Corporate boards and the performance of Asian firms: A meta-analysis

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Abstract The prevalence of ownership concentration in Asian firms presents a challenge to the influential agency theory-based understanding of the role of corporate boards. In this paper we develop and test hypotheses about board attributes and firm performance that reflect Asian institutional conditions. We present the first meta-analysis of the relationship between board attributes and performance of Asian firms using a varied set of meta-analytical techniques on a database of 86 studies covering nine Asian countries. First, we find that board structure and composition preferences are influenced by the identity of the concentrated owner. Second, consistent with US data, we find very limited evidence of a direct relationship between board attributes and firm financial performance in the Asian context. Third, we find that the relationship between board structure and composition and firm performance is mediated by the revealed strategic preferences of Asian firms specifically by the level of R&D investment.

Keywords Meta-analysis · Meta-analytical structural equations modeling · Board of directors · Ownership concentration · Owner identity · Firm performance

Do "good governance" principles for the board of directors apply to Asian corporations (Chen, Li, & Shapiro, 2011)? The corporation's board of directors is generally viewed as the most important *internal* corporate governance mechanism

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that serves to remedy agency problems arising from the separation of ownership and control in publicly listed firms (Fama, 1980; Fama & Jensen, 1983). Next to formal decision-making, the main function of the board is to monitor and discipline managers, who, for reasons of self-interest and risk-aversion, are presumed to make decisions and pursue strategies that benefit them at the expense of shareholders. A common assumption is that the board can best perform its monitoring role when its members are sufficiently independent to criticize the management's actions and policies (Johnson, Daily, & Ellstrand, 1996). Moreover, boards can be expected to perform their monitoring role better when the chair of the board is not occupied by the CEO, as this "CEO duality" is widely held to stand in the way of effective monitoring practices (Fama, 1980; Fama & Jensen, 1983). Finally, an efficient monitoring board will be subject to certain size restrictions that result from the constraints that apply to effective deliberation and communication within groups (Zahra & Pearce, 1989).

This received agency theoretical view of boards in corporate governance has been subject to critique from a growing number of scholars. First, the empirical evidence does not bear out the core tenets of this view, producing ambiguous, often even contradictory findings (Daily, Dalton, & Cannella, 2003). Second, an agency theoretical perspective on boards may overlook other important functions of the board in public firms, such as the function of securing access to key resources for the firm (Pfeffer & Salancik, 1978). Third, the agency theoretical view of the role of boards in corporate governance is premised on a separation of ownership and control between managers and shareholders that may be valid in the US and the UK, but occurs less frequently in other parts of the world where concentrated ownership remains the empirical norm (La Porta, López-De-Silanes, & Shleifer 1999).

In response to these criticisms, this study offers a new appreciation of the role and functioning of boards in Asian public firms, a subject which has received an increasing amount of research attention from corporate governance scholars over the last decade or so. Our aim is to improve understanding of the role of the board in publicly listed firms that is relevant in the Asian context. To do so we conduct a meta-analysis on the available empirical evidence in Asian countries concerning the relationship between ownership structure and board attributes, on the one hand, and the mediating relationships between board attributes, strategic decisions, and ultimately firm financial performance, on the other. We examine Asian firms because they operate in an institutional context where many of the key assumptions of the agency theoretical view of boards functioning may not hold. First, because many Asian countries are late industrializers (Amsden, 1991), important country-level corporate governance institutions, such as disclosure norms and legal protection for minority investors, have not developed to the same degree as in more developed countries in the US or Western Europe (Heugens, Van Essen, Van Oosterhout, 2009; La Porta, López-De-Silanes, Shleifer, & Vishny, 2000). Second, high levels of ownership concentration are common in Asian public firms, where *de facto* control is often exercised by families, other firms, or business groups. These ownership configurations have been associated with the prevalence of agency problems between the firm's majority and minority owners rather than between managers and dispersed shareholders (Yang, Tipton & Li, 2011; Young, Peng, Ahlstrom, Bruton, & Jiang, 2008). Third, as late industrializers many Asian firms

face resource constraints (finance, technology, highly educated labor) that they may address by using board attributes as a means to secure such resources (Peng, 2004). In sum, Asian countries provide an institutional context in which improved understandings of board structure and functioning can be developed that are more generally applicable for emerging markets.

We use Hedges and Olkin-type meta-analysis (HOMA; Hedges & Olkin, 1985) and meta-analytic structural equation modeling (MASEM; Cheung & Chan, 2005) on a database of 69 published studies and 17 working papers, representing a *maximum* of 130 effect sizes and a total of 167,073 firm-year observations for the main focal relationship. Using MASEM, first, we find that the prevalence of "good governance" board attributes such as board independence and the separation between the CEO and chair of the board in Asian firms is at least partly contingent on the type of owners that control these firms. As might be expected, foreign ownership increases board independence and decreases CEO duality, on the one hand, while family ownership decreases board independence and increases CEO duality, on the other. Yet within the same structural model, second, we do not find a significant direct relationship between board attributes and firm performance, which makes Asian firms look more like US firms in this respect than might be expected (Dalton, Daily, Ellstrand, & Johnson, 1998; Dalton, Daily, Johnson, & Ellstrand, 1999). Using MASEM, third, we do find, however, that board attributes have a significant *indirect* effect on firm performance via different managerial strategic choices. More specifically, we find that CEO duality and more independent boards lead to more investment in R&D, while higher levels of R&D investment in turn have a positive effect on firm financial performance. Finally, we find no evidence for any mediating effects of other managerial strategic choices, such as the capital structure and internationalization of the Asian firms investigated.

Theory and hypotheses

The past decade has witnessed an exponential growth of research on corporate governance in Asia (Claessens & Fan, 2002; Heugens et al., 2009; Young et al., 2008) and more specifically on the role of corporate boards in Asian publicly listed firms (e.g., Filatotchev, Lien, & Piesse, 2005; Peng, 2004; Tian & Lau, 2001; see Table 1 in the Methods section). In line with a longer tradition of board studies in North America (Dalton et al., 1998; Hermalin & Weisbach, 2003), researchers of Asian corporate governance have commonly taken an agency theoretical view of boards, and have similarly examined the impact of board independence, CEO duality, and board size on firm financial performance (e.g., Jackling & Johl, 2009). The prevailing agency theoretical view of boards has guided a strong yet equivocal tradition of research on board independence, board leadership structure, and board size in jurisdictions where ownership and control are separated (Shleifer & Vishny, 1997).

The separation of ownership and control leads to a conflict of interest between shareholders and managers, as managers are prone to make decisions that benefit them at the expense of owners (Fama & Jensen, 1983; Jensen & Meckling, 1976), while also being more risk averse than (dispersed) shareholders who are able to

diversify firm specific risk over different firms at little additional cost. Because shareholders in dispersedly owned firms have few incentives to monitor managers due to the high transaction costs and collective action problems that they face (Downs, 1957), the board is the most important *internal* corporate governance mechanism to remedy the agency problems that result from the separation of ownership and control in public firms (Fama, 1980; Fama & Jensen, 1983).

In jurisdictions where the separation of ownership and control is common, the primary function of the board is to serve as a vigilant monitor and guardian of shareholder interests (Kroll, Walters, & Wright, 2008). The vigilant board is best able to perform its primary role when members are sufficiently independent from management to be able to exercise their fiduciary responsibilities to shareholders (Johnson et al., 1996). In this view, directors are expected to be independent and possess the required expertise, such as serving as executives themselves, to exercise good judgment (Wagner, Stimpert, & Fubara, 1998). Ideally, independent directors should constitute a majority of the board's membership to effectively countervail insider coalitions.

Similarly, following from the same agency theoretical logic, a vigilant board is presumed to better perform their monitoring role when the chair of the board and CEO roles are occupied by different individuals. The board's monitoring capacity can be compromised when the chair and CEO roles are combined in the same person, an occurrence known as "CEO duality" (Coles, McWilliams, & Sen, 2001; Fama, 1980; Fama & Jensen, 1983). This is because a combined chair and CEO becomes a very powerful individual who can more easily manipulate the agenda of board meetings and control the flow of information to the board (Monks & Minow, 2004; Westphal & Zajac, 1995).

Although it has attracted less research (e.g., Dalton et al., 1999), it is often argued that a vigilant board will be subject to size restrictions that result from the constraints that apply to effective deliberation and decision-making within groups performing a monitoring role (Jensen, 1993; Lipton & Lorsch, 1992; Zahra & Pearce, 1989). Larger boards are conjectured to be less cohesive, less focused, easier to manipulate, and have poorer decision-making capabilities compared with smaller boards (for a concise overview see Dalton et al., 1999: 675–676), which hampers efficient board monitoring of managerial policies and decisions (Eisenberg, Sundgren, & Wells, 1998; Yermack, 1996). In sum, the agency theoretical "good governance" prescription for a vigilant board suggests that shareholder value will be improved when (1) the board enjoys independence from management, (2) the roles of board chairman and CEO are separated and held by different individuals, and (3) the board's membership is relatively small.

