Board interlocks and corporate performance among firms listed abroad

Mike W. Peng

Jindal School of Management, University of Texas at Dallas, Richardson, Texas, USA

Canan C. Mutlu

University of Texas at Dallas, Richardson, Texas, USA

Steve Sauerwald

University of Illinois at Chicago, Chicago, Illinois, USA, and

Kevin Y. Au and Denis Y.L. Wang

Chinese University of Hong Kong, Hong Kong, China

Abstract

Purpose – This paper aims to explore the interlock-performance relationship among mainland Chinese firms listed in Hong Kong by taking advantage of a relationship-intensive context whereby such a link is likely to be especially important. Although strategic networks such as interlocking directorates have been found to affect a number of strategic behaviors, the link connecting board interlocks and corporate performance has remained ambiguous. Considerable light has been shed on the strategic networks of firms whose shares are listed abroad, which have been under-studied despite their rising importance in the global economy.

Design/methodology/approach – Data come from a particularly interesting historical period – the early 1990s prior to Hong Kong's 1997 handover to China. Both quantitative and qualitative research have been used.

Findings – Empirically, it was found that good performance in an earlier period helps draw outside directors in a later period, and that network centrality and certain types of interlocks help improve performance, albeit with varying degrees. Overall, our results answer the question whether strategic networks such as interlocks matter for corporate performance with a qualified "yes".

Originality/value – Taking advantage of a relationship-intensive context, this article explores the interlock-performance relationship among mainland Chinese firms listed in Hong Kong. Focus is

specifically on the two years, 1993 and 1995, due to their specific historical importance because these two years represent the beginning of Chinese firms' listing in Hong Kong.

Introduction

A considerable body of research has investigated the strategic use of social networks – in short "strategic networks" (Burt, 2000; Dyer and Singh, 1998; Galaskiewicz and Zaheer, 1999; Gulati *et al.*, 2011; Gulati *et al.*, 2000; Podolny and Page, 1998). Proponents of strategic networks argue that there is enormous promise "in incorporating a deeper understanding of strategic networks into the mainstream of strategy research" (Gulati *et al.*, 2000, p. 213). Because strategy research ultimately boils down to a quest for better corporate performance, it seems imperative that research on strategic networks explore and demonstrate these networks' impact on performance. While a number of studies document strategic networks' positive impact on performance (Ahuja, 2000; Baum *et al.*, 2000; Koka and Prescott, 2002; Peng and Luo, 2000), other studies suggest that these networks can have negative as well as positive influences (Gargiulo and Benassi, 2000; Labianca *et al.*, 1998; Rowley *et al.*, 2000; Uzzi, 2002). On balance, however, a meta-analysis concludes that the link between strategic networks and performance is "at best, tenuous" (Madhavan, 2002, p. 20), thus calling for more sustained theoretical and empirical efforts to probe into the performance impact of strategic networks.

While recent work has often focused on strategic alliances (Gulati *et al.*, 2000), one type of strategic networks, interlocking directorates, has been investigated for over four decades, and has become "perhaps the most-studied social structure in organizational theory" (Davis and Greve, 1997, p. 12). An interlocking directorate occurs "when one person affiliated with one organization sits on the board of directors of another organization" (Mizruchi, 1996, p. 271). Board interlocks have been found to affect a number of strategic behaviors, such as the source of financing (Mizruchi and Stearns, 1994), learning about market opportunities (Tuschke *et al.*, 2014), the independence of boards (Zajac and Westphal, 1996) and the acquisition decision (Haunschild and Beckman, 1998). However, similar to the general inconclusiveness with regard to the performance impact of strategic networks (Madhavan, 2002), the empirical link between board interlocks and corporate performance has remained "mixed at best" (Mizruchi, 1996, p. 284). Therefore, the question whether board interlocks matter for firm performance matter continues to beg for an answer.

In response, this article endeavors to contribute to the strategic network literature in general and the interlocking directorates literature in particular by addressing the interlocks-performance link in a novel institutional context with a historical perspective. While the interlocks-performance relationship has been extensively studied in the West (especially the USA), there may be "good institutional reasons why interlocks are not important" there (Fligstein, 1995, p. 501). Specifically, in the USA, it is illegal to use interlocks to control other firms, and commercial banks are not allowed to own equity of non-financial firms. Consequently, Mizruchi and Galaskiewicz (1994, p. 241) suggest that "interlocks may have a positive impact on profits in other places […] But this has yet to be demonstrated empirically". Building on this observation as a point of departure, we believe that interlock research focusing on Asian firms may significantly

extend our understanding of the interlocks-performance link. This is because the two institutional constraints in the USA noted above typically do not exist in Asia (Claessens *et al.*, 2000). Moreover, in Asia interpersonal and interorganizational networks are believed to be especially important (Chen, 2001; Chua *et al.*, 2009; Gollakota and Gupta, 2006; Luen *et al.*, 2013; Peng and Luo, 2000; Redding, 1990).

Despite relative scarcity of interlock research on Asian firms compared to voluminous research in the West, an increasing number of studies have explored different contexts in Asia: Au *et al.* (2000) on Hong Kong; Keister (1998), Markoczy *et al.* (2013), and Ren *et al.* (2009) on China; Lincoln *et al.* (1996) on Japan; Peng *et al.* (2001) on Thailand; and Zang (1999) on Singapore. However, there is a gap between the perceived link connecting strategic networks such as interlocks and corporate performance in Asia and solid empirical evidence. Therefore, to partially fill this gap, the first objective of this article is to focus on mainland Chinese firms whose shares are listed in Hong Kong[1]. We ask: are interlocking directorates associated with corporate performance?

Our second objective is to gain an understanding of board interlocks among firms listed abroad. With the growing globalization of capital markets, an increasing number of firms have listed their stocks abroad. However, scholarly understanding of this new phenomenon is limited (Peng and Su, 2014). Virtually all studies in the small literature on firms listed abroad have been undertaken by finance and accounting researchers (Karolyi, 2006). Strategy researchers have yet to pay sufficient attention to these firms (except Davis and Marquis, 2003; Peng and Su, 2014; Phan and Yoshikawa, 2000; Yoshikawa and Gedajlovic, 2002). We argue that research on strategic networks can be significantly advanced by focusing on firms listed abroad. How do these firms establish strategic networks in the new foreign environment? Do interlocks with local players indeed improve the new entrants' performance? We believe that these unanswered questions are not only theoretically and empirically important but also practically relevant, thus motivating this research. Finally, we test our hypotheses based on the board members of the top 200 largest listed companies in Hong Kong during 1993 and 1995. The two years, 1993 and 1995, have a specific historical importance because these two years represent the beginning of Chinese firms' listing in Hong Kong.

Firms listed abroad as a historic phenomenon

Since the 1980s, an increasing number of firms around the world have listed their stock abroad. By the end of 1998, 14 and 22 per cent of the firms listed on the New York Stock Exchange (NYSE) and London Stock Exchanges, respectively, were foreign companies (McGuinness, 1999, p. 18). Although foreign listing is costly with large legal and accounting fees, there are numerous benefits (Davis and Marquis, 2003; Peng and Su, 2014). Strategically, a firm can benefit from more abundant financial resources and more diversified exposure to different market risks. Politically, foreign listing can improve a firm's relationship with the host market participants (i.e. regulators, investors, customers and the public in general), especially when the firm is interested in local operations such as acquisitions (Pagano *et al.*, 2002). Because of their relative newness in the global economy, firms listed abroad have been under-studied in the literature (Karolyi, 2006; Peng and Su, 2014).

After the initial foreign listing, firms listed abroad may have a vested interest in co-opting sources of uncertainty by establishing linkages, such as board interlocks, with existing, legitimate organizations in the new environment (Pfeffer and Salancik, 1978).

