

# Asymmetric strategic alliances A network view

Homin Chen<sup>a,\*</sup>, Tain-Jy Chen<sup>b,2</sup>

<sup>a</sup>Department of Business Administration, National Chung-Hsing University, 250 Kuo-Kuang Road, Taichung 402, Taiwan

<sup>b</sup>Department of Economics, National Taiwan University, 21, Hsu-Chow Road, Taipei, Taiwan

## Abstract

In this paper, we expound the network view of strategic alliances and apply it to a developing country, namely Taiwan. We find that Taiwanese firms are keenly interested in forming strategic alliances with larger, reputable foreign firms, but that they have no particular interest, or ability, in forming horizontal alliances aimed at controlling competitive uncertainties. Through asymmetric alliances, Taiwanese firms gain access to new markets and new technologies. We point to resource commitment and organizational integration as two important components of strategic alliances, where a high degree of resource interdependency precipitates nonequity alliances, especially those involving serious resource commitments. We also find that large firms are more inclined to engage in equity joint ventures than small firms. © 2002 Elsevier Science Inc. All rights reserved.

*Keywords:* Asymmetric alliances; Resource interdependency; Resource commitment

## 1. Introduction

Strategic alliances have become an important form of business competition, drawing wide-ranging studies in the literature (Hagedoorn, 1993; Harrigan, 1985, 1995; Kogut, 1988; Osborn and Baughn, 1990). Strategic alliances are a popular strategy for firms for sharing risks and exchanging resources, accessing new markets, achieving economies of scale and obtaining synergy and competitive advantages (Dacin et al., 1997). They may also serve as an exchange arrangement for partners to learn and acquire from each other the technologies, skills and knowledge that are not available within their own organizations.

Although most studies on strategic alliances focus on advanced countries where strategic resources are abundant, such alliances are also useful for firms in developing countries as a means of gaining access to new technologies and new markets. Gilroy (1993) attributes the success of some East Asian developing countries to interfirm linkages established by indigenous firms with counterparts in the

more advanced countries. These linkages provide technologies, entrepreneurial and managerial know-how and market access, to aid an export-oriented development strategy. The question to ask, then, is: Why would firms in advanced countries, with all their strategic resource assets, wish to ally themselves with firms from developing countries, which seemingly, have little to offer? Where are the opportunities for firms from developing countries to enter international strategic alliances, and when such opportunities do arise, what form of alliances would they wish to undertake?

The purpose of this paper is to elucidate the network approach to strategic alliances and to use it to explain the strategic alliances adopted by firms from a developing country, namely Taiwan. Unlike the conventional views on strategic alliances where control and governance are emphasized, the network approach emphasizes the investment aspect of the alliances where firms from a developing country buy the opportunities to ally with larger and more reputable firms in advanced countries by investing more into, and gaining less from, the partnership than their counterparts. The alliances are therefore asymmetric.

## 2. Network view of strategic alliances

Strategic alliance is a situation wherein two or more firms unite to pursue a set of agreed-upon goals, in which

\* Corresponding author. Chung-Hua Institution for Economic Research, 75 Chang-Hsing Street, Taipei, Taiwan. Tel.: +886-2-2735-6006x528; fax: +886-2-2735-6035.

*E-mail addresses:* hmchen@dragon.nchu.edu.tw, hmchen@nctu.edu.tw (H. Chen), tainjy@ms.cc.ntu.edu.tw (T.-J. Chen).

<sup>1</sup> Tel.: +886-4-2285-6759; fax: +886-4-2285-8040.

<sup>2</sup> Tel.: +886-2-2735-6006x517; fax: +886-2-2735-6035.

they share the benefits; and in achieving these goals, partner firms independently control over the performance of assigned tasks and contribute on a continuing basis in one or more key strategic areas (Yoshino and Rangan, 1995, p. 5). Kogut (1988) summarizes three main motivations behind the formation of strategic alliances: firstly, high transaction costs resulting from small-number bargaining; secondly, strategic behavior aimed at enhancing a firm's competitive position or market power; and thirdly, a quest for organizational knowledge or learning when one or both partners desire to acquire some critical knowledge from the other. Kogut's observations on strategic alliance formation, in short, highlight transaction cost (e.g., Williamson 1985, 1991), industrial organization (e.g., Burgers et al., 1993) and organizational learning perspectives (e.g., Hamel, 1991).