The surge in research into Asian corporate governance in the last decade is in part driven by the recognition that many of the key assumptions and good governance prescriptions arising from the agency theoretical view of boards do not hold in the Asian context (Chen et al., 2011; Globerman, Peng, & Shapiro, 2011). In particular, research has established that dispersed ownership is not widespread but that concentrated ownership is far more prevalent in the region with majority owners, such as entrepreneur-founders and their families, frequently being involved in firm management (Claessens, Djankov, & Lang, 2000). A growing body of work suggests that concentrated ownership surfaces and persists in Asia because it permits owners to perform several value-creating governance functions in a context where governance

mechanisms external to the firm, such as legal protection and the market for corporate control, are absent (Aguilera & Jackson, 2010; Carney, Gedajlovic, Heugens, van Essen, & van Oosterhout, 2011; Johnson, Schnatterly, Johnson, & Chiu, 2010). In particular, concentrated owners who are actively involved in the firm's strategic management may be viewed as "monitors in place" (Anderson, Duru, & Reeb, 2009) where they can observe executive behavior and exert strong influence over it. Moreover, because owners enjoy residual returns they have both an incentive and the practical means to directly monitor the firm's activities (Jensen & Meckling, 1976) and in this regard concentrated owners may serve as an efficient substitute for a vigilant board.

Nevertheless, even though the monitoring function can be competently performed by a concentrated owner this does not necessarily diminish the boards' importance. For some types of owner the board can play a vital but alternative role of facilitating access to resources needed for effective firm performance (Pfeffer & Salancik, 1978). Depending on its structure, composition, and design, the board can facilitate the acquisition of two distinct types of resources, which are typically acquired through market transactions in mature economies. The first are strategic resources, such as high technology and managerial know-how, that take many years to develop (Dierickx & Cool, 1989), and that are frequently in short supply in emerging markets (Hobday, 1995). In well-developed institutional environments strategic resources can be acquired through long-term contracts but strategic resource acquisition may require alternative modes of transactional governance in environments where formal contracts are costly to enforce (Li, Poppo, & Zhou, 2010). Specifically, board membership can serve as an "instrument of security" (Williamson, 1991) for resource providers who make irreversible investments in a focal firm since it allows for better oversight of the firms activities. Board membership also provides a conduit through which resource users and providers can mutually adapt to changing environmental contingencies (Williamson, 1988).

Second, boards can also assist in the acquisition of relational resources (Tsai & Ghoshal, 1998) which are available locally but can only be accessed through brokered relationships such as links with resource gatekeepers, politicians, and public officials (Luo & Junkunc, 2008). The products of relational resources include context-specific rent-generating opportunities such as access to untendered government contracts, licenses, soft loans, and inside information about the availability of lucrative business ventures. In designing their boards to facilitate resource acquisition we expect concentrated owners to shun any component that would reduce their effective control of the firm (Coffee, 1999) and we specifically expect them to place little value on board independence or the separation of the roles of the board chairman and CEO. This is because the exercise of discretion by owner-mangers can strengthen their ability to develop rent-generating initiatives (Castanias & Helfat, 1991). For example, concentrated owners, unchecked by independent internal oversight, enjoy considerable discretion in cultivating and leveraging their personal social networks (Zahra, 2010). Discretion is essential to establishing a favorable reputation (Gilson, 2007) and generating commitment from strategic resource suppliers (Kwon, 2009) when contractual forms of enforcement are deficient. Owner discretion also facilitates access to relational resources, which depend upon reciprocity and the expectation that a favor granted today can be paid back at some future point in time (Zhou & Peng, 2010). In a context of institutional uncertainty a concentrated owner's exercise of discretion can provide a source of competitive advantage compared with an executive

operating under strict oversight by a corporate parent (Carney, 2005). In this respect an independent board and non-CEO duality may inhibit CEOs' discretion and lessen their capacity to enter into relational exchanges.

The appointments of politicians, public servants bureaucrats, and leading business partners to board membership is a common practice in Asian firms as a means to "produce licenses, inside information, and protection from state exactions" (McVey, 1992: 22), which can improve a firm's performance. Accordingly we expect Asian firms' boards to have a larger membership as a means of accessing relational resources. Moreover, because board membership provides a mechanism for strategic resource providers to serve as a transaction governance device we reason that in environments where contractual enforcement costs are high, the functioning of the board as a transaction governance mechanism will become relatively more important and used more frequently as a means of securing resources. Hence, contrary to the agency theory good governance prescriptions for efficient board design, we hypothesize that resource acquisition rather than monitoring concerns drive board efficiency in Asian firms, see Hypotheses 1a-c:

Hypothesis 1a Board independence is negatively related to firm performance.

Hypothesis 1b CEO duality is positively related to firm performance.

Hypothesis 1c Board size is positively related to firm performance.

Owner identity

While we have argued that agency theory "good governance" prescriptions do not generally apply in Asian firms with concentrated ownership, we do not believe this argument applies equally to all owner types. In this section we distinguish between family, institutional, and foreign owners and argue that owner identity will influence board design preferences (i.e., board independence, CEO duality, and board size). Our reasoning is based upon the presumptions that (1) concentrated owners vary in their capacity for monitoring and (2) that some types of owner have greater resource needs than others. We hypothesize that these two contingencies will shape preferred board designs.

Family-owned firms' board preferences Because a family's association with a firm is likely to be intensive and long-term, family members will typically possess the kind of intimate and detailed inside knowledge that enables efficient monitoring. We therefore expect family firms to be less concerned with a board's monitoring function and more with the board's resource acquisition function. This resource acquisition function is likely to be especially pronounced in the Asian family firm boards, because family firms are likely to need both strategic and relational resources (Young, Ahlstrom, Bruton, & Chan, 2001). First, because minority investors confront a risk of expropriation from dominant family owners they will discount the value of firm equity, which increases their real cost of capital and makes external financing scarcer (Chen, Chem, & Wei, 2009). Second, due to their preferences for retaining control, family firms will typically not rely as much as other firms on

decision-making input from professional management and technical experts (Tsui-Auch, 2004). Due to both capital and managerial capacity constraints, therefore, family firms will be relatively limited in their ability to develop strategic resources internally (Gedajlovic & Carney, 2010) and will typically be more dependent on external providers of strategic resources. In this regard, they are more likely to use board membership as a transaction governance device to improve access to strategic resources. Moreover, insofar as family firms retain their discretion to engage in relational contracting practices, they may have comparative advantages in generating relational resources (Zahra, 2010). For this reason we expect family firms to prefer a board design that maintains their discretion and facilitates access to both strategic and relational resource providers. See Hypothesis 2a:

Hypothesis 2a Asian family firms will prefer a non-independent board, CEO duality, and large board membership.

Institutional-owned firms' board preferences Compared to family firms, institutional investors will face very different monitoring and resource acquisition challenges. Institutional owners, first, will typically not have ownership stakes large enough to control the firms they own for reasons of portfolio diversification (Ferreira & Matos, 2008). Second, because their investments are largely arm's-length, institutional investors are not particularly well-positioned to efficiently monitor firm management. Finally, because institutional investors use portfolio diversification techniques to assure returns on investment, they tend to be indifferent to the resource needs of the firms in which they invest. In many ways, the predicament of institutional blockholders in Asia is analogous to dispersed shareholders in Western economies and we propose that they will prefer the classic agency theory prescribed good governances practices, such as board independence, non-CEO duality, and small board size. Because institutional owners are likely to have very little influence over the firms in which they invest we suspect that they will "select" for good governance and invest only in well governed firms (Chen et al., 2009; Heugens et al., 2009). See Hypothesis 2b:

Hypothesis 2b Institutionally-owned firms in Asia will prefer an independent board, separated CEO and Chair roles duality, and a small board membership.

Foreign-owned firms' board preferences Compared with family and institutional owners, foreign owners have intermediate capabilities to monitor firm management. On the one hand foreign owners may "select" for good governance through their initial investment decisions (Douma, George, & Kabir, 2006), while their ownership stake provides them with an "insider" status that is likely to provide substantial influence within the firm. On the other hand their geographical distance from the firm's day-to-day operations is likely to be a continuing obstacle to efficient monitoring. In addition to monitoring, foreign owners are also concerned with the resource needs of the firms in which they invest. These resource concerns are mixed, however. Although foreign owners are likely to possess significant strategic resources that they can bring to the firm (e.g., technology and managerial know-how; Djankov & Hoekman, 2000), their liability of foreignness and imperfect knowledge of

local conditions make them acutely aware of their firm's need to also acquire resources through local relational channels.