In other words, the increased complexity resulting from such internationalization may be accommodated by their governance structure (Peng *et al.*, 2001). Over time, these firms may become increasingly isomorphic with the foreign environment (Davis and Marquis, 2003; Peng and Su, 2014). For example, Japanese firms listed in New York and London, compared with those listed at home, are relatively more sensitive to Anglo-American concerns for maximizing shareholder values (Phan and Yoshikawa, 2000; Yoshikawa and Gedajlovic, 2002) and German firms listed in the USA are more likely to adopt governance practices legitimate in the US context (Sanders and Tuschke, 2007) . For non-US firms listed in NYSE and NASDAQ, Davis and Marquis (2003) find some evidence of corporate governance convergence with US norms, especially among Israeli firms. However, they also report continued difference among most non-US firms. Given both the strategic needs to co-opt uncertainties and the institutional pressures to be isomorphic, how firms listed abroad establish and strengthen linkages such as interlocks in the new environment (Davis and Marquis, 2003), thus, presents a fascinating setting for our study.

Mainland Chinese firms in Hong Kong

As a part of the global wave, a large number of mainland Chinese firms listed their stocks in Hong Kong and a small number went to New York in the 1990s. In 1993, there were 21 such firms in Hong Kong. By the end of 1997, the number increased to 75[2], representing 15 per cent of the capitalization among *all* listed firms in Hong Kong. In 1997, mainland Chinese firms raised 60 per cent of new capital through initial public offerings in Hong Kong. In 2000, this number reached 74 per cent (Sheng, 2001, B12). While some mainland firms had been operating (but not listed) in Hong Kong via low-key subsidiaries since the 1950s, their massive, high-profile arrival in the 1990s marked their coming of age and sparked considerable interest in Hong Kong and elsewhere (Au *et al.*, 2000; McGuinness, 1999).

These Hong Kong listed firms not only permeate two national environments, but also blur the boundaries of two business systems: socialism and capitalism[3]. Although their controlling shareholders are usually state-owned Chinese parent corporations, these firms have to satisfy Hong Kong's more stringent disclosure requirements and to attract sophisticated Hong Kong investors, thus becoming unique, mainland China–Hong Kong *hybrids*. Consequently, they are under the dual influence of their domestic and foreign environments. In China, mounting pressures to reform state-owned enterprises, coupled with the state's reluctance to provide continued subsidies, pushed these firms to raise capital abroad. On the other hand, despite the high initial costs of listing, the abundant capital available in Hong Kong more than outweighs the drawbacks (McGuinness, 1999)[4]. Further, the intangible benefits of raising these firms' profile internationally helps pave the road for some of these firms' eventual internationalization (Pagano *et al.*, 2002; Peng and Su, 2014). In short, the limitations of the domestic economy *push* mainland Chinese firms to seek capital elsewhere, whereas the attractiveness of Hong Kong *pulls* them to come.

Confronting a substantial liability of newness, mainland firms may be interested in cultivating linkages, such as interlocks, as a coping mechanism to "blend" in the local economy (Au *et al.*, 2000). In addition, Hong Kong listing rules require that as of December 31, 1994, all listed firms appoint at least two outside, independent directors

(Chen and Jaggi, 2000), thus necessitating the establishment of interlocks with local players.

A window of opportunity

For three important reasons, we argue that the emergence of mainland Chinese firms in Hong Kong represents a rare window of opportunity through which we can probe into the crucial link between interlocks and performance. First, an institutional perspective suggests that in emerging economies such as mainland China and Hong Kong, whereby formal, market-supporting institutions are relatively lacking, interpersonal ties such as interlocks are likely to be especially important (Bowden and Insch, 2013; Peng, 2003). In a developed economy whereby the rules of competition are better known and alternative sources of information are widely available, managers may not have to exclusively rely on interpersonal ties such as interlocks (Haunschild and Beckman, 1998). In contrast, in an emerging economy, managers often have to perform basic functions by themselves, such as obtaining market intelligence, interpreting regulations and enforcing contracts (Khanna and Palepu, 1997). Access to rare information through interlocks thus becomes an essential corporate competence, which may lead to performance benefits (Peng and Luo, 2000). In addition, the Chinese cultural propensity to rely on interpersonal networks to get things done is likely to magnify the potential performance benefits of interlocks (Redding, 1990). While managers all over the world devote considerable time and energy to cultivate interpersonal ties, Chinese managers perhaps "rely more heavily on the cultivation of personal relationships to cope with the exigencies of their situation" (Child, 1994, p. 150).

Second, from a spatial point of view, Kono *et al.* (1998, p. 863) argue that interlocks are "spatial phenomena – with spatial attributes and spatial determinants", and that "previous interlock research, which ignores spatial considerations, has been seriously misspecified". Our focus on one city such as Hong Kong (as opposed to a larger sized country) – an approach similar to Galaskiewicz's (1985) focus on one US metropolitan area (the Twin Cities) – allows us to control for the spatial effect.

Finally, from a *methodological* standpoint, we leverage relatively comprehensive, high-quality archival data typically used in interlock studies. Because Chinese firms are often clouded by their lack of accessibility, most researchers have to go through considerable length via field interviews and surveys to obtain data (Chen, 2001; Keister, 1998; Park and Luo, 2001; Peng and Luo, 2000; Xin and Pearce, 1996; Young *et al.*, 2001). Despite the care researchers take, these data, unfortunately, are inherently subject to potential non-response bias, faulty memory and *post hoc* rationalization. Therefore, the availability of accessible, high-quality archival data offers a rare opportunity to improve on the methodology typically used when studying Chinese firms.

Interlocks and performance

Reviewers of both the broader strategic network literature (Burt, 2000; Dyer and Singh, 1998; Galaskiewicz and Zaheer, 1999; Gulati *et al.*, 2000, 2011; Podolny and Page, 1998) and the more focused interlocking directorates literature (Galaskiewicz, 1985; Mizruchi, 1996; Pettigrew, 1992) maintain that more than one theory can be invoked when pursuing this research. Consequently, we draw on three perspectives, namely, resource dependence, institutional and resource-based theories[5].

Sources of board interlocks

Resource dependence theory (Pfeffer and Salancik, 1978) suggests that interlocking directorates may offer organizations several advantages. First, interlocks provide for information to be exchanged across firms (Haunschild and Beckman, 1998; Pennings, 1980). Second, interlocks allow one organization's regular input into another firm's decision-making, thus asserting power and influence (Carpenter and Westphal, 2001; Renneboog and Zhao, 2011; Zajac and Westphal, 1996). Finally, interlocks may enable firms to co-opt sources of environmental uncertainty and secure more resources, thus potentially leading to better performance (Boyd, 1990; Burt, 1983; Haynes and Hillman, 2010). Recent work suggests that variation in the configuration of strategic networks *at the time of initial entry* may lead to significant performance differences (Baum *et al.*, 2000; Connelly *et al.*, 2011). Therefore, it seems plausible that the initial configuration of mainland Chinese firms' interlocks is especially important.

While interlocks occur between organizations, they are created by individuals (Zajac, 1988). Therefore, what kind of *individual* directors are appointed is crucial. We posit that certain high-status, resource-rich individuals from three types of companies that are likely to be desirable candidates:

(1) British colonial firms (hereafter "British firms" for compositional simplicity);

(2) Hong Kong Chinese firms; and

(3) conglomerates.

The Hong Kong economy is dominated by British firms and Hong Kong Chinese firms. Despite the 1997 handover, British firms as a group have remained strong in key industries such as banking, financial services, and civil aviation. Hong Kong Chinese firms are traditionally the backbone of the economy, dominating major industries such as property, manufacturing, shipping and media. As a result, top executives of leading British and Hong Kong Chinese firms symbolize power, prestige and expertise among the local business community (Au *et al.*, 2000).

