

ARE JOINT VENTURE PARTNERS MORE OPPORTUNISTIC IN A MORE VOLATILE ENVIRONMENT?

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This study examines how joint venture partners' opportunism is influenced by environmental volatility in a drastically changing emerging economy. Building on transaction cost and information-processing theories, we develop the hypothesis that opportunism increases to cope with industry structural instability, information unverifiability, and law unenforceability, the three interrelated yet distinct characteristics that jointly describe environmental volatility in an emerging economy. Our analysis of 188 foreign joint ventures in an emerging market suggests that opportunism increases with information unverifiability and law unenforceability. These relationships are even stronger when joint ventures depend more on the host country environment, but weaker when joint ventures operate in faster-growing industries. Finally, opportunism is found to play a mediating role in the relationship between environmental volatility and joint venture performance. Copyright © 2007 John Wiley & Sons, Ltd.

Opportunism often arises in the process of joint venture development and disrupts the consequences of joint venture performance; thus it is one of the central issues in joint venture or alliance research. A wealth of research has already addressed opportunism in this context from several perspectives, including administrative processes (e.g., Conner and Prahalad, 1996; Folta, 1998; Madhok, 1995; Zollo, Reuer, and Singh, 2002), control and coordination mechanisms (e.g., Beamish and Banks, 1987; Geringer and Hebert, 1989; Gulati and Singh, 1998; Kumar and Seth, 1998; Majoen and Tallman, 1997), contractual safeguards (e.g., Luo, 2002; Poppo and Zenger, 2003; Reuer and Afrino, 2002), governance choices (e.g., Osborn and Baughn, 1990; Oxley, 1997; Ring and Van de Ven, 1992),

equity hostage and dependence (Pisano, 1989; Provan and Skinner, 1989), and social norms and constraints (Currall and Inkpen, 2002; Das and Teng, 2002; Gulati, 1995; Granovetter, 1985; Nooteboom, Berger, and Noorderhaven, 1997). Whether building on economic exchange or social exchange logic, these studies share a common focus—how to restrain opportunism through various governance arrangements and ordering systems either to minimize the costs of transactions characterized by uncertainty, frequency, and asset specificity (Dyer, 1997; Hennart, 1988; Maitland, Bryson and Van de Ven, 1985), create a cooperative equilibrium in an infinitely repeated gaming structure (Axelrod, 1984; Hill, 1990; Parkhe, 1993; Zhang and Rajagopalan, 2002), or achieve a healthy mix of economic rents and social capital from a socially embedded exchange structure (Jones, Hesterly, and Borgatti, 1997; Zollo *et al.*, 2002).

Unlike the above inquiries, which emphasize means or strategies for discouraging opportunism,

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how the external environment influences opportunism and how opportunism mediates the environment-performance link seems to have received inadequate attention in prior research. Addressing environmental influences is important because opportunism is a function of uncertainty (Williamson, 1985), and uncertainty is at least partly a function of environmental volatility (Hill, 1990). Opportunism is endogenous, not pre-fixed, and its strength is largely determined by an investing party's anticipation of its risk-adjusted net returns, 'which are often discounted by market uncertainty. Thus, to complement prior research that emphasizes an 'internal' lens, this study seeks to elucidate how environmental volatility systematically affects the level of opportunism exhibited by joint venture partners. Because opportunism is viewed in the transaction cost economics (TCE) as a key mediating construct that modifies the influence of environment uncertainty on economic performance (Hennart, 1988; Masten, 1993; Williamson, 1979), this study also tries to empirically assess how opportunism mediates the performance implications of distinct uncertainty variables in joint ventures.

We use equity joint ventures established in an emerging market by two cross-national partners as the context for our theoretical development and empirical verification. An emerging market provides a rich setting in which to analyze environmental volatility, given the fact that this type of economy is characterized by a rapidly growing but structurally changing and often volatile economy. In this study, we explain three interrelated yet distinct constructs that jointly profile an emerging market's environmental volatility: *industry structural instability*, *information unverifiability*, and *law unenforceability*. Based on TCE and information-processing theories, we develop the logic that both transaction cost and information-processing complexity increase with industry structural instability, information unverifiability, and law unenforceability. Because such volatility hazards are generally beyond organizational control, neither party expects to be able to obviate them by itself or even together, but both do expect that these hazards will deter the joint venture's goal achievement and future prospects. Hence, joint venture parties may increase opportunistic behavior in joint operations in order to decrease their economic exposure to volatility. Such opportunism

may be even stronger when a joint venture participates in a less promising industry or when it has to rely more heavily on the host country environment. Empirically, our analysis of 188 foreign equity joint ventures in China generally supports these propositions.

THEORETICAL DEVELOPMENT

Theoretical background

It is often paradoxical to look at joint ventures and uncertainty. According to the logic of comparative governance, equity joint ventures (joint ventures hereafter) are potentially a better governance form than other entry modes, such as greenfield investments, contractual agreements, and licensing, when external uncertainty is high (Williamson, 1991). Compared to other forms, joint ventures are superior in exploring and exploiting opportunities in a highly uncertain context because of risk-sharing and resource-sharing effects. Under uncertainty, equity 'hostage' creates a risk-sharing structure such that investing parties reduce their commitment to a joint venture without losing 100 percent of the venture's investment (Contractor and Lorange, 1988; Osborn and Baughn, 1990; Williamson, 1979), while complementary resources pooled from all parties solidifies a joint venture's collaborative competitive advantages in a volatile market (Buckley and Casson, 1988; Khanna, Gulati, and Nohria, 1998; Parkhe, 1991). Thus, from the self-selection perspective, joint ventures are more likely to be chosen than other entry modes in situations with high uncertainty, meaning that environmental volatility plays a role on the selection of the joint venture mode. Kogut (1988: 320) argues that one major situational characteristic best suited to a joint venture is high uncertainty, which makes it difficult for all parties to specify and monitor performance. Harrigan (1988) demonstrates that market uncertainty increases the likelihood of forming joint ventures, especially in high-risk industries. Folta (1998) confirmed that joint ventures are particularly useful when confronted by technological and environmental uncertainties because they provide an option to deter internal development or acquisition of a target firm and a mechanism to capitalize on growth opportunities. In an international setting, Beamish and Banks (1987), Contractor and

Lorange (1988), and Killing (1983), among others, suggest that joint ventures are often selected to reduce environmental risks in developing countries. Brouthers (2002), Delios and Henisz (2000), and Meyer (2001) show that in governmentally deregulated sectors in foreign emerging markets the likelihood of using joint ventures (as opposed to wholly owned subsidiaries) is positively related to environmental uncertainty or complexity.

On the other hand, joint ventures may involve a greater internal uncertainty due to an increased probability of opportunistic acts by individual parties seeking private gains. Since investing parties have a *de facto* right to manipulate their own contribution and commitment to a joint venture in which they interdependently share existing resources or jointly develop new resources while maintaining their respective parental identity, all joint ventures inevitably involve some degree of fiduciary risks of interdependence between parties (Hill, 1990; Parkhe, 1993). This unique governance structure, compounded by interparty differences in strategic objective, corporate culture, and managerial style, and by interparty asymmetries in bargaining power, equity ownership, and parent control, helps explain why opportunism occurs. Moreover, it is often impossible to fully specify a joint venture contract due to unanticipated contingencies and environmental changes (Arino and Reuer, 2004). Busch and Horstmann (1992) argue that economic agents rarely write a complete contract for a long-term cooperative relationship because boundedly rational parties cannot recognize all contingencies nor realize the need to specify all dimensions of contractual performance. An incomplete contract creates leeway for opportunism and generates moral hazards for a cooperative relationship. Consequently, opportunism may interfere with collaborative incentives and unilateral commitment and undercut confidence development and trust building (Das and Teng, 1996; Gulati, Khanna, and Nohria, 1994; Kumar and Seth, 1998; Nooteboom *et al.*, 1997; Poppo and Zenger, 2003).

