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How Does Ownership Influence Business Growth?

A Competitive Dynamics Perspective

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Abstract

Firms engage in competitive actions to gain market share and hence to grow their revenues. However, not all firms are equally able to use competitive actions to drive growth. We argue that the ability to translate competitive actions to revenue growth depends on the ownership of the firm. Drawing on principal-agent and principal-principal perspectives, we argue that: (1) private owners (both foreign and local) are better able to employ aggressive actions to grow their business than state owners; (2) firms with multiple owners (especially international joint ventures) are less able to implement actions that drive business growth than full ownership. We find support for these arguments in empirical tests on survey-based data of 106 firms in China. Results show that in an emerging market the principal-principal perspective can better explain governance and competition than the principal-agent perspective.

Keywords: Competitive dynamics, principal-agent conflict, principal-principal conflict, ownership type, business growth

1. Introduction

Extensive evidence suggests that ownership is a key driver of firm performance (e.g., Boubakri et al., 2016; Fitza & Tihanyi, 2017; Zou & Adams, 2008). For example, Dougherty, Herd, and He (2007) find that Chinese private firms and wholly foreign owned enterprises (WFOEs) have markedly higher overall productivity than state-owned enterprises (SOEs). Recently, Xia and Walker (2015) find that ownership type explains 6.78% of interregional variation in firm performance, and 4.11% in interindustry variation. In contrast, firm effects explain 28.2% of interregional variation in performance and 32.4% of interindustry variation. This suggests that in addition to ownership type (direct effect), firm effects are key to explaining performance. Yet it remains unclear how ownership interacts with firm factors in shaping performance.

We address this question by investigating firm-level strategies as drivers of firm performance. Specifically, we analyze a critical firm-specific factor – *competitive action* – which concerns the rivalry behavior between competitors (Chen, Smith, & Grimm, 1992). The competitive dynamics perspective suggests that firms engage in competitive actions to impose or respond to external competitive pressure. Recent studies confirm that *competitive action aggressiveness* (a firm's engaged activities to challenge rivals directly and intensely in order to maintain or improve its market position) is a key driver of firm growth (Chen, Lin, & Michel, 2010; D'Aveni, Dagnino, & Smith, 2010; Derfus et al., 2008; Ferrier, 2001; Nadkarni, Chen, & Chen, 2016; Yu, Subramaniam, & Cannella, 2009). We advance this line of theorizing by arguing that ownership type plays an important role in the effectiveness of action aggressiveness in driving business growth.

The corporate governance literature provides rich explanations as to why ownership type matters. Traditionally, this literature focused on principal-agent (PA) conflicts, which concern discrepancies in the interests of shareholders (as principals) and managers (as agents) (Jensen & Meckling, 1976). Recent studies emphasize principal-principal (PP) conflicts as a particular concern of firms in emerging markets

due to concentrated ownership, institutional weaknesses, and the special role of the SOEs (Li & Qian, 2013; Young, et al., 2008). The PP perspective concerns the discrepancies of interests between different principals, which further complicate firm decision making.

However, how PP and PA conflicts influence competition in emerging markets has rarely been studied. Thus, we have limited knowledge on how ownership type (i.e., state, local private, foreign, or international joint venture) shapes governance conflicts and thereby influences firm competition and performance. The PA and PP perspectives have common theoretical roots, but highlight different constraints on managerial decision making and hence firms' ability to design competitive actions. Based on the two perspectives, we derive alternative hypotheses, and find that the PP perspective can better explain outcomes of strategic actions. By comparing PA and PP perspectives, we can further our understanding of the governance and competition of firms in an emerging market.

This research offers four contributions to the literature. First, we contribute to the international business (IB) literature by furthering our understanding of why foreign entrants can outperform some but not all types of domestic firms. The IB literature has often compared strategy and performance of foreign and domestic firms (e.g., Hutzschenreuter & Grone, 2009; Xia & Liu, 2017). Adding to this literature, we not only examine the competitive interaction between domestic and foreign firms, but also conduct more nuanced analysis. Our finer distinction of ownership types (i.e., state versus non-state, partial versus full, and domestic versus foreign ownership) offers clearer insights to explain firms' competitive actions and effectiveness in emerging markets than the simple domestic-foreign distinction.

Second, to the literature on ownership and performance (Boubakri et al., 2016; Xia & Walker, 2015), we add fresh insights on how an important firm specific factor, competitive action aggressiveness, influences business growth in firms of different ownership type. As one of the first studies, we investigate the interaction of ownership and competitive action, thus responding to calls for more research on the relationship

of ownership, competitive actions, and firm outcomes (Mascarenhas, 1989; Wright et al., 2005). The investigation of ownership types provides a more comprehensive understanding of the drives and motivations of firm behavior.

Third, prior research on governance largely focuses on principal-agent conflicts while neglecting the diverse interests and potential conflicts between different principals. Yet, in emerging economies, principal-principal conflicts are often paramount (Dharwadkar, George, & Brandes, 2000; Young et al., 2008). We propose that difference of interests between different types of owners leads to difference in firms' competitive actions. We thus contrast PA and PP perspectives to explain the impact of ownership types on firm competitive behavior.

Fourth, research on competitive dynamics has mostly focused on the external competitive pressures on firms' competitive actions and advantage (Chen, 1996; Chen et al., 2010). By introducing ownership as an explanatory variable, we integrate external and internal aspects to examine the outcomes of competitive actions, thereby expanding the theoretical lens of competitive dynamics research. This consideration of ownership types makes competitive dynamics research more relevant to emerging economies (Yang & Meyer, 2015). Thereby, we add an important theoretical perspective to the flourishing empirical research on the growth of firms in emerging economies (Kumar, Mudambi, & Gray, 2013; Kumaraswamy, Mudambi, & Tripathy, 2012; Meyer & Tran, 2006; Singh & Delios, 2017).

2. Conceptual framework

2.1 Competitive aggressiveness

Competitive dynamics research focuses on the competitive interaction between rivals (Chen, 1996; Smith et al., 1991). By actively engaging in competitive moves, firms gain competitive advantages (Smith et al., 1991). In particular, the speed of decisions improves firm performance because it allows early adoption of new products, processes and business models (Bourgeois & Eisenhardt, 1988; Eisenhardt, 1989). For example, Judge and Miller (1991) find that decision-making speed improves firm performance especially in high-velocity industries such as

biotechnology. Baum and Wally (2003) find that environmental dynamism moderates the impact of decision speed on financial performance.

However, competitive dynamics research suggests that *fast* decisions need to be translated to *effective* competitive actions in the market. Aggressive actions, defined as firms' quick and frequent moves against rivals, can strengthen a firm's market and financial positions, and thereby lay the foundations for business growth (Chen *et al.*, 2010; Derfus *et al.*, 2008; Ferrier, 2001; Ferrier *et al.*, 1999). Thus, firm's propensity to undertake aggressive actions depends, among other factors, on executive characteristics such as executive's time horizons (Nadkarni *et al.*, 2016).

However, competitive dynamics research has largely analyzed firms as homogeneous organizations (Sirmon, Grove, & Hitt, 2008). This downplays the fact that firms differ in their objectives and the resources they control and can deploy in competitive action (Chang & Xu, 2008; Sirmon *et al.*, 2008; Sirmon & Hitt, 2009). In particular, competitive dynamics research "has not sufficiently explored the competitive interaction among firms with diverse organizational forms" (Vroom & Gimeno, 2007, p. 901). To fill this gap, we examine firm ownership type as a moderator of the performance impact of competitive actions.

