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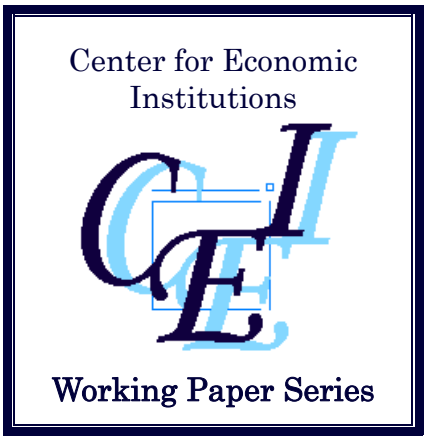
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"Political Connections and Business Strategy: The Impact of Types and Destinations of Political Ties on Business Diversification in Closed and Open Political Economic Contexts"

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ABSTRACT

This paper studies how different types and destinations of connections between business leaders and political actors create strategic benefits in closed and open political economic systems. The analysis examines how political ties facilitate diversification by business groups in Taiwan between 1986 and 1998, before and after the country underwent extensive political and economic liberalization that led to changes in diffusion of power, tie accountability, and public scrutiny. We show that formal position interlocks with the dominant party or senior government officials provide the greatest strategic benefits in a closed political economic system, while informal social ties to a wider range of political actors provide greater strategic benefits when a political economic system becomes more open.

The political connections literature typically argues that firms with political ties gain strategic benefits such as regulatory favors and investment resources (Fisman, 2001; Faccio, 2006). However, the existing literature has three gaps. First, although the literature sometimes distinguishes between different types and destinations of political ties (Johnson and Mitton, 2003; Leuz and Oberholzer-Gee, 2006), studies typically do not discuss how different types and destinations of ties will have different impacts in different political economic contexts. Second, the literature historically focused on descriptive arguments and/or industry and country studies (Bauer, Pool and Dexter, 1972; MacIntyre, 1994; Evans, 1995; Schneider, 1998; Wank, 2002), only recently beginning to examine the impact of connections between individual business leaders and political actors (e.g., Faccio, 2006; Siegel, 2007). Third, the literature most commonly focuses on business performance, with only limited examination of firms' underlying business strategies. This paper addresses these gaps by studying business diversification strategy in an emerging market economy, arguing that the relative strategic benefits of formal position interlocks and informal social ties to dominant political parties, government officials, and legislators change as a closed political economic context becomes more open.

Political connections are linkages between individual business leaders and political actors such as party leaders, senior government officials, and elected legislators (Fisman, 2001; Siegel, 2007). This definition reflects the idea in the social networks literature that interpersonal linkages can serve as conduits of resources and influence (Coleman, 1988; Granovetter, 1985), while recognizing the differences in destinations of ties driven by the heterogeneity of political actors (Lin, Vaughn, and Ensel, 1981; Knoke, 1990). Political ties may involve formal position interlocks in which business leaders serve as political actors (Faccio, 2006), or may involve informal social linkages between corporate leaders and friends, family, or classmates who hold political posts (Bertrand, Kramarz, Schoar, and Thesmar, 2004; Siegel, 2007). Political ties commonly create strategic benefits for connected

firms, where strategic benefits are resources that a firm can use to facilitate its business activities.

We argue that the strategic benefits of different types and destinations of political ties will vary in open and closed political economic systems, where open and closed systems differ in the extent of political and market liberalization that a country has undergone at a given time. We predict that formal position interlocks to political actors with direct influence on resource allocation, such as party leaders and senior government officials, will be particularly beneficial for business diversification in closed political economic systems, but that the benefits will decline as a political economic system becomes more open. In parallel, we argue that informal social ties to a wider range of political actors (including political actors with more indirect influence on resource allocation, such as elected legislators) will offer increasing benefits for business diversification as a political economic system becomes more open. The differences arise because of differences in tie accountability, diffusion of power, and public scrutiny in different political economic contexts.

The empirical analysis focuses on diversification by the 100 largest business groups in Taiwan between 1986 and 1998, before and during a period when the country underwent extensive economic and political liberalization. Business groups are firms that operate in multiple industries, which are linked to each other through financial, managerial, and operating interlocks (Granovetter, 2005; Khanna and Yafeh, 2007). The flagship firms in many industries in emerging economies are members of business groups, which collectively produce significant portions of national GDP and influence the direction of national development through their expansion choices (Khanna, 2000; Fisman and Khanna, 2004; Granovetter, 1995). Diversification by business groups is an important strategic activity that has a major impact on economic development in their countries. At the same time, group owners and business executives commonly have strong ties with political actors in their countries (Morck, Wolfenzon, and Yeung, 2005). This research design allows us to focus on

the impact of political ties on diversification strategy at different stages of political economic development within a country, thereby providing insights that are relevant to many countries that are undergoing structural changes in political and market institutions (Huntington, 1991; Sachs and Warner, 1995).

THEORETICAL BACKGROUND

The Significance of Business Diversification in Emerging Economies

Diversification is an important element of business strategy, with impact on both corporate evolution and social welfare. Firms diversify into new product markets for multiple reasons, including extending existing resources (Penrose, 1959; Montgomery, 1994), market expansion (Rumelt, 1974; Wernerfelt, 1984), and managerial empire building (Jensen and Meckling, 1976). Diversification – whether related or unrelated – can either improve or damage corporate performance in both developed (Montgomery and Singh, 1984) and developing economies (Khanna and Rivkin, 2001).

Beyond the corporate level, diversification by multi-business firms plays an important role in the mobilization and distribution of resources throughout a country, particularly during developmental stages. Economic theory and data show that the process of industrialization often causes developing countries to first broaden their industrial production base in order to mobilize resources, diversify risk, and provide greater consumption opportunities before the countries eventually specialize in order to take advantage of economies of scale (Acemoglu and Zilbibotti, 1997; Imbs and Wacziarg, 2003). Whereas industrial transformation in developed market economies is often led by new entrants (Mansfield, 1996), the absence of well-developed market institutions in many emerging economies implies that established firms are the primary actors with infrastructure available to mobilize financial, technical, and managerial resources needed to expand the industrial base in an emerging market (Khanna and Palepu, 1999). Hence, firm diversification often contributes to economic development in emerging economies (Leff, 1978; Amsden, 2001). Examples include Germany and England

in the 19th century, the U.S. and Scandinavia in the early 20th century, Japan in the mid-20th century, South and East Asian economies such as India, Korea, and Taiwan in the late 20th century, and Southeast Asian economies such as Malaysia in the 21st century.

Of course, diversification by established firms is not always positive for an economy. Ultimately, as an industrial base expands in an emerging economy, diversification activities of multi-business firms in emerging economies may also preempt use of scarce business resources such as capital, technology, and talent and thereby become counter-productive (Morck, Wolfenzon, and Yeung, 2005). Even during developmental periods, there is no assurance that diversification by a given firm will create economic benefits because of factors ranging from firm-level idiosyncrasies to government policies to industry infrastructure (Mahmood and Mitchell, 2004). We seek to shed light on how different forms of political ties facilitate diversification strategy in different political economic contexts, as a step towards providing a deeper understanding of how business entities create and manage resources at different stages of institutional development.

Diversification Benefits from Political Ties in Closed and Open Institutional Contexts

Political ties often provide firms with preferred access to legal support, financial resources, and other strategic benefits. We refer to *diversification benefits* as strategic benefits that allow a firm to increase its diversification from one period to the next.

Political ties offer strategic benefits generally, and diversification benefits in particular, in both closed and open political economic contexts. Relatively *closed economies* are countries in which heavy regulations on business entry and other forms of economic activity are abundant (e.g., the Soviet Union until the 1990s and Cuba today), while *open economies* are countries with only limited regulatory constraints on business activity (e.g., the U.S., the U.K., and Chile today) (Sachs and Warner, 1995). In parallel with closed and open economies, *closed polities* are countries in which there is a single dominant party and/or ruler (e.g., the Communist Party in Soviet Union before the 1990s, the PRI in Mexico for much of the 20th

century) that has overwhelming power in the political system and suppresses political competition (Almond and Powell, 2004). By contrast, an *open polity* is one in which two or more political parties actively vie for electoral success, such as the United States, Korea, and Taiwan today (Almond and Powell, 2004). Although open versus closed is a matter of degree rather than a dichotomy, we will discuss polar cases in order to highlight their characteristics. The following discussion addresses polities and economies separately, because economic and political liberalization can occur concurrently or at different rates in a particular country.

First, consider diversification benefits of political ties in closed economies and more open economies. Political ties facilitate business diversification in closed economies. In such economies, ties to powerful political actors offer businesses access to privileged resources such as information, government contracts, bank loans (Khwaja and Mian, 2005), favorable regulatory conditions such as entry permits (Agrawal and Knoeber, 2001), and technology that firms can use to pursue new business opportunities (Amsden and Hikino, 1994; Peng, Lee and Wang, 2005). Kock and Guillen (2001) suggest that multi-business firms in emerging economies seek to link to domestic regulators for resources and permits, thus shaping diversification patterns in tightly controlled environments.

Political ties continue to have value for diversification as an economy becomes more open, even as regulatory constraints decline and competitive forces increase. In transitional economies, the state will continue to have information, resources, administrative privileges, and favors to distribute when state enterprises and monopoly industries start to open to competition, because there is often a time lag between the removal of red tape and the establishment of efficient market institutions (Ghemawat and Khanna, 1998). For example, a well-functioning financial market needs rating agencies, financial press, investment banks, and venture capitalists, all of which require an effective legal system and transparent political environment – institutions which often take time to develop (Khanna and Palepu, 1999). Therefore, political ties often assist business strategy in closed and more open economic

stages. Indeed, political networks create conduits for resources even in well-established market economies, in which access to information, financial investments, and regulatory favors continue to be valuable (Bauer, Pool, and Dexter, 1972; Geletkanycz and Hambrick, 1997). Research on political action committees in the U.S., for instance, demonstrates their impact on political decisions that support business strategy (Burris, 2001; Clawson, Neustadtl, and Scott, 1993).