'Opportunism' is generally defined by Williamson as 'self-interest seeking with guile' and specifically as 'the incomplete or distorted disclosure of information, especially to calculated efforts to mislead, distort, disguise, obfuscate, or otherwise confuse' (Williamson, 1985: 47). In a joint venture setting, we define 'opportunism' as an act or behavior performed by a party to seek its

own unilateral gains at the substantial expense of another party and/or the joint venture entity by breaching the contract or agreement, exercising private control, withholding or distorting information, withdrawing commitment, shirking obligation, or grafting joint earnings. In Williamson's view (1975, 1985), transaction costs are principally associated with guarding against opportunism. If bounded-rational parties to an asset-specific contract do not engage in opportunistic behavior, then they simply pledge at the outset to execute the contract efficiently in a joint profit-maximizing manner (Williamson, 1985: 31). When bounded rationality and asset specificity are joined with opportunism, however, planning becomes incomplete, promises break down, and parties' continuing interests are interlocked. The organizational imperative that emerges in such circumstances is to organize transactions so as to economize on bounded rationality while simultaneously safeguarding them against the hazards of opportunism (Williamson, 1985: 32). Opportunism is thus the variable that makes incomplete relational contracting hazardous, which in turn leads to the need for internal mechanisms such as administrative governance and ordering forces.

According to Williamson (1975), opportunism is a function of a transaction's uncertainty, which is then determined in part by environmental volatility. Environmental volatility curtails a party's expected risk-adjusted net return from the transaction and reduces its anticipated income stream stability (Dixit and Pindyck, 1994). Logically, when a party anticipates sustained or prolonged uncertainty of gains or income, it tends to behave more opportunistically (Brown, Dev, and Lee, 2000). Because each party thinks this way, it may anticipate the other party's similarly opportunistic musings; in the face of income uncertainty, both parties become reluctant to be the first to contribute the resources needed to reduce a joint venture's dependence on external uncertainty or to strengthen its operations (Gulati *et al.*, 1994). Transaction and information-processing costs increase when a joint venture operates in an uncertain environment; it also increases the cost of strategic planning, monitoring, and execution, as well as the complexity and uncertainty of task and institutional environments. Environmental uncertainty further requires increased monitoring and enforcement costs. Each party must spend more time and resources to monitor the other party and determine if it is abiding

by the contract or shirking its obligations (Gulati *et al.*, 1994). When such costs increase beyond a party's tolerance, opportunism will also increase (Hill, 1990). Kogut (1989) documents that cooperative incentives are often offset by structural conditions that affect environmental complexity and uncertainty. These effects indicate that uncertainty propels opportunism, which may in turn hamper joint venture performance, mainly due to reduced business commitments and increased governance and monitoring costs in responding to environmental uncertainty. This implies that opportunism may deter joint venture performance as well as mediate the link between environment volatility and joint venture performance.

Environmental volatility is a multidimensional concept and its effects on organizations are context-specific (Bourgeois, 1980; Dess and Beard, 1984; Milliken, 1987). In a general setting, environmental volatility, often synonymous with uncertainty or dynamism, is the rate of change or the degree of instability of factors within an environment (Boyd, Dess, and Rasheed, 1993; Sawyerr, 1993). Its dimensions include changeability, unpredictability, unverifiability, or variability of a group of segments that comprise both micro (industrial) and macro (national) business environments (Dess and Beard, 1984; Miller, 1987). This study proposes three interrelated yet distinct dimensions that constitute environmental volatility (higher-order concept) in a typical emerging economy: (a) industry structural instability; (b) information unverifiability; and (c) law unenforceability (lower-order constructs). An *emerging economy* is defined as an economy that grows rapidly with structurally changing industries, promising but volatile markets, weak legal protection systems, and a regulatory framework that undergoes drastic transformations (Hoskisson *et al.*,

2000). It is commonly held that industry structural instability is a major force exacerbating environmental volatility in emerging economies (May, Stewart, and Sweo, 2000). Several studies further document that institutional change, especially regulatory transformation at the industry level, leads to difficulties in obtaining, interpreting, analyzing, and verifying information pertaining to both task and institutional environments (Hare and Davis, 1997). In particular, government industrial policies tend to be more opaque and less verifiable during transformation (Luo, 2002: 50-60). Opacity-related uncertainty is likely to be higher during this stage than during the period when such regulations or policies were either absent or more completely developed. Lastly, law enforcement is generally weak in emerging economies (Delios and Henisz, 2000) and enforceability varies across regions within an emerging economy such as China (Brown, 1997). Lack of adequate legal protection as perceived by executives increases uncertainty with respect to property rights and legitimate returns, disturbs fair competition, and permits unaccountability of regulatory agents' behavior (Delios and Henisz, 2000). Collectively, these dimensions (*industry structural instability, perceived information unverifiability, and perceived law unenforceability*) comprise environmental volatility in an emerging market and individually they affect transaction costs and information processing costs. Figure 1 shows a unified model of opportunism, whose elements are detailed below.

Environmental volatility and opportunism

Industry structural instability

Industrial environment influences the competitive situation that individual organizations face (Scherer

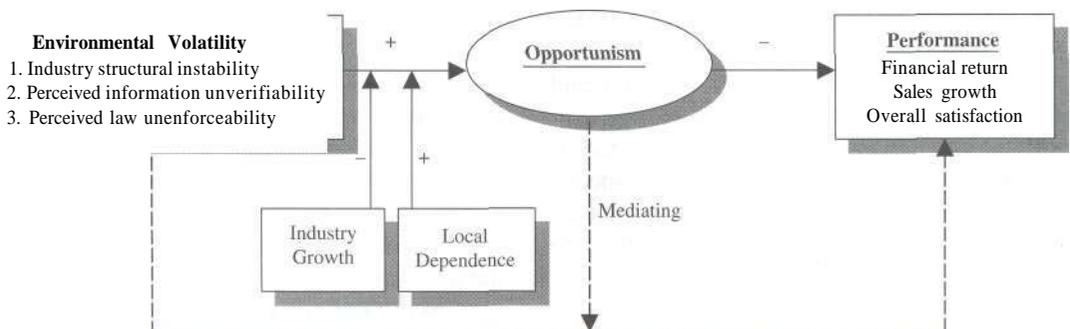


Figure 1. A model of opportunism in emerging market-based joint ventures

and Ross, 1990), and an industry's *structural instability* influences an executive's prospects and decisions (Porter, 1985). Structural instability, defined in this study as an objective construct measured by archival information, concerns the extent to which an industry's major structural attributes, such as sales growth, profit growth, and output growth, are unstable or fluctuate. Such uncertainty implies an absence of sufficient information about industry structure and executives' inability to predict this structural change and its impact on organizational decision alternatives (Dess and Beard, 1984). In emerging economies in which industries are often undergoing structural transformation (Hare and Davis, 1997), structural instability is strikingly high and extremely difficult to manage (Nee, 1992). Unlike structural instability in developed economies, which often arises due to market force fluctuations, structural instability in emerging markets is largely attributable to varying degrees of decentralization and privatization across industries within an economy. Government industrial policies such as value-added tax, supply control, distribution coverage, and financing treatments also vary across industries. This results in, for instance, significantly higher uncertainty in sales, output, and profit in the timber-processing and heavy machinery industries than in the electronic appliances and fast food industries in China. Differences in life cycle stages, competition intensity, and consumer awareness across industries also accentuate industry structural instability.

In such an uncertain context, executives may passively reduce exposure to risk by decreasing resource commitment. This happens because firms have little control over results in the face of industry structural instability caused by government interference during economic transition (Peng, 2000). Thus, uncertainty translates into immense economic exposure that firms cannot hedge. Joint venture members are unlikely to be able to mitigate the hazards arising from such uncertainty. In fact, foreign joint ventures in most emerging markets face even greater structural instability than do indigenous firms because of the underdevelopment of joint venture law, the immaturity of government policies, and government bodies' lack of experience in dealing with foreign firms (Luo, 2002; May *et al.*, 2000). In response to such uncontrollable factors, joint venture parties are likely to attempt to minimize their respective exposure to external turbulence by

behaving more opportunistically. They may reduce their commitment to the joint venture, shirk obligations, or take a 'wait and see' attitude toward what the other party or the market does. We therefore propose:

Hypothesis 1: In a foreign emerging market, joint venture parties will behave more opportunistically in response to increased structural instability of the industry in which the joint venture participates, ceteris paribus.

Perceived information unverifiability

Emerging markets are characterized by a lack of market economy institutions, regulatory opacity, differing institutional treatment of firms based on location, ownership or type of business activity, and the nontransparency of government decision-making processes that affect the public (Hoskisson *et al.*, 2000). This makes information about the environment difficult to obtain, analyze, and verify. Perceived information unverifiability thus refers to the degree to which the true information about macro- and micro-business environments facing an individual business is difficult to verify as perceived by executives. Because executives often make decisions based on how they perceive such environments (Miller, 1987), perceived truthfulness and verifiability of environmental information strongly influence organizational behavior and decision-making outcomes in an emerging market. It seems reasonable to expect enough observation variance to study perceived information unverifiability within a multifacetedly diversified economy such as China because (1) perception of information unverifiability is subjective, (2) different stages of economic development cause regional differences in the information factor market within a large emerging economy (e.g., China), and (3) different levels of governmental interference cause industrial differences in information accountability.