2.2 Principal-agent and principal-principal conflicts

Motivations of managers to engage more or less aggressively in competitive action are influenced by the ownership and governance of the firm. The corporate governance literature emphasizes PA conflicts arising from divergent interests of a principal (an owner) and an agent (a manager), which need to be resolved through the design of incentive and monitoring systems (Boivie *et al.*, 2016; Jensen & Meckling, 1976; Sun, Hu, & Hillman, 2016). Emerging market firms face severe PA conflicts due to lack of such systems, often allowing managers to make decisions that serve their self interest rather than the interests of the firm. For example, Douma, George, & Kabir (2006) argue that due to underdeveloped corporate control, managerial labor markets and product markets, managers in Indian companies are left unaccountable for their performance.

On the other hand, Young et al. (2008) argue that PP conflicts are more salient in emerging markets due to concentrated ownership and weak institutional protection of minority shareholders. Formal laws and regulations tend to be vague or weakly enforced in areas such as information disclosure and securities trading. Often, firms have to rely on informal institutions such as relational ties, business groups and government contacts to manage governance issues (Khanna & Palepu, 1997; Peng, 2003; Singh & Delios, 2017; Xu & Meyer, 2013).

Weak formal institutions in particular drive owners to internalize potential risks by increasing their shareholding (Dharwadkar et al., 2000). Hence, firms in emerging markets (such as China and Russia) use concentrated ownership and other informal mechanisms to fill corporate governance vacuums (Lins, 2003; Puffer & McCarthy, 2003; Young, et al., 2008). However, concentrated ownership creates problems of expropriation of minority owners by majority owners, the typical PP conflict (Dharwadkar et al., 2000; Li & Qian, 2013; Young et al., 2008). With limited shareholder protection, concentrated ownership allows majority owners to expropriate minority owners, for example, by appointing relatives to key positions in the firm (Backman, 1999), by buying supplies at above-market prices or selling goods at below-market prices from related firms (Khanna & Rivkin, 2001), or by engaging in strategies that advance personal, family, or political agendas at the expense of firm performance (Li & Qian, 2013; Morck, Wolfenzon, & Yeung, 2005).

These PA and PP conflicts influence how managers take competitive actions. Specifically, firms in different types of ownership are likely to experience these conflicts to varying degrees (see Table 1), which influences the effectiveness of competitive actions managers take. Both PA and PP conflicts can lead to inefficient strategies with less restructuring (Claessens et al., 2002; Filatotchev et al., 2003) and less investment in innovation (He & Wang, 2009; Morck, et al., 2005).

In a similar vein, the joint venture (JV) literature is concerned about PP conflicts between different JV partners (as owners), due to their likely goal incongruence and conflicts of interest, and about PA conflicts between the JV partners and JV managers

as their agents (Hennart, 1988; Klijn & Reuer, 2015). For instance, JV managers may make decisions without close monitoring of the owners due to geographical and cultural distance – a PA conflict.

In some jurisdictions, the majority owner of a JV may be entitled to take key strategic decisions without obtaining consent of other owners, yet in other countries minority shareholders with equity stake above a certain threshold have *de jure* or *de facto* veto rights, which means a consensus needs to be reached before an action is taken. Moreover, under weak formal institutions, local JV partners may have other means to undermine majority owners' decisions that conflict with their interests – a common PP conflict in emerging economies (Das & Teng, 2003; Westman & Thorgren, 2016).

Thus, majority ownership does not normally give sole decision rights, and effective strategy implementation in JVs requires broad shareholder agreement and commitment (Goodall & Warner, 2002). Finding a consensus, however, not only slows down the decision making process but may require compromises that serve the interest of the parents rather than the JV *per se*. This need for consensus potentially undermines the aggressiveness and effectiveness of competitive actions.

2.3 Ownership and governance costs

Managerial motivations also vary across firms with different types of owners, in particular between state and private ownership. Theoretical considerations suggest that private ownership is superior to state ownership in maximizing productive efficiency when firms operate in competitive markets (e.g., Estrin & Pelletier, 2018). While private firms tend to have well-defined corporate goals such as profit and shareholder wealth maximization, SOEs usually pursue a broader and less clearly defined set of objectives, including preservation of declining industries, employment, subsidization of consumption, and buttressing national security (Aharoni, 1986). Moreover, the politicization of decisions may open state firms to lobbying and unproductive rent seeking (Shleifer & Vishny, 1997). Governmental objectives can change from one political leader to the next, which limits the ability of business

leaders in SOEs to make credible long-term commitments (Megginson & Netter, 2001). In addition, a broader range and more transparent incentive and monitoring systems are available for private firms (Cole, Berkman, & Fu, 2010; Shleifer & Vishny, 1997).

The advantages of private ownership have been shown in numerous empirical studies of privatization (see Estrin et al., 2009; Estrin & Pelletier, 2018; Megginson & Netter, 2001 for reviews). In particular, many studies find that privatization, combined with institutional reforms that secure effective governance, enhances firm profitability (e.g., Boubakri et al., 2016; Djankov & Murrell, 2002), revenue growth (e.g., Sun & Tong, 2003), and internationalization (Estrin et al., 2016).

2.4. Putting the elements together

The PA and PP perspectives enable us to investigate how ownership influences how well firms can translate competitive actions to business growth. We distinguish four categories of firms – local SOE, local private firm, WFOE, and international joint ventures (IJV). Local SOEs have a state entity as their main owner, whereas local private firms have a private individual or organization as main owner. WFOEs refer to firms fully owned by a foreign investor. JVs refer to independent legal entities that are owned by two or more (domestic and international) partners. We focus on IJVs, i.e., partnerships between local and foreign investors because, compared to domestic JVs, IJVs often manifest higher levels of PP conflicts, which is the theoretical construct of interest in this study.

Table 1 summarizes the PA and PP conflicts typically arising in firms of different types of ownership. PA conflicts concern the unaligned interest between managers and owners, whereas PP conflicts concern discrepancies between such as majority and minority owners, state and non-state owners, or domestic and foreign partners. For example, in SOEs, top managers may pursue personal wealth at the expense of the interest of shareholders, which may be a government agency with limited monitoring capabilities (a PA problem). Moreover, SOEs may involve various state and non-state shareholders whose motivations and goals differ (a PP problem). Next, we compare

firms across different ownership types to discuss how various PA and PP conflicts affect firms' competitive actions and firm growth.

**** Insert Table 1 here ****

3. Hypothesis development

Competitive dynamics research focuses on the competitive interaction between rivals (Chen, 1996). Firms undertake competitive actions to respond to rivals and to change their competitive posture (Smith et al., 1991). Under intense competition, firms survive and prosper by taking quick and frequent moves that exploit temporary advantages (D'Aveni, 1994). A firm that reacts faster to changes in the marketplace is more likely to defend its market positions and to capture new business opportunities (Chen et al., 2010).