Now turn to the diversification benefits of political ties in closed and open political systems. In a closed political system, centralization of political power means that a dominant party and key appointed officials act as the dispensers of resources necessary for critical business activities such as diversification. Examples include Golkar in Suharto's Indonesia, UMNO (United Malays' National Organization) under Mahathir's Malaysia, and the KMT (Kuomintang) during Chiang's Taiwan. Qualitative evidence indicates that political parties played important roles in shaping which companies were able to grow and diversify (Friedland, 1990; Johnson and Mitton, 2003).

Under a more open political system, with multiple parties and general elections, actors throughout the political structure often seek resources from businesses and, in turn, influence the flow of resources that businesses can use for diversification and other business strategy. Leaders of large businesses often become highly sought-after patrons for political parties due to the many potential voters (e.g., employees, subcontractors, customers) they can mobilize as well as the large amount of cash they can contribute (Hillman, 1999; Hillman and Hitt, 1999; Morck and Yeung, 2004); in turn, the parties can provide resources that support the continued growth of the businesses. Rose-Ackerman (1999) found that state-business relationships based on patronage increased rather than declined in countries such as Russia after democratization and deregulation began to take place, due to the growth in pluralistic political power and electoral systems. In Taiwan, meanwhile, Cheng and Chu (2002:196) found that "the KMT party and many leading business groups began to cement an alliance for

mutual benefits" after political liberalization began to take hold in the late 1980s and early 1990s.

Thus, political ties can provide resources that support business diversification in varied political economic systems. Nonetheless, predicting how particular political ties will influence business strategy in different political economic contexts requires unpacking the effects of different types of ties with different political actors.

Types and Destinations of Political Ties

The social network literature highlights the distinction between formal position interlocks and informal social relationships (Mizruchi, 1996; Uzzi, 1997; Lin, 2001). Formal position interlocks arise when the same person occupies two distinct positions, thereby creating a linkage between different domains. An example would be a major corporate shareholder who is also a central figure of the dominant political party or government. In Taiwan, for instance, Koo Chenfu, the chairman of the China Trust Group, was a member of KMT Central Standing Committee during Chiang Kaishek's presidency. In Italy, as another example, Silvio Berlusconi, who held office as prime minister from 1994-1995 and 2001-2006, at the same time owned a media empire including three nationwide commercial television stations, a prominent newspaper, and Italy's largest publishing company.

By contrast, informal social ties are based on face-to-face interactions involving *different* people (Adler and Kwon, 2002). An informal political tie in our setting would be a friendship between a corporate leader and a leading political figure, such as the friendship between Koo Chenfu and Li Denghui (the fourth KMT President of Taiwan) through a golf club. An example in the U.S. would be the friendship between former President Bill Clinton and Vernon Jordan, who served as a board member on about a dozen Fortune 500 companies.

Social network studies suggest that formal position interlocks and informal social ties have different advantages and disadvantages (Granovetter, 1985; Coleman, 1988; Uzzi, 1996; Adler and Kwon, 2002). From the point of view of the business leader, the main advantage of

position interlocks over informal social ties is that the interlocks provide greater *tie accountability*, by limiting principle-agent conflict. Accountability is the degree to which political actors can be held responsible for their actions (Almond and Powell, 2004); in our context, tie accountability is the degree to which business executives can ensure that political actors will fulfill their agreements. With position interlocks, there is no principal-agent problem between the business executive and political actor because the principal (corporate executive) and the agent (politician) are the same person. Agreements made via social ties, by contrast, are more difficult to enforce. Informal social ties typically need to be regularly updated through gift or favor exchanges, as well as via face-to-face interactions such as banquets and weddings (Yang, 1994; Uzzi, 1997), which may create ambiguity, disagreement, and conflict. Hence, the actors involved in social ties may find it difficult to hold each other accountable.

By contrast, the main benefit of informal social ties is that they are more inconspicuous than formal position interlocks (Adler and Kwon, 2002). The unobtrusiveness makes it more difficult for actors who are concerned about potential biases in resource allocation, such as the public media and market analysts, to track the existence and impact of political ties. Hence, informal social ties tend to face less public scrutiny from the media and other observers than formal position interlocks.

In addition to types of ties, the social network literature suggests a further distinction based on destinations of ties, due to the different resources and power that the connectors carry (Lin, Vaughn, and Ensel, 1981; Lin, 2001). In the context of political ties, it is useful to contrast destinations that have direct influence on resources flows with actors that have more indirect influence. Political actors with direct influence include leaders of the dominant party and senior government officials, while actors with indirect influence include legislators in national and local assemblies. Party leaders in the dominant political party have direct influence on resource allocation because they set agendas concerning the development and

implementation of regulatory frameworks that facilitate or inhibit diversification. Senior government officials also have direct influence on resource allocation because they make day-to-day decisions about awarding licenses, investment credits, and other benefits (Pye, 1997). By contrast, legislators have more indirect influence on resource allocation through their activities in shaping laws, regulations, and financial benefits (Pross, 1985). In turn, the strategic benefits of different destinations of ties will depend upon the diffusion of power among different political actors, where diffusion of power is the degree to which different actors can influence key decisions such as bestowing political resources (Strange, 1996), which will vary by institutional context.

DIVERSIFICATION BENEFITS IN DIFFERENT POLITICAL ECONOMIC CONTEXTS

The previous section suggests that the strategic benefits of specific types of political ties depend on the level of tie accountability of political actors and the level of public scrutiny that political ties are subject to, while the strategic benefits of specific destinations of ties depend on the degree of diffusion of power among political actors. This section predicts that these factors will lead to variation in the diversification benefits of particular types and destinations of political ties in different political economic contexts.

The predictions compare contexts in which both political and economic systems are closed (e.g., Taiwan under Chiang Kaishek's KMT through the mid-1980s, and the Communist Party in the Soviet Union of the 1970s) to contexts that have undergone substantial transition to active multi-party states with more open economies (e.g., Korea and Taiwan today). We refer to countries with closed political systems and economies as *closed political economic systems*, and countries with active multi-party states and more open economies as *open political economic systems*. We will discuss the implications of off-diagonal cases (open polities with closed economies, or closed polities with open economies) later in the paper.

Diversification Benefits of Formal Position Interlocks in Closed Political Economies

We first argue that diversification benefits in closed political economic systems primarily arise from formal position interlocks with party leaders and senior government officials, who directly influence resource allocation. The prediction stems from concentrated power among political actors, limited tie accountability of political actors, and limited public scrutiny of political ties.

Diffusion of power influences which tie destinations offer strategic benefits. Control over resource allocation is relatively concentrated in closed political economic systems. In closed polities and closed economies, leaders of the dominant party and senior government officials typically have primary control over laws, regulations, investment decisions, and other key resources that would support business diversification and other strategy (Johnson and Mitton, 2003)**.** By contrast, legislators tend to be weak in authoritarian regimes and closed economies. In closed polities, legislators commonly serve at the discretion of the ruling party, while legislators in closed economies typically have only limited influence on the major decisions that influence regulated industries.

Thus, concentrated power in closed political economic contexts means that the primary strategic benefits of political ties stem from the ruling political party and senior government officials, who have direct influence on resource allocation. Relevant examples include Golkar in Indonesia, the Communist Party in the Soviet Union, and the KMT in pre-liberalization Taiwan.

In turn, the degree of tie accountability and public scrutiny influences which types of ties offer greatest strategic benefits. We begin by considering tie accountability.

In closed political economic contexts, political actors face only limited accountability to follow through on their promises to business actors who seek favors. In closed polities, business leaders who do not receive promised resources have few remedies: they cannot switch political alliances, nor can they rely on the courts to enforce agreements (even if they

were willing to make the agreement public) because dominant political actors typically control or co-opt the legal system (O'Donnell, 1999). In closed economies, meanwhile, political actors face limited tie accountability in their promises to allocate business resources because their tight control of the economic environment means that business leaders have few immediate economic alternatives if the political actors renege. In India in the 1960s, for instance, business leaders in regulated industries had few options for reinvestment or alternative strategies if senior government officials or current party leaders changed their policies. Because of the limited tie accountability in closed political economic contexts, businesses that seek strategic resources from political sources will find greater reliability from formal position interlocks than from informal social ties.

Now consider the role of public scrutiny. Active public scrutiny helps hold politicians accountable to the broader civil society, rather than to their ties with individual business leaders or other partners (Smulovitz and Pruzzotti, 2006). Civil society often views business-government ties as illegitimate or illegal, so that the public scrutiny of highly visible position interlocks will be politically damaging (Besley and Burgess, 2001). Limits on public scrutiny in closed political economic contexts, therefore, will reduce the political costs that can arise from publicity about formal position interlocks and will reinforce the value of formal position interlocks.

Public scrutiny in closed political economic contexts faces several constraints. The lack of active public media in closed polities means that there is little public discussion of even seemingly-obvious position interlocks between business leaders and political actors. A lack of free press may mean that the general public is not even aware of the ties that exist between government officials and business leaders. Furthermore, authoritarian regimes often have comprehensive control and/or surveillance of social organizations and interest groups in civil society. This inhibits the development of shareholder activism, which demands information disclosure and transparency in firm governance but can take place only with the

presence of autonomous and independent social organizations, such as the People's Solidarity for Participatory Democracy (PSPD) in Korea (Rho, 2006). Closed economies, meanwhile, may have a public press, but commonly lack other forms of public scrutiny such as active market analysts and financial press (Khanna and Palepu, 1999). In closed political economic contexts, therefore, formal position interlocks both offer the benefits of greater tie accountability and incur only limited costs of public scrutiny.

The combination of concentrated power, limited tie accountability, and limited public scrutiny in closed political economic contexts provides the logic for the first hypothesis.

> **Hypothesis 1**. The more closed a country's political economic system, the greater the diversification benefits that a firm gains from formal position interlocks with the ruling political party and government officials relative to either formal position interlocks with legislators or informal social ties with any type of political actor.

Reduced Benefits of Formal Position Interlocks in Open Political Economies

We next argue that the diversification benefits of formal position interlocks with the ruling party and government officials will decline as a political economic system becomes more open. The change occurs because increases in public scrutiny will reduce the strategic benefits of formal position interlocks. Public scrutiny in open polities increases due to retreat of political control of mass media (Almond and Powell, 2004), while scrutiny increases in open economies due to increased presence of financial press, market analysts, rating agencies, accounting firms, and shareholder activitism groups that facilitate information disclosure about corporate governance (Khanna and Palepu, 2000a).