The network view takes a different perspective on strategic alliances. According to the network view, all firms are embedded in one or more networks in which they collaborate with others to create value, in order to service the markets (Granovetter, 1985). No firm is large enough to be self-contained, and resource sharing, in one form or another, is a matter of necessity rather than choice. The essence of strategic alliances is the creation of a formal and lasting relationship between partners to facilitate the ongoing exchange of resources. Hence, strategic alliances are solutions to long-term needs, rather than temporary fixes (Yoshino and Rangan, 1995, p. 197).

The network approach therefore differs from traditional views in several aspects. First, the network view is a process view, in which dynamic changes are highlighted (Imai, 1989, p. 124). A strategic alliance is not seen as a matching game between firms endowed with common or distinctive resources, aimed at minimizing transaction costs. Rather, it is seen as a formal agreement between partners to invest in a relationship for the purpose of exchanging resources on a sustained basis. The partners have to invest in learning and adaptation until the alliance takes shape and begins to function smoothly as a mechanism for exchange, and empirical studies on strategic alliances (e.g., Larson, 1992; Doz, 1996) have shown that effective learning and adaptation between partners are critical to the success of alliances.

Secondly, forming a strategic alliance represents a commitment to investing in certain relation-specific assets, which have the potential of collectively increasing the competitiveness of alliance partners through lower total value chain costs, greater product differentiation, fewer defects and faster product development cycles (Dyer and Singh, 1998). However, relation-specific investments also increase mutual dependency among partners and, hence, the vulnerability of these partners (Dyer, 1996; Gerlach, 1992, 162–163). Therefore, such investments should only be made with certain preconditions; for example, Larson (1992) found that reputation and the level of trust and reciprocity that developed between the parties were important preconditions for alliance formation.

Thirdly, an important consideration for whether to invest in a relation-specific asset is the appropriation of relational rent resulting from such investment. In general, the partner holding more bargaining power in the relationship is entitled to more rent. Large and strong firms may be willing to form strategic alliances with small and weak firms because they hold the power to appropriate relational rent, and alliances with inferior firms in a subnetwork will enhance the bargaining power of the superior firms in the entire network (Burgers et al., 1993). Smaller or weaker firms, which gain little from relation-specific investments in such an asymmetric alliance, may be compensated with improved positions in other relationships. For example, alliance with a reputable and established firm in a new market improves the credibility of a relatively unknown enterprise and, hence, its opportunities in that market (Hitt et al., 2000).

Fourthly, from a network perspective, strategic alliances build a foundation for recurrent exchanges whereby the partners periodically negotiate, sometimes even jointly decide, on the use of resources that they have committed to these alliances (Ebers, 1997). It entails adjustment in terms of organizational routines, and there are also coordination costs involved in making and implementing decisions. Both adjustment and coordination costs tend to increase with the size and heterogeneity of organizations. As strategic alliances are aimed at sharing idiosyncratic resources, which are likely to be possessed by firms with distinctive organizational structures and management philosophies, strategic alliances are inherently unstable because of the immense costs of adjustment and coordination.

### 3. Hypotheses

Empirical studies based on the conventional theories have identified certain industry characteristics as being important determinants of strategic alliances, including the degree of competition in the market, the stage of market development, and demand and competitive uncertainties (Harrigan, 1988; Burgers et al., 1993; Eisenhardt and Schoonhoven, 1996). Oligopolistic market structures with demand and competitive uncertainties are found to be most conducive to strategic alliances, where competing firms with comparable market power form alliances to reduce risks, and to achieve scale economies. These alliances are referred to as horizontal alliances. Firms from developing countries that operate in competitive markets are unlikely to enter such horizontal alliances because they can hardly be regarded as the cause of competitive uncertainties and may also lack any meaningful market share that they can put on the negotiation table (Burgers et al., 1993).