Especially in volatile markets, such as emerging economies, actions may have to be adjusted frequently because of new events in the market, including competitors' actions or external changes in technologies or government interventions. Firms may gain competitive advantages if they can 'just decide' yet maintain organizational flexibility to quickly readjust when a suboptimal decision is made (Eisenhardt, 1989; Mosakowski, 1997). Especially in markets that appear to move at random, fast decisions and implementation of actions may yield valuable organizational learning (Eisenhardt, 1989; Mosakowski, 1997), and in turn enable business growth.

Thus, aggressive actions – more actions (action frequency) and faster actions (action speed) – help firms to strengthen their market position vis-à-vis rivals, which is key to success in direct competition (Chen & Hambrick, 1995; Derfus et al., 2008). Empirical evidence supports these theoretical arguments as aggressive actions are associated with higher market share gains (Ferrier, 2001; Ferrier, Smith, & Grimm, 1999) and profitability (Chen et al., 2010; Ferrier et al., 2002; Nadkarni et al., 2016).

However, not all performance measures can be enhanced at the same time – actions that enhance favorable outcomes on one performance dimension may have unfavorable impact on another dimension (Richard, Devinney, & Yip, 2009). For

example, product innovations may enable a firm to rapidly gain market share, but because of the costs of R&D, they may harm short-run profitability. In this study, we are primarily concerned about business growth, which, as argued above, is associated with aggressive actions related to new products and markets. Hence, our base line hypothesis is:

Hypothesis 1. Action aggressiveness is positively related to firms' revenue growth.

Variations across ownership types

From the PP perspective, SOEs are governed by multiple state agencies, which often have a variety of non-financial interests. State agencies may prioritize objectives such as sustain local employment or clean up a local river that complicate and delay SOE managers' decision making and negatively impact financial performance. Moreover, under vaguely defined goals and soft budget constraint, SOEs are often neither driven to use resources efficiently (Estrin & Pelletier, 2018; Kornai, 1986), nor to make swift moves to adjust to the competitive environment (Li & Qian, 2013), or to take forceful actions that accelerate growth (Claessens et al., 2002; Filatotchev et al., 2003).

In contrast to SOEs, private firms have more congruent goals for firm growth, and accordingly managers are more incentivized to pursue growth-oriented strategies (Sun & Tong, 2003). Cull and Xu (2005) find that private firms in China are commonly owned by individuals with family support who are strongly oriented toward profit and reinvestment in the firm. Due to resource constraints, private firms have to continually assess whether their allocation of resources is effective. Further input of resources is likely to be incremental and based on feedback of prior resources on performance, rather than long-term projections (Sorenson & Stuart, 2001). Incremental actions based on short feedback loops enable firms to adjust to environmental changes and new conditions (Bradley et al., 2011). Private firms' ability to re-direct resources to new opportunities (such as new markets) enhances their likelihood of survival and superior performance in dynamic emerging markets

(Hermelo & Vassolo, 2010; March, 1995). In summary, various interests of owners inhibit SOEs from translating aggressive actions into firm growth, whereas aligned financial interests of owners in private firms encourage firms to compete aggressively to grow the business.

From the PA perspective, SOEs have a closed and hierarchical labor market relying on tenure and political connections (Chang & Wong, 2004). In particular, most senior managers are promoted within the state sector with moves between SOEs, government and party roles (Brødsgaard, 2011). As SOEs may be stepping stones for managers' career progression (Fan et al., 2017), long-term growth of the firm is not critical for their promotion. Rather, they are likely to emphasize the development of personal networks and undertake symbolic actions that generate attention and signal support for higher-level political objectives. For example, an SOE manager may initiate green energy products when "green" agenda is high on the political agenda. But s/he may have moved on to the next job by the time the new products reach the market. Thus, SOE managers, in the interest of career progression, are likely to prioritize 'symbolic' actions which deviate from the interests of financial shareholders (Fan et al., 2017; Li & Qian, 2013).

Moreover, from the PA perspective, SOE managers tend to be more risk averse as their career is at stake if they fail whereas their private gains are minimal if they succeed (Andrews & Dowling, 1998), which leads to less restructuring and innovation (Dharwadkar et al., 2000). In other words, SOEs likely engage in less risk-taking or aggressive actions to advance firm growth due to managers' lack of incentives to do so (Tan, Luo, & Shenkar, 2005; Zou & Adams, 2008).

In contrast, goals of private firms are mainly financial, which are straightforward, and managerial behavior in such firms is relatively easy to monitor and incentivize. Managers with careers linked to the external labor market may be more likely to engage in competitive actions that enhance firm performance than those whose career is related to the government, as better financial performance sends stronger signals to the labor market than to the government (Li & Qian, 2013).

Thus, both PP and PA perspectives suggest that due to lack of PP and PA conflicts in local private firms, managers have more incentives to engage in competitive actions to grow the firm than managers in SOEs. We propose:

Hypothesis 2a. The positive relationship between action aggressiveness and revenue growth is *stronger* for local private firms than for local SOEs.

Embedded in MNEs, WFOEs operating in emerging markets have a single shareholder with unified goals,¹ and are regulated, to a certain extent, by their home-country institutional environment (Forsgren, Holm, & Johanson, 2007). They typically have rich experience, technologies and knowledge to engage with competitors in a local market (Bartlett & Goshal, 1989). This, together with their financial focus and absence of PP conflicts, enables WFOEs to design competitive actions that are more effective at enhancing performance than SOEs. In other words, the PP perspective suggests that WFOEs can better translate competitive actions to firm growth than local SOEs.

From a PA perspective, however, the conflicts between headquarters and managers of overseas subsidiaries are likely to be more substantial than conflicts in local firms because foreign headquarters cannot monitor subsidiary managers in detail (Gaur & Lu, 2007). Headquarters of WFOEs are often geographically and culturally distant from the subsidiary, which makes it difficult for them to evaluate and monitor subsidiary managers even if suitable incentive mechanisms are in place, especially in changing, uncertain situations (Kostova & Roth, 2002; Lawler et al., 2011). Therefore, subsidiary managers may pursue personal goals that are at discrepancy with the interests of headquarters (Hoenen & Kostova, 2015).

Similarly, local SOEs may encounter misaligned interests between managers and shareholders. For example, Puffer & McCarthy (2003) report abuses by SOE managers to shareholder interests in the transition of Russian firms, which included

¹ The parent firm may in turn have multiple owners, and hence be subject to PP conflicts, but we consider it rare that such PP conflicts would directly affect a WFOE.

setting up personally owned shadow companies to funnel funds, not announcing shareholder meetings, and deleting names from shareholder registers. Thus, both WFOEs and local SOEs may encounter severe PA conflicts. However, we argue that due to geographical and cultural proximity and incentive alignment for the SOE managers, SOEs may experience lower levels of PA conflict than WFOEs, which leads SOE managers to engage in competitive actions that are more effective in growing the firm.

Thus, the PP and PA perspectives offer different implications for the effectiveness of competitive actions. The PP perspective, which emphasizes conflicts between different shareholders, suggests greater problems in the cases of SOEs compared to WFOEs, which in turn leads us to expect less effective actions to be taken by SOEs. On the other hand, the PA perspective suggests that managers in WFOEs may lack incentives to pursue competitive actions that push firm growth than SOE managers. Therefore, we propose alternative hypotheses, aiming to determine which perspective can better explain the relationship:

Hypothesis 2b. The positive relationship between action aggressiveness and revenue growth is *stronger* for WFOEs than for local SOEs.