In a liberalized society, public media highlight business-government connections to a much greater extent than in closed polities. In Taiwan, for instance, there were few newspaper reports or studies about political ties before 1986, when Taiwan was under the control of Chiang Kaishek and his son Chiang Ching-Kuo. After democratization, by contrast, reports and studies flourished. Headlines such “Business Ties of the Parliament Members” and “The Family and Relatives of the President” appeared in major mass media (Business Weekly,

December 1992: 24-52; Chen, 1999).

Public scrutiny will often deter power holders and business leaders from leveraging position interlocks that would provide easy targets for criticism (Besley and Burgess, 2001). As Leuz and Oberholzer-Gee (2006: 416) point out, "High levels of transparency and public attention may be difficult to reconcile with political favors of often dubious legality." Even when interlocks exist, actors will tend to limit the advantage they take from these ties due to the costs of illegitimacy and public sanction. The existence of a more independent legal system increases the possibility of paying a high price for attempting to leverage position interlocks. Fisman, Fisman, Galef, and Khurana (2006), for instance, find no evidence that businesses connected to U.S. Vice President Dick Cheney have benefited from their ties, and speculate that the lack of benefits stems from the visibility of the ties. Thus, the strategic benefits of formal position interlocks will decline in open political economic contexts.

> **Hypothesis 2**. The diversification benefits that a firm gains from formal position interlocks with the ruling political party and government officials will decline as a country's political economic system becomes more open.

While we expect the diversification benefits of formal position interlocks to decline as the institutional context becomes more open, we leave the issue of whether any benefit remains as an empirical question. Formal ties might still offer some value, especially in an emerging market context that retains limits to transparency.

Increased Benefits of Informal Social Ties in Open Political Economies

Finally, we argue that the diversification benefits of informal social ties with multiple political actors will increase as a country's political economic system becomes more open. Greater tie accountability and increased diffusion of power among political actors drive this change.

Politicians in open polities and economies incur greater tie accountability for their commitments to business actors because business actors have more options to support rival politicians (Morck and Yeung, 2004). General elections, competition for contributions, and

competition among different locations for business activities make politicians more accountable to the interests of the business with whom they have ties. The more balanced power relationship between state and business reduces the agency costs embedded in informal social relationships, which in turn increases the strategic benefits of informal social ties in open political economic contexts.

Increased public scrutiny of political ties plays an indirect role here, because the greater tie accountability allows the actors to take advantage of the lower public scrutiny that informal social ties face. Because it is more difficult and costly to trace and locate hard evidence for social ties than position interlocks, increased prevalence of public scrutiny in open political economic systems increases the relative value of informal social ties.

Finally, political power tends to diffuse more broadly in open political economic contexts, which increases the range of political actors who can confer strategic benefits. Huntington (1991) notes that the locus of political power often moves from a dominant political party in a closed system to a more heterogeneous set of national and local political bodies in a pluralistic system. Diffusion of power also occurs when an economy becomes more open, because economic deregulation opens previously-monopolized industries and different kinds of firms carve out different niches in the newly-emerged industries (Carroll and Hannan, 2000). In turn, new laws and regulations that govern economic transactions emerge, creating new power for the wide range of legislators and other political actors who are responsible for initiating rules. Thus, although party officials and senior administrators may still be influential, they are no longer the sole power source in an open economy. In China today, for instance, national and local legislators have substantial impact on investments and laws that support corporate expansion in the country.

This shift of power in more open polities and economies means that political ties with a greater range of political actors offer strategic benefits. Although which specific actors will carry the most power will vary depending on the context, the core point is that, in a pluralistic

political economic context, a wider range of destinations will offer strategic benefits than in more closed state.

Hence, the value of informal social ties will increase in open political economic contexts because of the greater ability to hold political actors accountable, while the range of actors who can allocate strategic benefits will increase.

> **Hypothesis 3**. The diversification benefits that a firm gains from informal social ties with multiple political actors will increase as a country's political economic system becomes more open.

The predictions reflect the argument that political openness and economic openness will reinforce each other, so that the change in the diversification benefits of formal position interlocks and informal social ties will be particularly marked in countries that are either open or closed on both dimensions. Nonetheless, the logic of the argument suggests that the effects of increased openness will be at least moderately influential in a country that becomes more open economically while remaining politically closed (e.g., China in the 2000s) or a country that becomes more open politically while remaining economically closed (e.g., India before the 1990s). The locus of power might differ in the off-diagonal cases, however, with the ruling political party having greatest power in the closed polity-open economy case (e.g., China) and senior bureaucrats having the greatest power in the open polity-closed economy case (e.g., India in the 1960s or Japan until recently).

We will test the hypotheses in a context in which a country has undertaken substantial though still incomplete transition to an open political economic context (Taiwan in the 1990s). We believe that the logic of hypotheses 2 and 3 is also valid in countries with even more widely open political economic systems, such as the U.S. or Western European countries. An empirical question for our analysis concerns whether informal social ties provided greater absolute benefit than formal position interlocks in Taiwan's stage of political economic openness in the 1990s.

INSTITUTIONAL TRANSITION AND POLITICAL CONNECTIONS IN TAIWAN

Using Taiwanese business groups and their political ties and diversification in the 1980s and 1990s as our research setting has three strengths. First, Taiwanese business groups have undertaken extensive diversification, triggered by the economic growth of the country since the 1970s (Chung and Mahmood, 2006). Second, ties between Taiwanese business groups and the Nationalist Party regime (KMT) are common (Fields, 1995). Kang (2002) suggests that Taiwan is an example of crony capitalism, featuring vote buying and outspread clientism, which may arise from the fact that the social-political structure in Taiwan is characterized by low trust (Fukuyama, 1995) and hence networking activities occur in both political and business arenas (Peng, 2003). Incomplete market transparency also contributes to the abundance of ties, as there are no regulations about ownership and directorship of private enterprises by political party leaders or parliament members (Faccio, 2006: Table III). Third, Taiwan experienced large-scale political democratization and economic liberalizations during the late 1980s and early 1990s, which scholars labeled the *Great Transition* (Tien, 1989). The frequency of ties together with the large-scale transition makes Taiwan an ideal setting in which to study how institutional contexts shape the strategic benefits of political ties.

The KMT Nationalist Party dominated Taiwan's politics and economy from its retreat from Mainland China in 1949 until 1987 (Gold, 1985; Wade, 1990). Before the transition, Taiwan's government was authoritarian, sometimes described as quasi-Leninist (Cheng, 1989). Indeed, for almost 40 years, Taiwan was under martial law, with only the KMT permitted to participate as a political party. Parliament members were selected by the KMT, rather than being elected by local voters; the KMT also appointed government and military officials. State agencies functioned as executive arms of the KMT, while the parliament served as a low-powered agency that lent the state agencies legitimacy. During this authoritarian period, the relationship between business groups and the political regime was

mainly top-down and co-optive. In order to gain support from large business groups, the KMT regime strategically allocated well-linked groups with entry permits to oligopolistic or monopolistic industries. Business groups had little leverage to play against the KMT and needed to cultivate and maintain good relationships with the regime (Chung, 2006).

The year 1987 marked the beginning of the evolution of Taiwan's political and economic institutions. Martial law was lifted in 1987, and new political parties, labor protests, and private mass media were allowed. The death of President Chiang Ching-Kuo in 1988 reduced the cohesion of the central leadership of KMT and expedited the pace of democratization. The establishment of the major opposition party, the Democratic Progressive Party (DPP), intensified the competition in political elections. On the economic side, deregulations of the legal framework also occurred within a short period (Pistor and Wellons, 1998). Cheng and Chu (2002) estimate that the Taiwanese state introduced more deregulatory measures in the five years between 1988 and 1993 than in the previous two decades. The changes led to deregulation of many monopolized industries and privatization of state enterprises. Large-scale reductions of import control and tariffs also occurred, as well as liberalization for foreign investment, bank interest rates, and exchange rates. Table 1 lists the indicators of political and economic changes before and after the transition.

********** **Table 1 about here** **********

Taiwan also underwent substantial changes in market monitoring during the 1990s. Before 1990, no foreign equity analysts followed Taiwanese companies. The number then grew to 46 in 1994 and 138 in 1998 (Nelson's Directory of Investment Research). In addition, independent credit rating agencies became established during the late 1990s (http://www.taiwanratings.com/tw/).

Even though the KMT remained the largest political party until the 2000s, the party faced strong challenges from the DPP after democratization took hold during the 1990s. In response, the KMT sought suggestions, donations, and votes from business groups to help

retain its position. In the process, the relationship between business groups and KMT turned from top-down co-optation to a more balanced partnership. The opening up of parliamentary elections also contributed to business groups' leverage. Large conglomerates could now send delegates into parliament to defend their interests and no longer relied as directly on KMT. This change became especially strong after 1993, the first year when all members of parliament were directly elected. Due to the pressures from their supporters, legislators could now sometimes act independently of party discipline and exert strong pressures on government officials. Also due to the pressure from the DPP, government agencies became decoupled from the operations of the KMT and could act with greater neutrality. Figure 1 depicts the changes of power relationships among the major political players and between the players and business groups before and after the 1987-1988 transition.

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

DATA, MEASURES, AND METHODS

Political connections

We discuss three issues that arise in identifying political connections. First, determining a valid and reliable measure of a firm's political connection is a challenging task. Some studies adopt indirect approaches by using subject rating, indexes, and reports collected by other agencies. For example, Fisman (2001) employed the *Suharto Dependency Index* developed by a consulting firm in Jakarta. This index draws on subjective assessments of top consultants and ranges from one (least dependent) to five (most dependent). Other studies search for associations of backgrounds between major stakeholders of the firm and key political figures (see Useem, 1984; Siegel, 2007). For example, Bertrand, Kramarz, Schoar, and Thesmar (2004) trace educational background and working experience of French CEOs and suggest that CEOs who went through specific elite schools and had working experience in the civil service will have social, political, and ideological connections with political elites. Interpersonal ties are fluid, however, and often extend across different associations or

geographical boundaries. As a result, the indirect and background approaches may miss many ties.