Opportunism may increase with information unverifiability. First, it is difficult or impossible to contract on contingencies where information is unverifiable. This then opens the door for *ex post* opportunism. Second, investing parties may face unclear situations with few well-developed alternatives or clear evaluating criteria on which to base decisions. These factors may force firms to perform limited environmental assessments, take defensive actions to safeguard their existing stakes,

and/or hold or reduce their originally planned resource investment (Daft, Sormunem, and Parks, 1988; Miller, 1987; Sawyerr, 1993). Information unverifiability also makes it difficult to formulate and implement strategic plans (Bourgeois, 1980), deploy and exploit distinctive resources (Keats and Hitt, 1988), and build and upgrade new capabilities (Oliver, 1997). Third, information unverifiability deters environmental munificence, which in turn darkens the outlook for future cooperation and joint gains. A munificent environment is important for fostering continued investment and increased commitment (Dess and Beard, 1984). If a party loses confidence in a joint venture's prospects, it will act more opportunistically and make the other party bear more relational risk (Das and Teng, 1998). Finally, information unverifiability discourages the development of trust, forbearance, and reciprocity, together with goal incongruence (Beamish and Banks, 1987), the discouraging of these behaviors creates more conflict and leads to lower contributions from each party. Similarly, Williamson (1985) holds that when market information is unverifiable, the relational element of the exchange is weakened and the calculative element is magnified. We thus predict:

Hypothesis 2: In a foreign emerging market, joint venture parties will behave more opportunistically in response to increased information unverifiability, ceteris paribus.

Perceived law unenforceability

Legal protection of legitimate business activities and intellectual or industrial property rights is most often weak in emerging economies (Delios and Henisz, 2000; Hoskisson *et al.*, 2000; Nee, 1992). 'People,' rather than the law itself, play a significant role in shaping commercial activities. Although legislative and governmental bodies have begun to enact more commercial laws such as corporate law, contract law, property right law, and joint venture law, these laws are generally not strictly enforced for a variety of political, socio-cultural, institutional, and historical reasons. This enforcement uncertainty, also treated as a perceived subjective variable, can be partly ascribed to long traditions of untrustworthy legal and governmental systems, lack of independent law enforcement, the deficiency of supervision mechanisms, and frequent unjustified law changes.

Institutional doctrine ambiguity, legislative organ behavioral uncertainty, and law inconsistency further aggravate law unenforceability. More importantly, law enforceability varies by regions and locations within a socially and economically diversified economy. In China, for instance, poorer regions are generally characterized by weaker legal protection or law enforceability and poorer legal services, and the judiciary and court systems are more corrupted in less developed provinces and cities (Brown, 1997). Another source of variance of perceived law enforceability within an emerging economy is the political powerfulness and connections of a joint venture's local partner. The weaker the local partner's interpersonal and interorganizational connections with local judiciary and governmental authorities, the higher the law unenforceability may be perceived by joint venture executives.

TCE posits that opportunism increases when such legal ordering is absent (Delios and Henisz, 2003; Williamson, 1975, 1979). In Williamson's recent writing, law unenforceability is part of a locus of shifting parameters that affect legal ordering effectiveness and the comparative costs of governance (Williamson, 1991). Since the shifting of parameters naturally puts at risk a party's legal rights and interests, confidence and commitment decline and the fear of appropriability hazards increases in such an environment (Delios and Henisz, 2003; Oxley, 1997). With weak legal protection, a victim of opportunistic conduct has very little legal recourse; this also leads to higher risks and costs because using an 'internal' legal remedy can often cause unanticipated and unwanted consequences (Joskow, 1985). For instance, it may create incentives for an unscrupulous plaintiff party to bring groundless claims; fear of such behavior may cause a victim party to forego bargaining and a lawsuit. Moreover, this remedy takes some of the risk out of making high-risk moves through transaction-specific investments, thereby dampening their effectiveness as trust-related signals. In more general terms, law unenforceability affects an investing party's propensity for risk-taking and commitment. International joint ventures are often formed in order to share risk and costs, including those associated with laws and politics, in an emerging market (Contractor and Lorange, 1988). If law unenforceability prevents investing parties from seeing the prospect of reducing such risks

and costs, the parties are more likely to behave opportunistically. We accordingly postulate:

Hypothesis 3: In a foreign emerging market, joint venture parties will behave more opportunistically in response to increased law unenforceability, ceteris paribus.

Industry growth and local dependence as moderators

The various industries within which a joint venture may participate in the same host country have differing rates of growth. For example, some industries may be undergoing a transition while others are not. When an industry is freed from governmental control (e.g., over market supply and demand), rapid market growth usually ensues for that industry. This take-off is observable as a surge in the focal industry's sales. We argue that the faster an industry grows, the smaller is the effect of environmental volatility on opportunism because investing parties may be more willing to accept risk if they expect the greater cash inflows from a fast-growing industry. Risk propensity and risk-taking behavior are typically increasing functions of anticipated returns (Sitkin and Weingart, 1995). When expected net outcome is positive after adjusting the risk factor, a party will be more cooperative and more willing to invest (MacCrimmon and Wehrung, 1986). If a party instead invests in a slow-growing industry and expects lower or negative returns, its investment confidence and risk-taking propensity both deteriorate, thus encouraging opportunistic behavior (Dixit and Pindyck, 1994). Thus, when a joint venture operates in a fast-growing industry, its investing parties are likely to engage in less opportunism in response to the same environmental volatility than if the joint venture were operating in a slow-growing industry. We therefore envisage:

Hypothesis 4: When a joint venture operates in a faster-growing industry in an emerging economy, the positive relationship between environmental volatility and opportunism will be weaker.

Due to differing market orientations, foreign joint ventures have varying levels of dependence on the host country environment. For example, while some joint ventures seek to penetrate the local

market, others may treat the host country as a production platform for exports. Such market orientation differences cause variations in firm dependence on the host country's market and resources and, accordingly, variations in firm susceptibility to environmental volatility. Economic exposure increases with dependence on the host country environment, and joint venture operations become more susceptible to impediment by environmental volatility, especially foreign exchange fluctuations, regulatory changes, and market uncertainty. Sunk costs and exit costs are also significantly higher when joint ventures are more dependent on the local environment. Having a local market focus requires more rigorous and extensive interaction with both the industrial environment and the general environment. It is subject to greater interference from government agencies at various levels and depends more on indigenous inputs (e.g., supplies) and resources (e.g., distribution, marketing, financing, and information). In contrast, having an export market focus means that a firm depends less on local resources and interacts less with the local business community, especially along primary value chain activities. When expecting greater sunk costs, exit costs, transaction costs, and information-processing costs arising from difficult-to-hedge volatility risks due to greater dependence on the host country's environment, investing parties, with their bounded rationality and limited ability to control such costs, are likely to reduce their resource commitments and behave more opportunistically. In other words, the same amount of environmental volatility will more intensely impact an investing party's opportunistic behavior if the joint venture is more vulnerable to volatility. We hypothesize:

Hypothesis 5: When a joint venture depends more on the host country environment, the positive relationship between environmental volatility and opportunism will be stronger.