Hypothesis 2b (Alternative). The positive relationship between action aggressiveness and revenue growth is *weaker* for WFOEs than for local SOEs.

IJVs are established to achieve certain strategic goals of the IJV partners. However, goals of the partners can be different or even conflicting (Filatotchev & Wright, 2011; Hennart, 1988). For example, one IJV partner may prioritize profitability, while the other partner may want to enter new markets that do not offer short-term contributions to profitability. As another example, one IJV partner may supply key components to the IJV. By selling goods at above-market prices, the partner benefits at the expense of the other partner. Such goal incongruence is compounded by cultural differences between IJV parents, and makes IJVs more challenging to manage than firms under full ownership, especially in weak

institutional environments (Fey & Beamish, 2000; Kogut & Singh, 1988). The conflict of interest and the need for consensus typically slow down decision making. Moreover, compromises between the IJV parents may primarily serve the interest of the parents rather than the IJV *per se*. Thus, diverging interests between partners, as emphasized by the PP perspective, are likely to reduce not only the aggressiveness of IJVs' competitive actions but also the effectiveness of actions eventually taken.

The top management of IJVs is typically appointed by one of the IJV parents, and hence their loyalties are primarily with that parent rather than with the IJV as such. Therefore, they may lack incentives and resources to engage in aggressive competitive actions such as frequently launching new products (Bamford & Ernst, 2005; Chang & Xu, 2008; Klijn & Reuer, 2015). Goal incongruence among the parents would inhibit effective strategy design and implementation by IJV top managers (Klijn & Reuer, 2015; Li & Qian, 2013). Moreover, a high risk of misappropriation by IJV partners may further distract IJV top manager's energy from engaging in market competition (Oxley & Sampson, 2004). Thus, IJV top managers likely guard the parent's interest by adopting more conservative competitive behaviors such as focusing on existing geographic markets and avoiding direct challenges to competitors.

The PA perspective suggests that IJV top managers may employ self-interested behavior exploiting the partners' goal incongruence and/or unaligned performance criteria that make the assessment of IJV top management more difficult (Dalton et al., 2007). For example, Yang (2011) finds that managerial compensation and career do not directly link to the performance of Chinese-foreign JVs, which aggravates agency problems. The lack of effective performance evaluation and incentive alignment limits IJV top managers' focus on revenue growth through aggressive actions. Compared with IJVs, local private firms can better align shareholder and shareholder-manager interests, and hence incentivize their managers to take aggressive actions that actually promote firm growth. Thus, both PP and PA perspectives suggest that:

Hypothesis 2c. The positive relationship between action aggressiveness and revenue

growth is *stronger* for local private firms than for IJVs.

As discussed, WFOEs do not normally have PP conflicts due to single ownership, while their financial focus induces managers to take aggressive actions that grow the firm. In contrast, IJVs face severe PP conflicts between the IJV parents, which limit IJVs' effectiveness in translating aggressive actions to growth.

From a PA perspective, however, the relationship is more complex. On the one hand, compared with IJVs, WFOEs can provide ample resources and managerial incentives (including career opportunities), and WFOE managers have more autonomy in making decisions such as entering new markets, while IJV managers need to consult multiple parents and their managers (Vroom & Gimeno, 2007; Wei, Xie, & Zhang, 2005). On the other hand, the inability of the headquarters to directly monitor subsidiary managers abroad leaves room for managers to shirk. IJVs encounter double agency challenges – an IJV partner not only needs to monitor behavior of its own-designated managers but also partner-designated managers. Overall, we argue that at least one of the IJV parents is in proximity with the IJV, so it can better monitor IJV managers than MNE headquarters do to its foreign subsidiary. Moreover, the IJV manager designated from one parent may also discipline the other parent-designated manager's behavior. Thus, IJV managers are more motivated to compete aggressively to grow the firm than WFOE managers.

In summary, we propose alternative hypotheses to test whether the PP or PA perspective can better explain the effectiveness of WFOEs and IJVs in translating aggressive actions to growth.

Hypothesis 2d. The positive relationship between action aggressiveness and revenue growth is *stronger* for WFOEs than for IJVs.

Hypothesis 2d (Alternative). The positive relationship between action aggressiveness and revenue growth is *weaker* for WFOEs than for IJVs.

4. Methodology

4.1 The research setting: China

Testing our hypotheses requires a field of intensive competition between diverse types of firms under imperfect institutions. China meets these conditions as intensive competition is taking place in this volatile environment (Chen, 2009). Specifically, the huge size of the Chinese market has two effects on business. First, it creates opportunities for a large number of firms to co-exist as they can target different market segments. Second, the existence of a large number of incumbents makes within- and cross-segment competition more intense as firms try to exploit opportunities across various business spheres (Qiu et al., 2009; Williamson & Zeng, 2009). The competitors vary in their ownership and organizational forms, providing the variety of ownership types needed to test our hypotheses. Due to relatively low technological requirements and low entry barriers, local firms often compete on a low-cost, low-price basis, further intensifying the competition in many industries (Chang & Park, 2012). In this intense competition involving many players, active and aggressive actions can be critical to supersede rivals.

We constructed our sample by deliberately selecting industries with many competitors, hence avoiding industries with oligopolistic and monopolistic market structures where regulatory fiat may become the dominant driver of firm performance. These criteria secured that there was potential for intense competition between many players in the market. Prior studies find that action aggressiveness is more strongly associated with superior performance in fast-changing, hypercompetitive industries than in slow-changing industries (Chen et al., 2010; Hermelo & Vassolo, 2010; Nadkarni et al., 2016). Based on these criteria, we selected the following industries: beauty and personal care, food and beverages, machinery, medical devices, consumer appliances, computers, automotive, transport and telecommunications, and retail. With the representation from manufacturing and services industries, good industry variation was achieved.

4.2 Sample and data collection

Prior research on competitive dynamics mostly uses archival data on competitive actions, e.g., structured content analysis (Chen & Miller, 2015). However, potentially

available texts for content analysis vary in their detail of reporting on different types of firms, especially foreign versus local firms and public versus non-public firms, which would create biases related to our focal explanatory variable, action aggressiveness. Hence, we conducted a survey of top managers to collect primary data. This unique survey enabled us to capture the relative aggressiveness of competitive actions (Chen et al., 2007) by asking the respondents to assess their company vis-à-vis the major rivals.

Since responses to mail surveys are typically low in China (Li & Miller, 2006), we approached firms via course participants and alumni of CEIBS, China's leading business school with the largest Executive MBA and Executive Education programs in Asia Pacific with more than 10,000 alumni. The respondents were senior managers who were decision-makers of the firms under investigation. We reached these subjects in 2012 through both an online and offline survey. The combination of multiple methods was to ensure a reasonable response rate and a broad representation of sample companies.

We first developed the questionnaire in English. Two independent translators (one of them being an author of this study) translated it into Chinese. The translators discussed each inconsistency until they reached an agreement. Prior to the survey, we conducted a pilot test to confirm the face and construct validity of the items of the questionnaire with 10 senior and middle-level managers. Based on their feedback, we improved the design and wording of the items.