While we have argued that non-independent boards, CEO duality, and larger boards all facilitate the acquisition of relational resources we argue that non-independent boards and CEO duality will confer too much power on local management, which foreign owners will seek to limit. On the other hand, because large boards are likely to be less threatening to foreign owners, we expect them to prefer large boards as a mechanism for accessing relational resources. For these reasons we believe that foreign owners will prefer a mixed and intermediate board design that balances both resource acquisition and monitoring needs. Specifically, we reason that foreign owners will seek to reinforce their monitoring capacity by emphasizing (1) board independence and (2) non-CEO duality. On the other hand we expect foreign owners to meet their needs for relational resources by extending board membership to include a larger number of local gatekeepers. See Hypothesis 2c:

Hypothesis 2c Foreign-owned firms in Asia will prefer an independent board, separated CEO and Chair roles, and a large board membership.

The mediating role of firm strategic choices

Although researchers have investigated the relationship between board attributes and firm financial performance of Asian firms, only a few have focused explicitly on the relationship between board attributes and firm strategic decisions (Abe, 2003; Ramaswamy, Li, & Petitt, 2004; Yokota & Mitsuhashi, 2008), while none have examined the mediating role of strategy in the board attributes–firm performance relationship. Yet our understanding of the corporate governance role of boards in Asian firms critically hinges on the sense we can make of the mediating role of strategic choices that these firms make for two reasons. First, our understanding of the performance effects of board attributes is simply incomplete if we do not know enough about the mechanisms that drive performance differences between Asian firms. Exploring the mediating effects of revealed strategic choices appears to be the theoretically most plausible route to answer this "how" question (Deutsch, 2005). Second, the performance effects of differential strategic choices arguably are economically more consequential in corporate governance than the distributional effects of expropriation, as the latter *need* not affect value creation (at least not in the short run). Because many underlying primary studies employ strategically relevant control variables, we are able to apply meta-analytic structural equations modeling (MASEM) to explore mediating effects of (1) investments in R&D, (2) capital structure (leverage), and (3) internationalization, in the board attributes–firm performance relationship.[1]

R&D investments R&D investments are risky (Baysinger, Kosnik, & Turk, 1991) due to their long-term horizon (Laverty, 1996) and high failure rates (Finkelstein &

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[1] These strategy measures are chosen as they recur frequently in primary studies included in this meta-analysis.

Boyd, 1998). Although investments in long-term R&D projects do not guarantee high returns, continuous innovation is essential to realize growth and sustain competitive advantage (David, Hitt, & Gimeno, 2001; Lee & O'Neill, 2003; Mosakowski, 1993). However, unlike minority investors who can manage the firm-specific risk of R&D investments by means of portfolio diversification (Hansen & Hill, 1991), insiders and controlling blockholders, such as family owners, who tend to retain control over their firm through less independent boards often led by the CEO, will be risk averse when it comes to R&D investments because they are ill positioned to diversify firm-specific risk (Hirshleifer & Thakor, 1992). As a result of the board structures adopted by insider blockholders, therefore, insider dominated Asian firms will be reluctant to appropriately invest in R&D. Although boards function poorly as monitors in the Asian context, it can nevertheless be argued that more independent boards and boards with a separate leadership structure will secure more R&D investment. This is, first, because more independent boards can present a countervailing perspective against overly risk averse insiders, even if are not able to determine investment decisions. Second, independent directors may bring knowledge and financial resources to the firm and so enable greater R&D investment.

Empirical research has largely confirmed the view that firms with high R&D investments outperform those that invest less (Hill & Snell, 1988; Mosakowski, 1993). We expect this performance effect to be more pronounced in Asian firms, because as late industrializers Asian firms are generally behind the technology productivity frontier (Hobday, 1995). Asian firms that invest much in R&D will enjoy relative advantages over those who invest less.

Capital structure Financial leverage has value enhancing features since debt financing provides the firm with needed capital to pursue Asia's abundant growth opportunities. Yet the concentrated owners that tend to own Asian firms are likely to shun debt financing not only because it increases their firm's bankruptcy risk, but also because it increases the chance that creditors are able to exercise control on account of restrictive debt covenants and the primacy of creditor rights. Firms led by more independent boards and boards with a separate leadership structure, however, are likely to promote more leverage because it creates more value for shareholders. A recent meta-analysis on board research by Deutsch (2005) confirms a positive association between the number of outside directors and debt intensity (cf. Berger, Oefek, & Yermack, 1997 for the US). We therefore expect more financially leveraged firms to be better able to pursue growth opportunities on account of their better access to external debt financing.

Internationalization Finally, there is general agreement that the internationalization of the firm's activities is positively related to firm performance not only because of its potential for revenue generation in foreign markets, but also on account of more efficient supply chain management (e.g., Hitt, Hoskisson, & Ireland, 1994). Yet at the same time, internationalization is related to various environmental threats such as foreign exchange risk, limitations of market size, problems with market efficiency, institutional obstacles, and political risk (Kwok & Reeb, 2000; Lessard, 1985), which tend to be larger in emerging economies (Luo & Tung, 2007). Concentrated owners may be especially averse to these types of risk. In line with agency theoretical predictions, Ellstrand, Tihanyi, and Johnson (2002)

found that firms with more independent boards and a separate board leadership structure are more inclined to take risks in their international diversification efforts (cf. Sanders & Carpenter, 1998).

In each of the three strategic decision areas Asian firms concentrated owners' risk aversion and control preferences conflict with the tenets of superior financial performance. However, we propose a "self-control" hypothesis that suggests some concentrated owners will recognize the disadvantages of their myopic risk and control preferences and may choose to adopt farsighted self-control mechanisms in order to secure a long-term horizon in firm decision-making (Thaler & Shefrin, 1981). In this respect, we suggest that owners may choose to "self bind" by adopting a board design that promotes optimal R&D, leverage, and internationalization decisions and which can enhance their performance relative to rivals who do not engage in self-control. Moreover, independent and external directors may bring knowledge and financial resources to the board that will better enable Asian firms to make such investments (Peng, 2004). Accordingly we hypothesize that in Asian firms:

Hypothesis 3a Independent boards, non-CEO duality, and small board size is related to positive financial performance, with higher R&D expenditures mediating the relationship.

Hypothesis 3b Independent boards, non-CEO duality, and small board size is related to positive financial performance, with higher financial leverage mediating the relationship.

Hypothesis 3c Independent boards, non-CEO duality, and small board size is related to positive financial performance, with higher degrees of internationalization mediating the relationship.

Methods

Sample and coding

To identify the population of studies on board attributes in Asia, we used four complementary search strategies. First, we examined five electronic databases: (1) ABI/INFORM Global, (2) EconLit, (3) Google Scholar, (4) JSTOR, and (5) SSRN, using the following search terms: "board of directors," "board independence," "board leadership," "board size," "board characteristics," "board attributes," and "CEO duality." Second, we conducted a manual search of the 25 most relevant journals in the fields of accounting, economics, finance, and management. Third, after collecting an initial set of studies, we used a two-way "snowballing" technique that involved backward-tracing all references reported in the articles and by forward-tracing all articles that cited the original articles using Google Scholar and ISI Web of Knowledge. Fourth, we corresponded with 27 researchers that had previously written one or several papers on board attributes in Asia in which effect size information was not reported. These four strategies yielded a final sample of 69 published studies and 17 working papers. Table 1 provides an overview of all the primary studies included in the analysis.

Table 1 Studies included in the meta-analysis.

Author(s)	Year	Country	Publication
Ang & Ding	2006	SG	JMFM
Bai, Liu, Lu, Song, & Zhang	2004	CN	JCE
Black & Kim	2007	KR	WP
Bonn, Yoshikawa, & Phan	2004	JP	ABM
Buck, Liu, & Skovoroda	2008	CN	JIBS
Chau & Leung	2006	HK	JIAAT
Chen & Jaggi	2000	HK	JAPP
Chen, Li, & Shapiro	2009	CN	WP
Cheng & Firth	2006	HK	MDE
Cheung, Connelly, Limpaphayom, & Zhou	2007	HK	JIFMA
Cheung, Stouraitis, & Wong	2005	HK	JEF
Ching, Firth, & Rui	2002	HK	WP
Cho & Kim	2007	KR	CGIR
Cho & Rui	2007	CN	WP
Choi & Hasan	2005	KR	FMII
Choi, Park, & Yoo	2007	KR	JFQA
Choi & Yoo	2005	KR	EP
Colpan, Yoshikawa, Hikino, & Miyoshi	2007	JP	ABM
Connelly & Limpaphayom	2004	TH	CJE
Conyon & He	2008	CN	WP
Dalton & Kesner	1987	JP	JIBS
David, Yoshikawa, & Oyanagi	2004	JP	WP
Eng & Mak	2003	SG	JAPP
Fan, Wong, & Zhang	2007	CN	JFE
Filatotchev, Lien, & Piesse	2005	TW	APJM
Firth, Fung, & Rui	2007	CN	JAPP
Firth, Tam, & Tang	1999	HK	OM
Guan, Sheu, & Chu	2007	TW	JAAB
Gul & Leung	2004	HK	JAPP
Haniffa & Cooke	2002	MY	AB
Haniffa & Hudaib	2006	MY	JBFA
Ho & Wong	2001	HK	JIAAT
Hu, Tam, & Tan	2009	CN	APJM
Huafang & Jianguo	2007	CN	MAJ
Huang, Tsou, Lin	2008	TW	WP
Ibrahim, Samad, & Amir	2008	MY	WP
Jackling & Johl	2009	IN	CGIR
Jaw & Lin	2009	TW	IJHRM
Jia, Lee, Moon, & Li	2009	CN	WP
Kao & Chen	2004	TW	COC
Kim	2005	KR	CGIR

Table 1 (continued).

