deputy general manager only reply if he or she had actively taken part in contract negotiations for the IJV.

⁴Our *t*-test comparison between foreign expatriates and local nationals did not find significant differences ($P > 0.10$) between the two groups in responding to major survey items.

⁵In order to provide a triangulation with some of the mail survey results and between respondents within the same company, 20 senior IJV managers from 10 IJVs in Nanjing (two from each) were interviewed semi-structurally and asked to respond orally to questions raised in the questionnaire. The interview results demonstrated a high consistency with their answers on the questionnaire and between the two interviewees from each firm (Guttman split-half reliability $R > 0.79$). To test the representativeness of the sample, the mean equity, investment, and sales of the sample firms were compared with the IJV population nationwide, using information obtained from the *China Statistical Yearbook* (1996). All *t* statistics were insignificant, indicating no significant bias from the population in these aspects.

⁶This technique uses the method of generalized least squares to fit GLMs. It allows us to incorporate and specify any degree of interaction (crossed effects) and nested effects regardless of the extent of confounding (SAS/STAT User's Guide, 1993).

⁷When separately modeled for a single variable, R^2 for knowledge proprietaryness, economic exposure, and interpartner dependency are: (i) 0.11, 0.07, 0.01, respectively, in relation to term specificity; (ii) 0.14, 0.11, 0.06 to contingency adaptability; and (iii) 0.04, 0.06, 0.01 to contract obligatoriness. Similarly, R^2 for legal system incompleteness, government intervention, and environment volatility are: (a) 0.05, 0.13, 0.06, respectively, in relation to term specificity; (b) 0.04, 0.17, 0.11 to contingency adaptability; and (c) 0.11, 0.02, 0.18 to contract obligatoriness.

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Appendix A1

Selected items from the questionnaire

A. Contractual Governance (seven-point scale with 1 – very weak and 7 – very strong)

1. Term Specificity

- To what extent do you think the joint venture contract specified relevant terms concerning how to set up the joint venture?
- To what extent do you think the joint venture contract specified relevant terms concerning how to operate and manage the joint venture?
- To what extent do you think the joint venture contract specified relevant terms concerning how to cooperate, coordinate, and resolve conflicts between parties?
- To what extent do you think the joint venture contract specified relevant terms concerning how to terminate the joint venture?

2. Contingency Adaptability

- To what extent do you think term specification occurred on issues that were particularly vulnerable to an uncertain environment (e.g., market and governmental policies) or external resources were flexible and resilient?
- To what extent do you think the contract specified general principles or guidelines for handling various unanticipated contingencies that are likely to arise during IJV formation and operations?
- To what extent do you think the contract provided alternatives or possible solutions for responding to different contingencies that are likely to arise during IJV formation and operations?

3. Contractual Obligatoriness

- How would you describe the degree of the overall legal binding of the contract for every party?
- How would you describe the degree of legal penalization and economic punishment, as stipulated in the contract, against the breaching party?
- How would you describe the degree of legal protection and economic reparation, as stipulated in the contract, for the aggrieved party?

B. Investment Characteristics that you identified or anticipated during contractual arrangements (seven-point scale with 1 – very weak and 7 – very strong)

1. Knowledge Proprietariness

- To what extent did you expect that knowledge or resources to be contributed to the venture by either or both parents would be rare and ownership-specific?
- To what extent did you expect that knowledge or resources to be contributed to the venture by either or both parents would be difficult to codify?
- To what extent did you expect that knowledge or resources to be contributed to the venture by either or both parents would be difficult to imitate?
- To what extent did you expect that knowledge or resources to be contributed to the venture by either or both parents could generate sustainable return?

2. Economic Exposure

- How would you describe the vulnerability of your venture project to environmental changes in China?
- How would you describe the project's levels of sunk costs and difficulty in adjusting product lines or market orientations in a changing environment?
- How would you describe the project's levels of exit costs and termination difficulties for your venture project?

3. Interpartner Dependency

- To what extent did you expect that the Chinese and foreign partners would need each other's committed resources?

- b. To what extent did you expect that the Chinese and foreign partners would both have to rely on joint collaborations?
- c. To what extent did you expect that the Chinese and foreign partners would have to interact with and depend upon each other in order to get things done?

C. Institutional Environments that you identified or anticipated during contractual arrangements (seven-point scale with 1 – very weak and 7 – very strong)

- 1. *Legal System Incompleteness* (the following questions refer to each of three items: intellectual property rights protection, industrial property rights protection, and other legal systems affecting FDI).
 - a. To what extent did you perceive each of the following legal systems affecting IJVs as underdeveloped in China?
 - b. To what extent did you perceive each of the following legal systems affecting IJVs as underenforced in China?
- 2. *Governmental Intervention* (the following questions refer to each of four items: negotiation participation, project control, personnel appointment, and IJV operations)

- a. To what extent did you perceive the Chinese central government and its various agencies as intervening in your venture in the following four areas?
 - b. To what extent did you perceive the Chinese local government and its various agencies as intervening in your venture in the following four areas?
3. *Environmental Volatility* (the following questions refer to each of six items: macroeconomic, regulatory/political, socio/cultural, consumers, suppliers, and competitors)
- a. To what extent did you perceive the following sectors as unpredictable?
 - b. To what extent did you perceive the following sectors as volatile?

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