Performance implications of opportunism

Opportunism has serious consequences for joint venture development. If opportunism in an inter-party exchange is particularly high, considerable resources may be spent to control and monitor it. Opportunism also increases opportunity cost because resources spent on internal monitoring could have been deployed more productively in

other pursuits. Covert behavior seeking unilateral gains is difficult to observe; fear of such behavior is detrimental to trust building and forbearance establishment. Opportunism may also present a significant obstacle to fostering confidence in partner cooperation. An opportunistic party does its own 'thing' and emphasizes its own interests, which often exacerbates interparty conflict (Beamish and Banks, 1987; Jehn and Weldon, 1997; Killing, 1983). Failure to see beyond short-term self-interest inhibits the cooperative effort essential to joint venture growth. Furthermore, opportunism increases coordination difficulty and coupling uncertainty between the parties, thus adversely affecting synergy creation (Dyer, 1997; Khanna, Gulati, and Nohria, 1998; Parkhe, 1991). Finally, opportunism may discourage the development of reciprocity and repeated commitment. In the presence of opportunism, it is difficult to sustain a repeated economic exchange because of moral hazards (i.e., opportunistic behavior by one party after the other party has already committed) or because of uncertainty about individual and joint pay-offs when the parties act simultaneously (Hennart, 1988; Park and Russo, 1996; Parkhe, 1993). Reciprocity is essential to generating joint pay-offs for socially embedded, long-term economic exchanges (Buckley and Casson, 1988). In light of these reasons, opportunism is expected to deter joint venture performance, defined in this study as return on investment, sales growth, and overall satisfaction, which together reflect a joint venture's multidimensional (financial, market, and overall) achievement. We hence expect:

Hypothesis 6: In a foreign emerging market, opportunism impairs joint venture performance.

Opportunism is an important mediating construct in the TCE model: environmental volatility and uncertainty hinders exchanges via increased opportunism (Wathne and Heide, 2000; Williamson, 1975, 1985). This uncertainty promotes free-riding and shirking, which in turn obstruct joint venture performance (Deeds and Hill, 1998; Johns, 1984). The reasons why environmental volatility influences performance via the mediating effect of opportunism are twofold. First, environmental volatility affects firm performance through business commitment and actions in responding to this volatility (Keats and Hitt, 1988; Miller, 1987) and opportunism indicates such commitment

and actions in the joint venture context (Johns, 1984; Hennart, 1988). Via this mediating or intermediary instrument (i.e., heightened opportunism under uncertainty), environmental volatility hampers interpartner collaborations, attachment building, resource sharing, and collective commitments, thus causing joint venture performance to deteriorate. Second, environmental volatility affects joint venture performance through increased governance and monitoring costs (Parkhe, 1993), and opportunism is a proxy of these costs (Williamson, 1985). Kumar and Seth (1998) argue that environmental uncertainty increases opportunism as reflected in greater costs in coordinating internal and external activities, monitoring strategic interdependence between parties, and governing structural and social exchanges within the joint venture. This will reduce a joint venture's financial and operational outcomes. This effect is even more evident when bounded rationality is attended. Environmental volatility disrupts bounded rationality and limited forbearance. In this circumstance, governance becomes either more difficult or more expensive, further weakening joint venture performance. We thus posit:

Hypothesis 7: In a foreign emerging market, opportunism mediates the effect of environmental volatility on joint venture performance.

RESEARCH METHODS

Sample and data

We used surveys of foreign equity joint ventures in the People's Republic of China as the main data source to test the above hypotheses. China is today the world's largest FDI recipient and biggest emerging economy. The high number of foreign joint ventures and their large scales of operations in this important market provide an appropriate setting for investigating joint venture member behavior. The sample's cross-cultural character offers a richer setting in which to examine opportunism (Shenkar and Zeira, 1992). Market parameters and institutional environment tend to be extremely volatile when a nation is economically decentralizing, allocating more autonomy to local governments, revising regulatory frameworks to meet WTO requirements, and undertaking structural transformations of formerly regulated sectors.

Due to the underdevelopment of factor markets and market institutions, decentralization and transformation are accompanied by market uncertainty and environmental disturbance.

Data for most variables in this study came from the survey we conducted between March and August of 2003; we used archival data to measure industry structural instability and several control variables. In the survey, we used two raters (personal background information for each rater was included in the questionnaire), with a joint venture's deputy general manager responding to environmental volatility items and the general manager (joint venture CEO) responding to all other survey items (including opportunism and performance items). We did so in order to avoid common method variance resulting from single-rater responses. Senior joint venture executives are appropriate informants for our survey, since they know both the micro- and macro-business environments their joint ventures face (Tallman and Shenkar, 1994); they are also in a favorable position to routinely observe each party's opportunistic behavior (Nooteboom *et al.*, 1997). Parent executives are not likely to report their own malfeasant behaviors, nor are they able to observe the other party's opportunistic behavior on a daily basis. In a pilot test, we interviewed 14 joint venture managers in the city of Suzhou and requested their opinions and input regarding concept clearness, question validity, and tone appropriateness of the survey items. They were also asked to identify any ambiguities in terms, concepts, or questions in the questionnaire. We then revised the questionnaire based on their feedback.

We selected sample joint ventures from the CD-ROM Directory of Foreign-Invested Enterprises, which we purchased from China's Ministry of Foreign Trade and Economic Cooperation (MOFTEC). We focused on equity manufacturing joint ventures with two partners (one foreign and one Chinese) to corroborate our earlier discussion and assumptions. We also focused on joint ventures that had been established for at least 3 years (since most survey questions referred to the past 3 years as the relevant time frame for responses). In this case, the survival selection bias should be very small because the termination of foreign joint ventures within the first 3 years of operations is extremely rare in China, provided that foreign investors are prepared for difficulties in the earlier years, and accordingly attach greater tolerance and

patience to the beginning stage of interparty collaborations (Shaw and Meier, 1993; Woetzel, 2004). Lastly, we focused on joint ventures operating in east coast provinces (Shanghai, Jiangsu, Zhejiang, and Shandong) and Beijing. We could not cover joint ventures in all regions owing to our local contacts' (who performed the surveys under our supervision) limitation in reaching sample firms elsewhere. Nonetheless, our geographical coverage is sizable since FDI in these regions accounts for almost half of total FDI in the nation (*China Statistical Yearbook*, 2003).

Using the above criteria, we selected 620 equity joint ventures and sent the questionnaire pack to joint venture general managers (we asked them to forward the environment portion to a senior deputy general manager to fill out and then collect it and send it back to us with the whole pack). After two rounds of following-up and the omission of 42 incomplete responses (mostly because of failure to include the environment portion), we had 188 usable questionnaires, a 30.32 percent response rate. Relevant industries include electronics and electric equipment, telecommunications, medical equipment, textiles and sewing, machine building, Pharmaceuticals, chemical and plastic products, and arts and crafts, among others. Foreign parent firms mainly originate from Europe (52), North America (50), Asia and Oceania (46), and others (40). The average number of employees and the amount of total investment by all parties are 241 and \$7.4 million, respectively. Sample joint ventures are on average 7.81 years old. They operate in industries with an average sales growth rate of 25.81 percent. Of 188 sample firms, 98 foreign parents maintain a majority equity status.

We checked the nonresponse bias based on the aforementioned CD-ROM Directory. The mean difference between the responding and nonresponding companies along joint venture attributes such as investment size, foreign ownership, expected duration, registered capital, and joint venture age was tested using an unpaired *t*-test; all *r*-statistics were nonsignificant. To check for a geographical bias, we compared our sample with national-level joint venture population in total investment, registered capital, fixed assets, and foreign equity, based on the information from the *China Statistical Yearbook* (1999-2003). The *f*-test demonstrated that there was no significant mean difference between the sample and the population as a whole in these areas. To verify the

nationality-related bias of respondents, we conducted a subgroup analysis, cross-comparing the Mainland Chinese, Western (Europe and United States), and Asian-originated informants, for both the CEO group (opportunism items) and the deputy general manager group (environment items). The results of *t*-statistics pair-comparing the three groups in respective scores of these items were not significant at $p < 0.05$ level. This was further confirmed by a subgroup regression analysis in which a basic model in Table 4 was run for the three different nationality groups and the regression coefficients did not sizably differ among them.

Variable and measurement

The measurement and validity (commonality estimates and Cronbach's alpha) of each survey construct are summarized in Table 1. Our pre-survey interviews found that the more detailed the question items, the higher the construct validity of these variables was likely to be. Accordingly, these items are very specific and concrete. The design of the opportunism constructs was based on our pre-survey field study in Southern China along with references to Anderson (1988), Deeds and Hill (1998) and Nooteboom (1996). In this field study, we found that opportunistic acts, especially commonly used tactics for private gain, generally vary between foreign parties and Chinese parties. We thus measured and examined foreign party opportunism and Chinese party opportunism separately. As shown in Table 1, the seven items used to measure foreign party opportunism cover numerous acts, from controlling import and export processes, colluding with local party personnel and blocking key technology transfer to controlling information systems or financial affairs and seeking solutions that are only in its own best unilateral interests. Similarly, the seven items defining local party opportunism address the extent to which it controls local distribution, relationship-building with local governments, and local personnel management without allowing a foreign party's participation, as well as the extent to which it pursues its own private gains at the expense of a foreign party's or the joint venture's best interests. To further check the response validity, we presented, in late 2003, the same questionnaire to 50 joint venture CEOs in Suzhou and Nanjing who had responded earlier. They were asked to respond to each item again. Correlation analysis of the 41 responses

exhibited a strong consistency between the two periods (all at $p < 0.0001$). Concerning construct validity, internal consistency (Cronbach's alpha) of foreign and local party opportunism is 0.82 and 0.83, respectively, while item appropriateness (communality estimates) ranges from 0.89 to 0.96 for foreign party opportunism and from 0.89 to 0.93 for local party opportunism. Rotated factor loadings (Table 2) clearly exhibit that the above items are landed in Factor 1 and Factor 2, respectively.