This paper adopts a more direct approach that locates specific ties between business executives and politicians. Our approach is similar to Faccio (2006), who used publicly-available sources to identify political connections and found that large shareholders and top officials have substantial relationships with parliament members and governmental ministers in many countries. We were able to obtain access to a wider set of sources than Faccio's study.

The second issue is that almost all existing studies have adopted synchronized research designs, examining only political connections and firm strategy within the same time period. This approach does not allow one to examine potential endogeneity and reverse causality in diversification and political ties. Instead, one needs to collect longitudinal data. We collected ties and diversification data for three time periods (1986, 1990, and 1994), plus additional diversification data for 1998, so that they study extends across pre-transition and post-transition contexts in Taiwan. The major data source is a series of trade directories called *Business Groups in Taiwan* (BGT), as the appendix describes in more depth. Although the BGT directory is published every two years, we used a four-year lag between measuring ties both for coding efficiency and to allow sufficient time for us to observe changes in connections.

Third, most studies use single firms as the unit of analysis, while noting the fact that many firms in emerging economies are group members that follow group-influenced strategies. While some studies include a dummy variable to control for group effects (Fisman, 2001; Leuz and Oberholzer-Gee, 2006), no large-scale empirical test uses the group as the research unit, largely because group-level information is difficult to identify and collect (Khanna and Yafeh, 2007). Using a database with key stakeholders of every member firm in the group (including private and public group affiliates), we are able to code group-level political connections and analyze their effects on group diversification.

We collected information of formal position interlocks and informal social ties between business groups and the political regime. For the business group sample, we included the largest 100 groups based on sales. Due to slight variation in data collection in different years in our data source, we have information for 97 groups in 1986, 101 groups in 1990, 115 groups in 1994, and 100 groups in 1998. The combined sales of these groups constitute 30 to 40 percent of national GDP in these periods (Chung and Mahmood, 2006).

For formal position interlocks, we have data on key position holders in business groups and the political circle (the Appendix provides details of data sources and coding). We then cross-checked the names of business groups with the names in the major political institutions to identify position interlocks. Social ties are family, friendship, and regional relationships between group executives and political figures. By examining social structure and the principles of how political ties operate in Taiwan (Hsu, 1991), we identified and coded three major types of social ties: (1) family-intermarriage ties, (2) close friend/same-hometown ties, and (3) trade associations/social clubs membership.

Measures: Connections, Diversification, and Control Variables

We use the number of ties between a group and the political regime in 1986, 1990, and 1994 as our measure of political connections. We distinguished between formal and informal connections.

We used the number of 2-digit SIC (SIC 2) codes as our primary measure for group diversification. SIC 2 is primarily a measure of unrelated diversification. We found similar results in sensitivity analysis when we used an entropy measure of total diversification (Palepu, 1985). There was little related diversification during the period, based on an entropy measure of related diversification (Chung and Mahmood, 2006), so that it was not useful to distinguish between related and unrelated diversification. Indeed, Amsden and Hikino (1994) argue that unrelated diversification is the primary form of diversification in an emerging economy, because firms lack the proprietary technology needed to diversify around a core

technology. Following Khanna and Palepu (2000b), we constructed group level diversification according to the product information of each member firm. We measured diversification in 1986, 1990, 1994, and 1998.

Unlike most U.S. data, there is no ready-to-use industry coding in the BGT directory (see Appendix). The directory did not provide a digital format until 2000. Therefore, we examined the paper directory and manually assigned an industry code to each of the member firms. We employed the Standard Industrial Classification codes published by Taiwanese government in 1996, which include 66 industries at the 2-digit level and 667 industries at the 4-digit level. We then calculated group level entropy by aggregating firm sales at the 2-digit and 4-digit levels.

Following previous studies (Khanna and Palepu, 2000b), we controlled for a set of group characteristics that may also affect the diversification activities of the group: Group age, group size, group profitability, group liability, and group main industry. We used the year when the first member firm was established as the birth of the business group. We measured size by logged total assets, adjusted by the 1996 consumer price index (Taiwan Statistical Data Book, 2000: 179). We measured profitability as return-on assets and liability as the ratio of debt to net worth. We also controlled for the main industry of the group across 13 industries: Agriculture, food, textile, wood, chemical, non-metallic, metals, machinery, electrical/electronic, construction, retailing, real estate and financial services, and other services. The industry with the largest proportion of group sales was coded as the major business line. On average, the major business line contributed 56 % of group sales. We coded the group characteristics from the BGT directories in relevant years.

Unobservable group-specific factors might correlate with a group's diversification activities and political ties. The lack of a set of proprietary technologies might lead to greater incentives for groups to forge more ties with political authorities, for instance, which may also create incentive for groups to diversify in order to reduce group-specific risk (Amsden

and Hikino, 1994). Family stakes in ownership may also increase diversification in order to reduce concentration of family assets in one industry. At the same time, family ownership may also drive the group to build and maintain ties to political power to ensure the longevity of family fortune (Morck and Yeung, 2004). We addressed such unobserved heterogeneity by using sector dummies (five sectors that aggregated related industries; see notes in Table 1a) and creating fixed-effects dummy variables for each business group.

Model specification

We used the following baseline specification to test the relation between group diversification and political connections:

$$\textit{Change of Diversification}_t^{t+1} = \beta + \beta_1 \textit{ (a vector of political connection variables)}_t + \beta_2 \textit{ (a vector of group characteristic variables)}_t + \beta_3 \textit{ (sector dummies)} + \beta_4 \textit{ (group dummies)} + \beta_5 \textit{ (year dummies)} + \varepsilon$$

We measured change of diversification as the difference of diversification of the same group between the current year and four years later. For example, we use the independent variables in 1994 to estimate the change of diversification between 1994 and 1998. Four years provides sufficient time in which to observe changes, while matching the four-year difference in our measures of political ties.

Table 2 reports summary statistics and correlations. The table shows that social ties are more numerous than position interlocks (mean = 4.87 versus 0.59), while social ties to the KMT and administrators accounted were most common. [1]

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

A0NALYSIS

Descriptive Statistics

We first distinguish politically-connected groups from unconnected groups, and compare their organizational features and industrial distribution. Starting from formal position interlocks, Table 3 shows that about 30% of the groups had interlock connections. The ratio is significantly higher than the 0.84% (out of 237 listed Taiwanese companies)

reported by Faccio (2006), likely due to different units of analysis (business groups vs. listed firms) and comprehensiveness of our data sources. Formally connected groups are older and larger than unconnected groups, consistent with previous studies (Agrawal and Knoeber, 2001; Johnson and Mitton, 2003; Faccio, 2006). Formally connected groups also have only slightly superior financial profile (i.e., return-on-assets and liability/assets) which is in line with the inconclusive evidence presented in existing studies regarding political ties and firm financial returns (Bertrand, Kramarz, Schoar, and Thesmar, 2004).

********** **Tables 3 about here** **********

In terms of industrial participation, formally connected groups tend to be less common in traditional sectors, such as the food, textile, wood, chemical, and non-metallic industries (Sector 1). This sector was the first set of industries that took off in Taiwan's industrialization during the 1960s. By contrast, formally connected groups are heavily-represented in the financial sector (Sector 3), in which government license and contracts, bank loans, and market information are essential. Most importantly, both the measures of number of 2-digit SIC codes and total entropy show that formally connected groups are significantly more diversified than non-connected groups. Formally connected groups on average participated in about three more 2-digit industries than non-connected groups.

The results for informal political ties in Table 3 are similar to the patterns of formal position interlock. Socially connected groups tend to be older, larger, and more diversified. This consistency is notable given that 75 percent of the groups are socially-linked to the political regime, as compared to the 30 percent of groups that have formal position interlocks.

Contingencies of Ties: Effects of Different Types and Destinations in Different Contexts

Table 4a reports the effects of political ties on 2-digit SIC diversification by reporting how the effects of position interlocks and social ties vary across (1) the number of ties to the KMT, (2) the number of ties to government officials, and (3) the number of ties to legislators. (The entropy measure of diversification produced similar results).

********** Table 4a about here **********

We use OLS with robust standard errors to guard against potential heteroscedasticity. In light of the correlations among different destinations of social ties, we estimate the contingency of ties by including both interlock and social ties to a specific destination (example, ties to the KMT) in the same model, while specifying different models for different destinations. The analysis pools the data for 1986, 1990, and 1994 to increase the degrees of freedom and to enable us to use dummies to control for group-specific fixed effects.

Table 4a reports initial estimates of how political ties influence per-period growth in diversification. Columns 1a and 1b in Table 4 report the results for KMT ties; column 1a provides the baseline model, while column 1b reports the interaction effects between KMT ties and period dummies. Similarly, columns 2a and 2b report the results for the ties to officials, while columns 3a and 3b report the results for the legislator ties.

Four initial results stand out in Table 4a. First, formal position interlocks with the KMT contributed to diversification, with greatest impact during the pre-liberalization period (column 1b). Moreover, position interlocks with the KMT have a moderately significant positive main effect, as well as their interaction with the pre-liberalization dummy, which suggests that the KMT continued to function as a dispenser of resources even during the post-liberalization period, although the impact was greatest before liberalization. Second, position interlocks with government officials also provided at least moderate benefits during the pre-liberalization period (column 2b). Third, position interlocks with legislators provided benefits throughout the study period (column 3b), which suggests that business leaders who functioned directly as legislators were able to dispense at least a moderate degree of resources for their groups. Fourth, informal social ties with all three destinations provide greatest benefits after liberalization (columns 1b, 2b, and 3b).

Table 4b then reports statistical comparisons of coefficients from Table 4a to test the hypotheses. The results strongly support Hypothesis 1, based on difference-between-means t-

tests across the fully specified models in columns 1b, 2b, and 3b of Table 4a (Miner, Amburgey, and Stearns, 1990; xxWonnacott and Wonnacott, 1977: 214). The t-tests compare the net effect of pre-liberalization formal political ties with the KMT (i.e., the coefficient for the baseline effect of position interlocks plus the coefficient for the incremental effect of the pre-liberalization period: cell A1 of Table 4b) and officials (cell A2) to the net effect of pre-liberalization position interlocks with legislators (cell A3), as well as the net effect of pre-liberalization informal social ties with each of the three destinations (cells B1, B2, and B3). All eight comparisons are highly significant (A1 v. A3 through A2 v. B3, $p<0.01$). Thus, as expected, during the pre-liberalization period, position interlocks with the KMT or with senior officials had far greater impact on diversification than other ties.