We sent the survey to senior managers of 2,620 firms, whom we addressed with a personalized cover letter that promised a complimentary summary of the results. To minimize biases in the response pattern, we allowed respondents not to disclose their name, and instructed them to answer the questions relying on an immediate impression after reading the questions rather than thorough analyzing. We sent two rounds follow-up reminders every two weeks and followed up by phone calls. We compared earlier and later responses on each variable and did not find significant differences. We also compared responding and non-responding firms on firm size, age

and ownership type using the t-tests and found all t-statistics to be non-significant.

We received completed questionnaires from 426 firms. After excluding missing values and unsuitable firm responses, we obtained 297 usable observations. We then collected secondary data on firm performance from the CVSource² database for a sub-sample of 106 firms that matched the survey data to form our research sample.

Among the 106 respondents, 42 held CEO, president or chairman positions and 64 held other senior management positions of Vice President, Chief Finance Officer (CFO), Chief Operation Officer (COO), board member, or founder. The average work experience of those not in CEO, president or chairman roles was more than 10 years, which indicates that they were credible respondents with ample knowledge of the firm. Of the 106 firms, 53.8 percent were Chinese private firms, 18.9 percent were SOEs, 18.9 percent were WFOEs, and 8.5 percent were IJVs. 84.9 percent had more than 500 employees. The sample provides a cross-section of businesses in China, with a good representation of medium to large firms. As prior studies have shown that larger firms are more likely to engage in active competitive behavior (Audia & Greve, 2006; Chen et al., 2007), our construction of the sample with larger firms is appropriate.

4.3 Dependent variable

Revenue growth is a key organizational objective that is associated with higher profits (Keiningham & Aksoy, 2007). However, engaging in aggressive actions may require firms to employ significant resources, which, in the short run, could negatively affect profitability. Thus, we deem revenue growth to be a good indicator of financial performance for this research. We assessed *revenue growth* by the focal firm's year-to-year change in revenues (as a ratio) as from 2010 to 2011 and from

² CVSource is an online database system which is owned by Imedix, Inc. It provides professional information and data solutions, including equity investment trends, industry research, and company analysis. Access to the database requires a subscription. Prior studies have used this database to study topics such as M&As and venture capital.

2011 to 2012.³ As aggressive actions may have a longer-term effect on performance, as well to control for temporal fluctuations (Subramaniam & Youndt, 2005), we used the average of revenue growth of 2011 and 2012. This measure was calculated using data from the CV Source database. With an archival source for our dependent variable, we circumvent concerns regarding common method variance, which has become a major concern in questionnaire-based research.

Moreover, as revenue growth can take both positive and negative values, we transformed it using the inverse hyperbolic sine function (IHS) (Burbidge, Magee, & Robb, 1988). IHS transformation is superior to the traditional logarithmic transformation as the IHS transformation accommodates negative values and improves the normality of the data by down-weighting extreme values (Burbidge et al., 1988; Nyberg et al., 2010). This transformation is represented computationally by the equation:

$$\sinh^{-1}(x) = \log [x + (x^2 + 1)^{1/2}]$$

4.4 Independent variables

Following Ferrier, Smith, and Grimm (1999), we asked the respondents to aggregate each type of firm action of the given year (2011) to enable us to conduct the analysis on a firm-year level of analysis. This is appropriate because firms may pursue a set of interconnected actions several times over a certain period. Our dependent variable, *action aggressiveness*, has been derived from a previously validated questionnaire instrument by Chen, Lin, and Michel (2010). Accordingly, action aggressiveness is composed of two major properties of competitive action – action speed and action frequency – for each of three types of actions including introducing new product, introducing new service, and market entry or market expansion (see Appendix A). Action frequency captures the number of actions initiated by a firm, and action speed captures the speed of actions the firm takes in a given year (Andrevski,

³ Revenue growth of 2011 = (revenue of 2011 – revenue of 2010) / revenue of 2010; Revenue growth of 2012 = (revenue of 2012 – revenue of 2011) / revenue of 2011.

Brass, & Ferrier, 2016; Chen et al., 2010; Derfus et al., 2008; Nadkarni et al., 2016; Yu & Cannella, 2007). In other words, action aggressiveness is reflected by the more actions and a higher speed of taking these actions (Chen et al., 2010). Responses were obtained from a 7-point Likert scale (1 = “far slower than competitor”, 7 = “far faster than competitor”) for each type of actions. The correlation coefficient between action speed and action frequency is 0.79.⁴

The factor analysis of these six items using varimax rotation generated a single factor for action aggressiveness, suggesting a very close association between action speed and action frequency in our empirical field. See the factor loadings in Appendix A.

Our moderation variable is ownership type, which we obtained from the survey. Respondents classified their firm in one of four types. *Local SOE* takes the value of 1 if the firm was Chinese state owned (i.e., the government was the main shareholder), *local private* takes the value of 1 if the firm was a Chinese private firm (i.e., a private individual or organization(s) was the main shareholder), *WFOE* takes the value of 1 if the firm was wholly foreign owned (i.e., 100 percent of the equity was owned by a foreign firm), and *IJV* takes the value of 1 if the firm was an IJV between (at least) one local and one foreign parent firms. We ran additional robustness tests using alternative categorizations (see below).

4.5 Control variables

We included firm-level control variables suggested in the literature. We measured *firm age* by the natural logarithm of number of years from establishment to the year 2012. *Firm size* was measured by the natural logarithm of the firm’s total number of employees in 2011. *Industry* was controlled using the OECD industry scheme, including five categories: low-tech manufacturing, medium-low tech manufacturing, medium-high manufacturing, high-tech manufacturing, and services.

⁴ This is similar to Chen *et al.*’s (2010) finding that their correlation coefficient is 0.84.

Mascarenhas (1989) argues that given publicly traded firms' financial resources and their owners' and managers' desires for stable growth in earnings, they may develop broader product lines that offer opportunities for growth than non-public firms. Hence, we also controlled *public listing*. We used a dummy variable to measure *public listing*, with 1 for firms listed in a Chinese stock market or in a foreign stock market or both by 2011; otherwise, 0 for non-listed firms. Also, firms' actions may differ in the way they take actions depending on their *export orientation*. We measured export orientation by asking the respondent the extent to which the company's total output was exported (1 = "0-5%", 2 = "6-25%", 3 = "26-50%", 4 = "51-100%").

We also used two variables to control for the market environment: market growth and competitive intensity. We measured *market growth* with a three-item scale adapted from Zhou and Wu (2010) that measures how fast the firm's business activity has been growing. Responses were obtained on a 7-point Likert scale (1 = "strongly disagree", 7 = "strongly agree"). *Competitive intensity* was measured by assessing the severity of competition in the local market using a four-item scale from Atuahene-Gima and Ko (2001). Responses were obtained on a 7-point Likert scale (1 = "strongly disagree", 7 = "strongly agree").

4.6 Psychometric properties of measurement scales

We examined the correlations between all variables (see Table 2), and obtained variance inflation factors (VIF). Both checks confirm that multi-collinearity is not a substantive problem. . The composite reliabilities of all survey-generated constructs range from 0.75 to 0.86 (see Appendix A).

*** *Insert Table 2 about here* ***

5. Results

*** *Insert Table 3 about here* ***

Table 3 displays the results of ordinary least squares (OLS) regression models.

Model 1 is the baseline model. In Models 2, 4, and 6, we introduce our explanatory variable, action aggressiveness, though with different ownership types as base. Models 3, 5, and 7 report the interaction effects. In Models 2, 4, and 6, we find that action aggressiveness has a positive and highly significant effect on the revenue growth ($b = 0.486, p = 0.001$). This is consistent with our baseline Hypothesis 1.