Among environmental volatility variables, information unverifiability was measured by the inverse average score of information availability, accuracy, comprehensibility, and analyzability, based on our early conceptual discussion and references to several studies on emerging market environments (Hare and Davis, 1997; Hoskisson *et al.*, 2000; Luo, 2002; May *et al.*, 2000; Nee, 1992; Peng, 2000; Steensma and Lyles, 2000). To measure information unverifiability, we averaged each question item along seven sub-items, including economic, regulatory, socio-cultural, technological, customer, competitor, and supplier. Second, we developed the law unenforceability construct based on our own theoretical explanations and several studies on business law enactment and enforcement in emerging economies (e.g., Amsden, Kochanowicz, and Taylor, 1994; Brown, 1997). Rotated factor loadings in Table 2 clearly show that law unenforceability, information unverifiability, and the two opportunism constructs are structurally landed in different factors. Third, we measured industry structural instability based on archival data from the *China Statistical Yearbooks* in two steps: (1) we first calculated the standard deviation of an industry's sales growth, output growth, and profit growth, respectively, for 3 years (2000-2002); and (2) we then used the geometric average of the three standard deviations to measure this industry's structural instability. This way of measuring structural instability seems appropriate because standard deviation is a common measure of volatility, and industry structure is a multidimensional construct. Using a geometric average instead of simply multiplying the standard deviations of structural attributes prevents a skewed distribution. Using growth ratios instead of absolute values to define structural attributes better fits a fast-growing emerging market such as China, and avoids a distortion of growth-related variance. To check the sources of variance, we analyzed the

Table Multi-item variables and measurement^{a,1}

Variable	Questionnaire items	Community score	Alpha
<i>Opportunism—foreign</i>			0.82
	1. The foreign party always controls the process of importing material or equipment and exporting outputs for the JV and does not share the true information on prices of such import and export transactions	0.89	
	2. The foreign party always ropes in or lobbies some key personnel of the Chinese party for its own interests through some very private ways and/or personal socialization	0.96	
	3. The foreign party always blocks its key technologies or knowledge so that the Chinese party cannot access them	0.95	
	4. The foreign party always controls the JV's information systems in accounting, finance, marketing, and operations to the extent the Chinese party cannot obtain accurate information in these arenas	0.95	
	5. The foreign party always controls the process and the decision of foreign currency financing and foreign currency cash flows, and the Chinese party cannot impact this process or decision	0.93	
	6. Whenever a conflict or difficulty arises, the foreign party always seeks a solution that is in its own best interests, not considering the Chinese party's or the JV's best interests	0.90	
	7. Whenever new plans or policies are launched or old plans or policies altered, the foreign party always overwhelmingly gives priority to its unilateral benefits in the decision process	0.91	
<i>Opportunism—Chinese</i>			0.83
	1. The Chinese party always controls the process of local distribution, local marketing, and local outsourcing and does not allow the foreign party to participate in this process	0.92	
	2. The Chinese party always ropes in or lobbies some key personnel of the foreign party for its own interests or for better control through some very private ways and/or personal socialization	0.93	
	3. The Chinese party always controls the JV's relationship with local government agencies and does not allow the foreign party to get any insights into such relationships	0.91	
	4. The Chinese party always controls the process and decision of local currency financing and local currency cash flows and does not allow the foreign party to influence this process or decision	0.93	
	5. Whenever a conflict or difficulty arises, the Chinese party always seeks a solution that is in its own best interests, not considering the foreign party's or the JV's best interests	0.94	
	6. The Chinese party always places its key personnel in key positions (e.g., in procurement, finance, and distribution) and does not share local knowledge or experience with its foreign counterparts	0.93	
	7. Whenever new plans or policies are launched or old plans or policies altered, the Chinese party always overwhelmingly gives priority to its unilateral benefits in the decision process	0.89	
<i>Information unverifiability (inversely coded)</i>			0.80
	1. To what extent do you think the information pertaining to the following factors can be fully and publicly obtained in a timely fashion? (a. Economic; b. Regulatory; c. Socio-cultural; d. Technological; e. Customer demand; f. Competition; g. Supply)	0.74	
	2. To what extent do you think the following aspects of information that is publicly available are accurate and reliable? (a. Economic; b. Regulatory; c. Socio-cultural; d. Technological; e. Customer demand; f. Competition; g. Supply)	0.82	
	3. To what extent do you think the following aspects of information that is publicly available are easy to comprehend and describe? (a. Economic; b. Regulatory; c. Socio-cultural; d. Technological; e. Customer demand; f. Competition; g. Supply)	0.87	

(continued overleaf)

Table 1. (Continued)

Variable	Questionnaire items	Communality score	Alpha
	4. To what extent do you think the following aspects of information that is publicly available are easy to analyze and verify? (a. Economic; b. Regulatory; c. Socio-cultural; d. Technological; e. Customer demand; f. Competition; g. Supply)	0.86	
<i>Law unenforceability (inversely coded)</i>			
	1. In your observation over the past 3 years, how complete or consummate is the business or commercial law that China has enacted in following areas that affect your business? (a. Contract law; b. Company law; Intellectual and industrial property right protection law; d. Joint venture law; e. Other commercial law)	0.94	0.85
	2. In your observation over the past 3 years, how strict and impartial has China's national judicial system (courts, tribunals and procuratorial departments) enforced the following law? (a. Contract law; b. Company law; Intellectual and industrial property right protection law; d. Joint venture law; e. Other commercial law)	0.96	
	3. In your observation over the past 3 years, how strict and impartial has China's judicial system (courts, tribunals and procuratorial departments) at the local level (province, city, and county) enforced the following law? (a. Contract law; b. Company law; Intellectual and industrial property right protection law; d. Joint venture law; e. Other commercial law)	0.90	
	4. In your observation over the past 3 years, how completely has China developed its legal service sector? (a. Arbitration institutions; b. Law offices; c. Legal consultancy; d. Other legal service)	0.93	

^a A 7-point scale was used for all other constructs (from 1—not true/very low/very weak, to 7—very true/very high/very strong).

^b The recent 3 years was the time frame to answer the above questions.

^c Communality scores for information unverifiability and law unenforceability items are the second (higher)-order estimates.

variance (REG procedure) of the three independent variables predicted by industry (numbering industries by 1,2,...«), province location, and city location. Consistent with our earlier explanations, the *R*² results showed that a larger percent of the variance of industry structural instability was from the industry effect (57%) than from the province and city-level combined region effect (12%). In contrast, a larger percent of the variance of law unenforceability was from the region effect (53%) than from the industry effect (11%), while the variance of information unverifiability was largely predicted by both the industry effect (30%) and region effect (33%).

Of the two moderator variables, industry sales growth was measured by the compound growth rate (%) of the respective industry's sales from 2000 to 2002, based on the *China Statistical Yearbooks*. We defined a joint venture's local dependence associated with market orientation as a dummy variable (1 if local market-focused, 0 otherwise—export-oriented), which we obtained from the aforementioned CD-ROM. Lastly, based on the survey information received from joint venture

CEOs, venture performance was measured by three related but distinct variables that together cover a broader range of joint venture success in an emerging market: (1) average return on investment (ROI) between 2000 and 2002; (2) average sales growth (%) over this period; and (3) CEO's overall satisfaction with joint venture achievement over the same period (5-point scale, from 1—very unsatisfied—to 5—extraordinarily satisfied).