From a network perspective, however, there is much more scope for firms from developing countries to enter into strategic alliances. In particular, these firms may ally with large multinational firms to leverage the resources of

the latter, either as a means of enhancing their capabilities, or to access new markets. However, they may have to pay a high price for an asymmetric alliance, since their larger partners are likely to dictate the contractual terms (Stuart, 1998). However, developing-country firms seem to have few choices because it is mainly large multinational firms that enter foreign markets. Large multinational firms may also seek to augment their existing power in the industry by isolating the small firms from developing countries within the confines of a subnetwork, which the larger partners will dominate (Harrigan, 1988; Burgers et al., 1993). Asymmetric alliances will therefore lead to the narrow specialization of firms from developing countries and hence reduce their strategic flexibility. Moreover, these smaller firms may indeed have to take the lead in forging the alliance, voluntarily investing in relation-specific assets in order to gain the trust of the larger partners, essentially making themselves a ‘hostage’ to the alliance. Although the return to relation-specific investment may be disproportionate to their efforts because of their inability to appropriate the rent, these smaller firms will be subsequently compensated through opportunities to enter other alliances with the endorsement of their larger partners. Hence, we have the following hypothesis:

*Hypothesis 1:* Foreign firms that form alliances with firms from developing countries are likely to be larger than the domestic companies.

The conventional theories, particularly the transaction cost theory, highlight the control and governance mechanism involved in strategic alliances, with equity joint ventures and nonequity alliances being distinguished (e.g., Gulati and Singh, 1998). Along this line of reasoning, empirical studies have shown that individual firm attributes such as size, age, competitive position, product diversity and financial resources are important determinants of the structure of strategic alliances (Shan 1990; Shan et al., 1994; Powell and Brantley 1992). In contrast, the network approach emphasizes resource commitment and organizational integration in strategic alliances, rather than control and governance, as which may be substituted by trust (Ring, 1997). From a network viewpoint, equity joint ventures differ from nonequity alliances in that capital is an important part of resource commitment and integration of resources is to be performed outside the parent organizations of the partners entering the alliance. A joint venture is particularly attractive to large firms because it enables them to isolate a portion of capital and managerial resources for integration without involving the entire organization in the process. In comparison, small firms have little to gain from dividing up their organizational resources for partial integration and also have fewer financial resources to set aside for joint ventures. Hence, we have the following hypothesis:

*Hypothesis 2:* The larger the domestic firm, the more likely the alliance will be an equity joint venture.

From a network perspective, there may be important differences between various forms of nonequity alliances, in terms of resource commitment and organizational integration, which are overlooked by traditional views. In this paper, nonequity or contractual alliances are essentially delineated into functional contractual alliances (functional alliance for short) and trading contractual alliances (trading alliance for short), with functional alliances involving a higher level of resource commitment and organizational integration than trading alliances. The cost of switching partners in a functional alliance is also higher than that in a trading alliance.

Examples of functional alliances are joint research and development, joint production, joint marketing and cross-licensing, where a virtual organization such as a task force, a research consortium, a technology transfer team or the like is established to facilitate the resource exchange and organizational integration. Meanwhile, trading alliances exchange resources with a buying–selling connotation. Examples of trading alliances include original equipment manufacturer (OEM) contracts, original designer–manufacturer (ODM) contracts, licensing agreements and marketing agreements between manufacturers and sales agents. In each case, the buyers and sellers are identifiable. For instance, in the case of an OEM contract, the buyer provides the design, and the seller provides the manufacturing capacity. The exchange is a de facto market transaction. The only thing making it distinctive from a regular market transaction is that the alliance entails an interflow of information from both ends of the market, and through this, the partners commit themselves to collaborating for a sustained period. The buyers in OEM contracts may even invest in some product-specific equipment that allows manufacturers to improve their manufacturing capabilities. Such relation-specific investment yields returns that are not offered by arm’s-length transactions. There are also cases of ‘exclusive’ OEM contracts whereby manufacturers are committed to servicing their alliance partners only. This creates virtual factories for the buyers.