The remainder of the hypotheses proposes that ownership type moderates the relationship between action aggressiveness and revenue growth. To test these hypotheses, we add the interactions of competitive actions with ownership types in Models 3, 5, and 7. Hypothesis 2a proposes that aggressive actions have a stronger positive effect in local private firms than in SOEs. Models 3 and 5 show positive and significant results for the interaction term and action aggressiveness ($b = 0.748, p = 0.016$). Thus, Hypothesis 2a is supported, suggesting that local private firms experience a stronger link between action aggressiveness and growth than SOEs.

Hypothesis 2b proposes that aggressive actions have a stronger positive effect in WFOEs than in SOEs, while Hypothesis 2b (Alternative) proposes the opposite: WFOEs perform worse than SOEs when taking aggressive actions. Models 3 and 7 show positive and significant results for the interaction term and action aggressiveness ($b = 1.007, p = 0.021$). Thus, Hypothesis 2b is supported, suggesting that WFOEs experience a stronger link between action aggressiveness and growth than SOEs. This result suggests that the PP perspective can better explain the interaction effect: as WFOEs do not experience PP conflicts whereas SOEs experience a high level of PP conflicts, WFOEs can enhance the effectiveness of transferring actions into growth than SOEs.

In Hypothesis 2c, we proposed that aggressive actions have a stronger positive effect in local private firms than IJVs. Model 5 shows significant results for the interaction term and action aggressiveness ($b = -1.868, p = 0.041$) (the reverse sign for the regression coefficient is because we use local private firms as base). Thus, Hypothesis 2c is supported, suggesting that IJVs experience a weaker link between action aggressiveness and performance than local private firms.

In Hypothesis 2d, we proposed that aggressive actions have a stronger positive effect in WFOEs than in IJVs, and Hypothesis 2d (Alternative) proposes the opposite: WFOEs perform worse than IJVs when taking aggressive actions. Model 7 shows significant results for the interaction term and action aggressiveness ($b = -2.127, p = 0.025$) (the reverse sign for the regression coefficient is because we use WFOEs as base). Thus, Hypothesis 2d is supported, suggesting that WFOEs experience a stronger link between action aggressiveness and growth than IJVs. This result suggests that the PP perspective can better explain the interaction effect: as WFOEs do not experience PP conflicts whereas IJVs experience a high level of PP conflicts, WFOEs can enhance the effectiveness of transferring actions into growth than IJVs.

Overall, these findings support our argument that firms in private ownership (local and foreign) can better employ aggressive actions to enhance financial performance than SOEs. Also, firms in full ownership (local or foreign) can better employ aggressive actions to enhance financial performance than partial ownership (IJVs). The PP perspective enables us to explain these findings in a straightforward manner: due to more severe PP conflicts in SOEs and IJVs, they are less likely to win when competing with local private firms or WFOEs whose PP conflicts are lower.

To illustrate the patterns of the moderating effect of ownership, we present the interaction plot in Figure 1 to capture the effects of different ownership types. Figure 1 shows that the interaction effect is strongest positive in WFOEs followed by private firms. For SOEs, the effect is almost flat, and it is negative for IJVs. However our empirical tests show that only the difference between the first two (private, WFOE) and the latter two (state-owned, IJV) is statistically significant, perhaps in part because of the small number of IJVs in our sample.

*** *Insert Figure 1 about here* ***

Robustness tests

Some of our state-owned and private firms are also listed on Chinese stock markets (see Table 4), which arguably complicates the ownership structure and thus

the incentives for managers to engage in aggressive action. Listed and non-listed SOEs have different incentive and monitoring mechanisms, driving firms to employ different strategies for growth. Similarly, listed and non-listed private firms may also differ in how they engage in competition.

*** *Insert Table 4 about here* ***

Thus, we did robustness tests splitting ownership types into six categories rather than four categories: listed SOEs, non-listed SOEs, listed private firms, non-listed private firms, WFOEs, IJVs, and interact them with action aggressiveness. However, we do not find statically significant differences in the effects for listed and non-listed firms. However, this result is based on a small number of firms in each category, and hence further empirical studies into this question are warranted.

6. Discussion

Building on recent research on competitive dynamics (Nadkarni et al., 2016; Vroom & Gimeno, 2007), we have studied ownership as a contingent influencing the relationship between competitive aggressiveness and firm growth. We find that, in comparison to SOEs, private ownership (domestic and foreign) is superior in translating their competitive aggressiveness to growth. Similarly, full ownership (domestic and foreign) is superior in translating competitive aggressiveness to growth than partial ownership (IJVs).

This research offers four contributions addressing limitations in the literature. First, to the IB literature, we offer fresh insights on the competitive dynamics between foreign and local firms (e.g., Hutzschenreuter & Grone, 2009; Xia & Liu, 2017). Specifically, we have suggested that rather than aggregate categories of foreign and local firms, using a more fine-grained typology offers more meaningful insights. Our findings, summarized in Figure 1, show that IJVs perform worst with respect to the effectiveness of competitive actions, though empirically insignificantly different from local SOEs. In contrast, WFOEs show the strongest association between actions and growth, though insignificantly different from domestic private firms. This has two implications for the IB literature. First, it suggests avoiding simplified analytical

studies that aggregate all firms with foreign or domestic ownership. Second, it confirms the belief among many managers that IJVs are to be avoided unless required by specific circumstances.

Second, prior research has mainly examined the direct effect of ownership on performance. However, ownership alone explains only a small part of performance variations, while firm factors account for a larger share of the variation in performance (Xia & Walker, 2015). We examine an important firm factor, competitive action aggressiveness, as it directly influences firm growth. Our study of the interaction of ownership and competitive action thus responds to calls for more research on the relationship of ownership, firm competitive behavior, and outcomes (Mascarenhas, 1989; Wright et al., 2005). As predicted, we find that action aggressiveness is indeed positively associated with business growth, but only in local private firms and WFOEs. This seems to indicate that competitive dynamic theorizing is applicable to private firms without substantive PP conflicts, but the presence of substantive PP or PA conflicts may lead managers to take ineffective actions that do not benefit firm growth.

Third, prior research on governance and performance largely focuses on principal-agent conflicts while neglecting the diverse interests and potential conflicts between different principals. We propose that different types of owners have different interests with respect to firms' competitive actions. We contrast PA and PP perspectives to explain the impact of ownership types on the outcomes of firms' competitive behavior. We find that the PP perspective can better explain outcomes of competitive actions as it provides a relatively straightforward rationale. It suggests superiority of private ownership over state ownership, and full ownership over partial ownership in translating aggressive actions to growth. On the other hand, the PA perspective offers a more sophisticated, multi-facet angle on this theme, which suggests that PA conflicts may be ubiquitous across different levels of the organization and hence is not conclusive for the relationships we examine.

By comparing the rationales and testing alternative hypotheses derived from both

perspectives, our empirical results suggest that the PP perspective offers a better explanation to our theme. Thus, we contend that both theories together provide a fuller and richer theoretical explanation to the competition-performance relationship.