In addition, a number of conglomerate firms are also well-managed in Hong Kong. Although conglomerate diversification has been discredited in the West, such a strategy is found to be viable in emerging economies such as Hong Kong (Guillen, 2000; Khanna and Palepu, 1997). In such an environment whereby external capital markets may be relatively inefficient (Claessens *et al.*, 2000), conglomerates may resemble internal capital markets efficiently channeling resources across multiple industries. Moreover, a large number of Hong Kong listed mainland firms are also conglomerates, which come from an emerging economy much less developed than Hong Kong. Traditionally, mainland Chinese firms are single-industry enterprises (Child, 1994). The growth to become multi-industry conglomerates requires an enormous expansion of resources and capabilities, which cannot be adequately found at home (Peng, 2003). That is one of the key reasons why they come to Hong Kong. Therefore, mainland firms may also be interested in inviting executives from Hong Kong conglomerates to join their boards to learn from the expertise of these individuals.

Focusing on legitimacy (DiMaggio and Powell, 1983), institutional theory argues that "if an actor's partner in a network form of organization possesses considerable legitimacy or status, then the actor may derive legitimacy or status through the affiliation" (Podolny and Page, 1998, p. 64). This reasoning essentially suggests that

directors from prestigious firms may transfer some of their prestige to mainland Chinese firms (Podolny, 1994; Uzzi and Gillespie, 2002), thereby increasing the legitimacy and survival prospects of the newcomers. Such greater legitimacy may benefit mainland firms because potential exchange partners are more willing to interact with firms whose strategies they can comprehend or perceive as rational (Pfeffer and Salancik, 1978). Exchange partners may also offer more favorable terms to legitimate firms, as these partners value such interactions (Galaskiewicz, 1985).

On the other hand, resource-based theory posits that to the extent that these outside directors represent valuable, unique and hard-to-imitate managerial resources (Barney, 1991), they are likely to be sought after. In a relatively small economy with six million people such as Hong Kong, the pool of high-caliber individuals who can serve as directors is limited (Knyazeva et al., 2013). At the end of 1996, among the top 200 listed firms in Hong Kong with a total of 1,628 directors, only 276 individuals (17 per cent) served on more than one board (Au et al., 2000, p. 33). To the extent that such top-level managerial resources are exhaustible (that is, there is a time and energy limit as to how many boards an individual can serve)[6], having secured one such individual as a director may not only directly benefit the appointing firm, but may also prevent rival firms from accessing this person (Baum et al., 2000), thus fueling the competition for these high-caliber individuals.

Performance and interlocks

One way to view the attempt by mainland Chinese firms to establish interlocks with local players is to conceptualize this as a *structure-loosening* event concerning the existing interorganizational network in Hong Kong. Madhavan et al. (1998, p. 444) define a structure-loosening event as an event during which "powerful firms decrease their network power while less powerful firms become more powerful than they were". This definition seems to capture the pre-1997 Hong Kong situation, in which powerful incumbents have to accommodate the arrival of new entrants from the mainland (Au et al., 2000). A defining feature of a structure-loosening event is that it is "more likely to be initiated by firms that are currently peripheral" such as mainland Chinese firms because they have more to gain (Madhavan et al., 1998, p. 446).

While mainland Chinese firms may be interested in tapping into the pool of local executives, whether these individuals are willing to come on board is a different matter. Typically, individuals join boards for remuneration, prestige and contacts (Johnson et al., 2011). For most wealthy top executives in Hong Kong, remuneration, which is not financially significant, would not seem to be a major motivation. Instead, prestige and contacts with mainland firms may be more important, because Hong Kong firms increasingly have to do business in China, where contacts and connections seem to be a "must" (Peng and Luo, 2000; Xin and Pearce, 1996). Serving on the board of a mainland firm may lead to useful contacts and opportunities in the mainland. Moreover, interlocking directorates help draw mainland firms into the existing interlocks network, thus making these new entrants' behavior more predictable and less disruptive (Gnyawali and Madhavan, 2001).

Constrained by time and energy, highly sought-after directors from leading Hong Kong firms *initially* may be reluctant to join mainland firms' boards. To attract Hong Kong executives interested in doing business in China, mainland firms' executives may have a tendency to exaggerate their connections at home[7]. Given that there is little

concrete measure to substantiate these claims and that mainland firms, as a group, do not have sufficient track records, Hong Kong executives are likely to adopt a wait-and-see attitude until the winners and losers among the new entrants become clear. Over time, these executives may be more interested in joining the boards of the better performing mainland firms. Therefore, for mainland firms, having a successful performance track record may help draw desirable directors (Baum *et al.*, 2000; Zajac, 1988).

However, facing a turbulent and unfamiliar environment, mainland Chinese firms confronting a poor performance record may also be interested in attracting high-caliber directors (Boyd, 1990; Peng, 2004). Existing research shows that a typical response for firms with performance problems is to invite representatives from prestigious, resourceful firms to serve on their boards (Richardson, 1987). Nevertheless, such an attempt may be unsuccessful given Hong Kong executives' initial lack of interest discussed above. Therefore:

H1. The better the firm performance in an earlier period, the more likely that a mainland Chinese firm will have more outside board directors from (a) British colonial firms, (b) Hong Kong Chinese firms and/or (c) conglomerate firms in a later period.

While establishing interlocking linkages with Hong Kong firms is a novelty, it is important to note that most mainland firms have been seasoned players at home in the game of building and leveraging strategic networks based on guanxi (connections) (Park and Luo, 2001; Peng and Luo, 2000). Ultimately, whether these activities are beneficial boils down to whether these interlocks have a positive impact on corporate performance, to which we turn next.

Interlocks and performance
In theory, Mizruchi and Galaskiewicz (1994, p. 240) propose that "if interlocking is a successful method of cooptation, then, *ceteris paribu*, heavily interlocked firms should be more profitable than less interlocked firms". However, empirical evidence on this proposition around the world is ambiguous (Mizruchi, 1996, p. 284). For example, Carrington (1981) in Canada, Meeusen and Cuyvers (1985) in Belgium and Keister (1998) in China find a clearly positive interlocks-performance correlation. Using US data, Burt (1983) reports a slightly positive effect, and Pennings (1980) has very mixed results. In contrast, Fligstein and Brantley (1992) in the USA, Richardson (1987) in Canada and Lincoln *et al.* (1996) in Japan report an unambiguously negative association. Because heavily interlocked firms in the USA (and Canada), where most research is done, are also likely to be in financial trouble, researchers have to confront a challenging "causal ordering problem" (Mizruchi, 1996, p. 290). Japanese firms are similarly problematic because interlocks typically occur when the receiving firm has performance difficulties (Kaplan and Minton, 1994). Keister (1998, p. 429), on the other hand, suggests that a key reason behind her relatively unambiguous findings is because interlocks in a Chinese setting "do not primarily form when firms are in financial crisis".

Overall, the mixed findings have led to some strong criticisms. For example, Fligstein and Brantley (1992, p. 304) argue that interlocks "just do not predict much that is interesting in the strategic choices of firms," and that researchers "should abandon our concentration" on interlocks. Because corporate performance is indeed likely to be

influenced by a large number of factors other than interlocks, it is possible that the effect of interlocks, if there is any, may not be significant enough to impact performance. It follows, then, that any finding that establishes a link between interlocks and performance would be indicative of a very strong impact asserted by interlocks.