In the following, we argue that the choice among equity joint ventures, functional and trading alliances depends on the degree of resource interdependency between the alliance partners. From the network perspective, any relationship needs to be supported by some kinds of trust, which is one’s belief that the partner in the relationship will not exploit the vulnerability of oneself (Dore, 1983; Sako, 1991). If two partners are mutually dependent and equally vulnerable to its counterpart’s opportunistic behavior, then there is a deterrence to such an act. Strategic alliance built on such a deterrence will work as long as both partners show credible commitments to the agreed-upon goals. The more interdependent the partners are, the more serious commitment is needed to seal the alliance because the cost of breaking up relationships increases with the degree of interdependency. Functional alliances entail more commit-

ments than trading alliances, we hence have the following hypothesis:

*Hypothesis 3:* The more the alliance partners depend on each other for resources, the more likely they will enter a functional alliance as opposed to a trading alliance.

On the other hand, when resource contingency is one-sided, that is, one firm is more dependent on its partner than vice versa, the deterrence for breaching contracts does not exist and some other forms of trust will have to be established for an alliance to work. It has been suggested that equity joint venture, to which both partners commit their capital, is one way of creating mutual “hostages” when the deterrence for opportunistic behavior is lacking (Kogut, 1988). We hence have the following hypothesis:

*Hypothesis 4:* Alliance partners that are one-sided in terms of resource dependency are more likely to enter a joint venture than partners that are mutually dependent.

Taking four hypotheses together, we argue that developing-country firms are likely to enter asymmetric alliances with larger multinational firms from foreign countries. Firm size and resource dependency will affect their choice of alliance structure. Large domestic firms are more likely to enter equity joint ventures than their small counterparts. Alliance partners that are mutually dependent are likely to shun away from trading alliances that require few resource commitments and opt for functional alliances that involve more resource commitments. On the other hand, alliance partners that are one-sided in terms of resource dependency are likely to choose equity joint ventures.

#### 4. An empirical study of Taiwanese firms

In order to test the hypotheses posed above, we survey a number of Taiwanese manufacturing firms with experience in international strategic alliances. The sample is drawn from the company file of China Credit Information Services (CCIS), a reputable Taiwanese credit-rating company. The CCIS company file contains information on the business activities of Taiwanese companies with good standing. We choose companies for study from this file in the following four industries: chemical, machinery, electrical and electronic products and transportation equipment. These industries are recognized in the literature for their major international alliance activities (Veugelers, 1995; Gomes and Ramaswamy, 1999). There are 5140 firms in these four industries in the CCIS database, including 406 large firms and 4734 small firms, where small firms are defined as those enterprises employing less than 300 persons. We conduct a survey of all of the large firms and a random sample of one third of the small firms, hence, we take a total of 1597 firms as the survey population. We first contacted top managers of each firm to inquire whether they had engaged in any international strategic alliances between 1990 and 1997.

Table 1  
Motivating factors for Taiwanese firms' alliance decisions

Motivating factors	Cases (%)
To access new market	88 (55.3)
To access complementary capabilities	74 (46.5)
To learn new technologies	65 (40.9)
To gain internationalization experience	49 (30.8)
To form a strategic partnership	42 (26.4)
To shorten time to market	28 (17.6)
To share costs	24 (15.1)
To share risks	22 (13.8)
To achieve scale economies	20 (12.6)
To increase market power	20 (12.6)
To exploit economies of scope	12 (7.5)
To reduce competition	11 (6.9)
Sample size, <i>n</i>	159

Out of this population, 394 firms provided an affirmative answer, to which we mailed a detailed questionnaire and collected 159 valid responses.

In the questionnaire, we first ask the respondents what motivates them to form strategic alliances with foreign-based firms. The results are listed in Table 1. It can be seen in this table that the predominant motives are (1) to access new markets, (2) to access complementary capabilities, (3) to learn new technologies and (4) to gain internationalization experience, in that order. Secondary motives include the formation of strategic partnerships and the shortening of time to market. Typical motives driving strategic alliances in oligopolistic industries, such as cost sharing, risk sharing, achieving scale economies, increasing market power and exploiting economies of scope, are regarded as minor considerations by Taiwanese firms. This is because Taiwanese firms mostly operate in competitive industries in which ‘small number bargaining’ is irrelevant to their competition strategies. In contrast, Taiwanese firms’ primary aspirations in strategic alliances are gaining market access, strategic capabilities, new technologies and the ability to internationalize.