We controlled for several variables in testing the hypotheses (obtained from the survey except where otherwise specified). First, *local party ownership* (1 if state-owned, 0 otherwise) may influence opportunistic activity because of vulnerability to the regulatory environment. Second, *previous collaboration* (years of cooperation in various activities such as import and export, technology transfer, or OEM before forming the joint venture) may influence current mutual relations, which in turn affect how one party perceives and reacts to the other party's behavior. Third, *cultural distance* may be an 'internal' source of opportunism since it often contributes to conflict. This variable was calculated as $1/5E [(/,\bullet/-,-_c)^2/\wedge L]$ where

Table 2. Rotated factor pattern for discriminatory validity ($N = 188$)

Items	Factor 1	Factor 2	Factor 3	Factor 4
<i>Opportunism—foreign</i>				
1. Controlling import process	0.88	-0.23	0.13	-0.22
2. Personnel lobbying	0.93	-0.24	0.20	-0.08
3. Blocking technology	0.92	-0.19	0.21	-0.12
4. Blocking key activities	0.92	-0.20	0.14	-0.18
5. Concealing foreign cash flow	0.91	-0.13	0.12	-0.16
6. Seeking selfish solution	0.90	-0.20	0.15	-0.16
7. Prioritizing unilateral benefits	0.93	-0.17	0.12	-0.20
<i>Opportunism—Chinese</i>				
1. Covering local distribution	-0.13	0.89	0.18	0.26
2. Roping in foreign expatriates	-0.19	0.91	0.20	0.11
3. Blocking government relations	-0.09	0.90	0.16	0.19
4. Concealing local cash flow	-0.15	0.90	0.15	0.22
5. Seeking selfish solution	-0.19	0.92	0.17	0.13
6. Blocking local knowledge	-0.15	0.89	0.16	0.27
7. Private interest focus	-0.17	0.88	0.16	0.13
<i>Information unverifiability</i>				
1. Obtainability of related information	0.20	-0.23	0.18	0.71
2. Reliability of related information	0.22	-0.35	0.04	0.79
3. Comprehensibility of related information	0.18	-0.39	-0.08	0.82
4. Analyzability of related information	0.16	-0.24	-0.11	0.87
<i>Law unenforceability</i>				
1. Completeness of business law	-0.25	-0.28	0.89	-0.01
2. Impartialness of judicial system	-0.21	-0.33	0.90	0.01
3. Enforceability of law locally	-0.22	-0.29	0.91	0.02
4. Completeness of local legal services	-0.19	-0.32	0.90	-0.02
Factor variance	6.88	6.02	4.11	3.74

V_i is the variance of cultural dimension i and I_{if} and I_{ic} are the scores of cultural dimension i

for the foreign country and China, respectively. We obtained the scores of five cultural dimensions (power distance, uncertainty avoidance, individuality, masculinity, and long-term orientation) from Hofstede's latest dataset (2001: 500-502). Fourth, we included *equity arrangement* (percentage of foreign party's equity ownership in a joint venture) because it indicates the degree of interparty symmetry in stake captiveness. Fifth, we took into account *joint venture age* (years in existence) as it affects interparty familiarity, and attachment building, which in turn influences joint commitment. Finally, *project location* is salient (1 if governmentally encouraged zones or cities, 0 otherwise, based on the aforementioned CD-ROM) because institutional treatments or governmental policies may vary with location.

RESULTS

Table 3 displays some descriptive statistics and a Pearson correlation matrix for all variables in this study. The correlation coefficients in columns 1 and 2 suggest that opportunistic behavior of both foreign and Chinese parties is positively correlated with the three proposed variables for environmental volatility in an emerging market. To test our hypotheses on the effects of environmental volatility variables on opportunism, we performed a hierarchical regression (Table 4). VIF (variance inflation factor) values of all independent and control variables in Table 4 range from 1.01 to 2.81 (interaction terms were rescored using the mean centering technique), suggesting no multicollinearity to cloud results. We also checked the univariate normality assumption by performing a modified Kolmogorov-Smirnov test (see Hair *et al.*, 1995). Except for industry structural uncertainty, all other variables demonstrated normal distribution. After taking its logarithm, structural uncertainty also showed normal distribution.

As reported in Table 4, foreign party opportunism is positively associated with information unverifiability and law unenforceability, but not with industry structural instability. Meanwhile, Chinese party's opportunism is positively associated with law unenforceability, but not with information unverifiability and industry structural instability. To ensure that these results were not obtained by chance, we randomly divided the total

Table 3. Descriptive statistics and Pearson correlation matrix

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Opportunism—foreign party	2.53	1.63															
2. Opportunism—local party	2.48	1.62	0.65***														
3. Industry structural instability	53.29	134.07	0.20**	0.18*													
4. Information unverifiability	3.03	0.65	0.45***	0.41***	0.22**												
5. Law unenforceability	3.73	0.76	0.36***	0.32***	0.06	0.13											
6. Local parent ownership	0.38	0.49	0.06	-0.01	0.11	-0.09	-0.06										
7. Previous collaboration	1.30	3.75	-0.16*	-0.19*	0.01	-0.03	0.05	0.02									
8. Cultural distance	4.70	4.01	-0.14	-0.12	0.11	0.11	-0.04	0.13	0.07								
9. Equity arrangement	52.49	10.93	-0.04	-0.08	0.08	-0.05	-0.13	0.04	-0.16*	0.03							
10. Joint venture age	7.81	3.54	-0.21**	-0.23**	-0.11	-0.01	-0.06	0.02	0.12	-0.09	-0.08						
11. Project location	0.63	0.48	-0.05	-0.02	0.04	0.04	0.07	0.04	-0.07	0.05	0.04	-0.01					
12. Industry growth	25.81	12.91	0.06	0.02	0.06	0.11	-0.12	0.08	0.07	0.05	0.17*	-0.03	0.05				
13. Local dependence	0.65	0.48	-0.07	0.02	0.03	-0.13	-0.05	-0.01	-0.03	-0.13	-0.17*	0.16*	-0.07	0.17*			
14. Return on investment	17.15	10.27	-0.26***	-0.23**	-0.19*	-0.47***	-0.23**	0.11	0.20**	0.05	-0.02	0.17*	0.10	0.22**	0.06		
15. Sales growth	15.53	23.37	-0.19**	-0.07	-0.04	-0.27***	-0.20**	0.02	0.17*	-0.02	0.22**	0.06	0.05	0.31***	0.19**	0.34***	
16. Overall satisfaction	3.12	1.01	-0.27***	-0.22**	-0.19**	-0.29***	-0.26***	0.13	0.26***	-0.01	-0.01	0.20**	-0.07	0.16*	-0.03	0.21**	0.22**

$N = 188$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 4. Effect of environmental volatility on opportunism: moderated multivariate regression^{a,b}

Variables	Opportunism—foreign partner				Opportunism—local partner			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Industry structural instability (X1)	0.10	0.09	0.09	0.07	0.11	0.10	0.12	0.09
Information unverifiability (X2)	0.18*	0.19*	0.21**	0.17*	0.07	0.07	0.06	0.04
Law unenforceability (X3)	0.38***	0.36***	0.35***	0.30***	0.21*	0.23**	0.19*	0.19*
Industry growth (M1)		-0.14*	-0.15*	-0.14*		-0.16*	-0.16*	-0.18*
Local dependence (M2)		0.03	0.04	0.05		0.08	0.07	0.03
M1 * X1			-0.04	-0.06			-0.04	-0.05
M1 * X2			-0.18*	-0.17*			-0.03	-0.03
M1 * X3			-0.16*	-0.16*			-0.19*	-0.21**
M2 * X1				0.03				0.02
M2 * X2				0.21*				0.10
M2 * X3				0.17*				0.22**
Local parent ownership	0.13†	0.14†	0.13†	0.13†	0.08	0.07	0.09	0.06
Previous collaboration	-0.16*	-0.15*	-0.15*	-0.16*	0.04	0.05	0.04	0.05
Cultural distance	0.09	0.09	0.07	0.06	0.06	0.05	0.04	0.04
Equity arrangement	0.02	0.03	0.02	0.03	-0.05	-0.05	-0.03	-0.05
Joint venture age	-0.13*	-0.14*	-0.13*	-0.15*	-0.14*	-0.14*	-0.15*	-0.16*
Project location	-0.06	-0.05	-0.05	-0.05	-0.03	-0.03	-0.03	-0.04
Model <i>F</i>	9.5***	8.6***	7.5***	10.5***	7.9**	7.1***	6.6***	9.2***
Adjusted <i>R</i> ²	0.303	0.328	0.372	0.412	0.271	0.295	0.340	0.383
Change in adjusted <i>R</i> ²		0.025	0.044	0.040		0.024	0.035	0.043
Hierarchical <i>F</i>		3.27*	4.04**	3.85**		2.85*	3.06*	3.95**

^a The entries in this table are standardized β s.