Taking up on the challenge associated with the Mizruchi and Galaskiewicz (1994, p. 240) proposition outlined above, we endeavor to explore the potential link in this new setting. In social network analysis, a key measure of a firm's network is centrality, which refers to the extent to which the position occupied by an actor is pivotal with respect to others in the network (Faust, 1997; Freeman, 1979). A firm that is more centrally located in an interlock network may accumulate significant power and influence (Brass and Burkhardt, 1993; Davis, 1991; Davis and Greve, 1997; Markoczy *et al.*, 2013). A high degree of centrality may lead to better and more resources and opportunities (Yang *et al.*, 2011), which, in turn, may translate into better firm performance (Gulati *et al.*, 2000; Tsai, 2001). Therefore:

H2. The more central the position in the interlocking directorate network in an earlier period, the better a mainland Chinese firm's performance in a later period.

Given the interest among mainland Chinese firms in cultivating interlocks with certain desirable individuals discussed earlier, it will be interesting to explore whether these directors *actually* help improve firm performance (Horton *et al.*, 2012). Moreover, because initially, Hong Kong executives may be reluctant to join the boards of mainland firms given these new entrants' unproven track record, it is plausible to argue, from a resource-based perspective (Barney, 1991), that those mainland firms that are able to secure board members from the three prestigious types of firms are likely to outperform their counterparts that are not able to do so. This perspective is consistent with a number of studies, which document the economic value of affiliation with and endorsement by prominent, high-status network partners (Baum *et al.*, 2000; Podolny, 1994; Stuart *et al.*, 1999). Therefore:

H3. The more outside board directors who come from (a) British colonial firms, (b) Hong Kong Chinese firms and/or (c) conglomerate firms in an earlier period, the better a mainland Chinese firm's performance in a later period.

Methods
Design
Although this article reports quantitative findings, it has substantial qualitative predecessors based on extensive case studies of mainland Chinese firms at home and in Hong Kong. In addition, we have also conducted a quantitative pilot study in Hong Kong. The present study builds upon such earlier work by focusing on board members of the top 200 largest listed companies in Hong Kong ranked by market capitalization at the end of 1993 and 1995. In addition, we have also conducted follow-up interviews.

The two years, 1993 and 1995, are chosen for three reasons. First, because a majority of the mainland firms were listed in Hong Kong in the early 1990s prior to the 1997 handover to Chinese sovereignty, these two years represent the beginning of their listing history in Hong Kong. From a historical perspective, the "left censoring" problem is minimized, as we trace these firms soon after their arrival in Hong Kong. Second, given that interlocks are not likely to affect performance immediately, a two-year lag allows

for more fruitful exploration of the performance link as opposed to a cross-sectional analysis using data from just one year. Finally, a focus on these two years controls for the potential confounding effect of the Asian financial crisis affecting all Hong Kong listed firms since 1997.

With the help of Wardley Financial Services (a subsidiary of HSBC), the names and affiliations of board members of the top 200 companies are collected from company reports. However, 1 and 9 companies have to be dropped for 1993 and 1995, respectively, due to missing data. Two annual interlock matrices are then formed.

Primary variables
Types of firms and directors. Firms are classified into one of the four origins based on their controlling ownership. Au *et al.* (2000), we specify these four types to be:

 (1) mainland Chinese firms;
 (2) British colonial firms;
 (3) Hong Kong Chinese firms; and
 (4) other firms[8].

Director affiliations are then classified according to these four types of firms. Because of ownership changes and equity swaps, careful efforts are required to track who the leading owners were during 1993 and 1995 (Claessens *et al.*, 2000). For example, Ka Wah Bank, despite its long history of being a local, Hong Kong Chinese bank, was acquired by a mainland Chinese parent, CITIC Pacific, in 1986, and was consequently classified as a mainland firm. On the other hand, Hutchison Whampoa was classified as a Hong Kong Chinese firm despite its British origin because a Hong Kong tycoon, Li Ka-shing, has controlled this firm since the 1970s. Overall, in 1993, 23, 22, 128 and 26 of them are grouped as mainland Chinese, British, Hong Kong Chinese and other firms, respectively. In 1995, 25, 19, 120 and 27 firms are grouped in the sequence as above. Industrial classifications are straightforward, because the Hong Kong Stock Exchange placed all listed firms in seven categories: conglomerate ("consolidated"), financial, hotel, manufacturing ("industrial"), properties, utilities and others.

Centrality. We calculate three related measures of centrality proposed by Freeman (1979). *Closeness centrality* accounts for both direct and indirect links, suggesting how "close" one is to all others in the network. It indicates the extent to which an actor avoids the control of others. *Betweenness centrality* indicates the extent to which actors fall between pairs of other actors on the shortest paths connecting them. It measures the potential control over others. Thus, if Firms A and C were connected only through Firm B, B would fall "between" A and C, and would mediate the flow of any resources between A and C. Operationally, betweenness is a measure of the number of times a company occurs on the shortest path between any two companies. However, the third measurement, *degree centrality*, is dropped because it taps only direct connections between firms and, indeed, correlates highly with betweenness centrality ($r > 0.70$).

Corporate performance. Corporate performance measures can be either market- or accounting-based. Because of heavy speculation on the Hong Kong financial market, market-based performance experiences a great deal of volatility and may not reflect the true value of a particular firm. This is especially the case for mainland Chinese firms, which experienced some of the most spectacular growth in share prices prior to and

during 1997, only to be followed by dramatic falls on the magnitude of 50 per cent or more since then triggered by the Asian financial crisis[9]. Given such a volatility of market-based performance measures, we focus on accounting-based measures, not only because these measures are less volatile but also because, conceptually, they are under more direct managerial control whereby board interlocks may be able to play a role. Therefore, we focus on two widely used financial measures: return on assets (ROA) and return on equity (ROE).

Control variables
Firm size. Large firms need and possess more resources. There may be incentives for high-caliber individuals to serve on these firms' boards because of their prestige (Podolny, 1994). On the other hand, interlocks may matter less for larger firms, whose performance is affected by many other different factors (Haunschild and Beckman, 1998). Conversely, interlocks may matter more for smaller firms (Peng and Luo, 2000). Therefore, we control the size effect by the logarithm of total assets.

Board size. Similarly, large boards may allow for more abundant linkages and more beneficial interlocks (Dalton *et al.*, 1999). However, large boards may also have a negative effect on performance, as it may be difficult for them to make timely decisions (Boyd, 1990). Thus, we control board size by the number of directors on the board.

Family members on the board. There is a large literature on the propensity of *overseas* Chinese firms to staff key positions with family members (Chen, 2001; Claessens *et al.*, 2000; Redding, 1990; Young *et al.*, 2001; Zang, 1999). While the staffing of *mainland* Chinese firms historically has been based on political loyalty and technical competency, for three reasons, they are likely to appoint family members of top executives when they come to Hong Kong. First, most chief executive officers (CEOs) may be interested in appointing directors who will not challenge their power (Zajac and Westphal, 1996). The best candidates for such "obedient" directors would naturally be family members. Second, there is no reason to suggest that the culturally driven Chinese propensity to rely on family members does not apply to mainland Chinese firms, once such a practice is no longer forbidden. In fact, it is widely documented in the media that the sons and daughters of leading Chinese officials, the so-called "princelings", have occupied top executive positions at these firms. Finally, because appointing family members to the board is widely practiced in Hong Kong, mainland Chinese executives may be interested in imitating what the "Romans" do in "Rome" to blend in the local environment.

Three Hong Kong Chinese executives well connected in the local elite circles, with a combined experience of 76 years, have independently identified whether family members are on the board based on company reports. A dummy variable is created to indicate whether or not at least one immediate family member of the chairman (parents, spouse, siblings and children) is on the board. Nine cases of unknowns and disagreements are resolved by consulting the firms directly via phone calls, of which five are dropped for lack of information.