Table 2 lists the size of foreign partners in Taiwan’s cross-border alliances. It can be seen that most Taiwanese firms collaborate with partners with a larger firm size—60.4% of them had allied with larger foreign firms. Using this sampling result, we may formally test Hypothesis 1 that Taiwanese firms are more likely to enter asymmetric alliances with larger foreign firms than symmetric alliances with foreign firms having a comparable size. We set the null hypothesis that Taiwanese firms are indifferent between larger partners and partners with a similar or smaller size, and, hence, the population follows a Bernoulli distribution with a probability of .5 in choosing a larger partner. The observed proportion of our sample firms that indeed ally with a larger partner,  $X$ , should follow a standard normal distribution when subtracted by the hypothesized probability, .5, and divided by the standard deviation. The standard deviation can be estimated by  $\sqrt{P(1-P)/n}$ , where  $P$  is the

Table 2  
Comparison of firm size of alliance partners

Compared with Taiwanese firms	Cases (%)
Smaller	39 (24.5)
Same	24 (15.1)
Larger	96 (60.4)
Sample size	159

hypothesized probability and  $n$  is the sample size (see Tull and Hawkins, 1993, pp. 633–634). That is

$$\frac{X - .5}{\sqrt{P(1 - P)/n}} \sim Z(0, 1)$$

Plugging in the observed proportion for alliances with larger partners (0.604) and the sample size (159) from Table 2, we obtain a  $z$  statistic (standard normal distribution) of 2.62. The result indicates that the null hypothesis of Taiwanese firms being indifferent to partner size can be rejected at the 1% significance level, suggesting that they indeed prefer larger partners from foreign countries. Asymmetric partnerships sought by Taiwanese firms indicate their strong desire to ride piggyback on the international giants in order to build linkages to international networks. The test confirms Hypothesis 1, that firms from developing countries are more likely to engage in asymmetric alliances with larger foreign firms. Table 1 also suggests that horizontal alliances aimed at reducing competitive uncertainty are not viable options for developing-country firms.

Large partners favored by Taiwanese firms are typically reputable firms. Table 3 shows the reputation and general image that Taiwanese firms perceive their partners as possessing. It can be seen that most alliance partners are viewed by Taiwanese firms as reputable and respectable in the industry. Indeed, 75.8% of them view their partners to be more reputable than themselves, 22.8% of them view their partners to be as reputable as themselves, and only 1.3% saw their partners as less reputable. Furthermore, there is a high correlation between being large and reputable. Out of 96 foreign partners that are identified as larger in size than their Taiwanese partners, 87 are also deemed to be more reputable. Alliances with reputable partners improve the position of Taiwanese firms in international networks and increase their ability to mobilize resources within these networks. Siding with large and reputable partners in the networks also strengthens the bargaining power of Taiwanese firms in entering new alliances.

Table 3  
Reputation and image of alliance partners

Compared with other firms in the industry	Case (%)
Weaker	2 (1.3)
Same	36 (22.9)
Stronger	119 (75.8)
Sample size	157

Next, we look at the choice of alliance structure by Taiwanese firms. We first separate the alliance structure into two broad categories: equity joint venture and contractual alliance; the former involves equity participation and the establishment of a new legal entity, whilst the latter does not. The contractual alliance is further delineated into functional and trading alliances. We will distill the factors of firm size and resource dependency in the choice of alliance structure.

The relationship between firm size and alliance structure is examined in Table 4. It can be deduced from the table that large firms are more inclined to enter into equity joint ventures than small firms. Among the 91 cases of large domestic firms engaging in strategic alliances, 46 take the form of equity joint ventures (representing 50.5% of the total), whilst out of 68 cases of small domestic firms engaging in strategic alliances, only 23 of these are equity joint ventures (representing 33.8% of the total). A chi-square test on the difference between large and small firms in terms of the distribution of equity and nonequity alliances yields a statistic of 4.432, suggesting that the distributions are significantly different at the 3% level.

We may also conduct a regression test on the choice of alliance structure. Before we do that, however, let us first measure the degree of resource dependency, which also affects the choice. Presumably, a firm depends on its partner in the alliance for resources in some areas and in return contributes resources to the alliance in other areas. We measure resource dependency between the alliance partners in three areas: production, marketing and R&D (technology). The extent to which a firm depends on its partner for resources is gauged on a scale from 0 to 2, corresponding to *not dependent at all* (0), *somewhat dependent* (1) and *very dependent* (2). The contributions to the alliance by the respondent firm itself is also measured by the same scale, corresponding to *not contributing at all* (0), *contributing some* (1) and *contributing a great deal* (2). The scales are assessed by the respondent firms.