************ Table 4b about here ************

The results in Table 4b also support Hypothesis 2, concerning the declining benefits of formal position interlocks with the KMT and senior officials as a political economic context becomes more open, although with mixed statistical significance. These tests use F-statistics that compare the fit of a model that constrains the values of each pair of coefficients to be equal to the fit of a model that allows the coefficients to vary. For both the KMT and officials, the coefficient values decline substantially from pre-liberalization to post-liberalization periods, as expected (rows C and D of Table 4b), but only the KMT comparison is statistically significant at conventional levels (C1 v. D1, $p<0.01$). The statistical test for the decline in the value of formal position interlocks with officials is substantially less significant (C2 v. D2, $p<0.16$), owing to the substantial standard error on the pre-liberalization coefficient (see Table 4a).[2]

Finally, Table 4b offers strong support for Hypothesis 3, concerning the increasing value of informal social ties with all destinations as the political economic context becomes more open. These tests also use F-statistics. In each of the three destinations, informal social ties generate greater benefits during the post-liberalization period than during the pre-

liberalization period (E1 v. F1, $p<0.05$; E2 v. F2 & E3 v. F3, $p< 0.01$). Thus, as expected, informal social ties confer increasing strategic benefits as the institutional context becomes more open.

Several control variables in Table 4a warrant comment. First, the post-liberalization dummy for 1994 has a positive impact on diversification in the three baseline models, suggesting that many groups were able to take advantage of expansion opportunities once the economy and polity became more open. Nonetheless, the effect becomes insignificant in columns 1b and 2b, suggesting that the post-liberalization effect primarily arises for groups with extensive informal social ties (because informal social ties had the strongest effect on post-liberalization diversification in the fully-specified models). Moreover, the test of hypothesis 2 demonstrates that political connections have substantial value in the more open era, rather than being made irrelevant by the liberalization. Second, group age and size have no influence beyond those that are controlled by group-specific fixed effects. Third, group profitability (ROA) is moderately positive, with significance in most models. Fourth, highly diversified groups undertake less subsequent diversification.

Sensitivity Analysis and Robustness Checks

Sensitivity analysis examined two other controls. First, as a control for a groups' access to proprietary technology, which may serve as a substitute for the resources that political ties provide, we examined the number of Taiwanese patents a group owned. Second, we added a variable for insider ownership, which might affect both political tie building and diversification (Morck and Yeung, 2004), measured by the share of group ownership held by the controlling family as well as group affiliates that the family directly or indirectly controlled. Both variables were insignificant.

The evidence so far shows strong association between political connections and group diversification. However, there arises a question concerning the possibility of reverse causality and, more generally, unobserved heterogeneity, because it is also possible that

diversification leads to establishment of political ties. For example, the need for resources such as capital, information, talent, technology, and government privileges when firms expand into new industrial sectors could drive the firms to build political connections (Hillman, Keim, and Schuler, 2004). Moreover, politicians may perceive diversified business groups as more desirable parties with which to build relationships. Morck and Yeung (2004) suggest that ties between corporate and political elites can be viewed as games. Multiple simultaneous games induce trust between the two parties and make cooperative outcomes more likely and stable. The more diversified a business group, the more likely the group will interact with politicians in different settings simultaneously; if either of the parties breaks faith in one setting, the betrayed party may punish it in other settings. Previous studies address the causality issue by arguing that most ties are pre-determined because they relate to family and kinship, with long history (Johnson and Mitton, 2003). Other studies have used instrumental variables to address this concern (Leuz and Oberholzer-Gee, 2006). In our study, the availability of panel data allows us to use fixed effects models to address such issues of unobserved heterogeneity, as we described earlier.

Nonetheless, the basic fixed-effects approach is a single-equation analysis. When the variable of interest is endogenous, as it might be in the case of political ties, a second equation needs to specify the determinants of a group's propensity to form political ties. Therefore, we used two standard econometric approaches for estimating systems of equations, the instrumental variable approach and the Heckman's two-step sample selection model (see appendices 2a and 2b). The results were similar to Table 4a, although sometimes with slightly lower statistical significance in the instrumental variables approach owing to reduced degrees of freedom in the fixed effects analysis.

We also plotted diversification and the number of ties over time, to ensure that the apparent relationship between informal social ties and increased diversification during the liberalization period did not arise from common time trends (in spite of the controls for time

that we included in the regressions). The mean number of informal social ties per group was similar in 1986, 1990, and 1994, even as diversification increased, demonstrating that the statistical results do not reflect a spurious relationship between informal social ties and increased diversification over time.

Finally, we assessed possible correlations among repeated observations, in two ways. First, we clustered years within groups. Second, because groups operating in the same industry face similar policy exposures and external changes, we clustered groups within industries. In both cases, the results were materially equivalent to those in Table 4a.

DISCUSSION AND CONCLUSION

Our research is motivated by the need to examine how different types and destinations of political ties influence business strategy in varied political economic contexts. The argument focuses on the role of public scrutiny, tie accountability, and diffusion of power in shaping strategy, with particular focus on diversification benefits. We demonstrate that formal position interlocks to the ruling political party and senior government officials facilitate diversification in a closed political economic system, while informal social ties to multiple political actors have greater impact in a more open political economic system. The results advance the emerging literature on business-political ties (Fisman, 2001; Johnson and Mitton, 2003; Faccio, 2006; Leuz and Oberholzer-Gee, 2006; Siegel, 2007) by incorporating longitudinal institutional changes into the theory as well as by examining comprehensive individual-level data in the analysis.

It is useful to consider how the results might apply in even more open political economic contexts than that of Taiwan in the 1990s. Figure 2 provides a summary overview of the trends in strategic benefits of formal and informal linkages as a political economic context becomes more open. During the period of the study, Taiwan moved from the left side of the chart to a more central position, somewhere beyond the point at which informal social ties tended to provide greater benefits than formal position interlocks. Nonetheless, position

interlocks continued to provide substantial benefits in Taiwan, even in the 1990s. For the U.S., however, it is likely that formal position interlocks tend to offer substantially fewer benefits, due to even greater political economic openness. Diffusion of power, public scrutiny, and tie accountability resulting from greater ability to punish broken promises substantially limit the strategic benefits of position interlocks, consistent with Fisman, Fisman, Galef, and Khurana's (2006) results concerning Dick Cheney's ties with businesses. Nonetheless, informal social ties will have substantial value in the U.S., especially if business leaders and political actors substitute more inconspicuous informal social relationships for highly visible position interlocks.

********** **Figure 2 about here** **********

The results have direct implications for the political economy literature. Traditionally, this literature highlights the importance of relationships between private businesses and the state (e.g., Bauer Pool, and Dexter, 1972; MacIntyre, 1994; Evans, 1995; Schneider, 1998). By contrast, the personal ties that connect politicians and business leaders have received only limited attention. The literature tends to treat political ties as a homogeneous category and confine the investigation within the domain of trade associations and similar peak organizations. Further, empirical works often rely on case studies, anecdotal evidence, and journalist accounts, with little large-scale, systematic data collection and analysis. By specifying the mechanisms of how different types and destinations of ties function, our research helps indicate the locations (domains) where the ties will matter in different political economic contexts. This is important because political economy research often addresses issues that involve different ties in distinct domains. In studying the creation of industrial and economic policies, for instance, future studies of political economy could usefully examine social ties between parliament members and large businesses, as well as memberships in trade associations.

The study also has implications for the social networks, diversification strategy, and

business groups literatures, the bodies of work on which we drew in order to reinforce the political economic literature. The social network literature highlights the importance of social relationships in shaping economic behavior (Granovetter, 1985; Uzzi, 1996, 1997). While this approach provides insights regarding the nature of different types and destinations of social relationships, the literature has understated the influence of macro contextual forces, without sufficiently assessing how contingencies from the institutional environment influence the effects of social ties. As Lie (1997: 351) points out, "the embeddedness approach must itself be embedded in larger, historically transient, social structures." More recent studies have started to explore different institutional contingencies for different types of ties, such as inter-firm ties in the IPO process, social ties among business group affiliates, and director interlocks (Gulati and Higgens, 2003; Luo and Chung, 2005; Mizruchi, Stearns, and Marquis, 2006). Our study helps fill this gap by specifying how contingencies of political and economic systems shape the ways political ties facilitate business strategy. Moreover, while political and economic contexts are particularly relevant to political ties, they also apply to other kinds of ties, such as strategic alliances and interlocking directorates between private businesses. The mechanisms of tie accountability, pubic scrutiny, and diffusion of power may moderate the choice of alliance partners as well as the performance effects of the alliance and director ties.

The study advances diversification strategy studies by adding a political component that the literature often omits (Boddewyn and Brewer, 1994: 135). Traditional diversification strategy studies focus on how internal resources drive firms to move into new product markets (Hoskission and Hitt, 1990). Resource-based theory (Penrose, 1959; Wernerfelt, 1984) views firm-specific tangible and intangible internal resources as the heart of a firm's decision to diversify. Beyond internal resources, however, elements of firms' external environments, such as governmental policies and political connections, can also influence diversification strategy, as we show. In this respect, our argument is consistent with the

emerging institutional perspective in strategic management (Dobbin and Baum, 2000; Ingram and Silverman, 2002), which contends that the choice of business strategy is not simply driven by firms' inherent resources, but is also shaped by prevailing institutional contexts. Future studies may clarify the role of external linkages in shaping a firm's behavior by examining the interaction effects between internal resources and political ties.

