Do Japanese Firms use Joint Ventures to Steal Knowledge from their American Partners?
The Evolution of Japanese-US Joint Ventures in Japan

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Abstract

We test whether Japanese firms used joint ventures (JVs) with US partners in Japan as Trojan Horses to internalize their US partners' technological know-how. Proponents of the Trojan Horse Hypothesis (THH) have assumed that Japanese firms have used JVs with Western partners to steal knowledge from them and that they have dissolved them as soon as they have completed the learning. Looking at the evolution of all Japanese-US JVs in Japan over the 1987-1996 period, we find no support for the hypothesis that Japanese firms are following a Trojan Horse strategy, as in 56 percent of all cases they have maintained their JV stakes unchanged over the whole period. Full acquisition of the JV by Japanese partners occurred in less than one-third of all cases, suggesting that THH is not a good description of Japanese JV partnership behavior.

1. Introduction

Joint ventures and alliances are increasingly seen as mechanisms for inter-partner or inter-organizational learning (see for example Peng, 2001; Gleister and Buckley, 1996; Shenkar and Li, 1999). One particular strand of this viewpoint is the so-called Trojan Horse hypothesis (THH) developed by Hamel (1991) and Reich and Mankin (1986). According to these authors, the Japanese enter joint ventures with Western partners in order to steal their technology and skills (Hennart et al., 1999; Ishii and Hennart, 2006; Ishii and Hennart, 2007). This is, according to Hamel (1991) one of the sources of Japanese technological performance in the post-WWII period.

THH authors see learning as the main purpose of joint ventures. This is in contrast with the transaction cost approach which argues that alliances seek value creation through cooperative specialization and that JVs are chosen whenever they are the most efficient among alternative transaction forms (Ishii, 2003; Hennart, 1988; Zeng and Hennart, 2002).

The THH hypothesis is built on two assumptions. One is that Japanese firms enter joint ventures with Western firms to absorb their knowledge, what has been called the competitive learning perspective (Ishii and Hennart, 2006; Ishii and Hennart, 2007). THH proponents argue that the Japanese are better in this task than their Western partners. This is because the Japanese possess more of the factors that facilitate learning such as intent, transparency, and receptivity (Hamel, 1991). That the Japanese are better learners in inter-partner collaborations has also been found in the supply chain management literature (i.e., Asanuma, 1989; Clark & Fujimoto, 1991; Dyer & Nobeoka, 2000). These observations and findings about learning behavior in JVs have influenced some subsequent research on “absorptive capacity” in JVs and strategic alliances (Lane et al., 2001; Lane and Lubatkin, 1998; Mowery et al., 1996).

The second assumption made by THH protagonists is that the Japanese see JVs as short term, to be dissolved as soon as learning is complete through the buying out or selling off of JV stakes, or through JV liquidation or bankruptcy. For example, Hamel (1991) argues, in the case of Japanese JVs with Western partners in Western countries, that the goal of Japanese partners in Japanese-Western JVs is to extract local market-related knowledge from their Western partners. Once such local market knowledge is acquired, the JV is no longer necessary to the Japanese partners, and they will persuade their Western partners to sell-off their JV stake to them. If they can easily set up their own subsidiary, they may sell off their JV stake to their Western partner or to another firm and start their own wholly-owned affiliate. If the Western partner refuses to sell-off its JV stake, the Japanese company will use its bargaining power to increase its ratio of the JV dividends, resulting in the inter-partner relationship getting worse. In the end, the Western partner will sell-off its JV stake or the JV will be liquidated or go bankrupt because of these inter-partner conflicts.

One implication of this view of JVs as learning races is that JVs are inherently unstable and prone to inter-partner conflicts (Auster, 1986; Harrigan, 1988; Kogut, 1989). This contrasts with the transaction costs view which stresses cooperative specialization and hence sees JVs as more inherently stable (Zeng and Hennart, 2002). Which of these two views is correct has yet to be sufficiently tested.[1]

2. Theoretical framework

The focus of our study is the evolution of JVs between US and Japanese firms in Japan. American firms entered these JVs in order to access or internalize knowledge on Japanese customers, human resource management practices, and purchasing and distribution customs. In turn the American partner usually brought technological or marketing know-how. Of course, in some cases this may have been reversed, with the Japanese partner providing technological knowledge and the American partner market knowledge. However, we assume that if partners exchange complementary knowledge in the JV, the Japanese partner—having experience of local business operation and networks—will supply local market-related knowledge, while the American partner will supply technology or marketing knowledge. Therefore, inter-partner learning in this JV type would consist of Japanese partners internalizing technology-related knowledge from their American partner, and the American partner internalizing local market knowledge from their Japanese partners.