Table 4  
Alliance structure and firm size

Alliance structures	Small firms	Large firms	Total
Equity joint ventures	23 (33.8)	46 (50.5)	69 (43.4)
Functional alliance	16 (23.5)	16 (17.6)	32 (20.1)
Joint research and development	8 (11.8)	7 (7.7)	15 (9.4)
Joint production	6 (8.8)	9 (9.9)	15 (9.4)
Joint marketing	7 (10.3)	6 (6.6)	13 (8.3)
Cross-licensing	2 (2.9)	2 (2.2)	4 (2.5)
Trading alliance	29 (42.6)	29 (31.9)	58 (36.5)
OEM	6 (8.8)	6 (6.6)	12 (7.5)
ODM	2 (2.9)	3 (3.3)	5 (3.1)
Licensing	14 (20.6)	18 (19.8)	32 (20.1)
Marketing via agents	10 (14.7)	5 (5.5)	15 (9.4)
Sample size	68	91	159

Figures in parentheses are percentages.

Large firms refer to firms that employ 300 persons or more; the rest are small firms.

Table 5  
Estimated population marginal means of resource interdependency

Grand mean	Size		Alliance structure		
	Small firms	Large firms	Equity joint venture	Functional alliance	Trading alliance
0.8264	0.9683	0.6845	0.4565	1.2813	0.7414
	$F=1.297$ ( $P=.257$ )		$F=3.315$ ( $P=.039$ )		

Resource interdependency is measured by a scale from 0 to 4; the higher the figure, the more interdependent are the partners engaged in the alliance.

We measure resource dependency by subtracting the respondent's own contribution to the alliance from its dependence on the partner, within a scale ranging from  $-2$  to  $2$ . A negative number indicates that the respondent firm contributes resources to the alliance in net; a positive number indicates the firms receive resources from the alliance in net. Mutual dependency in an alliance means that there are positive numbers in some areas and negative numbers in other areas. Out of the dependency measures in three areas, we choose the largest positive number and the largest negative number and add the absolute values of the two numbers to come up with an index for resource interdependency. For example, if the measures for resource dependency in R&D, production and marketing are  $1$ ,  $-1$  and  $2$ , respectively, then the index for resource interdependency is  $3$ . In case that all three measures are positive, that is, resource contingency is one-sided, the index for resource interdependency is taken to be  $0$ , indicating that there is no interdependency. There are a few all-positive cases in our sample, but there are no all-negative cases, suggesting that foreign partners never depend on Taiwanese firms unidirectionally.

Table 5 lists the estimated population marginal means of the degree of resource interdependency, categorized by firm size and alliance structure. Population marginal means, also called least-squares means, differ from sample means in that they are independent of the number of observations and hence are free from the problem of underrepresentation or overrepresentation in the case of categorical data (Searle et al., 1980). Table 5 shows that the mean value of resource interdependency is  $0.9683$  for small firms and  $0.6845$  for large firms, but the difference is statistically insignificant. It also shows that partners in functional alliances have the highest degree of resource interdependency, with a mean index of  $1.2813$ , which is higher than the mean index for trading alliances ( $0.7414$ ), and a mean index for equity joint ventures of  $0.4565$ . Statistical ( $F$ ) test indicates that the difference among the three alliance structures is significant at the  $3.9\%$  level with a  $F$  value of  $3.315$ . This suggests that the degree of resource interdependency is highest in functional alliances, followed by trading alliances and lastly by equity joint ventures.