Finally, our results also have implications for the business group literature. Studies of business groups have focused on the unique organizational form of the group and the relationships between the group form and group diversification and performance. Khanna and Palepu (1999, 2000a) suggest that business groups exist because the group form enables each group to perform the function of internal capital market and overcome institutional insufficiency in emerging economies. The more diversified a group is, the better the replacement function of internal markets, and hence the better the group performs (Khanna and Palepu, 2000b). While this line of reasoning has borne empirical results, other aspects that may also shape how business groups operate and perform have been overlooked. Our research highlights the importance of examining the interface between business groups and external institutional sectors such as political bodies in explaining group behavior (Granovetter, 2005), and helps to create a more comprehensive theory of business groups in emerging markets. Future studies of business groups may want to examine how political ties of a group affect group performance such as financial returns and innovation outputs (e.g., Mahmood and Mitchell, 2004).

Several limitations of the study point to avenues for future research. One limitation concerns identifying informal social ties. Although formal position interlocks between the business community and the political circle are relatively easy to identify, identifying social ties is more complicated. Studies of social ties that rely on published data, such as ours, suffer potential problems from selection bias. Reported relationships commonly highlight prominent businessmen and politicians, which may understate the impact of less prominent ties and

hence bias the estimated coefficients downward. Nonetheless, we found significant results, even for a possibly underestimated measure.

Second, it would be useful to consider non-linearities in the relationships. For instance, extreme cases of political ties might constrain diversification rather than facilitate it. In exploratory analysis, we found no systematic non-linear influences, but such effects merit further study. Third, we focus on one key aspect of business strategy, diversification. This is a critically important element of strategy, but other elements of strategy and performance merit consideration. Fourth, future studies can move a step further to examine whether the nature of ties moderates the effects on business strategy. This would be particularly useful for analyzing the effects of social ties. Firms can be connected to politicians informally through family or marriage, through friendship or former classmates, and though trade associations or club memberships. These different ties may well bear different strengths and hence have different effects on firm strategy.

In conclusion, the relationship between political ties and business strategy is an important and yet understudied topic in political economy, as well as in strategy management and organizational theory. Our study demonstrates that different types and destinations of ties carry significant consequences for firm strategy, highlighting the institutionally contingent nature of the influences. We hope this study will encourage research that examines the effects of ties across multiple countries and time periods and further clarifies the institutional contingencies of political ties.

ENDNOTES

[1] Table 2 reports low correlations of profitability (return on assets) with the various measures of political ties (r= -0.11 to 0.09) and diversification (r= -0.05). We are interested in ties and diversification because of the overall impact of diversification on economic development, rather than because of individual firm profitability.

[2] The high standard error likely arises because formal ties between business leaders and government officials are the least common tie (Table 3).

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Table 1. Indicators of political and economic changes before and after the institutional transition

Key Indicator (Sources)	Before Transition (1970-1987)	After Transition (1988-1998)
Political Democratization		
Number of TV and cable channels (Cheng, 2002)	3	115
Number of newspapers (Lin, 1999)	2	17
Average number of registered social organizations	616	1967
Average number of registered political parties	0	77
Average number of labor protests	52	296
Average number of national-scale general elections	0	4
Economic Deregulation		
Number of industries deregulated (Chu and Hung, 2002)	0	42
Number of public-enterprises privatized (Chang, 2001)	0	21
Average tariff burden	7.6%	4.8%
Average amount of foreign direct investment	704778	2658225
Average exchange rate of 1 $US	37.3	27.2
Economic freedom Index	5.2	6.5

Note: The numbers of social organizations, political parties, and general elections are quoted and calculated from the website of the Ministry of Interior Affairs (http://www.moi.gov.tw/stat/). The unit of bank loan and foreign investment is in millions of Taiwanese dollars and is adjusted by consumer price index based in 1996 (quoted from *Taiwan Statistical Data Book*, 2000). The values of tariff burden before transition is the average of 1980-1987 (Chen, 2001). The value of economic freedom index for the pre-transition period is the average of the index in 1975, 1980 and 1985 and the value for the post-transition period is the average of 1990 and 1995 (The Fraser Institute, 1997). The number of labor protests in the pre-transition period is the average of protests between 1983 and 1988 (Chu, 1992).

Table 2. Summary statistics and correlation matrix (n=313)

	Variable	*Mean*	*S.d.*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
1	Formal position interlocks	0.59	1.16	1.00											
2	Informal social ties	4.87	7.45	0.43	1.00										
3	Formal position interlocks to the KMT	0.35	0.77	0.87	0.41	1.00									
4	Formal position interlocks to legislators	0.17	0.49	0.64	0.23	0.24	1.00								
5	Formal position interlocks to administrators	0.07	0.28	0.60	0.22	0.41	0.19	1.00							
6	Informal social ties to the KMT	1.89	2.90	0.38	0.91	0.38	0.21	0.15	1.00						
7	Informal social ties to legislators	0.36	0.81	0.36	0.77	0.34	0.21	0.19	0.65	1.00					
8	Informal social ties to administrators	2.62	4.38	0.41	0.96	0.39	0.22	0.23	0.76	0.70	1.00				
9	Diversification (Number of 2-digit SIC)	5.30	3.30	0.40	0.44	0.39	0.19	0.22	0.45	0.29	0.39	1.00			
10	Return on Assets	6.00	5.84	0.07	-0.09	0.09	-0.02	0.07	-0.11	-0.08	-0.07	-0.05	1.00		
11	Liability	1.96	4.45	-0.01	0.10	-0.01	0.02	-0.03	0.12	0.06	0.08	0.04	-0.18	1.00	
12	Group Age	29.59	10.41	0.18	0.14	0.24	-0.02	0.11	0.15	0.04	0.13	0.37	0.00	-0.01	1.00
13	Group Size (logged assets)	9.20	1.40	0.42	0.56	0.42	0.22	0.17	0.53	0.43	0.53	0.62	0.02	0.06	0.30

Table 3. Descriptive statistics of political connections for Taiwanese business groups, 1986-1994

	Formal Position Interlocks				Informal Political Ties			
	All	Connected (A)	Unconnected (B)	Difference (A)-(B)	All	Connected (A)	Unconnected (B)	Difference (A)-(B)
1. Number of Groups	313	94	219		313	236	77	
2. Group Age	30	32	29	3**	30	30	28	2**
3. Total Assets (Millions Taiwanese $)	29,520	54,276	18,894	35382***	29,520	37,246	5,841	31,405***
4. Number of Employees	3,894	6,480	2,784	3696***	3,894	4,673	1,506	3,167***
5. Number of Member Firms	8.5	11.96	7.07	4.89***	8.5	9.38	5.95	3.43***
6. Number of Listed Member Firms	0.80	1.40	0.53	0.87***	0.80	0.97	0.25	0.73***
7. Return on Assets	6.00	6.46	5.80	0.67	6.00	5.67	7.00	- 1.33**
8. Liability/Assets Ratio	1.96	1.81	2.02	-0.21	1.96	2.12	1.45	0.67
9. Number of 2-digit SIC industries	5.30	7.38	4.41	2.97***	5.30	5.79	3.82	1.97***
10. Total Entropy	0.92	1.11	0.84	0.27***	0.92	0.96	0.81	0.14***
11. Percentage of Groups in Sector 1	[50.16%]	[43.62%]	[52.97%]		[50.16%]	[46.61%]	[61.04%]	
	68.05%	72.34%	66.21%		68.05%	66.95%	71.43%	
12. Percentage of Groups in Sector 2	[15.34%]	[14.89%]	[15.53%]		[15.34%]	[16.53%]	[11.69%]	
	50.80%	56.38%	48.40%		50.80%	52.12%	46.75%	
13. Percentage of Groups in Sector 3	[6.71%]	[11.70%]	[4.57%]		[6.71%]	[8.05%]	[2.60%]	
	40.89%	54.26%	81.91%		40.89%	47.88%	19.48%	
14. Percentage of Groups in Sector 4	[19.49%]	[23.40%]	[17.81%]		[19.49%]	[19.92%]	[18.18%]	
	68.69%	80.85%	63.47%		68.69%	70.34%	63.64%	
15. Percentage of Groups in Sector 5	[8.31%]	[6.38%]	[9.13%]		[8.31%]	[8.90%]	[6.49%]	
	71.57%	78.72%	68.49%		71.57%	73.31%	66.23%	

Note: * p<0.10; ** p<0.05; *** p<0.01. Two-tailed tests for all variables.
Sector 1 includes the food, textile, wood, chemical, and non-metallic industries; Sector 2 includes machinery and electronic/electrical industries; Sector 3 encompasses the financial industry; Sector 4 includes the agriculture, metals, construction, and retailing industries; Sector 5 includes the service industry.
Note: The industry figures in [square brackets] report the distribution of "primary industries" (the figures sum to 100% across the five sectors), while the larger figure reports the percentage of groups with any activity in the specified industry (hence, summing to more than 100%).

Table 4a. Effects of Different Types and Destinations of Political Ties on the Change in Group Diversification Using Fixed Effects OLS (Dependent variable: Change in 2-digit SIC between period t and t+1)

	Model 1a. KMT	Model 1b. KMT	Model 2a. Officials	Model 2b. Officials	Model 3a. Legislators	Model 3b. Legislators
Formal position interlocks	0.926 ***	0.979 *	0.064	-0.166	0.402 #	1.167 **
	(0.275)	(0.448)	(0.548)	(0.609)	(0.269)	(0.531)
Informal social ties	0.011	0.017	0.087	-0.035	1.119 ***	0.628 #
	(0.142)	(0.161)	(0.097)	(0.117)	(0.409)	(0.470)
Pre-liberalization dummy (year 1986)	-0.192	-0.423	-0.315	-0.316	-0.518	-0.367
	(0.378)	(0.414)	(0.408)	(0.420)	(0.386)	(0.412)
Post-liberalization dummy (year 1994)-	0.613 *	0.458	0.954 **	0.403	0.925 **	0.671 *
	(0.369)	(0.400)	(0.372)	(0.386)	(0.357)	(0.356)
Formal position interlocks x Pre-liberalization dummy		1.059 **		2.399 #		-0.618
		(0.450)		(1.546)		(0.662)
Informal social ties x Pre-liberalization dummy		-0.275		0.004		-1.107 *
		(0.357)		(0.972)		(0.607)
Formal position interlocks x Post-liberalization dummy		-0.063		-0.028		-0.081
		(0.089)		(0.062)		(0.340)
Informal social ties x Post-liberalization dummy		0.178 *		0.167 ***		1.051 ***
		(0.091)		(0.058)		(0.317)
Group age	-0.010	-0.001	-0.028	-0.016	-0.026	-0.010
	(0.037)	(0.036)	(0.038)	(0.036)	(0.037)	(0.035)
Group size (logged assets)	0.302	-0.045	0.489	0.383	0.236	-0.008
	(0.419)	(0.417)	(0.442)	(0.433)	(0.430)	(0.420)
Return-on-assets (ROA)	0.035	0.038 #	0.052 *	0.054 *	0.052 *	0.047 *
	(0.030)	(0.029)	(0.031)	(0.029)	(0.029)	(0.028)
Liability	0.008	-0.003	0.013	-0.006	0.007	-0.009
	(0.035)	(0.034)	(0.037)	(0.035)	(0.035)	(0.034)
Diversification in period t	-0.850 ***	-0.812 ***	-0.873 ***	-0.912 ***	-0.852 ***	-0.800 ***
	(0.102)	(0.099)	(0.107)	(0.104)	(0.102)	(0.098)
Constant	3.553	6.155	1.622	1.900	3.433	4.758
	(3.889)	(3.881)	(4.072)	(3.962)	(3.961)	(3.824)
R-square	0.741	0.768	0.716	0.760	0.735	0.773
Number of observations	246	246	246	246	246	246