Hennart et al (1999) and Ishii and Hennart (2006; 2007) argue that the use by the Japanese of JVs with US partners as Trojan Horses has specific implications for the

[1] For example, Hennart et al. (1998) compared the longevity of Japanese JV and wholly-owned subsidiaries and found that Japanese terminate JVs by selling off their JV stake rather than by JV liquidation. This research was the first to test JV vulnerability while controlling factors that affect the longevity of foreign affiliates.

pattern taken by their evolution. Specifically, there are three likely scenarios for such JVs.[2]

The first scenario (S-1) is the expropriation and buyout strategy. As Japanese firms learn from their American JV partners faster than the latter learn from them, the bargaining power of the Japanese increase and they can eventually persuade their American partner to sell their stakes to them. Then, the JV becomes a wholly owned subsidiary of the Japanese partner.

The second scenario (S-2) is the expropriation and sellout strategy. Within this scenario, there are two possible paths that the Japanese can take after absorbing the knowledge held by their American partners. If, after learning is complete, the assets of the JV are no longer useful to carry out business, the Japanese partner may wish to liquidate the JV. If the assets of the JV are still valuable, the Japanese may sell its JV stake to the American partner or to another firm. These paths result in the Japanese exploiting the knowledge acquired from their former US JV partner in a new subsidiary or within their existing domestic organization.

In the third scenario (S-3), the Japanese firm uses its bargaining power gained through winning the learning race to inflate the price of its contribution to the JV. This will raise the Japanese share of profits or reduce their share of costs. Such behavior is likely to increase inter-partner conflict and reduce the level of inter-partner trust. Hence, it increases the chances of the Japanese or American partner exiting from the JV, resulting in liquidation of the JV or sell-off of the JV stake.

3. Operational hypotheses

THH assumes that the Japanese partners in Japanese-US JVs in Japan will expropriate the knowledge of their American partners, mostly technology or skills, and then transfer it to their existing internal business unit or subsidiary. When this is achieved, the Japanese will no longer need the JV and they will sell off their stake to their partner or liquidate the JV. If JV assets are still useful, the Japanese may keep their JV stake, but we would expect conflicts between partners to lead to termination. According to Pucik (1988), the Japanese are very tempted to exit from international JVs

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[2] These scenarios are based on Hennart et al. (1999) who discussed Japanese JVs with American partners in the U.S. market.

in Japan and to pull these businesses back into their domestic operations because they typically manufacture the JV's products in their domestic factories, and hence can easily transfer the skills acquired from their US partners to their domestic operations. On the other hand, if the Trojan Horse hypothesis is not supported, and JVs are better described by cooperative specialization, then we would expect to see Japanese firms continuing to work with their American partners and most JVs to be stable.

One way to ascertain what is the most common pattern is to compare the number of JVs that have evolved in ways that are consistent with the THH scenario to those whose evolution is not consistent with the scenario. If the former is greater than the latter, then the THH is supported. Hence:

> H1: THH is supported if the number of cases of Japanese-American JVs in Japan where the Japanese partner buys full ownership from its American partner, where the JV is liquidated or where the Japanese partner divests its share to its American partners or to other firms, is higher than the number of JVs where ownership shares remain unchanged.

According to Hennart et al. (1999), the most desirable strategy for Japanese firms who want to play Trojan horse is to buy out the JV stake of their American partner. This is because by doing so they inherit an ongoing concern, which can immediately provide returns on their newly stolen knowledge assets. In addition, Japanese firms might prefer to continue the relationship with their subsidiaries rather than completely sever it if they tend to emphasize long-term relationships with partly invested subsidiaries. Moreover, for Japanese firms in Japan, buying out their partner's JV stake is more preferable than a selloff strategy that leaves them with a direct competitor. If a Japanese partner sold out its JV stake to an American partner, it would be more difficult for the Japanese partner to compete in its home market because it would now face a new competitor, the American partner who, through its ex-JV, may have learned local market knowledge from its erstwhile Japanese partner. If the JV is bought out by the Japanese, then the American partner will have to overcome the additional hurdle of setting up a new subsidiary in Japan to utilize the local knowledge obtained from its former Japanese partner. Hence, if Japanese firms use JVs as Trojan horses, most Japanese-American JVs in Japan are likely to be fully acquired by their Japanese partners. This leads to the next hypothesis, a strong version of the THH that is modified from Hypothesis 1 of Hennart et al. (1999) and Hypothesis 2 of Ishii and Hennart (2006):

> H2: THH is supported if the number of cases of Japanese-American JVs in Japan where the Japanese partner buys full ownership from its American partner is higher than the number of JVs where the Japanese partner sells its share to its American partner or to other firms, or where Japanese ownership shares remain unchanged.