Author(s)	Year	Country	Publication
Kim & Chizema	2008	KR	WP
Kim & Kim	2009	KR	WP
Kim & Kim	2008	KR	WP
Kim & Lim	2009	KR	JBR
Kim & Park	2009	KR	WP
Lam & Lee	2008	HK	CG
Lee & Chuang	2009	HK	MAJ
Leung & Horwitz	2004	HK	JIFMA
Leung & Horwitz	2009	HK	QFA
Li, Lam, Qian, & Fang	2006	HK	MIR
Li, Moshirian, Nguyen, & Tan	2007	HK	RIBF
Li & Wong	2003	CH	APJM
Lin	2007	TW	COC
Lin	2005	TW	CGIR
Lin & Liu	2009	CN	CGIR
Lin & Liu	2009	CN	JIAAT
Lin, Wei, & Chen	2006	TW	IJBGE
Liu & Lu	2007	CN	JCF
Ma, Yao, & Xi	2006	CN	APJM
Marimuthu & Kolandaisamy	2009	MY	IJBM
Muniandy	2007	MY	MAJ
Pathan, Skully, & Wickramanayake	2007	TH	APFM
Peng	2004	CH	SMJ
Peng, Li, Xie, & Su	2009	CN	APJM
Phan, Lee, & Lau	2003	SP	JMI
Rahman & Ali	2006	MY	MAJ
Ramaswamy, Li, Petitt	2004	IN	APJM
Ramaswamy, Veliyath, & Gomes	2002	IN	MIR
Razak, Ahmad, & Aliahmed	2008	MY	WP
Rhee & Lee	2008	KR	CGIR
Saravanan	2009	IN	WP
Sarkar & Sarkar	2009	IN	PBFJ
Singh & Gaur	2009	CN/IN	CGIR
Su, Xu, & Phan	2008	CH	MOR
Tian & Lau	2001	CH	APJM
Van der Zahn	2004	SP	IJBGE
Veliath & Ramaswamy	2000	IN	FBR
Wan & Ong	2005	SP	CGIR
Wei, Lau, Young, & Wang	2005	CN	ABM
Wu	2008	CN	WP
Yatim, Kent, & Clarkson	2006	MY	MAJ

Table 1 (continued).

Author(s)	Year	Country	Publication
Yokota & Mitsuhashi	2008	JP	APJM
Yoo	2008	KR	WP
Zhu	2007	CN	JAAB
Zubaidah, Nurmala, & Kamaruzaman	2009	MY	IJEF

Country: *CN* China; *HK* Hong Kong; *IN* India; *JP* Japan; *MY* Malaysia; *KR* Korea; *SP* Singapore; *TH* Thailand; *TW* Taiwan.

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One of the authors coded all effect sizes between all the variables. To assess agreement in extracting information from primary studies, another author independently coded a sub-sample of 300 randomly selected effect sizes. We then computed a chance agreement-corrected measure of interrater reliability (Cohen's kappa coefficient; Cohen, 1960). The kappa value we obtained was 1.00, signifying a perfect degree of interrater reliability.

Analysis

We used two kinds of meta-analytical procedures. To test Hypotheses 1a-c, we used Hedges and Olkin-type meta-analyses (HOMA; Hedges & Olkin, 1985). In HOMA there are two methods for combining study estimates. The first, the fixed effects model, assumes no heterogeneity between study results, and collected effect sizes are solely corrected for sampling error to explain variability between effect sizes. The second, the random effects model, assumes that studies estimate different effect sizes, which are corrected for sampling error plus a value that represents other sources of variability that are assumed to be randomly distributed (Kisamore & Brannick, 2008). Because of its more realistic assumptions (Geyskens, Krishnan, & Steenkamp, 2009) and more conservative estimates, we opted for the random effects model.

HOMA procedure

The effect size statistics we use for the HOMA are the Pearson product–moment correlation r and the partial correlation coefficient $r_{xy.z}$. r is commonly used in meta-analysis, because it is an easily interpretable and scale-free measure of linear association. $r_{xy.z}$ represents the strength between two variables, controlling for the influence of other variables (Sánchez-Ballesta & García-Meca, 2007). In order to extract partial correlation coefficients from primary studies, studies must use firm performance as a dependent variable (Doucouliagos & Ulubasoglu, 2008).[2] An important question in HOMA is how to deal with studies that contain multiple measurements of the focal effect (Bijmolt & Pieters, 2001). In our study, multiple measurements of the focal relationships are often reported due to different simultaneous operationalizations of board characteristics or performance measure. The issue at stake here is the trade-off between stochastic independence of the various effect sizes in the analysis on the one hand, and the use of all available information on the other. A Monte Carlo simulation by Bijmolt and Pieters (2001) shows that procedures using the complete set of measurements outperform those representing each study by only a single value (such as a single best indicator or a composite measure) in areas like parameter significance testing and parameter estimation accuracy. We therefore decided to include all available measurements in our study. To arrive at an appropriate estimate of the meta-analytic mean effect size, we had to account for differences in precision across effect sizes plus variability in the population of effects (Lipsey & Wilson, 2001). These differences derive from differences in the sample sizes of the underlying primary studies on which the effect sizes are based, plus a constant that represents the variability across the population effects. Hedges and Olkin (1985) demonstrated that the optimal measure of precision for a given effect size is the inverse variance weight w: the inverse of the squared standard error value of the effect size.[3] With the help of these weights, we can subsequently calculate the meta-analytic mean effect size, its standard error, and the corresponding confidence interval.[4]

MASEM procedure

To test Hypotheses 2a-c and 3a-c we used meta-analytic structural equation modeling (MASEM; Cheung & Chan, 2005; Viswesvaran & Ones, 1995). This procedure combines the techniques of structural equation modeling with those of meta-analysis and allows us to simultaneously estimate (1) the effect of the owner identity on board attributes, (2) the direct effect of board attributes on firm financial performance, (3) the

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[2] The partial correlation coefficient is calculated as follows: $\sqrt{\frac{t^2}{(t^2+df)}}$, where t is the t-statistic and df represents the degrees of freedom. Note that this formula will always produce positive numbers, so it is necessary to convert it to negative numbers if the regression coefficients are negative (cf. Greene, 2008, Chapter 3).

[3] w is calculated as follows: $w_i = \frac{1}{se_i^2 + \hat{v}_\theta}$, where SE is the standard error of the effect size and $\hat{v}_\theta$ is the random effects variance component, which is in turn calculated as: $s.e.(z_r) = \frac{1}{\sqrt{n-3}}$, and the formula of random effect variance is: $\hat{v}_\theta = \frac{Q_T - k - 1}{\sum w - \left(\frac{\sum w^2}{\sum w} \right)}$

[4] The meta-analytic mean is calculated as follows: $\overline{ES} = \frac{\sum (w \times ES)}{\sum w}$, with its standard error: $se_{\overline{ES}} = \sqrt{\frac{1}{\sum w}}$, and with its 95% confidence interval computed as: $Lower = \overline{ES} - 1.96(se_{\overline{ES}})$, $Upper = \overline{ES} + 1.96(se_{\overline{ES}})$

effect of ownership identity and board attributes on a firm's revealed strategy choices, and (4) the consequences of these choices for firm financial performance (see Figure 1). Firm size was included to capture size-related board attribute contingency effects (Linck, Netter, & Yang, 2008; Yeh & Woidtke, 2005). All variables are described in Table 2.

We conducted structural equation modeling using a two-stage procedure. In the first stage, effect size information for all possible correlations between predictors and criterion variables are combined into pooled estimates to produce a synthetic correlation table (Viswesvaran & Ones, 1995). In the second stage, the synthetic correlation matrix is treated as the observed correlation matrix and subjected to regular maximum likelihood structural equation modeling routines (Cheung & Chan, 2005). In this procedure, the harmonic mean number of observations of all included effect sizes (= 2,029) is treated as the observed number of observations in order to compute correct but conservative t-values for the model parameter estimates (Geyskens, Steenkamp, & Kumar, 2006).