We may now use this index of resource interdependency, together with firm size, to see how it affects the choice of

alliance structures by individual firms in a multinomial logit regression analysis. The results are as follows:

$$\text{EJV} = -1.1568_{(1.0189)} + 0.3945 \text{ SIZE}_{(0.1811)} - 0.2797 \text{ INDP}_{(0.1393)}$$

$$\text{TRADE} = 0.1046_{(0.9840)} - 0.1289 \text{ SIZE}_{(0.1785)} - 0.1920 \text{ INDP}_{(0.1339)}$$

In the multinomial logit regression, we take functional alliance as the benchmark and treat trading alliance (TRADE) and equity joint venture (EJV) as two alternative choices. SIZE is firm size measured by the logarithm of employment; INDP is the degree of resource interdependency as measured above; the numbers in parentheses are standard errors. The results indicate that the coefficient of SIZE is significant at the  $2\%$  level for the EJV equation, but not for the TRADE equation. This confirms Hypothesis 2, that the larger the firms, the more likely they will enter equity joint ventures as opposed to nonequity alliances. It also indicates that firm size is inconsequential to the choice between trading and functional alliances.

On the other hand, the coefficient of INDP (resource interdependency) is significant for the EJV equation at the  $4\%$  level, but only marginally significant at  $15\%$  level for the TRADE equation. Hence, it only weakly confirms Hypothesis 3, that the more interdependent the partners are (shown by a large INDP), the more likely that they will stay away from trading alliances and opt for functional alliances. It confirms Hypothesis 4 rather strongly in the assertion that lack of interdependency will push alliance partners to enter equity joint ventures.

## 5. Conclusion

In this paper, we apply the network approach to examine the adoption of strategic alliances by firms from a developing country, namely Taiwan. The aspirations to access new markets and the desire to widen their experience, in terms of internationalization, are found to be important forces driving Taiwan's strategic partnerships with developed-country firms. In contrast, strategic considerations, such as reducing competitive uncertainties and increasing market power, are found to be unimportant. It is typical for a Taiwanese firm to ally itself with a foreign partner that is much larger than itself and possesses a much greater reputation within the industry.

An alliance with a powerful and reputable partner provides Taiwanese firms with legitimacy in the new markets. It also enhances the attractiveness of Taiwanese firms in their quest for new rounds of partnerships within the networks. Taiwanese firms are likely to engage in strategic alliances in which they are subordinate to their dominant

partners, but they use these alliances as leverage for other opportunities. Large Taiwanese firms are more likely to enter joint ventures than small firms, as they prefer joint ventures as a way of avoiding organizational conflicts in resource integration. Compared to contractual alliances, equity joint ventures also show a lower degree of resource interdependency between the partners.

The network view differs from the traditional view mainly because of its emphasis on the contingency of relationships that provide insights into the working of alliances. Although in our analysis, we examine a dyadic relationship in conformity with the conventional practice in the literature, what we have examined can be considered as a network dyad with connections to other relationships within the network. We interpret asymmetric strategic alliances as an investment by firms from developing countries to gain access to new network opportunities, or to enhance their power in other network relationships. Large firms are more inclined to undertake equity joint ventures than small firms because they have different needs in the management of network relationships. With an equity joint venture, large firms can single out a proportion of their resources to be integrated with those of their partners without interfering with the rest of the relationships inside and outside their organizations. Small firms have less concern about the possibility of relationship conflicts because of their small organizations and centralized controls.