Findings
Network characteristics
Descriptive information and correlations are presented in Tables I and II, respectively. For each of the four groups of firms, the total asset size is similar between 1993 and 1995. ANCOVA tests controlling asset size show that the board size of mainland firms is

Table I.
Firm and board
characteristics of
mainland Chinese
and other firms in
Hong Kong

N = 199 for 1993 / N = 191 for 1995	Mainland Chinese firms		British Colonial firms		HK Chinese firms		Other firms	
	1993 (N = 23)	1995 (N = 25)	1993 (N = 22)	1995 (N = 19)	1993 (N = 128)	1995 (N = 120)	1993 (N = 26)	1995 (N = 27)
Firm characteristics								
Firm size (total assets in HK$ billion)[a]	0.5 (0.6)	0.9 (0.9)	2.2 (4.7)	2.9 (5.5)	1.1 (2.9)	1.5 (3.7)	0.9 (1.4)	1.4 (1.9)
Industry								
Conglomerate (%)	22	32	32	32	26	28	50	52
Financial (%)	13	12	23	21	6	6	23	19
Hotel (%)	0	0	5	5	2	6	8	11
Manufacturing (%)	39	40	18	16	27	23	8	7
Property (%)	0	0	14	16	5	5	4	4
Utilities (%)	17	16	9	11	29	31	8	7
Others (%)	8	0	0	0	2	2	0	0
Board and interlock characteristics								
Board size (number of directors)	11.00	11.78	12.00	13.05	8.98	9.59	9.38	9.74
Family on board (dummy) (%)	14	12	35	38	64	63	50	39
Types of firms connected (average number of interlocks per firm)								
Mainland Chinese firms (%)	0.09 (0.29)	0.16 (0.37)	0.05 (0.21)	0.16 (0.37)	0.04 (0.19)	0.04 (0.20)	0.00 (0.00)	0.04 (0.19)
British colonial firms	0.04 (0.21)	0.12 (0.44)	0.55 (0.74)	1.37 (1.12)	0.09 (0.39)	0.03 (0.20)	0.04 (0.20)	0.07 (0.38)
Hong Kong Chinese firms	0.22 (0.68)	0.20 (0.65)	0.55 (1.73)	0.16 (0.37)	0.92 (1.51)	1.10 (1.66)	0.12 (0.33)	0.22 (0.58)
Other firms	0.00 (0.00)	0.04 (0.20)	0.05 (0.21)	0.11 (0.32)	0.02 (0.15)	0.05 (0.22)	0.62 (0.14)	0.67 (0.68)
Conglomerate firms	0.09 (0.29)	0.16 (0.37)	0.32 (0.48)	0.68 (0.67)	0.23 (0.35)	0.20 (0.46)	0.31 (0.55)	0.33 (0.55)
Centrality								
Closeness	0.97 (0.42)	1.16 (0.51)	1.11 (0.38)	1.34 (0.43)	1.05 (0.40)	1.25 (0.47)	0.99 (0.42)	1.06 (0.52)
Betweenness	60.7 (132.9)	56.4 (104.2)	162.1 (229.0)	120.4 (209.7)	104.5 (192.7)	92.1 (183.9)	85.1 (163.3)	63.0 (112.8)
Firm Performance								
ROE (%)	4.67 (25.74)	11.95 (11.58)	19.52 (16.86)	24.03 (21.99)	16.27 (22.90)	15.94 (15.85)	17.13 (19.17)	11.19 (8.99)
ROA (%)	3.59 (5.80)	5.58 (4.03)	9.01 (7.47)	10.33 (10.59)	9.75 (6.55)	9.10 (9.34)	8.12 (7.56)	5.54 (4.58)

Notes: Figures in parentheses are standard deviations; [a] the exchange rate was US$1 = HK$7.74 during the period

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. ROA (1995)																						
2. ROE (1993)	**0.85**																					
3. Number of British directors (BRI)	0.06	0.06																				
4. Number of HK Chinese directors (HKC)	0.02	−0.01	**0.25**																			
5. Number of conglomerate directors (CON)	0.02	0.06	**0.23**	**0.35**																		
6. Betweenness (BET)	0.12	0.11	0.16	**0.67**	**0.45**																	
7. Closeness (CLO)	0.07	0.12	**0.33**	**0.39**	**0.18**	**0.42**																
8. Mainland firm dummy (MF)	−0.08	0.01	**0.18**	**−0.15**	0.02	0.00	0.02															
9. MF × BET	**0.17**	**0.17**	**0.22**	0.12	**0.23**	**0.38**	**0.19**	0.00														
10. MF × CLO	0.09	0.09	**0.24**	**0.21**	**0.19**	**0.17**	**0.42**	0.03	0.46													
11. MF × BRI	0.02	0.00	**0.68x**	0.00	**0.29**	0.13	**0.17**	**0.22**	**0.33**	**0.40**												
12. MF × HKC	0.10	0.10	−0.01	0.26	0.15	0.19	0.16	−0.52	0.50	0.38	0.00											
13. MF × CON	0.07	0.11	**0.52**	0.10	**0.38**	**0.23**	**0.21**	0.05	**0.61**	**0.49**	**0.77**	**0.40**										
14. Board size	−0.13	0.02	**0.34**	**0.36**	**0.35**	**0.35**	**0.19**	**0.36**	0.03	0.12	**0.25**	−0.22	**0.15**									
15. Total assets (log)	**−0.33**	**−0.26**	**0.29**	**0.27**	**0.34**	**0.31**	**0.26**	**0.15**	0.08	0.11	**0.22**	−0.08	**0.17**	**0.48**								
16. Financial	**−0.22**	0.03	0.09	0.09	0.06	0.12	**0.15**	0.03	−0.08	0.06	−0.04	−0.08	0.02	**0.20**	**0.33**							
17. Utilities	**0.17**	**0.16**	0.10	0.12	**0.17**	**0.23**	0.08	0.05	**0.26**	0.12	0.09	−0.04	0.07	**0.14**	**0.10**	**−0.07**						
18. Properties	**−0.16**	**−0.25**	−0.01	**0.18**	−0.04	0.02	0.05	−0.12	−0.05	−0.06	−0.07	0.04	−0.04	−0.08	**0.22**	**−0.16**	−0.10					
19. Conglomerate	**0.14**	0.10	0.00	−0.13	0.04	−0.05	**−0.15**	−0.01	−0.06	0.00	0.08	−0.02	0.02	−0.01	**−0.21**	**−0.19**	−0.13	**−0.31**				
20. Manufacturing	**0.14**	0.13	0.01	−0.07	−0.10	−0.08	0.05	0.10	−0.02	−0.06	−0.01	0.06	−0.01	−0.12	**−0.26**	**−0.15**	−0.10	**−0.24**	**−0.29**			
21. Hotel	**−0.15**	**−0.19**	0.01	0.07	−0.03	0.03	0.12	−0.07	0.08	0.04	0.06	0.04	0.05	0.03	0.03	−0.07	−0.05	−0.12	−0.14	−0.11		
22. Years of listing	**0.35**	0.23	0.05	0.28	0.24	0.04	−0.22	–	0.04	−0.22	0.05	0.28	0.24	−0.15	**−0.51**	−0.32	–	−0.27	−0.08	−0.14	**0.43**	
23. Family on board	**−0.17**	−0.18	−0.04	**0.17**	−0.02	0.13	0.12	**−0.39**	0.08	0.07	−0.06	**0.27**	0.00	**0.19**	**0.11**	0.03	**0.01**	**0.14**	−0.03	−0.10	0.08	−0.10

Notes: The bold and underlined numbers indicate significant correlation coefficients ($p < 0.05$; $N = 191$, except for the years of listing. For this variable, as only mainland Chinese firms are used, the N is 25

Table II.
Correlation matrix
for regression
variables

similar to that of British firms and larger than that of Hong Kong Chinese and other firms, for both 1993 (F[3, 191] = 6.97, $p < 0.01$) and 1995 (F[3, 191] = 6.33, $p < 0.01$). The four groups also differ on whether there are family members on the board for both 1993 (χ^2[3] = 20.35, $p < 0.01$) and 1995 (χ^2[3] = 25.67, $p < 0.01$). As expected, only a small proportion of mainland firms have family members on the board (14 and 12 per cent in 1993 and 1995, respectively), whereas Hong Kong Chinese firms have the highest proportion of family involvement on the board (64 and 63 per cent in 1993 and 1995, respectively).