Results

Table 3 contains descriptive statistics for board attributes and ownership concentration. The table shows that board independence ranges from 23% in Japan, to 54% in
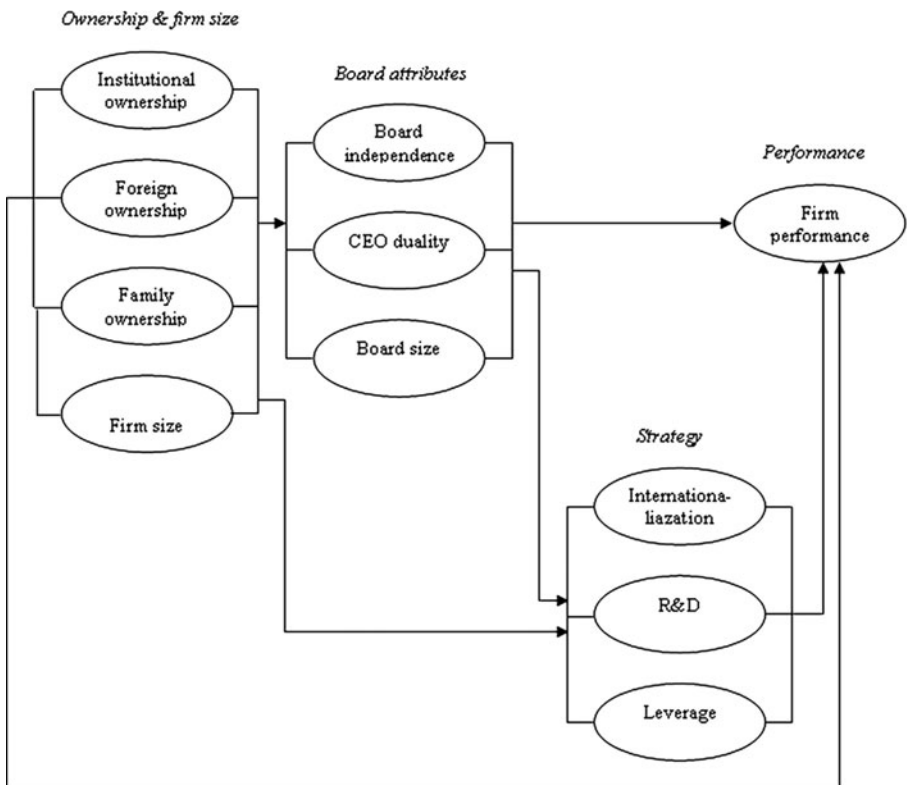

Figure 1 MASEM analysis
Table 2 provides definitions and representative measures of the constructs used in MASEM.

Table 2 Definitions of the variables.

Construct	Definition and measure
Board independence	*Construct definition:* The extent to which the board of directors operates independently from corporate insiders.
	Representative measures: % of outside directors, dummy outside directors (Filatotchev et al., 2005; Peng, 2004; Tian & Lau, 2001).
CEO duality	*Construct definition:* Situation where the positions of board chairman and CEO are held by one individual.
	Representative measures: Dummy variable coded 1 for CEO duality and 0 for non-duality (Cheung, Connelly, Limpaphayom, Zhou, 2007).
Board size	*Construct definition:* Total numbers of directors who serve on the board.
	Representative measures: Number of directors (Filatotchev et al., 2005; Tian & Lau, 2001).
Accounting performance	*Construct definition:* The extent to which firms generate accounting-based profits.
	Representative measures: ROE, ROA, ROI, ROCE, EPS, and profit margin (Sarkar & Sarkar, 2009; Singh & Gaur, 2009).
Market performance	*Construct definition:* The extent to which firms generate market-based profits.
	Representative measures: Tobin's Q, market-to-book ratio, and stock returns (Filatotchev et al., 2005).
Leverage	*Construct definition:* A variable which reflects the degree of leverage of the firm.
	Representative measures: Ratio of debt to equity, ratio of total debt to total assets (Guan, Sheu, & Chu, 2007).
R&D	*Construct definition:* The extent to which a firm invest in R&D projects.
	Representative measures: Ratio of R&D to total sales (Choi, Park, & Yoo, 2007).
Internationalization	*Construct definition:* The extent to which a firm relies on foreign markets for customers and factors for production and the geographical dispersion of this reliance.
	Representative measures: Number of foreign subsidiaries, ratio of export to sales (Choi et al., 2007).
Foreign ownership	*Construct definition:* The extent to which ownership is in the hands of foreign owners.
	Representative measures: % foreign ownership, dummy variable coded 1 for presence foreign ownership (Choi et al., 2007).
Institutional ownership	*Construct definition:* The extent to which ownership is in the hands of institutional investors.
	Representative measures: % institutional ownership, dummy variable coded 1 for presence institutional ownership (Filatotchev et al., 2005).
Family ownership	*Construct definition:* The extent to which ownership is in the hands of family owners.
	Representative measures: % of ownership, dummy variables coded 1 for presence family ownership (Filatotchev et al. 2005).
Firm size	*Construct definition:* The size of the firm.
	Representative measure: Total assets, market capitalization, number of employees, total sales (Singh & Gaur, 2009).

Table 3 Descriptive statistics.

	China		Hong Kong		India		Japan		Malaysia		Singapore		South Korea		Taiwan		Thailand	
	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
Independence	.30	38,482	.34	8,117	.40	3,938	.23	2,239	.43	4,648	.39	739	.29	15,460	.45	1,684	.54	99
CEO duality	.30	29,000	.43	1,974	.32	461	.11	50	.29	5,422	.34	602	–	–	.24	2,827	–	–
Board size	9.10	30,167	9.34	2,498	8.75	3,855	25.52	1,443	8.13	5,395	7.30	602	8.99	9,886	10.58	6,308	10.68	99
Institutional ownership	.01	1,119	.14	3,515	.10	3,285	.44	276	.15	167	.42	191	.14	2,875	.33	8,241	–	–
Family ownership	–	–	.35	1,488	.47	3,048	–	–	.26	121	.23	71	.21	11,874	.26	5,078	.34	64
Foreign ownership	.04	16,520	–	–	.06	6,835	.10	1,224	.21	167	–	–	.06	9,179	.10	45	.18	64

N = Total sample size.

The average ratio of independent directors in the supervisory board to the total directors in the supervisory board is .31 (N = 5,535) in China. For the remaining countries, there are no observations regarding the average ratio of independent directors in the supervisory board to the total number of supervisory directors. The average numbers of directors serving at the supervisory board is 4.01 (N = 16,639) in China and 7.84 (N = 75) in Malaysia.

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Thailand. Additionally, Japanese firms on average have the lowest fraction of CEO duality (.11) while Hong Kong firms have the highest occurrence of CEO duality (.43). Furthermore, it is seen that Japanese firms have an average board size of 25.52. This value is considerably larger than the mean board size of firms in the other Asian nations, which in the remaining countries ranges on average from 7.30 to 10.68.

HOMA results

Board independence and firm financial performance Table 4 reports the HOMA results for board independence and firm financial performance using r and r_{xyz} respectively, as effect size statistics. The overall mean r for the relationship between board independence and firm financial performance is .03, based on 130 samples. The associated 95% confidence interval around the mean effect size does not include zero, indicating a statistical significant relationship (Hedges & Olkin, 1985). The results for the partial correlation-based HOMA are similar (mean r_{xyz} = .02; k = 90), indicating that board independence is positively related to firm financial performance in the Asian context. These results therefore do not support Hypothesis 1a.

However, two important qualifications need to be made in interpreting these meta-analytic results. First, the mean effect size we found is very small by conventional standards (Cohen, 1977), implying that the economic effect of board independence on firm performance is very modest in the Asian context. This finding is consistent with Dalton et al. (1998) who found little evidence of a systematic relationship between board independence and firm performance in the US context. Second, the mean effect sizes reported show significant differences between countries. In Korea (.05 vs. .05) and Taiwan (.06 vs. .02), for example, more independent boards are positively correlated to firm financial performance, while in the remaining countries no significant effect could be identified. We return to this observation in the discussion section of this paper.

CEO duality and firm financial performance Table 5 provides the HOMA results for CEO duality and firm financial performance. The overall mean r and r_{xyz} of the focal relationship are both .01 and are not significant. These results indicate no empirical support for the expected positive relation between CEO duality and firm financial performance in Asia, implying that Hypothesis 1b must be rejected. Again, results are different for different countries as the effect of CEO duality is positive and significant in China, while no consistent significant effect exists for other Asian countries.

Board size and firm financial performance Table 6 contains the HOMA results for the relationship between board size and firm financial performance. The overall mean r for the focal relationship is .03, based on 88 effect sizes. The confidence interval does not include a zero, indicating a statistical significant relationship. Yet the partial correlation-based mean rho is −.03, based on 51 effect sizes, while the corresponding confidence interval includes zero at a five percent level, implying that there is no statistically significant relationship at a five percent level and significant negative relationship at a ten percent level between board size and firm performance

Table 4 HOMA results: Board independence to firm financial performance.