^b The mean centering technique was used for interaction terms (see Aiken and West, 1991: 28–45).

N = 188; † *p* < 0.10; * *p* < 0.05; ** *p* < 0.01; *** *p* < 0.001

sample by half and then reran the tests in Table 4. The results remained unchanged. These results suggest that, first, both foreign and Chinese parties' opportunism is an increasing function of perceived law unenforceability. Second, perceived information unverifiability increases a foreign party's opportunism but not a Chinese party's opportunism. This asymmetric effect may indicate that foreign parties are more sensitive than local parties to perceived information unverifiability. Local parties are better prepared to deal with information unverifiability given their richer indigenous experience, greater tolerance with information uncertainty, and superior networks with the business community and state regulators to obtain needed information. Third, the non-significant effect of industry structural uncertainty on foreign and Chinese opportunism may imply that market opportunities in a structurally volatile industry may be large enough to cancel out volatility-related threats. As stated by Luo (2002), faster-growing industries in emerging markets are often characterized by greater structural disturbance due to market demand volatility, underdeveloped industrial

infrastructure, and frequent changes in industrial policies. These results reject Hypothesis 1, partially support Hypothesis 2, and fully support Hypothesis 3.

Table 4 also displays the moderating effect of industry growth (M1) and local dependence (M2) after having all interaction terms mean-centered using Aiken and West's technique (1991: 28–45). The interaction between industry growth and law unenforceability is found to be significant and negative in relation to both the foreign and Chinese parties' opportunism. The interaction of industry growth with information unverifiability is also significantly associated with foreign party opportunism. Although not completely, these results generally support Hypothesis 4. This suggests that the effect of environmental volatility on opportunism can be even stronger if the industry in question grows more slowly. Additionally, when a joint venture depends more on host country environment (measured by local market focus), the positive link between information unverifiability or law unenforceability and foreign opportunism becomes stronger, as evidenced by the positive coefficients

of the related interaction terms. Although local dependence is weaker in moderating the effect of volatility on opportunism to local parties as opposed to foreign parties, it remains significant in moderating the link between law unenforceability and a local party's opportunism. Hypothesis 5 is hence partially supported. Based on the regression estimates in Table 4, our plot analysis (Figure 2) further validated the above moderating effects: the slopes of the regression lines

relating the volatility variables with a significant interaction effect to the dependent variable—opportunism—vary significantly when industry growth or local dependence values change from low (mean - one standard deviation) to high (mean + one standard deviation). Specifically, the positive effect of information unverifiability (I) and law unenforceability (III) on foreign party opportunism becomes weaker when industry growth reaches a high level. This weakening

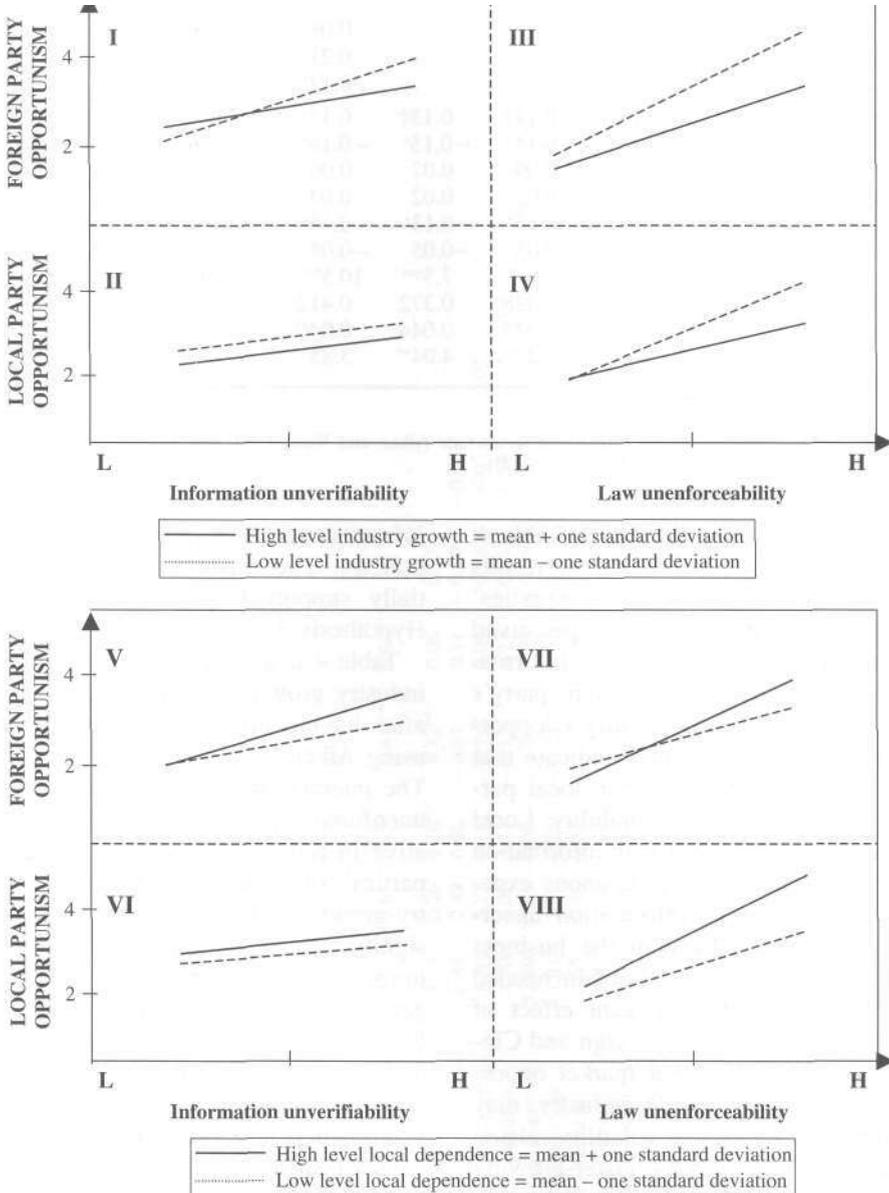


Figure 2. Plotting the interactions: industry growth and local dependence moderate the link between environment and opportunism

Table 5. Opportunism mediates the environmental volatility–performance: hierarchical regression

Variables	Return on investment		Sales growth		Overall satisfaction	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Structural uncertainty	−0.10†	−0.02	−0.06	−0.02	−0.18*	−0.05
Information unverifiability	−0.15*	−0.08	−0.28**	−0.19*	−0.14†	−0.10
Law unenforceability	−0.27**	−0.18*	−0.20*	−0.09	−0.22*	−0.16†
Opportunism—foreign		−0.22**		−0.29***		−0.19*
Opportunism—local		−0.17*		−0.24**		−0.31***
Local parent ownership	−0.09	−0.06	0.02	0.03	−0.04	−0.03
Previous collaboration	0.07	0.09	0.09	0.12	0.14*	0.14*
Cultural distance	0.03	0.03	−0.02	−0.04	−0.04	−0.05
Equity arrangement	−0.09	−0.09	0.09	0.08	0.07	0.07
Joint venture age	0.25**	0.28**	−0.04	−0.03	0.18*	0.17*
Project location	0.04	0.05	0.17*	0.15*	0.06	0.04
Industry growth	0.29**	0.26**	0.30**	0.29**	0.16†	0.16†
Local dependence	0.07	0.08	0.09	0.06	−0.11†	−0.12†
Model <i>F</i>	12.43	10.90	8.25	7.61	9.32	8.05
Adjusted <i>R</i> ²	0.39	0.40	0.21	0.25	0.27	0.28
Δ Adjusted <i>R</i> ²		0.01		0.04		0.01

N = 188; † *p* < 0.10; * *p* < 0.05; ** *p* < 0.01; *** *p* < 0.001
 The entries in this table are standardized βs.

effect also applies to local parties (IV). On the other hand, as local dependence moves from low level to high level, law unenforceability becomes stronger in relation to both foreign party (VII) and local party (VIII) opportunism, while information unverifiability becomes stronger in relation to foreign party opportunism (V).