The number of interlocks with different types of firms is also shown in Table I. In 1993, an average mainland Chinese firm is connected with 0.09 other mainland firms, 0.04 British firms, 0.22 Hong Kong Chinese firms and no other firm. In 1995, the numbers change to 0.16, 0.12, 0.20 and 0.04, respectively. On balance, mainland firms do not seem to connect well with other types of firms or among themselves. The other three types of firms (British, Hong Kong Chinese and other), on the other hand, tend to strongly connect with their own type. In terms of interlocks with conglomerate firms, mainland firms again have only sparse connections with them (0.09 and 0.16 in 1993 and 1995, respectively), the lowest among four types of firms.

ANCOVA tests controlling for assets, industry and board size are used to analyze firms' centrality. In 1995, mainland firms have the lowest betweenness centrality among the four groups, whereas British firms have the highest betweenness centrality, followed by Hong Kong Chinese and other firms (F[3, 182] = 2.28, $p < 0.10$). Results for 1993 are in the same direction but insignificant (F[3, 191] = 1.26, n.s.). Although the differences of closeness centrality are insignificant for 1993 and 1995, the means are in the same direction as above, with mainland firms being the least central group.

ANCOVA tests controlling for industry, firm size and board size show that corporate performance is different among the four groups of firms, except for ROE in 1993. The data show that mainland firms in general perform less well than British and Hong Kong Chinese firms.

Hypothesis testing

In Table III, regression analysis is used to investigate *H1*. The dependent variables are the differences in the number of directors between 1993 and 1995. All six models are significant ($p < 0.05$). During 1993, a better performance (Model 1: $\beta = 0.21$, $p < 0.05$), being a mainland firm (Model 1: $\beta = 0.36$, $p < 0.05$; Model 2: $\beta = 0.40$, $p < 0.05$), and the interaction between the two variables (Model 2: $\beta = 0.22$, $p < 0.05$) significantly increase the number of directors from British firms by 1995. Further, good performance in 1993 is also associated with more directors from Hong Kong Chinese firms (Model 4: $\beta = 0.16$, $p < 0.10$) and conglomerate firms (Model 5: $\beta = 0.16$, $p < 0.10$) in 1995. Therefore, *H1* is supported. Multinomial logit tests (not reported here) also yield similar results.

To test *H2*, the two performance measures are regressed through four models in Table IV on the two centrality variables:

(1) the mainland firm dummy; and

(2) the interaction between the dummy and centrality measures.

According to Aiken and West (1991), the deviation scores of the independent variables are entered into the equations to make the main effect and interaction effect as independent of each other and their respective coefficients interpretable. As such,

All dependent variables Changes during 1993-95 All other variables 1993	Increases in directors from British firms		Increases in directors from HK Chinese firms		Increases in directors from Conglomerate firms	
	(1)	(2)	(3)	(4)	(5)	(6)
Independent and interaction variables						
Performance (1993 ROA)	0.21** (2.40)	0.11 (1.19)	0.09 (0.97)	0.16* (1.67)	0.16* (1.84)	0.13 (1.31)
Mainland firm dummy (MF)	0.36** (3.93)	0.40** (4.42)	−0.18** (−2.00)	−0.14 (−1.55)	−0.05 (−0.59)	−0.04 (−0.40)
MF × 1993 ROA	–	0.22** (2.49)	–	−0.17* (−1.88)	–	0.08 (0.87)
Control variables						
Firm size (log assets)	0.10 (1.00)	0.05 (0.54)	0.24** (2.37)	0.28** (−2.69)	0.09 (0.87)	0.12 (0.69)
Industry						
Conglomerate	0.15 (0.48)	0.15 (0.50)	−0.15 (−0.48)	−0.15 (−0.49)	−0.09 (−0.30)	−0.09 (−0.30)
Financial	0.15 (0.70)	0.16 (0.76)	−0.29 (−1.31)	−0.29 (−1.35)	−0.03 (−0.14)	−0.03 (−0.13)
Hotel	0.03 (0.16)	0.01 (0.050)	−0.01 (−0.03)	−0.01 (−0.05)	−0.02 (−0.11)	−0.03 (−0.14)
Manufacturing	0.01 (0.02)	−0.00 (−0.01)	−0.19 (−0.70)	−0.18 (−0.68)	−0.08 (−0.30)	−0.08 (−0.31)
Property	0.18 (1.05)	0.14 (0.80)	0.08 (0.46)	0.11 (0.66)	0.16 (0.95)	0.15 (0.86)
Utilities	0.03 (0.09)	0.02 (0.08)	−0.07 (−0.25)	−0.07 (−0.25)	−0.06 (−0.22)	−0.06 (−0.22)
Board size	0.08 (0.77)	0.10 (1.04)	0.32** (3.14)	0.30** (2.95)	0.40** (3.96)	0.41** (4.02)
Family members on board	0.17** (2.07)	0.16* (1.90)	−0.12 (−1.46)	−0.11 (−1.31)	−0.00 (−0.04)	−0.01 (−0.11)
R^2	0.27**	0.30**	0.24**	0.26**	0.25**	0.26**
Adjusted R^2	0.21	0.24	0.18	0.20	0.19	0.19
F	4.61	4.90	4.04	4.07	4.26	3.97

Notes: The figures are standardized coefficients. Figures in parentheses are t-values; *$p < 0.10$; **$p < 0.05$

Table III.
Firm performance
and types of
interlocks (*H1*)

| All dependent variables 1995 | 1995 ROE | | 1995 ROA | |
All other variables 1993	(1)	(2)	(3)	(4)
Independent and interaction variables				
Centrality				
Closeness	0.14 (1.58)	–	16* (1.82)	–
Betweenness	–	0.06 (0.75)	–	0.14* (1.65)
Mainland firm dummy (MF)	−0.13 (−1.48)	−0.14 (−1.59)	−0.14 (−1.53)	−0.14 (−1.58)
MF × Centrality	0.08 (1.00)	0.20** (2.42)	−0.01 (−0.14)	0.15* (1.88)
Control variables				
Firm size (log assets)	−0.23** (−2.33)	−0.23** (−2.38)	−0.18* (−1.85)	−0.20** (−2.05)
Industry				
Conglomerate	−0.20 (−0.65)	−0.26 (−0.86)	−0.19 (−0.59)	−0.25 (−0.82)
Financial	−0.07 (−0.29)	−0.08 (−0.33)	−0.34 (−1.48)	−0.35 (−1.55)
Hotel	−0.29* (−1.67)	−0.32* (−1.85)	−0.27 (−1.55)	−0.30* (−1.72)
Manufacturing	−0.10 (−0.35)	−0.14 (−0.50)	−0.11 (−0.41)	−0.14 (−0.53)
Property	−0.33 (−1.12)	−0.38 (−1.31)	−0.30 (−1.01)	−0.34 (−1.18)
Utilities	0.06 (0.32)	−0.02 (−13)	0.07 (0.45)	−0.02 (−0.09)
Board size	0.16* (1.65)	0.18* (1.78)	0.07 (0.68)	0.06 (0.59)
Family members on board	−0.21** (−2.44)	−0.22** (−2.64)	−0.19** (−2.21)	−0.21** (−2.54)
R^2	0.23**	0.24**	0.23**	0.26**
Adjusted R^2	0.16	0.18	0.16	0.19
F	3.54	3.84	3.58	4.16

Notes: The figures are standardized coefficients. Figures in parentheses are *t*-values; *$p < 0.10$; **$p < 0.05$

Table IV.
Network centrality
and firm
performance (*H2*)

whether the interaction brings about a significant change in R^2 is not an issue. Just like in the use of ANOVA, main effects and interaction effects each indicate different meaning in the data (Aiken and West, 1991).