Predictor	Bivariate correlations						Partial correlations					
	K	N	Mean ρ	s.d.$_\rho$	CI 95%	Q test	K	N	Mean ρ	s.d.$_\rho$	CI 95%	Q test
Board independence to performance	130	162,073	**.03****	.01	.00/.05	2,187.91 (.00)	90	78,354	**.02****	.01	.01/.04	274.60 (.00)
Accounting performance	82	77,063	**.01****	.01	.00/.02	145.41 (.00)	56	20,833	.02	.02	−.01/.05	218.44 (.00)
Market performance	48	85,010	**.04***	.02	−.01/.09	2,042.16 (.00)	34	57,521	**.02*****	.01	.01/.03	56.06 (.01)
China	29	69,495	.03	.03	−.03/.09	1,709.95 (.00)	34	36,849	.00	.01	−.01/.01	26.81 (.77)
Hong Kong	28	27,003	.00	.01	−.02/.02	59.61 (.00)	8	1,770	−.02	.03	−.08/.03	9.28 (.23)
India	7	5,618	.03	.03	−.02/.08	13.35 (.04)	1	3,855	.03	–	–	–
Japan	5	3,582	−.04	.03	−.10/.02	10.23 (.04)	2	338	.04	.05	−.07/.15	.00 (.96)
Malaysia	13	11,987	.00	.01	−.02/.02	12.54 (.40)	15	13,030	**.02***	.01	−.00/.05	24.92 (.04)
Singapore	2	349	.02	.05	−.09/.12	0.19 (.66)	–	–	–	–	–	–
South Korea	16	31,595	**.05****	.02	.01/.09	150.44 (.00)	10	18,658	**.05*****	.01	.04/.07	7.37 (.60)
Taiwan	20	11,142	**.06*****	.02	.02/.09	56.60 (.00)	12	2,680	.02	.07	−.12/.16	145.68 (.00)
Thailand	9	489	.07	.05	−.01/.16	1.21 (1.00)	7	361	.07	.09	−.11/.24	16.86 (.01)

K Number of effect sizes; N Total sample size; Mean ρ Estimate of population correlation; s.d.$_\rho$ Estimated standard deviation of mean ρ; CI 95% 95% confidence interval for mean ρ; Q test Sum of the squared deviations of each study's effect estimate from the overall mean ρ.

Mean effect sizes which are bold, represent significance at the 5% level.

* $p < .10$, ** $p < .05$, *** $p < .01$.

Table 5 HOMA results: CEO duality to firm financial performance.

Predictor	Bivariate correlations						Partial correlations					
	K	N	Mean ρ	s.d.ρ	CI 95%	Q test	K	N	Mean ρ	s.d.ρ.ρ.	CI 95%	Q test
CEO duality to performance	55	70,936	.01	.01	-.01/.02	120.64 (.00)	46	41,913	.01	.01	-.01/.03	132.56 (.00)
Accounting performance	36	36,202	.01	.01	-.01/.03	86.23 (.00)	29	15,381	.03*	.02	-.00/.07	102.38 (.00)
Market performance	19	34,734	.01*	.01	-.01/.02	34.20 (.01)	17	26,532	-.01*	.01	-.03/.00	26.57 (.05)
China	20	39,148	**.02****	.01	.00/.05	64.65 (.00)	22	22,661	**.05*****	.02	.02/.09	94.92 (.00)
Hong Kong	9	7,024	.00	.02	-.04/.03	14.01 (.08)	7	1,602	.02	.04	-.06/.09	11.46 (.08)
India	5	1,263	-.01	.03	-.06/.05	4.17 (.38)	–	–	–	–	–	–
Japan	–	–	–	–	–	–	–	–	–	–	–	–
Malaysia	11	14,377	.00	.02	-.03/.03	25.65 (.00)	17	17,650	**-.03*****	.01	-.04/-.01	16.62 (.41)
Singapore	3	477	.02	.05	-.07/.11	.42 (.81)	–	–	–	–	–	–
South Korea	–	–	–	–	–	–	–	–	–	–	–	–
Taiwan	7	8.647	.00	.01	-.02/.02	6.09 (.41)	–	–	–	–	–	–
Thailand	–	–	–	–	–	–	–	–	–	–	–	–

K Number of effect sizes; N Total sample size; Mean ρ Estimate of population correlation; s.d.ρ Estimate of population correlation; s.d.ρ Estimated standard deviation of mean ρ; CI 95% 95% confidence interval for mean ρ; Q test Sum of the squared deviations of each study's effect estimate from the overall mean ρ.

Mean effect sizes which are bold, represent significance at the 5% level.

* $p < .10$, ** $p < .05$, *** $p < .01$.

Table 6 HOMA results: Board size to firm financial performance.

Predictor	Bivariate correlations						Partial correlations					
	K	N	Mean ρ	s.d.$_\rho$	CI 95%	Q test	K	N	Mean ρ	s.d.$_\rho$	CI 95%	Q test
Board size to performance	88	133,786	**.03****	.01	.00/.05	1,892.35 (.00)	51	41,053	**-.03***	.02	-.06/.00	267.50 (.00)
Accounting performance	57	66,870	**.04****	.01	.03/.06	246.21 (.00)	32	12,365	-.02	.02	-.06/-.02	111.09 (.00)
Market performance	31	66,916	.00	.03	-.05/.06	1,619.06 (.00)	19	28,688	-.03	.02	-.06/-.01	42.66 (.00)
China	30	80,602	.01	.01	-.02/.03	272.74 (.00)	11	19.763	-.01	.01	-.02/.01	1.10 (1.00)
Hong Kong	9	9,276	.01	.01	-.01/.03	6.50 (.59)	4	512	**-.13****	.05	-.22/-.04	3.51 (.32)
India	6	5,390	.18	.14	-.10/.46	304.13 (.00)	1	3,855	.01	–	–	–
Japan	5	3,410	**-.13**	.04	-.17/-.03	14.72 (.01)	3	962	**-.17****	.08	-.32/-.02	8.53 (.01)
Malaysia	10	11,459	.03	.03	-.03/.10	87.26 (.00)	15	13,048	-.01	.02	-.05/.03	62.21 (.00)
Singapore	–	–	–	–	–	–	–	–	–	–	–	–
South Korea	7	15,385	.03	.03	-.02/.08	58.46 (.00)	–	–	–	–	–	–
Taiwan	14	7,154	**.05***	.03	-.01/.10	54.51 (.00)	12	2,680	-.01	.04	-.08/.06	40.82 (.00)
Thailand	6	297	.08	.06	-.04/.19	3.02 (.70)	5	233	**-.24****	.07	-.36/-.11	1.79 (.77)

K Number of effect sizes; *N* Total sample size; *Mean ρ* Estimate of population correlation; *s.d.$_\rho$* Estimated standard deviation of mean ρ; *CI 95%* 95% confidence interval for mean ρ; *Q test* Sum of the squared deviations of each study's effect estimate from the overall mean ρ.

Mean effect sizes which are bold, represent significance at the 5% level.

* $p < .10$, ** $p < .05$, *** $p < .01$.

once certain variables are controlled for. On balance we find no support for Hypothesis 1c. Once more, the economic effect of board size on firm financial performance varies across Asian countries. In Japanese firms which have very large boards, board size is strongly negatively related to firm financial performance (−.13 vs. −.17), while in Hong Kong and Thailand, smaller boards also enhance firm financial performance. For other Asian countries, no significant effect could be identified. Note that this observation only holds for the partial correlation-based HOMA analysis. In sum, there is little support for any direct relationship between board attributes financial performance in Asia, as none of our hypotheses on the performance implications of board attributes of Asian firms were supported. Although, we found modest support for the agency theory good governance hypotheses pertaining to board independence, but the effect size was very small.

MASEM results

Table 7 depicts the meta-analytic correlation matrix. The cells below the diagonal represent separate meta-analyses and report the meta-analytic mean correlation and the standard deviation (s.d.$_\rho$) for each relationship, which stem from 55 HOMAs. The cells above the diagonal report the total number of observations (N) as well as the total number of samples (k) on which the meta-analytic mean is based. Since no primary study included all correlations of interest, the total number of samples exceeds the number of samples in any single cell. Mean effects and standard deviations printed in bold indicate the presence of moderating variables, which is determined by a significant Q-test. Table 8 contains the MASEM results. The model fits the data reasonably well ($\chi^2 = 33.04$; CFI = .97; RMSR = .02).

Ownership identity and board design preferences As predicted by Hypothesis 2a, the MASEM model reveals that family ownership has a significant negative effect on board independence ($\beta = −.12$, $p < .01$) and a positive effect on CEO duality ($\beta = .08$, $p < .01$), suggesting that family owners prefer a board structure that retains the discretion required for securing access to critical resources through relational channels. However, family owners do not use larger boards in this manner since the MASEM results show family ownership has a negative effect on board size ($\beta = −.07$, $p < .01$). Also interesting is that family ownership is positively related to firm financial performance ($\beta = .05$, $p < .05$). Apparently, the combined benefits of family monitoring advantages (Burkart, Panuzzi, & Shleifer, 2003) and discretion to engage in relational contracting is sufficient to outweigh its costs such as extracting perquisites for family members (Anderson & Reeb, 2004). Finally, family-controlled firms rely less on external financing ($\beta = −.12$, $p < .01$), as family-controlled firms prefer financing forms that are associated with low probabilities of default (Anderson & Reeb, 2003). For the remaining strategies no significant effect could be identified.