Fourth, we contribute to competitive dynamics research, which previously focused on external competitive pressures influencing the impact of strategic actions (Chen, 1996; Chen et al., 2010). By introducing ownership as an explanatory variable, we are able to integrate the external and internal aspects to examine outcomes of competitive behavior, thereby expanding the theoretical lens of competitive dynamics research. Specifically, our findings of stronger effects for local private firms and WFOEs suggest that competitive dynamics theorizing is more relevant for these types of firms, but not as relevant for other types of firms. This is an important insight for strategy research in emerging economies where both SOEs and IJVs are quite common. Thus, we help advance competitive dynamics research to emerging economies, which so far has received scant attention from competitive dynamics researchers (Chen & Miller, 2015; Yang & Meyer, 2015).

Last but not least, we contribute to the understanding of firm growth in emerging economy contexts (Kumaraswamy et al., 2012; Singh & Delios, 2017). While our empirical evidence relates to China, we believe that our theoretical arguments pertaining to PA and PP perspectives (as illustrated in Table 1) are relevant for other emerging markets, where formal governance mechanisms are underdeveloped, markets undergo large scale privatization and reform, and foreign investors compete head to head with local firms (Singh & Delios, 2017; Xu & Meyer, 2013). Recent studies on firms in emerging markets such as India and Vietnam have suggested that ownership structure has important underpinnings on firms' governance, domestic and internationalization strategies, and outcomes (Gaur & Delios, 2015; Li et al., 2018; Singh & Gaur, 2009). However, there are large variations within emerging markets with regard to the role, status and power of SOEs, and hence the magnitude of the effects is likely to vary (Estrin et al., 2016; Meyer & Peng, 2016; Singh & Gaur, 2009). In line with Young and collaborators (2008), we believe that despite these

differences, IJVs and SOEs in different emerging economies encounter similar PA and PP conflicts, and therefore ownership types would have similar impacts on competitive actions and firm growth.

Limitations in our empirical study suggest avenues for future research. Our study focuses on industries where firms face multiple competitors in their product markets. This study design is essential to make our analysis relevant to emerging economies, yet it limits direct comparability of results with competitive dynamics studies of dyadic competition. We propose that future work on competitive dynamics looks beyond dyads to examine more competitive actions in complex industry structures.

We have been privileged to have access to a large pool of senior executives in China, specifically the participants and alumni of the EMBA and Executive Education programs of CEIBS. The school's enrollment reflects a broad section of senior leaders from a wide spectrum of businesses including private and state-owned firms and foreign-invested firms. However, this approach entails the possibility of selection biases and oversampling for example more successful firms as they would be more likely to send their managers to a leading business school.

We did not find statistically significant results for IJVs versus SOEs, possibly due to the fact that there are few IJVs in our sample. A fuller understanding of the challenges faced by IJVs would be of considerable theoretical and practical relevance. In order to enhance this understanding, we suggest that future studies may oversample IJVs in their study designs.

Finally, we tested the direct relationship between competitive aggressiveness and firm growth. However, our survey data is cross-sectional which does not allow examining competitive dynamics over time. Future research can utilize longitudinal data by collecting multiple surveys and combining survey data with secondary data to examine how competitive actions influence long-term corporate performance.

7. Conclusion

The extent of PA and PP conflicts varies across ownership types (Dharwadkar et al., 2000), and we argue that, in consequence, the effectiveness of firms' strategic

actions in driving growth varies. Specifically, we apply PA and PP perspectives to analyze competition of firms in different types of ownership, and find that the PP perspective is more consistent with our empirical findings. Ownership type influences the *agency costs* in relation to *managers* as well as *owners*, which impact firms' effectiveness in using aggressive actions to grow their business. Overall, our findings suggest that private and full ownership are better in translating competitive actions to revenue growth than state and partial ownership.

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Appendix A. Measures and questionnaire items

Variables and items	SFL
Action aggressiveness: For each of the strategic actions listed below, has your company initiated the action in the last 12 months, and how speedily/how often has it been doing that, <i>relative to</i> the major competitor? CR = 0.86	
1. Action Speed - Introducing brand new product	0.65
2. Action Speed - Introducing new service	0.60
3. Action Speed - Entering new market or market expansion	0.70
4. Action Frequency - Introducing brand new product	0.66
5. Action Frequency - Introducing new service	0.68
6. Action Frequency - Entering new market or market expansion	0.69
Market growth: To what extent do you agree with the following statements regarding market growth of your main business activity in China? (1 = strongly disagree, 7 = strongly agree) CR = 0.80	
1. The growth rate of this industry in the past three years was high.	0.64
2. Market demand in this industry is growing rapidly.	0.91
3. The many potential customers in this industry provide major opportunities for my company.	0.74
Competitive intensity: How would you assess the intensity of competition in your (Chinese) local market regarding the following aspects? (1 = strongly disagree, 7 = strongly agree) CR = 0.75	
1. Extremely aggressive competition	0.84
2. Intense price competition	0.79
3. Strong competitor sales, promotion and distribution systems	0.74
4. Very similar competitor product offerings	0.59

CR = construct reliability; SFL = standardized factor loading.

Table 1. Principal-principal and principal-agent conflicts for different ownership types

	Principal-principal (PP) Conflicts	Principal-Agent (PA) Conflicts
Local SOEs	SOEs report to representatives of various state agencies with different non-financial interests. These goals also put the state representatives at odds with financial investors in the case of listed SOEs. Level of conflict: High	Top managers may pursue personal objectives at the expense of firm growth and shareholder (e.g., state) interests Level of conflict: High
Local private firms	Owners' interests are aligned with respect to the priority of profit-orientation, but conflicts between majority and minority shareholders are possible. Level of conflict: Moderately Low	Founder or family-owned firms with family members as top managers may align ownership with control. Widely held private firms are subject to the conventional PA problem due to lack of effective monitoring mechanisms. Level of conflict: Moderately Low
IJVs	Domestic and foreign owners often have diverse and conflicting goals. Level of conflict: High	Difficult to monitor and evaluate performance of IJV managers, especially in a foreign country. Lack of control over partner-appointed managers gives room for managerial slack. Level of conflict: Moderate to High
WFOEs	With a single owner, there is no PP conflict between different owners. Level of conflict: Low	Conventional PA conflicts between headquarters abroad and subsidiary are likely to be more severe than in local firms due to the headquarters' inability to manage and monitor managers because of cultural and other differences. Level of conflict: Moderate to High