We performed a mediated hierarchical regression analysis to test Hypotheses 6 and 7 (Table 5). According to Baron and Kenny (1986), mediation is demonstrated when three conditions are met: (1) the predictor (environmental volatility) must be related to the mediator (opportunism); (2) the mediator must be related to the dependent variable (joint venture performance); and (3) the previously significant relationship between the predictor variable and the dependent variable should be eliminated or substantially reduced when the mediator is accounted for. The regression model in Table 4 already validated the first condition for information unverifiability and law unenforceability. The second condition was also met, as evidenced in Table 5: opportunism demonstrated by both foreign and local parties is consistently and negatively associated with return on investment (Model 2), sales growth (Model 4), and overall satisfaction (Model 6), at *p* < 0.05 or lower. This evidence lends support to Hypothesis 6. Furthermore, by comparing Model 2 with 1, Model

4 with 3, and Model 6 with 5, it is evident that, after opportunism variables are accounted for, the originally significant effects of information unverifiability and law unenforceability on the three performance outcomes either disappear or are significantly reduced; this result satisfies the third condition of mediation. This analysis confirms a mediating role of opportunism in linking the two environmental volatility variables (information unverifiability and law unenforceability) and joint venture performance, which generally supports Hypothesis 7. Although their effects are significantly reduced, information unverifiability and law unenforceability still exert some impact on performance when the mediating variable is included. Thus, this mediating role is largely partial in nature.

Finally, it is worth noting the effect of control variables on opportunism, as shown in Table 4. Joint venture age is negatively linked to both parties' opportunism. It follows that investing parties are likely to present more opportunism in an earlier stage of cooperation or when a joint venture is young. As a joint venture grows, the risk of opportunism diminishes. In addition, foreign party opportunism tends to be higher when this party chooses a Chinese state-owned company as a local partner. Previous collaboration is also negatively associated with opportunism of foreign parties.

Cultural distance, equity arrangement, and project location are not found to have a significant influence on opportunism.

CONCLUSION

Focusing on equity joint ventures in a foreign emerging market, this study examines how the level of opportunism exhibited by joint venture parties responds to environmental volatility, defined as a tri-dimensional construct comprising industry "structural instability, information unverifiability, and law unenforceability. We conceive of these three variables as individually distinct, with each capturing different aspects of volatility, yet jointly picture an overall profile of environmental volatility in an emerging economy. Compared to other entry modes, joint ventures are preferred with respect to multiparty sharing of risks and costs associated with environmental uncertainty. However, joint ventures are particularly susceptible to opportunism and involve greater governance costs, because all investing parties have a *de facto* right to manipulate their own contribution and commitment to a joint venture in which they cooperate with each other but maintain their respective parental identity. A key notion in the TCE model is that a joint venture party's degree of opportunism is not pre-fixed but endogenous, contingent on environmental uncertainty. Environmental volatility increases transaction uncertainty and information-processing difficulty and complexity. Because environmental volatility in an emerging economy is primarily caused by structural transformation, institutional reforms, and regulatory changes, business executives, with their limited rationality, are generally unable to effectively avoid or control volatility-induced transaction uncertainty and information-processing difficulty. Consequently, joint venture investments whose asset specificity is generally high are subject to enormous economic exposure. In an emerging economy in which well-functioning market institutions including risk management agencies and information intermediaries for the public are absent, such economic exposure is almost impossible to hedge via external instruments (contractual and financial instruments such as forwards, futures, options and swaps) or internal instruments (operational and financial initiatives such as leads and lags, netting and matching, and intra-corporate

arrangements). Compounded by huge sunk and exit costs of joint venture investments with high asset specificity, along with fears of appropriability hazards due to law unenforceability, investing parties, both foreign and local, are likely to demonstrate more opportunism in reaction to unhedgeable economic exposure arising from environmental volatility.

Our analysis extends the notion in the TCE model that opportunism increases with environmental volatility to equity joint ventures in a foreign emerging market. Perceived law unenforceability increases the incidence of opportunistic behavior by both foreign and local parties. As also predicted, perceived information unverifiability increases foreign party opportunism. For both foreign and local parties, their opportunism is inversely related to industry growth as well. Overall, foreign and local parties exhibit some similar opportunistic behavior in response to environmental volatility, with a difference in their sensitivity to information unverifiability. Foreign investors react opportunistically to this threat but local investors do not. This asymmetry may be related to differences in their historical backgrounds, organizational tolerance, experience in emerging markets, or their networking ability. To the extent that most emerging markets are commonly characterized by promising market opportunities but with abnormal uncertainties in the micro- and macro-business environments (Hoskisson *et al.*, 2000), lessons from China may apply to other emerging markets. This, of course, requires further verification. Although the underlying factors of environmental volatility may not necessarily be the same in various emerging economies, law unenforceability and information unverifiability, along with industry structural instability, are prevalent in most emerging markets. Regulatory transparency may also be worse during the initial institutional changes and then progressively improved as the regulatory framework is further developed. In replicating this study in other emerging markets, it seems important to capture these aspects of environmental volatility.

This study adds to the TCE model by showing that the uncertainty-opportunism link is further moderated by a firm's vulnerability to environmental volatility. It shows that law unenforceability exerts an even stronger influence on opportunism of both parties the more a joint venture depends on the host country environment. This influence, however, is weaker if a joint venture

operates in a faster-growing industry. The effect of information unverifiability on foreign opportunism is also moderated by local dependence or industry growth. This moderating effect presents two implications. First, the ability of emerging market volatility to provoke opportunism is weakened by industry growth, reminding us of the importance of industry selection and the compensatory effect of market opportunity. Investors are 'rational' in that they tolerate more environmental volatility when joint ventures participate in a more rapidly growing industry. Industry growth may boost an investor's confidence, which may in turn reduce opportunism. Second, the potential for emerging market volatility to provoke opportunism is amplified by a joint venture's dependence on the host market, highlighting the importance of managing firm dependence on indigenous resources and firm interaction with the local environment. While firms may not be able to directly control environmental volatility, especially when seeking local market penetration, they can partly manage their dependence on the host environment by, for instance, increasing internal development. Their dependence is tantamount to a firm-specific risk coefficient linking environmental disturbance and organizational behavior. Joint venture partners can curtail opportunism both externally (controlling the venture's local dependence) and internally (using contractual and relational mechanisms).

This study may be among the early initiatives to verify the TCE's notion about the mediating role of opportunism. Our analysis shows that environmental volatility increases opportunism, which in turn impairs a joint venture's financial returns, sales growth, and overall performance. When opportunism is accounted for, the previously significant relationships between volatility variables and performance outcomes are substantially reduced (but not completely eliminated). This evidence underscores the intermediary position of opportunism in affecting joint venture performance in an uncertain environment; uncertainty adversely affects performance in part through increased opportunism in response to uncertainty.

The above results should be interpreted with some caution. First, our dataset is cross-sectional rather than longitudinal, thus making it difficult to gauge the completely causal relationships among environment, opportunism, and performance. Although reverse causality is conceptually unlikely, future efforts to examine a

longitudinal, causal pattern of environmental influences on opportunism are warranted. Second, our empirical setting was a single country. We do not know to what extent the empirical analysis of environmental volatility in relation to opportunism is context-sensitive unless we have multi-country data with which to compare it. This study defined national-level volatility using survey-based perceptual measures. Multi-country data will enable us to better examine how country-level environmental conditions (objective measures) affect the incidence of opportunism for the same parties investing in different nations. Third, this study separated foreign and local parties' opportunism but did not investigate when and why their opportunistic acts converge or diverge, a critical issue in cross-cultural behavioral research. Future research may explore what organizational backgrounds hold between-party similarity in opportunistic behaviors and what other organizational conditions contribute to between-party differences in such behaviors. Fourth, this study measured information unverifiability by a composite construct encompassing economic, regulatory, socio-cultural, customer demand, and other dimensions and did not probe whether different dimensions would present different properties in information unverifiability. It will be interesting to see whether and how such environmental dimensions diverge in shaping overall environmental uncertainty in an emerging market and which dimensions' volatility more strongly influences opportunism. Finally, this study explored the magnitude of opportunism only and did not address its many possible forms or manifestations. Opportunistic behavior is exhibited in numerous ways (e.g., strong vs. weak; offensive vs. defensive; short-term vs. long-term) and manifests itself in different areas (e.g., behaviors in reciprocity, forbearance, commitment, problem-solving, and conflict resolution). These 'behavioral' or 'structural' insights may help us better understand the intricate, irritable, dynamic, and multifaceted nature of this moral hazard, thus helping us learn how it could be more effectively controlled.

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