Three findings emerge. First, both closeness centrality (Model 3: $\beta = 0.16, p < 0.10$) and betweenness centrality (Model 4: $\beta = 0.14, p < 0.10$) helps boost ROA. Second, being mainland firms alone has no effect on ROE and ROA. Third, two (out of four) interactions between the mainland firm dummy and centrality measures are significant. In particular, betweenness centrality helps improve both ROE (Model 2: $\beta = 0.20, p < 0.05$) and ROA (Model 4: $\beta = 0.15, p < 0.10$). These findings thus support *H2*. Overall, while *on average* mainland firms are at a great disadvantage, potentially because of their lower centrality relative to other groups (Table I), the few mainland firms that manage to occupy relatively more central positions might especially benefit from these advantageous positions.

To test *H3*, the two performance measures are regressed on the number of directors from the three focal types of firms, the mainland firm dummy and their interactions (Table V). In general, directors from different types of firms in 1993 do not seem to have a strong impact on firm performance in 1995. However, there are some exceptions. Specifically, as indicated by the interaction variable in Model 2 ($\beta = 0.19, p < 0.05$), mainland firms whose board have more Hong Kong Chinese directors performed better on ROE. Similar results are found in Model 3 ($\beta = 0.15, p < 0.10$), concerning the impact

All dependent variables: 1995
All other variables: 1993

	(1)	1995 ROE (2)	(3)	(4)	1995 ROA (5)	(6)
Independent and interaction variables						
Number of directors from						
British	0.14 (1.15)	—	—	0.14 (1.16)	—	—
HK Chinese	(−0.05)	−0.00	—	(1.10)	0.10	—
Conglomerate	—	—	—	—	—	—
Mainland firm (MF) dummy	−0.14 (−1.49)	−0.06 (−0.64)	−0.02 (−0.25)	−0.16** (−2.11)	−0.08 (−0.82)	−0.16* (−1.75)
MF × Directors	−0.08 (−0.67)	0.19** (2.15)	0.15* (1.90)	−0.05 (−0.43)	0.09 (1.01)	0.11 (1.35)
Control variables						
Firm size (log assets) Industry	−0.20** (−2.00)	−0.21** (−2.14)	−0.21** (−2.10)	−0.16* (−1.67)	−0.18* (−1.82)	−0.16 (−1.65)
Conglomerate	−0.29 (−0.91)	−0.29 (−0.93)	−0.27 (−0.87)	−0.28 (−0.90)	−0.26 (−0.85)	−0.27 (−0.86)
Financial	−0.11 (−0.46)	−0.10 (−0.43)	−0.09 (−0.38)	−0.38* (−1.64)	−0.37 (−1.61)	−0.37 (−1.59)
Hotel	−0.31** (−1.76)	−0.31* (−1.78)	−0.31* (−1.76)	−0.30* (−1.68)	−0.30* (1.68)	−0.29* (−1.65)
Manufacturing	−0.16 (−0.58)	−0.17 (−0.61)	−0.14 (−0.50)	−0.17 (−0.63)	−0.17 (−0.61)	−0.15 (−0.56)
Property	−0.42 (−1.41)	−0.40 (−1.36)	−0.39 (−1.31)	−0.38 (−1.29)	−0.37 (−1.27)	−0.36 (−1.20)
Utilities	0.03 (0.16)	0.03 (0.19)	0.04 (0.24)	0.03 (0.19)	0.04 (0.20)	0.05 (0.25)
Board size	0.15 (1.49)	0.20* (1.92)	0.17* (1.70)	0.05 (0.54)	−0.08 (−0.82)	0.08 (0.76)
Family members on board	−0.19** (−2.21)	−0.23** (−2.66)	−0.18** (−2.18)	−0.18** (−2.11)	−0.19** (2.31)	−0.18** (−2.08)
R^2	0.20**	0.22**	0.22**	0.22**	0.22**	0.22**
Adjusted R^2	0.14	0.16	0.15	0.15	0.16	0.15
F	3.10	3.47	3.36	3.38	3.50	3.40

Notes: The figures are standardized coefficients. Figures in parentheses are *t*-values; $*p < 0.10$; $**p < 0.05$

Table V.
Types of interlocks
and firm
performance (*H3*)

of conglomerate directors on ROE. Overall, while *H3* is not significantly supported, the results hint at some qualified support.

Discussion
Contributions
Although set in the context of Hong Kong where mainland Chinese firms are listed, this study is motivated by a more fundamental interest in assessing the strength of a theoretically important but empirically elusive link between board interlocks and corporate performance. Our findings suggest that good prior performance helps draw directors from prestigious firms, and that occupying more central locations in the interlock network and having certain types of directors' help improve performance, albeit with varying degrees. This study, therefore, empirically documents a direct link between interlocks and performance that Mizruchi and Galaskiewicz (1994, p. 241) call for, and adds to the weight of supportive evidence for the performance benefits of strategic networks such as interlocks.

Specifically, three contributions emerge. First, we extend a long-standing debate on whether interlocks matter – and whether strategic networks matter in general – to a new setting. While it remains to be seen how generalizable our findings are, our study demonstrates that at least within a Chinese setting, interlocks do seem to make a difference for performance, thus supporting previous studies based on survey and interview data (Au *et al.*, 2000; Keister, 1998; Park and Luo, 2001; Peng and Luo, 2000; Xin and Pearce, 1996; Young *et al.*, 2001). Overall, we concur with Mizruchi (1996) that the suggestion that we should "abandon" interlock research (Fligstein and Brantley, 1992, p. 304) may be premature. While Fligstein's (1995) position may be an extreme, his idea that interlock research in the USA, which is limited by its institutional constraints, seems to have reached a point of saturation may have some validity. A focus on Asian firms, therefore, is theoretically important because it allows us "to vary institutional contexts" (Scott, 1995, p. 146). Otherwise, "it is difficult if not impossible to discern the effects of institutions on social structures and behavior if all our cases are embedded in the same or very similar contexts" (Scott, 1995, p. 146).

Second, noting that more firms around the world have listed their shares abroad, we argue that strategy researchers cannot afford to ignore these firms if the field endeavors to be *globally* relevant (Davis and Marquis, 2003; Peng and Su, 2014; Phan and Yoshikawa, 2000; Yoshikawa and Gedajlovic, 2002). In this study, we have taken up the challenge of tackling these firms whose behaviors are difficult to capture, and presented some first empirical evidence on their strategic networks. We believe that our results are plausible, probably because of the Chinese (and Asian) cultural tradition centered on interpersonal ties, the institutional voids in mainland China and Hong Kong necessitating the need to rely on networks and contacts and the spatial concentration of elites within a city.

Third, beyond the unique institutional context, we specifically explore a relatively unique historical phenomenon that took place in the early 1990s that represent the beginning of Chinese firms' listing in Hong Kong. Being the pioneers of internationalization and specifically cross-listing, the strategic choices of these firms provide us valuable insights in understanding the role of strategic networks and board interlocks during the early days of China's economic growth (Peng, 2012).