Table 2. Descriptive statistics and correlations of the variables

<i>Variables</i>	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Firm age (log.)	1.23	0.26															
2 Firm size (log.)	3.38	0.66	.33**														
3 Industry: low-tech manuf.	0.19	0.39	.01	.03													
4 Industry: medium-low tech manuf.	0.10	0.31	-.09	-.12	-.16												
5 Industry: medium-high tech manuf.	0.45	0.50	.04	-.11	-.44**	-.31**											
6 Industry: high-tech manuf.	0.16	0.37	.05	.09	-.21*	-.15	-.40**										
7 Industry: services	0.09	0.29	-.05	.17	-.16	-.11	-.29**	-.14									
8 Public listing	0.42	0.50	.16	.47**	-.12	-.23*	.06	-.01	.31**								
9 Market growth	5.15	1.15	-.02	-.07	.15	-.18	-.04	-.08	.15	-.05							
10 Competitive intensity	5.56	0.94	.12	.12	.00	-.12	-.02	.02	.13	.06	.01						
11 Action aggressiveness	4.86	0.91	.01	.01	.20*	-.04	.02	-.14	-.10	-.17	.34**	-.09					
12 Ownership: local private firm	0.54	0.50	.05	-.01	.11	-.12	-.07	-.01	.11	.22*	.06	.09	.10				
13 Ownership: local SOE	0.19	0.39	.17	.21*	-.23*	-.09	.14	.05	.09	.32**	-.07	.02	-.10	-.52**			
14 Ownership: WFOE	0.19	0.39	-.13	-.03	.14	.23	-.15	-.01	-.16	-.41**	-.03	-.16	-.09	-.52**	-.23*		
15 Ownership: IJV	0.08	0.28	-.13	-.22*	-.06	.01	.13	-.04	-.10	-.26**	.02	.05	.09	-.33**	-.15	-.15	
16 Revenue growth	0.69	1.23	.10	.09	.24*	-.01	-.16	-.13	.11	-.04	.29**	-.10	.42**	.05	-.10	.06	-.04

Note: N = 106. * p < 0.05; ** p < 0.01

Table 3. Regression model for revenue growth

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
<i>Control variables</i>							
Firm age (log.)	0.507 (0.460)	0.578 (0.448)	0.881* (0.442)	0.578 (0.448)	0.879* (0.442)	0.578 (0.448)	0.879* (0.442)
Firm size (log.)	0.222 (0.209)	0.082 (0.211)	-0.010 (0.206)	0.082 (0.211)	-0.009 (0.206)	0.082 (0.211)	-0.009 (0.206)
Industry: low-tech manuf.	0.809* (0.388)	0.515 (0.384)	0.399 (0.372)	0.515 (0.384)	0.399 (0.372)	0.515 (0.384)	0.399 (0.372)
Industry: medium- low-tech manuf.	0.418 (0.463)	0.249 (0.449)	0.375 (0.438)	0.249 (0.449)	0.374 (0.438)	0.249 (0.449)	0.374 (0.438)
Industry: medium- high-tech manuf.	0.154 (0.332)	0.007 (0.321)	0.010 (0.311)	0.007 (0.321)	0.011 (0.311)	0.007 (0.321)	0.011 (0.311)
Industry: services	0.755 (0.492)	0.776 (0.470)	0.688 (0.453)	0.776 (0.470)	0.687 (0.454)	0.776 (0.470)	0.687 (0.454)
Public listing	-0.239 (0.279)	0.057 (0.315)	0.165 (0.307)	0.057 (0.315)	0.165 (0.307)	0.057 (0.315)	0.165 (0.307)
Market growth	0.265* (0.103)	0.140 (0.105)	0.169 (0.102)	0.140 (0.105)	0.169 (0.102)	0.140 (0.105)	0.168 (0.102)
Competitive intensity	-0.176 (0.124)	-0.121 (0.121)	-0.076 (0.120)	-0.121 (0.121)	-0.076 (0.120)	-0.121 (0.121)	-0.076 (0.120)
Ownership: local SOE				-0.135 (0.305)	-0.244 (0.295)	-0.428 (0.429)	-0.695 [†] (0.423)
Ownership: local private firm		0.135 (0.305)	0.244 (0.294)			-0.293 (0.347)	-0.451 (0.339)
Ownership: WFOE		0.428 (0.429)	0.695 [†] (0.423)	0.293 (0.347)	0.451 (0.339)		
Ownership: IJV		0.142 (0.497)	0.788 (0.547)	0.006 (0.429)	0.545 (0.488)	-0.286 (0.474)	0.095 (0.532)
<i>Main effects</i>							
Action aggressiveness (H1)		0.486*** (0.137)	-0.087 (0.259)	0.486*** (0.137)	0.661*** (0.163)	0.486*** (0.137)	0.920** (0.342)
<i>Interaction effects</i>							
Action aggressiveness*Ownership: local SOE					-0.747* (0.305)		-1.006* (0.429)
Action aggressiveness*Ownership: local private firm (H2a)			0.748* (0.305)				-0.259 (0.364)
Action aggressiveness*Ownership: WFOE (H2b)			1.007* (0.428)		0.259 (0.364)		
Action aggressiveness*Ownership: IJV (H2c; H2d)			-1.120 (0.922)		-1.868* (0.899)		-2.127* (0.932)
Observations	106	106	106	106	106	106	106

Model <i>F</i>	2.385*	2.799**	3.192***	2.799**	3.191***	2.799**	3.190***
Adjusted <i>R</i> ²	0.106	0.182	0.250	0.182	0.250	0.182	0.250

Note: The entries in the table are unstandardized coefficients. Standard errors in parentheses.

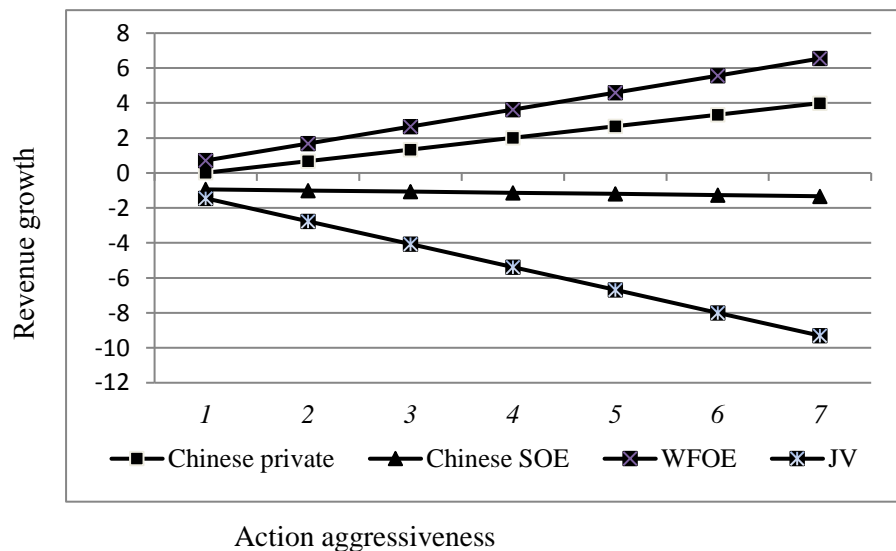
†p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001.

Table 4. Number of firms and descriptive statistics across/of ownership types

	Local SOE	Local private	WFOE	IJV	
Publicly listed	15	30	0	0	45 (42.5%)
Not listed	5	27	20	9	61 (57.5%)
Total	20 (18.9%)	57 (53.8%)	20 (18.9%)	9 (8.5%)	106 (100%)
Firm age (log.) (Mean/s.d.)	1.32 / 0.25	1.24 / 0.28	1.16 / 0.25	1.11 / 0.15	
Firm size (log.) (Mean/s.d.)	3.66 / 0.48	3.37 / 0.71	3.34 / 0.64	2.90 / 0.44	

Note: Observations N = 106.

Figure 1. Moderating effect of ownership on the relationship between action aggressiveness and revenue growth



Note: This figure shows the marginal effect of action aggressiveness on revenue growth.

Action aggressiveness has a range of 1 to 7, mean = 4.86 and SD = 0.91. Hence, about 95% of observations fall in the range of mean +/- 2SD, which is 3.04 to 6.68.