In addition, the liquidation or bankruptcy option may also be attractive to Japanese parents. It is relatively easier for Japanese firms to utilize the absorbed knowledge after the liquidation of JVs in their home market than in the case of their JVs abroad. In Japan, Japanese firms can easily transfer the knowledge obtained in the JV to their existing domestic business units, while overseas they would need to set up another new affiliate. In addition, it is expected that in the case of US-Japanese JVs in Japan, Japanese firms obtain more technology-related knowledge than market-related knowledge from their American partners. Therefore, for Japanese firms, the liquidation or buy out option is more preferable than the sell-off one that would leave them with a direct competitor. From this assumption, we offer a weak version of the THH that is modified from Hypothesis 2 of Hennart et al. (1999) and Hypothesis 3 of Ishii and Hennart (2006):

> H3: THH is supported if the number of cases of Japanese-American JVs in Japan where the Japanese partner buys full JV ownership from its American partner or where the JV is liquidated is higher than the number of cases of JVs where the Japanese partner divests its share to its American partner or to other firms, or where Japanese ownership shares remain unchanged.

4. Methods

4.1. Data sources

We developed a list of Japanese-American JVs in Japan from the 1988 issue of *Foreign-affiliated companies in Japan* (FACIJ) published by Toyo Keizai. FACIJ is the most comprehensive publicly available annual list of foreign-affiliated firms in Japan and successive editions of FACIJ allow us to trace their history. Data in FACIJ is obtained from a questionnaire sent in June 1987 to the affiliates of foreign firms in Japan. The questionnaire had approximately a 90% response rate. To be included in FACIJ, these foreign affiliates had to have capital of over ¥50 million and a foreign ownership share of over 49% (or over 20% for public limited or large firms). There were 319 American affiliates in manufacturing industries (food, textiles, paper, chemicals, pharmaceuticals, petroleum and coal, plastic, rubber, glass, steel, non-ferrous metals, machinery, electrical equipment, automobiles, non-automotive transport machinery, precision measuring equipment, and others). We further reduced the number of observation with the following rules.[3]

First, we only included manufacturing affiliates which were jointly owned by a single Japanese firm and a single American firm (this led to the exclusion of 76 affiliates because they had three separate partners). Although this criterion decreases the size of our sample, it simplifies the analysis of inter-partner relationship and its impact on JV evolution.[4] We further focused on JVs in which none of the partners owned more than 80 percent of the shares (this eliminated 77 affiliates where the US partner's share was over 80 percent and one where it was less than 20 percent). FACIJ only lists foreign-affiliated companies whose shareholding is more than 20 percent owned by their foreign parents. Therefore, including JVs where the foreign parent had a stake greater than 80% would mean that the Japanese stake is less than 20%. To make the JV stake between Japanese and American partners symmetrical, we excluded JVs that were

[3] The data required for applying these criteria and for ascertaining JV evolution was also obtained by directly contacting the JVs, their parent firms, and their main suppliers and customers. In addition, we consulted secondary sources such as newspapers and magazines, mostly searched through LexisNexis, an electronic database of periodicals, quarterly corporate reports, and through the Internet homepages of the JVs and of their parent firms. We also obtained information from other institutions; such as branches of the Japan External Trade Organization (JETRO), the trade-related departments of embassies, the American Chamber of Commerce in Japan, trade publications, and local governments and libraries in locations where the JV operated.

[4] We also calculated ultimate ownership by adding up indirect stakes. For example, the JV named Daiichi Radiosotope Laboratory Ltd. (DRL) was in 1987 50% owned by Malinckrodt Inc., which was in July 1987 itself 50% owned by International Minerals & Chemical Co. (IMC). Hence we consider IMC to be the American parent. The remaining shares in DRL were owned by two Japanese firms, Daiichi-Kagaku-Yakuhin Co. (35%) and Daiichi-seiyaku Co. (15%). However, because Daiichi-Seiyaku owned more than 50% of Daiichi-Kagaku-Yakuhin Co., we consider Daiichi-seiyaku Co. to be the other parent of DRL with an aggregate 50% share.

more than 80% owned by their American parents.[5]

Second, we eliminated 9 affiliates which had less than nine employees, since very small JVs are unlikely to serve as channels for inter-organizational learning. Also eliminated were two affiliates where the Japanese parent was an individual, not a firm, again because THH deals with inter-organizational learning. We also excluded affiliates owned by non-manufacturing parents (i.e. parents in agriculture, fisheries, banking and finance, and affiliates owned by the six major general trading companies, Mitsubishi, Mitsui & Co., Itochu, Sumitomo, Marubeni, Nichimen, and Nissho-Iwai)[6]. Lastly, we only included affiliates that were manufacturing in Japan as of June 1987 either in a factory within the JV or by outsourcing production to the Japanese parent or to other firms in Japan. Thus, we excluded sales subsidiaries, R&D laboratories, finance firms, or affiliates involved in warehousing and trade, unless they also operated production activities in Japan.