## References

- Burgers WP, Hill CWL, Kim WC. A theory of global strategic alliances: the case of the global auto industry. *Strateg Manage J* 1993;14:419–36.
- Dacin MT, Hitt MA, Levitas E. Selecting partners for successful international alliances: examination of US and Korean firms. *J World Bus* 1997;32(1):3–16.
- Dore R. Goodwill and the spirit of market capitalism. *Br J Sociol* 1983;34(4):459–82.
- Dyer JH. Specialized supplier networks as a source of competitive advantage: evidence of the auto industry. *Strateg Manage J* 1996;17:55–83.
- Dyer J, Singh H. The relational view: cooperative strategy and sources of inter-organizational competitive advantage. *Acad Manage Rev* 1998;23(4):660–79.
- Doz YL. The evolution of cooperation in strategic alliances: initial conditions or learning process? *Strateg Manage J* 1996;17:55–78.
- Ebers M. Explaining inter-organizational network formation. In: Ebers M, editor. *The formation of inter-organizational networks*. Oxford (UK): Oxford University Press, 1997. p. 3–40.
- Eisenhardt K, Schoonhoven CB. Resource-based view of strategic alliance formation: strategic and social effects in entrepreneurial firms. *Organ Sci* 1996;7(2):136–50.
- Gerlach M. Alliance capitalism: the social organization of Japanese business. Berkeley (CA): University of California Press, 1992.
- Gilroy BM. *Networking in multinational enterprises: the importance of strategic alliances*. Columbia (SC): University of South Carolina Press, 1993.
- Gomes L, Ramaswamy K. An empirical examination of the form of the relationship between multinationality and performance. *J Int Bus Stud* 1999;30:173–88.
- Granovetter M. Economic action and social structure: a theory of embeddedness. *Am J Sociol* 1985;91:481–510.
- Gulati R, Singh H. The architecture of cooperation: managing coordination costs and appropriation concerns in strategic alliances. *Adm Sci Q* 1998;43:781–814.
- Hagedoorn J. Understanding the rationale of strategic technology partnering: inter-organizational modes of cooperation and sectoral differences. *Strateg Manage J* 1993;14:371–85.
- Hamel G. Competition for competence and inter-partner learning within international strategic alliances. *Strateg Manage J* 1991;12:83–103.
- Harrigan KR. *Strategies for joint ventures*. Lexington (MA): Lexington Books, 1985.
- Harrigan KR. Joint ventures and competitive strategy. *Strateg Manage J* 1988;9:141–58.
- Harrigan KR. The role of inter-company cooperation in integrated strategy: strategic alliances and partnering arrangements. In: Thorelli HB, editor. *Advantage in strategic management: integral strategy—concepts and dynamics*. Greenwich (CT): JAI Press, 1995. p. 5–20.
- Hitt M, Dacin T, Levitas E, Arregle Anca Borza J-L. Partner selection in emerging and developed market contexts: resource-based and organizational learning perspectives. *Acad Manage J* 2000;43:449–67.
- Imai K. Evolution of Japan's corporate and industrial networks. In: Carlsson B, editor. *Industrial dynamics: technological, organizational and structural changes in industries and firms*. Boston (MA): Kluwer Academic Publishers, 1989. p. 123–55.
- Kogut B. Joint ventures: theoretical and empirical perspectives. *Strateg Manage J* 1988;9:319–32.
- Larson A. Network dyads in entrepreneurial settings: a study of the governance of exchange relationships. *Adm Sci Q* 1992;37:76–104.
- Osborn RN, Baughn CC. Forms of inter-organizational governance for multinational alliances. *Acad Manage J* 1990;33:503–19.
- Powell WW, Brantley P. Competitive cooperation in biotechnology: learning through networks. In: Nohria N, Eccles R, editors. *Networks and organizations: structure, form and action*. Boston (MA): HBR Press, 1992. p. 366–94.
- Ring PS. Processes facilitating reliance on trust in inter-organizational networks. In: Ebers M, editor. *The formation of inter-organizational networks*. Oxford: Oxford University Press, 1997. p. 113–45.
- Sako M. The role of 'trust' in Japanese buyer–supplier relationships. *Ric Econ* 1991;45(2–3):449–74 (april–septembre).
- Searle SR, Speed FM, Milliken GA. Population marginal means in the linear model: an alternative to least square means. *Am Stat* 1980;34(4):216–21.
- Shan W. An empirical analysis of organizational strategies by entrepreneurial high-technology firms. *Strateg Manage J* 1990;11:129–39.
- Shan W, Walker G, Kogut B. Inter-firm cooperation and startup innovation in the biotechnology industry. *Strateg Manage J* 1994;15:387–94.
- Stuart T. Network positions and propensities to collaborate: an investigation of strategic alliance formation in a high-technology industry. *Adm Sci Q* 1998;43:668–98.
- Tull D, Hawkins D. *Marketing research: measurement and method*. New York: Macmillan, 1993.
- Veugelaers R. Alliances and the pattern of comparative advantages: a sectoral analysis. *Int Bus Rev* 1995;4:213–31.
- Williamson O. *The economic institutions of capitalism*. New York: Free Press, 1985.
- Williamson O. Comparative economic organization: the analysis of discrete structural alternatives. *Adm Sci Q* 1991;36:269–96.
- Yoshino M, Rangan US. *Strategic alliances: an entrepreneurial approach to globalization*. Boston (MA): Harvard Business School Press, 1995.