Contrary to Hypothesis 2b, institutional ownership affects neither board independence ($\beta = −.03$, $p > .10$) nor board leadership structure ($\beta = −.00$, $p > .10$), while it is positively related to board size ($\beta = .05$, $p < .05$). These results question the view that institutional investors can effectively pressure Asian firms to adopt conventional board reforms inspired by an agency theoretical logic (Bathala & Rao,

Table 7 Meta-analytic correlation matrix.

	1	2	3	4	5	6	7	8	9	10	11
1	54,327 (40)	89,279 (69)	18,539 (20)	13,908 (17)	11,971 (19)	49,569 (43)	10,290 (7)	7,249 (6)	77,670 (89)	162,073 (130)	
2	-.07 (.02)	41,361 (20)	2,984 (6)	159 (1)	666 (3)	19,078 (20)	75 (1)	837 (2)	40,021 (40)	70,936 (55)	
3	.07 (.02)	-.08 (.02)	13,723 (12)	10,578 (9)	21,174 (14)	47,530 (25)	5,786 (7)	4,333 (4)	55,420 (48)	133,786 (88)	
4	-.12 (.03)	.09 (.04)	-.09 (.02)	10,030 (7)	6,797 (6)	12,188 (8)	6,142 (5)	5,378 (4)	10,023 (17)	29,926 (29)	
5	.08 (.03)	-.07 (n/a)	.09 (.05)	-.13 (.02)	10,030 (7)	9,688 (9)	10,816 (10)	6,633 (6)	3,888 (2)	10,553 (12)	22,526 (24)
6	.01 (.03)	-.03 (.18)	.12 (.02)	-.21 (.03)	.07 (.02)		22,071 (11)	18,841 (8)	3,778 (2)	21,641 (15)	33,056 (27)
7	-.01 (.01)	-.02 (.01)	.02 (.02)	-.10 (.04)	-.09 (.03)	.00 (.02)		11,824 (7)	4,615 (4)	53,576 (47)	94,862 (64)
8	.06 (.01)	.16 (n/a)	.00 (.03)	-.04 (.03)	.11 (.02)	.01 (.03)	.04 (.06)		2,634 (2)	13,124 (9)	17,540 (11)
9	.03 (.03)	-.03 (.04)	.03 (.05)	-.04 (.04)	.02 (.02)	.07 (.02)	.05 (.07)	.06 (.05)		5,580 (6)	7,416 (6)
10	.06 (.02)	-.05 (.01)	.26 (.02)	-.05 (.04)	.28 (.05)	.21 (.02)	.07 (.02)	.07 (.02)	.09 (.04)	5,580 (6)	
11	.03 (.01)	.01 (.01)	.03 (.01)	.02 (.01)	.10 (.02)	.09 (.02)	-.05 (.02)	.08 (.04)	.00 (.04)	.03 (.02)	138,301 (117)

Cells below the diagonal contain mean correlations (mean rho) and standard deviations (s.d.) in parentheses. Cells above the diagonal contain the total number of observations and the number of effect sizes in parentheses.

1 = Board independence; *2* = Dual board leadership structure; *3* = Board size; *4* = Family ownership; *5* = Foreign ownership; *6* = Institutional ownership; *7* = Leverage; *8* = R&D; *9* = Internationalization; *10* = Firm size; *11* = Firm financial performance.

Table 8 MASEM results.

Predictor	Board Independence	CEO Duality	Board size	Internationalization	Leverage	R&D	Performance
Board independence				.02 (.96)	-.02 (-.95)	**.06 (2.64)*****	.02 (1.08)
CEO duality				-.02 (-.98)	-.02 (-.72)	**.18 (8.04)*****	.00 (.18)
Board size				-.00 (-.04)	-.00 (-.12)	-.01 (-.64)	.02 (.89)
Firm size	.04 (1.92)*	-.03 (-1.33)	**.24 (10.68)*****	**.08 (3.30)*****	**.11 (4.63)****	**.05 (2.15)**	-.02 (-.89)
Institutional ownership	-.03 (-1.20)	-.00 (-.12)	**.05 (2.45)****	**.05 (2.10)****	-.04 (-1.72)*	-.01 (-.39)	**.09 (4.21)*****
Family ownership	**-.12 (-5.14)*****	**.08 (3.57)*****	**-.07 (-2.96)*****	-.02 (-.99)	**-.12 (-5.33)*****	-.04 (-1.61)	**.05 (2.36)****
Foreign ownership	**.05 (2.35)****	**-.05 (-2.18)****	.01 (.44)	-.01 (-.51)	**-.13 (-5.79)*****	**.10 (4.41)*****	**.09 (3.92)*****
Internationalization							-.01 (-.37)
Leverage							-.04 (-1.68)*
R&D							**.07 (3.23)*****
Harmonic mean	2,029						
X^2	33.04						
CFI	.97						
RMSR	.02						

Significant relationships ($p < .05$) are printed in bold; t-values are given in parentheses.

* $p < .10$, ** $p < .05$, *** $p < .01$.

1995). Nevertheless, the model suggest that institutional ownership positively affects firm financial performance ($\beta = .09$, $p < .01$). Moreover, institutional-owned firms are more internationalized ($\beta = .05$, $p < .05$) than other Asian firms. Consistent with Hypothesis 2c, foreign owners are effective in securing more independent directors on the board ($\beta = .05$, $p < .05$) and establishing a separate board leadership structure ($\beta = −.05$, $p < .05$). The results suggest that foreign owners possess sufficient influence to bolster their monitoring abilities by establishing good governance practices in the firms they invest in (Douma et al., 2006; Heugens et al., 2009). There is little support for the resource-seeking logic of large boards as foreign ownership has no significant effect on board size ($\beta = .01$, $p > .10$). Consistent with a recent meta-analysis by Heugens et al. (2009), foreign ownership contributes positively to firm financial performance ($\beta = .09$, $p < .05$). Finally, foreign ownership has a positive effect on R&D ($\beta = .10$, $p < .01$) and a negative effect on leverage ($\beta = −.13$, $p < .01$). No effect could be identified on internationalization ($\beta = −.01$, $p > .05$).

The mediating role of firm strategic choices The results contained in Table 8 also provide partial support for Hypothesis 3a, namely that board independence positively affects R&D intensity ($\beta = .06$, $p < .01$) and that R&D positively affects firm financial performance ($\beta = .07$, $p < .01$). However contrary to expectations, CEO duality has a positive effect on R&D intensity ($\beta = .18$, $p < .01$), meaning that Asian firms with dual board leadership structure invest more in R&D projects than firms which rely on a separate board leadership structure. As observed above, R&D intensity is positively correlated with firm financial performance. Independent boards are therefore best interpreted to be complementary with CEO board leadership in regard to R&D investments as these kinds of investments seem to require strong but accountable CEOs.

With regard to capital structure decisions, board independence has a negative but insignificant effect on leverage ($\beta = −.02$, $p > .10$). Additionally, leverage does not have a significant effect on firm financial performance at a 5% level ($\beta = −.00$, $p > .10$; $\beta = −.04$, $p < .10$). The relationship between CEO duality on leverage is negative but insignificant ($\beta = −.02$, $p > .10$) and leverage has a negative but insignificant effect on performance. We must therefore reject Hypothesis 3b.

With regard to internationalization, board independence has a positive but insignificant effect on internationalization ($\beta = .02$, $p > .10$), while in turn internationalization has no significant effect on firm financial performance ($\beta = −.01$, $p > .10$). CEO duality has a negative but insignificant effect on internationalization ($\beta = −.02$, $p > .10$), while internationalization has no significant effect on firm financial performance. These results suggest that chosen internationalization strategies do not mediate the board design–performance relation. We therefore reject Hypothesis 3c. The model reveals a negative but insignificant effect of board size on: R&D intensity ($\beta = −.01$, $p > .10$), internationalization ($\beta = −.00$, $p > .10$), and leverage ($\beta = −.00$, $p > .10$). Against our predictions, these findings indicate that board size is largely inconsequential in the Asian context, either directly (see also Table 6) or indirectly through the observed strategic choice include in our analysis. Finally, as the direct effect between board independence and firm financial performance is insignificant, we must conclude that the relationship between board independence and firm financial performance in the Asian context is fully mediated by the board's strategic decisions to invest in R&D.