Research implications
The first implication for future research is to focus on contexts in which the network effect is likely to be especially strong (Rowley *et al.*, 2000). In emerging economies, because of the relatively under-developed formal institutional infrastructure, firms may rely especially heavily on informal institutional mechanisms such as interlocks (Bowden and Insch, 2013; Khanna and Palepu, 1997; Peng, 2003). Initial entry into new markets may also be fertile grounds to investigate the impact of strategic networks on performance (Baum *et al.*, 2000; Guillen, 2002). While we focus on two widely used financial performance measures, Madhavan (2002, p. 19) suggests that strategic networks may have a greater effect on more intermediate performance measures such as innovation (Baum *et al.*, 2000) and productivity (Koka and Prescott, 2002) as opposed to financial measures.

Second, we have to confront a puzzle, that is, although at the aggregate (firm) level, network centrality seems to matter for performance (*H2*), at the individual level, it is relatively difficult to identify the contributions of individual directors (*H3*). We suggest two scenarios worthy of further investigation. First, during mainland firms' early years in Hong Kong, the few outside directors (Table I) might be unable to make a difference, even if they were willing to do so. Whether they will have a stronger impact on performance over time, thus, calls for more longitudinal research with a time span longer than two years (Peng, 2004). Second, in addition to computing centrality measures for all firms, it may be necessary to compute centrality measures for all individual directors (Renneboog and Zhao, 2011). This is likely to be crucial because informal, *interpersonal* networks (e.g. *guanxi*) not captured by the formal, *interorganizational* centrality measures may assert some performance influence (Gong *et al.*, 2013; Peng and Luo, 2000). This speculation is underscored by Faust (1997, p. 184), who, based on a reanalysis of a subset of Galaskiewicz's (1985) data (15 clubs/boards and 26 CEOs), reports that person-based centrality measures have greater predictive power than organization-based measures. Methodologically, computing centrality measures for numerous directors in our sample (2,005 in 1993 and 2,122 in 1995) would represent a huge challenge. However, it seems imperative that future work seek to overcome this challenge (Bonacich, 1991; Faust, 1997; Zajac, 1988).

Third, more research needs to probe into the causality between interlocks and performance (Mizruchi, 1996, p. 290), despite our evidence on some of their correlations. While we document how centrality correlates with performance (*H2*), an additional, cross-panel analysis reveals some interesting findings. While closeness and betweenness centralities lead to increased ROA and ROE (discussed above), ROA in 1993 also seems to increase betweenness centrality in 1995. Therefore, causality could be bi-directional, in that while high centrality improves performance, better performance may also breed higher centrality. This is because high-performance firms may be able to create more interlocks with other firms and anchor themselves at more advantageous positions in the interlocks network. It seems imperative that future research probe these dynamics more closely.

Finally, given that this study only investigates the highly uncertain, pre-1997 period, it will be interesting to extend this research to the post-1997 era to see how mainland Chinese firms adapt further in the new environment. Future researchers can also focus on foreign firms listed elsewhere such as New York and London. Qualitative research probing into the dynamics inside executive and board suites may also pay large

dividends to shed light on the question on *how* interlocks matter (Young *et al.*, 2001). Overall, how interlocks evolve after firms list their shares abroad and how their performance is affected by these changes remain some of the most important yet least understood questions on these firms (Davis and Marquis, 2003).

Practical implications
For mainland Chinese firms listed abroad, it is important to note that as the Chinese economy becomes more market-driven, their high-level connections and contacts back home, which had been a magnet to draw Hong Kong directors, may become less useful in the future (Peng, 2003). Moreover, as 1997 came and went, the novelty of mainland Chinese firms in Hong Kong declined. Therefore, they may become less popular among local executives entertaining board memberships. Ultimately, it is solid firm performance that helps draw prestigious local directors (*H1*). Thus, mainland firms have a strong incentive to work hard on firm performance, based on competitive capabilities rather than *guanxi* (connections) only to attract capable local directors.

Another important finding is that firms having family members on the board tend to perform less well. Although not a focus here, this finding has profound implications for the governance of ethnic Chinese firms. More importantly, as more mainland Chinese firms appoint family members of top executives to the board, they need to be reminded that such a practice is likely to backfire.

Conclusion
At the dawn of the twenty-first century, many firms have listed shares abroad in response to the limitations of their domestic environments and the opportunities of the global capital markets (Karolyi, 2006; Peng and Su, 2014). It is crucial that research unpack the link between theses firms' strategic networks and performance. Focusing on mainland Chinese firms listed in Hong Kong, we have identified and documented a link connecting their board interlocks and corporate performance. Given so many possible factors which may influence corporate performance, of which interlocks are but one of them, our positive findings indeed suggest a very powerful impact of interlocking directorates on corporate performance. In conclusion, to address the question whether strategic networks such as board interlocks matter for performance, our answer is a qualified "yes".

Notes
1. In this article, despite the political unification with China since July 1, 1997, Hong Kong is regarded as a *foreign* environment for two reasons. First, many mainland Chinese firms came to list their shares in Hong Kong before 1997, and our data focus on the pre-1997 era. Second, after the political unification, the two economies have maintained sufficiently different segmentation to regard each other as "foreign", as evidenced by continued immigration control and the co-existence of two currencies (the Hong Kong dollar and the Chinese yuan).

2. These 75 firms included 36 "China-affiliated corporations" ("red chips") and 39 "China corporations" ("H-shares").

3. Although, after nearly two decades of economic reforms, mainland China no longer practices classical state socialism, it seems safe to suggest that the mainland Chinese system is more "socialistic" when compared with the Hong Kong system.

4. Although the Shanghai and Shenzhen Stock Exchanges grew rapidly since their establishment in the early 1990s, in 2000, funds raised by mainland Chinese firms listed in Hong Kong (US$44 billion) continued to outdistance those raised at home in Shanghai and Shenzhen (US$25 billion) by a wide margin (76 per cent) (Sheng, 2001, B12).

5. Another perspective, agency theory, suggests that outside directors may safeguard shareholder interests. However, this role of outside directors may not be relevant for Hong Kong (as well as the rest of Asia), whereby both case studies (Chen, 2001; Redding, 1990) and quantitative evidence (Claessens *et al.*, 2000; Jiang and Peng, 2011; Peng and Jiang, 2010; Zang, 1999) document extensive family control of corporations at the expense of minority shareholder interests. At the end of 1996, 69 per cent of the listed firms in Hong Kong were dominated by a single controlling family, and 53 per cent of the chairman/CEO came from such a family (Claessens *et al.*, 2000: 92). As a result, controlling shareholders are not likely to be interested in the monitoring and control role of outside directors (Young *et al.*, 2001).

6. At the end of 1996, although the highest number of boards served by a single director in Hong Kong is 11, *on average*, one director only served on 1.29 boards. This number is similar to the average number of boards US (1.28) and UK (1.15) directors serve on average (Au *et al.*, 2000, pp. 32-33).

7. According to one Hong Kong executive: "Sometimes my mainland colleagues make you think they have a magic touch to make *anything* happen. For example, in the mainland, they claim to be able to source cheaper but higher quality materials for you, provide priority access to normally inaccessible infrastructure, and promote your products in state-controlled distribution channels" (field interview).

8. Most "other firms" were Southeast Asia-based firms that are listed in Hong Kong. Although beyond the scope of this study, it is interesting to note that they represent another group of firms listed abroad.

9. During May 1997, many mainland firms' shares were trading at multiples of more than 30 times of their historical earnings. For example, the May 1997 initial public offering of Beijing Enterprises was oversubscribed 1,276 times, surpassing the previous record of 892 times held by another mainland firm, GITIC, in March 1997. However, GITIC went bankrupt in 1998, sending shock waves to investors.

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Corresponding author
Mike W. Peng can be contacted at: mikepeng@utdallas.edu