*** p<0.01; ** p<0.05; * p<0.10 (two-tailed test); # p<0.10 (one-tailed test). Standard errors are in parentheses
Note: The baseline comparison of the pre-liberalization and post-liberalization influences is to ties in 1990.

Table 4b. Statistical Comparison of Coefficients from Table 4a to Test the Hypotheses

Row	***Hypothesis 1: Benefits of formal position interlocks in closed contexts***	1. KMT	2. Officials	3. Legislators		Pair-wise comparisons: Formal KMT & officials v. other ties	t-test	p-value
A	Pre-liberalization formal (baseline + pre-liberalization)	2.04	2.23	0.55		A1 v A3	31.28	< .01
B	Pre-liberalization informal (baseline + pre-liberalization)	-0.26	-0.03	-0.48		A1 v. B1	69.53	< .01
						A1 v. B2	45.93	< .01
						A1 v. B3	56.32	< .01
						A2 v A3	21.4	< .01
						A2 v. B1	35.24	< .01
						A2 v. B2	29.36	< .01
						A2 v. B3	35.28	< .01
	Hypothesis 2: Declining benefits of formal position interlocks in open contexts	1. KMT	2. Officials			Pair-wise comparisons: Formal position interlocks over time	F-test	p-value
C	Pre-liberalization formal (baseline + pre-liberalization)	2.04	2.23			C1 v. D1	7.76	< .01
D	Post-liberalization formal (Baseline + post-liberalization)	0.92	-0.19			C2 v. D2	1.99	0.16
	Hypothesis 3: Increasing benefits of informal social ties in open contexts	1. KMT	2. Officials	3. Legislators		Pair-wise comparisons: Informal social ties over time	F-test	p-value
E	Pre-liberalization informal (baseline + pre-liberalization)	-0.26	-0.03	-0.48		E1 v. F1	5.66	< .05
F	Post-liberalization informal (Baseline + post-liberalization)	0.20	0.13	1.68		E2 v. F2	12.22	< .01
						E3 v. F3	12.75	< .01

Hypothesis 1: Compares formal position interlocks with the KMT (A1) & position interlocks with officials (A2) to position interlocks with legislators (A3) & to informal social ties with all destinations (B1, B2, B3) in the closed political economic context (1986)
Hypothesis 2: Compares formal position interlocks with the KMT (C1) and position interlocks with officials (C2) in the closed political economic context (1986) to position interlocks with the same destinations (D1 & D2) in the open political economic context (1994)
Hypothesis 3: Compares each informal social tie (E1 & D2) in closed political economic context (1986) to the same destination of informal social tie (F1 & F2) in open political economic context (1994)

Note: The t-tests (H1) are based on difference-between-means tests across the fully specified models in columns 1b, 2b, and 3b of Table 4a (Miner, Amburgey, and Stearns, 1990; Wonnacott and Wonnacott, 1977: 214). The within-model F-tests (H2 and H3) compare models that restrict the coefficients to be the same value to models that relax that restriction.

Figure 1. Relationships between business groups and the political regime before and after the institutional transition in Taiwan in the late 1980s

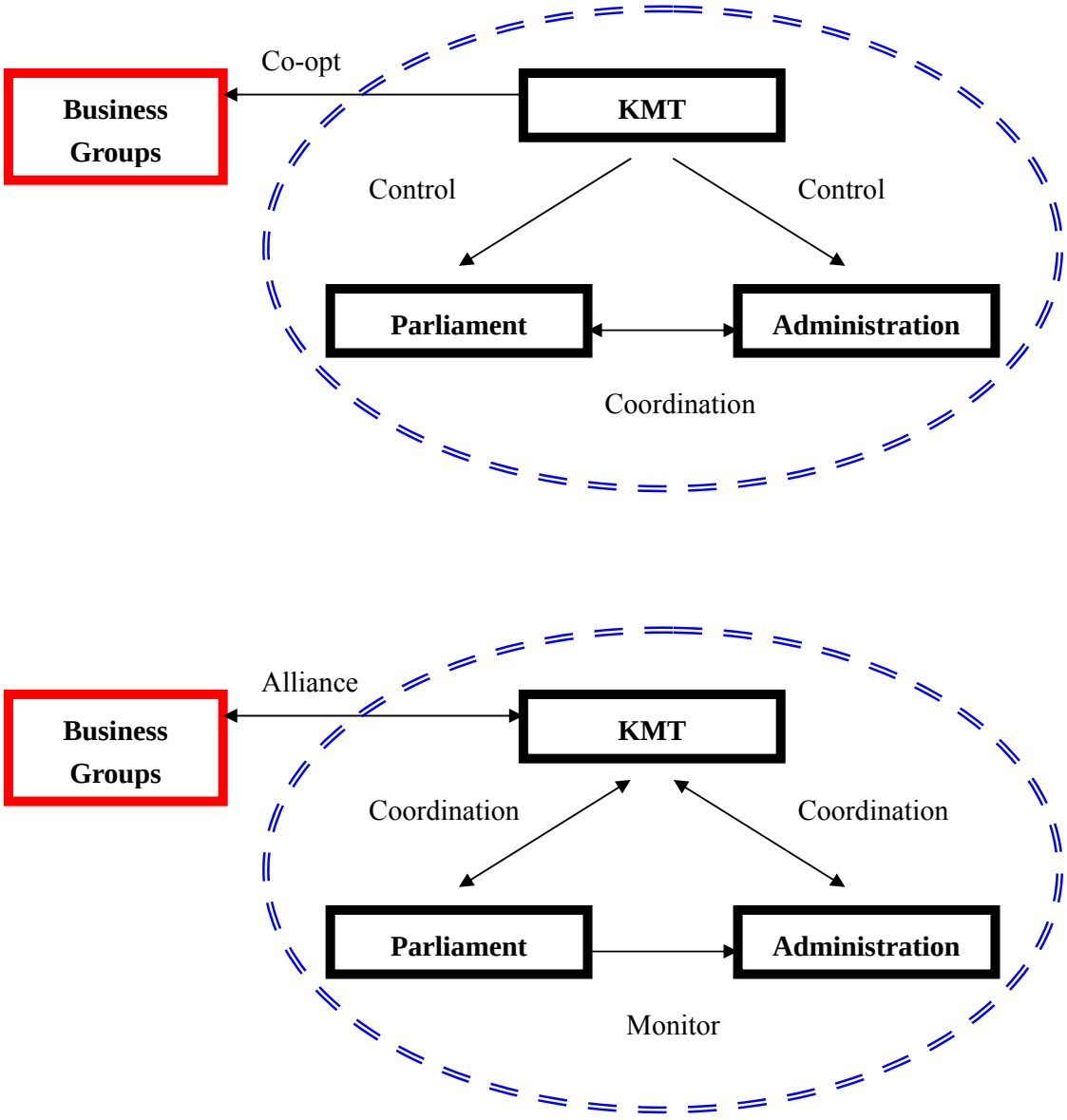
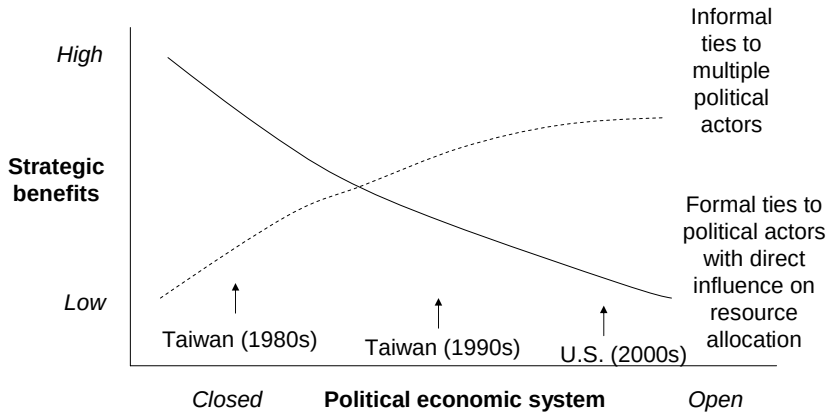


Figure 2. Strategic Benefits of Formal Position Interlocks and Informal Social Ties as in Closed and Open Political Economic Contexts



Appendix 1: Data Sources and Coding of Political Connections

For formal positions in business groups, we coded the names of the chairman of the board, CEO (general manager), and major shareholders of each group affiliate. These names are recorded from the directory of *Business Groups in Taiwan* (BGT), compiled by the *China Credit Information Service* (CCIS) in Taipei, which is the most prestigious credit-checking agency in Taiwan and an affiliate of the U.S.-based Standard & Poor's. The directory is the most comprehensive source for business groups in Taiwan and has been used in previous studies (Claessens, Djankov, and Lang, 2000, Khanna and Rivkin 2001, Luo and Chung 2005). For group firms that are listed in the main board of *Taiwan Stock Exchange*, we coded the names of all directors and auditors, in addition to the board chair, CEO, and major shareholders. Since Taiwanese firms preferred to nominate family members, trusted persons, or associates to be directors or auditors (Yeh and Woidtke, 2005), we considered directors and auditors of the firm as important conduits that the dominant family used to link to the external environment. The names of directors and auditors are coded from the *Taiwan Economic Journal* (TEJ) database.