Discussion

An overall conclusion of our research is that the board attributes that are held to exemplify good governance practices do not seem to matter much in Asian firms, as neither board size nor board leadership structure have a statistically significant direct effect on corporate performance, while the significant positive effect of board independence on performance is very small by any conventional standard, and is arguably too small to have much practical significance (Cohen, 1977). Two possible reasons for the absence of a strong relationship between board structure and corporate performance not considered in this paper are that, first, the "good governance" movement is of relatively recent provenance in Asia, dating from the post-crisis events of 1997, and it may be too early to assess whether such governance reforms that have occurred have yet to have a significant impact on corporate performance. A second reason could be due to "measurement error," suggesting that during the catch-up phase of economic development corporate leaders are more interested in achieving firm growth and capability building rather than maximizing their financial performance (Amsden, 1991). It is possible that with economic maturity corporate leaders in Asian economies will increasingly turn their attention to achieving efficiency and improving financial performance.[5]

Ironically, these absent or marginal performance consequences of board attributes make Asian firms look very much like their US counterparts, as research thus far has hardly revealed any statistically or practically significant relations between board attributes, on the one hand, and firm performance on the other (Dalton et al., 1998; Rhoades, Rechner, & Sundaramurthy, 2000; Wagner et al., 1998). Conversely, neither do these results provide much support for our hypotheses that the board attributes provide a resource acquisition rationale in the context of weak legal and market supporting institutions.

Notwithstanding these observations, this paper makes three contributions to our understanding of the corporate governance role of boards in the Asian context. A first contribution is that boards apparently play only a derivative role in Asian firms as they are often only a function of the ownership structures and identities that prevail in Asian forms. A second contribution concerns the mechanisms through which board attributes influence firm performance indirectly. A third contribution pertains to (institutional) differences between different Asian countries included in this study.

Ownership and boards in the Asian context

Our study provides solid indications that the corporate governance role of the board is affected by the prevailing ownership constellation in the Asian context. More specifically, we find that different types of owners affect board composition differentially, with foreign owners increasing board independence and decreasing CEO duality, on the one hand, and family owners decreasing board independence and increasing CEO duality, on the other. Consistent with research on ownership in the Asian context (Heugens et al., 2009), we also find evidence that large blockholders provide

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[5] We thank an anonymous reviewer for this point.

an efficient substitute for boards in Asian corporate governance, as family, institutional, and foreign owners all have a significant positive direct effect on firm performance, while the performance consequences of board attributes are largely inconsequential within the same model. So what do these results tell us about the global validity of the agency theoretical view of boards in corporate governance?

In our view there is a nuanced story to tell about the applicability of agency theory to the Asian context. Our study supports the view that boards are not the most important internal corporate governance mechanism in the Asian context, as ownership presumably has a superior claim to that title. Yet this does not imply that agency theory is irrelevant in corporate governance research of Asian firms for several reasons. First, this is because we do find significant positive *indirect* effects of board attributes on firm performance that run through R&D investments, indicating that boards are not entirely inconsequential in the Asian context. Second, agency theory can contribute to understandings of agency problems that arise between different kinds of concentrated owners found in the region and which are now beginning to attract the attention of researchers (Heugens et al., 2009; Yoshikawa, Phan, & David, 2005; Young et al., 2008). Finally, the explanatory power of agency theoretical predictions is most appropriately evaluated in conjunction with other theoretical frameworks, such as resource dependence theory, for example.

How boards matter: The mediating role of strategic decisions

Although we find no evidence that board attributes are directly related to firm performance in the Asian context, we do find an indirect relationship that runs through the level of R&D investments. From an agency theoretical perspective this result seems somewhat contradictory, as both board independence and CEO duality have a positive effect on the level of R&D investments while only the former is consistent with this perspective's predictions. We can make sense of this finding, however, if we put away our agency theoretical glasses for a moment, as would be justified for reasons discussed above. The relationship between board independence and R&D investments, on the one hand, can be seen to make sense if we interpret the presence of independent external directors on the board as conduits through which the firm can acquire resources that are critical for successful R&D investments, such as technology, knowledge, and financial capital. The presence of a joint board leadership structure, on the other, may facilitate the exercise of discretion promoting unified and bold but accountable decision-making that is needed for investments in high-risk projects. This conjecture is consistent with research on ownership that finds that certain types of blockholders indeed promote risky investments in R&D for similar reasons (Cronqvist & Fahlenbrach, 2009).

In general, research on the role and functioning of boards in Asian firms could benefit from the adoption of a more behavioral perspective and the explicit inclusion of strategy variables in the analysis (Deutsch, 2005). Although we found no significant mediating effects in regard to the capital structure choices and internationalization strategies of the Asian firms included in our analysis, we were confined to the variables reported in the primary studies that underlie our meta-analyses. Future research on Asian corporate governance would therefore be wise to include strategy variables from the onset. Of particular interest, in our

view, would be the question how Asian firms respond to the globalization of trade and investment in the Asian region, and how both governance and strategy variables relate to their success in doing so. Given the prevalence of relational business practices in Asian countries, Asian firms pursuing internationalization strategies are bound to run into the limits of relational exchange which is inherently constrained in terms of both the number of business partners and the distance at which these are located.

Unpacking the Asian business context

Finally, the lack of statistically or practically significant relationships between board attributes and the performance of Asian firms reported in this study may be the result of relevant differences between Asian countries. Political, institutional, and economic development varies significantly between different Asian countries, and so do their corporate governance systems (Heugens et al., 2009) as these tend to be differentially configured from different elements within the political, economic, and institutional constraints provided by an individual country (Aguilera & Jackson, 2003; Engelen & Van Essen, 2010). As a result of these differential contextual factors, the corporate governance role and functioning of the board of directors may vary considerably between different Asian countries.

Our analyses provide indications that this is the case indeed. First, Table 3 provides evidence that Asian countries differ in the board attributes of their public firms, with Japan differing considerably from most other Asian countries. Second, our HOMAs show different mean meta-analytic effect sizes for different Asian countries. Thus, for example, the relationship between board independence and performance (see Table 4) is significantly positive in South Korea ($r_{xy.z} = .05$), while the relationship between CEO duality and firm performance (see Table 5) is significantly negative for Malaysia ($r_{xy.z} = -.03$). More strikingly even, the relationship between board size and firm performance (see Table 6) is strongly negative for Hong Kong ($r_{xy.z} = -.13$), Japan ($r_{xy.z} = -.17$), and Thailand ($r_{xy.z} = -.24$).

To understand the impact of country-level differences on our focal relationships, one would need to "unpack" the proper names denoting different Asian countries in terms of variables that measure their differences (Przeworski & Teune, 1970), and subsequently carry out a meta-analytic regression analysis (MARA; Lipsey & Wilson, 2001) on the effect size distributions of the focal relationships at stake here (Carney et al., 2011; Heugens et al., 2009). Examples of relevant country-level variables that could be included in this analysis are economic development, liquidity, the degree of legal enforcement in a country, and the average level of ownership concentration in Asian counties. Unfortunately, the number of countries about which board studies have been carried out to date is simply too small to do so in the present paper. As studies about more Asian countries become available, future research should attempt to model these country-level differences in order to understand the corporate governance role and functioning of boards in what presently is one of the world's most dynamic and fastest growing regions in the world.

The policy implications of our analysis suggest that good governance principles for boards of directors prescribed by international organizations, such as the OECD

and World Bank, may be misplaced in the case of Asian firms because these principles focus upon making corporate boards better representatives of dispersed shareholders and more efficient monitors of the firm's management. But close monitoring of management is not an urgent concern in a context where ownership and management is united in the same individuals. In settings such as these a more pressing concern is resolving conflicts between minority and controlling shareholders. For example, the prescribed separation of chairperson and CEO roles focuses upon the conflict between the corporate board and CEO but this is not the primary conflict in Asian firms (Zhou & Peng, 2010). Moreover, the prescribed duality of the two senior positions is unlikely to have much effect on a controlling shareholder's ability to expropriate minority investors (Chen et al., 2011).

Similarly, there is little available evidence to suggest that independent directors are more likely to prevent the expropriation of minority investors (Chen et al., 2011). For example, due to the prevalence of business group affiliation and informal linkages among Asian firms, nominally independent directors (i.e., individuals with no formal position within the firm) may in fact be closely connected to a controlling shareholder with little interest in protecting the interests of minority investors. Unfortunately, little is known about the kinds of board attributes that could mitigate conflicts between controlling and minority investors. More research on this point is therefore warranted.

Conclusion

So do "good governance" prescriptions for the board of directors apply to Asian firms? On the evidence assembled in this paper we suggest that they do not. This may not be too much of a surprise since good governance prescriptions apply only tenuously in Anglo-Saxon economies where these prescriptions originated. While this paper finds no direct relationship between board attributes and the performance of Asian firms, it does point at the somewhat derivative role of the board in Asian firms, on the one hand, and at least one concrete mechanism through which board attributes do indirectly affect firm performance, on the other. But these are telling findings that could inspire future research on the corporate governance of Asian firms.

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