We considered three types of political offices in Taiwan: (1) leaders of the KMT (the dominant political party), (2) administrators within the central and provincial governments, and (3) members of the national and provincial legislatures and judiciary.

KMT: We coded the names of the members of KMT's central committee (150 to 180 persons) and regular central committee from the proceedings of KMT's party conventions. Because the power center of KMT, the regular central committee (10-15 persons), is nominated from within the central committee, being a member of the central committee is considered to be close to the power center and influential.

National and provincial administrators: For the central government, we coded (1) the names of the ministers and vice-ministers of different ministries, and (2) the directors and deputy-directors of all departments one level under the ministries. We also coded the names of major officers in provincial governments. The information of local officials was important because they might provide links to the central government (Faccio, 2006). The names of government officers are coded from the website of the directory of Taiwan government (http://twinfo.ncl.edu.tw).

Legislators and judges: For the parliaments, we coded the names of parliament members at the national level and the province level. We obtained the names of legislators from the parliament website (http://www.ly.gov.tw) as well as from newspapers. In addition, we included the names of the top officers in the judicial institution, the *Judicial Yuan* (http://www.judicial.gov.tw). While the judicial institution was not considered independent during KMT's domination, its members might provide a linkage to the KMT and to administrative agencies.

In total, we have 2,105 distinct names from business groups in 1986, 2,222 in 1990, and 3,453 in 1994. We also have 2,066 distinct names from different political institutions in 1986, 1,137 in 1990, and 1,119 in 1994. A position interlock occurs when someone who holds a formal position in a business group also holds a formal political office.

We took three steps in identifying social ties between business groups and the political actors. We first identified family/intermarriage ties. A group has such a tie if a top officer or major shareholder has a relative with the same family name (or a relative with a different family name but with a relationship via marriage) serving in the political institutions mentioned above. For example, *Wang Yuzhen*, the top officer of Hwa Eng Wire & Cable Group, has an elder brother *Wang Yuyun*, who used to be the mayor of Kaoshiung City (the second largest city in Taiwan) and a member of KMT central committee. Therefore, Hwa Eng Wire & Cable Group is coded as politically connected, with *Wang Yuyun* as the primary connection. Similarly, the Asia Trust Group is politically connected to *Lian Zhan*, the former chairman of KMT, through the intermarriage between one of *Lian Zhan*'s relatives and *Zheng Mianmian*, the president of Asia Trust Group.

Second, we identified close friend/same-hometown relationships. The group officers or large shareholders have close friends or have known people who are from the same home town, who are important figures in the political regime. An example is the long-lasting friendship between the founder of Taiwan Cement Group, *Gu Zhenfu,* and the President of Taiwan, *Lee Teng-Hui,* built while playing golf. Tainan Spinning Group is also politically connected to *Wu Sanlian*, a famous political figure who used to be the Taipei city mayor and a KMT central committee member, who is from the same hometown of *Wu Xiuqi*, one of the top executives of Tainan Spinning Group.

Third, we identified trade associations/social clubs. The top directors or large shareholders of business groups have memberships in national trade associations and/or other prestigious social clubs that have significant political figures as members. For instance, the top officer of China Rebar Group, *Wang Youzeng*, has been the chairman of the Federation of Commerce, which is the peak trade association of the service industry. Another example is *Cheng Shengtian*, the top officer of the Sampo Group, is a member of a prestigious golf club, a usual gathering place for important business magnates and political leaders.

We relied on three major sources for identification of informal relationships. First, the *Excellent Business Database System* (EBDS) (http://ebds.anyan.com.tw) is an electronic database that covers more than 200 periodicals and newspapers published in Taiwan and provides full-text search. Second, *Wealth Magazine ('Tsai Hsun')* database provides full-text of the magazine in a CD-Rom format. *Wealth Magazine* is an important business journal, which has periodical reports on large business groups in Taiwan. The style of extensive and deep coverage of this magazine is comparable to that of *Fortune* and *Far Eastern Economic Review*. We used the name of the top executive and shareholders of business groups to search the databases, and then screened the reports to locate the social ties to political figures. Third, we surveyed autobiographies of group founders and dissertations and books devoted to this topic (Hsu, 1991; Chen, 1999).

Appendix 2a. Fixed Effects Instrumental Variable Models
(Dependent variable: Change in 2-digit SIC between period t and t+1)

	Model 1a. **KMT**	Model 1b. **KMT**	Model 2a. **Legislators**	Model 2b. **Legislators**	Model 3a **Officials**	Model 3b **Officials**
Formal position interlocks	.818	.647	.397	1.277	.228	-.052
	(.273) ***	(.444) #	(.260) #	(.529) **	(.511)	(.595)
Informal social ties	.029	.059	1.189	.889	.112	.033
	(.143)	(.160)	(.393) ***	(.452) **	(.094)	(.112)
Pre-liberalization dummy (year1986)	-.313	-.478	-.529	-.405	-.341	-.389
	(.378)	(.421)	(.376)	(.396)	(.400)	(.417)
Post-liberalization dummy (year 1994)	.654	.529	.857	.736	.934	.440
	(.365)*	(.409)	(.352)**	(.362)**	(.365)***	(.400)
Formal position interlocks x Pre-liberalization dummy		.921		.697		1.324
		(.454) **		(.653)		(1.465)
Formal position Interlocks x Post-liberalization dummy		-.074		-1.211		.842
		(.366)		(.596) **		(.917)
Social ties x Pre-liberalization dummy		-.090		-.068		-.006
		(.087)		(.320)		(.059)
Informal social ties x Post-liberalization dummy		.144		.857		.121
		(.094) #		(.308) ***		(.057) **
SIC 2	-.811	-.776	-.796	-.748	-.834	-.844
	(.099)***	(.098)***	(.098)***	(.095)***	(.102)***	(.105)***
Return-on-assets	.039	.043	.058	.051	.052	.053
	(.029)	(.029)	(.029)**	(.028)*	(.031)*	(.030)
Liability	-.002	-.008	-.006	-.005	-.001	-.003
	(.031)	(.030)	(.030)	(.029)	(.031)	(.031)
Group age	-.026	-.018	-.034	-.024	-.039	-.027
	(.037)	(.038)	(.036)	(.035)	(.038)	(.037)
Group size (logged assets)	.324	-.035	.398	.162	.542	.429
	(.395)	(.407)	(.391)	(.397)	(.402)	(.406)
Constant	2.282	5.242	1.462	3.113	.610	1.677
	(3.625)	(3.696)	(3.582)	(3.619)	(3.700)	(3.676)
R-square	0.036	0.037	.042	.051	.034	.034
Wald Chi2	166.05***	181.49***	169.53***	197.61***	149.63***	169.83***
N	246	246	246	246	246	246

*** p<0.01; ** p<0.05; * p<0.10 (two-tailed test); # p<0.10 (one-tailed test). Standard errors are in parentheses.

Appendix 2b. Fixed Effects Heckman Selection Models
(Dependent variable: Change in 2-digit SIC between period t and t+1)

	Model 1a. **KMT**	Model 1b. **KMT**	Model 2a. **Legislators**	Model 2b. **Legislators**	Model 3a. **Officials**	Model 3b. **Officials**
Formal position interlocks	.838	.648	0.419	1.299	0.204	-0.047
	(.255) ***	(.303) **	(0.191) **	(0.370) ***	(0.701)	(0.420)
Informal social ties	0.030	.065	1.210	0.899	0.125	0.038
	(0.133)	(.113)	(0.280)***	(0.311)**	(0.134)	(0.081)
Pre-liberalization dummy (year1986)	-0.277	-0.482	-0.542	-0.419	-0.421	-0.422
	(0.321)	(0.285) *	(0.261) **	(0.273) #	(0.506)	(0.287) #
Post-liberalization dummy (year 1994)	0.625	0.536	0.862	0.740	0.956	0.458
	(0.307) **	(0.278) **	(0.243) ***	(0.245) ***	(0.458) **	(0.271) *
Formal position interlocks x Pre-liberalization Dummy		**0.925**		-0.677		1.301
		**(0.309) ** **		(0.451) #		(1.031) #
Formal position Interlocks x Post-liberalization dummy		-0.070		-1.227		0.811
		(0.250)		(0.410) **		(0.647)
Informal social ties x Pre-liberalization dummy		-0.089		-0.059		-0.004
		(0.059)		(0.220)		(0.042)
Informal social ties x Post-liberalization dummy		**0.140**		**0.859**		**0.119**
		**(0.066) ** **		**(0.210) *** **		**(0.041) *** **
SIC 2	-0.822	-0.777	-0.792	-0.746	-0.821	-0.840
	(0.089) ***	(0.067) ***	(0.069) ***	(0.065) ***	(0.137) ***	(0.073) ***
Return-on-assets	0.020	0.047	0.065	0.056	0.084	0.064
	(0.034)	(0.027) *	(0.026) **	(0.026) **	(0.055) #	(0.029) **
Liability	-0.007	-0.008	-0.004	-0.004	0.007	-0.001
	(0.025)	(0.020)	(0.021)	(0.020)	(0.039)	(0.021)
Group age	-0.027	-0.017	-0.033	-0.024	-0.032	-0.025
	(0.031)	(0.026)	(0.025) #	(0.024)	(0.047)	(0.025)
Group size (logged sales)	0.231	-0.021	0.419	0.182	0.572	0.445
	(0.353)	(0.282)	(0.275) #	(0.280)	(0.512)	(0.279) #
Constant	3.938	3.894	0.100	2.093	-2.500	0.063
	(3.602)	(2.852) #	(2.758)	(2.858)	(4.950)	(2.743)
Wald chi2	415 ***	662 ***	610* **	718 ***	180 ***	609 ***
N	313	313	313	313	313	313

*** p<0.01; ** p<0.05; * p<0.10 (two-tailed test); # p<0.10 (one-tailed test). Standard errors are in parentheses.

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