4.2 JV stake evolution

We compared the Japanese JV stake in 1987, which was obtained from the 1988 issue of FACIJ, and their 1996 stake, which was obtained from a 1996 questionnaire published in the 1997 issue of FACIJ. As discussed in Ishii and Hennart (2006), a nine-year window is sufficient for observing most of the changes that affect JVs.[7] If a JV partner follows THH strategies, this should result in substantial changes in JV stakes within this time period (Hennart et al., 1999). To verify the robustness of our results, we also performed the same analysis over a 12 year window (1987 to 1999).

The main reason we selected the year 1987 as our starting point is that the criteria for inclusion of foreign-affiliated firms in the 1988 FACIJ lists have remained

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[5] We could have restricted our sample to those affiliates where the JV stake of the parents is greater than 33.4%. In Japan a shareholder with over one-third ownership can block shareholder proposals at shareholder meetings. Hence, partners with a JV stake of more than 33.4% in two-partnered JVs have relatively equal power to govern the JV. This is even more so in JVs where each partner owns 50% , and focusing on such JVs is another research option. However, we took our JV criteria of each parent owning 20-80% stake in order to maximize our sample size. In addition, we think that shareholder's requirements of each parent cannot be ignored in such JVs.

[6] We included the manufacturing affiliates of specialized trading companies because these non-six-major-general-trading companies are more committed to a specific industry and can be expected to try to learn technological or market-related knowledge from their JV partners. Such specialized trading companies can be considered to be manufacturers in contrast to General Trading Companies.

[7] Kogut (1988) found that instability rates for JVs peaked six years after their establishment.

relatively consistent over the following years.[8]

5. Results

Table 1 presents the evolution of the stake of the Japanese partners in our 51 Japanese-American JVs in Japan between 1987 and 1996.

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As seen in Table 1, Japanese parents changed their JV ownership level in 64 cases (42 percent of the total JVs). In 41 of these 64 cases (24 percent of the total JVs), Japanese partners acquired a stake of 95% or more, transforming the JVs into Japanese wholly-owned subsidiaries. In 14 cases (9 percent of the total JVs) the stake of the Japanese partner fell to below 5%. In 87 instances (58 percent of the total JVs), the level of Japanese JV ownership remained unchanged. Table 2 presents the same evolution over a 12 year period (1987 to 1999).

Table 2 is inserted here

Japanese parents changed the ownership level of their JVs in 80 cases (53 percent of the total JVs). In 49 of these 80 cases (or 32 percent of the total JVs), Japanese partners acquired a JV stake of 95% or more. In 20 cases (13 percent of the total JVs) Japanese ownership was reduced to less than 5 percent. In 71 cases (or 47 percent of the total JVs), the level of Japanese JV ownership remained unchanged.

Table 3 shows how the Japanese stakes in Japanese-American JVs changed over the 1987–1996 and 1987–1999 periods.

Table 3 is inserted here.

[8] In addition, the period seems to be one when American firms were encouraged to invest in Japan because the Japanese government promoted foreign investment in Japan to improve the bilateral trade imbalance with foreign countries. According to Ogihara (2003), the Japanese government revised foreign exchange laws, provided information and financial support to foreign firms who wished to enter the Japanese market in the late 1980s, and promoted a business environment that increased the transparency of trade practices in 1990.

Table 3 shows that the Japanese ownership in Japanese-American JVs in Japan over the 1987–1996 period was relatively stable. In 84 of the 151 cases (56 percent of the total JVs), Japanese parents stayed in the JVs; in 64 cases the Japanese stakes remained unchanged; in three cases (2 percent of the total JVs) Japanese stakes increased (but not to over 95 percent); and in nine cases (6 percent of the total JVs) Japanese stakes decreased (but not to below 5 percent). Therefore, the pattern of the evolution of Japanese JVs does not seem to fit the Trojan Horse Hypothesis.

Table 3 also shows that the Japanese second most popular JV strategy is to buy out the stake of their American partner. In the 1987–1996 period, there were 41 cases (27 percent of the total JVs) where Japanese parents increased their JV share over 95 percent, and almost all of them (37 cases and 25 percent of the total JVs) were done by Japanese buying out the JV stakes of their American partners. In 14 cases (9 percent of the total) Japanese ownership decreased to less than 5%. In eight of these cases (5 percent of the total), the Japanese parents sold their stake to their American partners, and in one case, the Japanese parent sold its stake to a firm other than its 1987 American partner. Four JVs (3 percent of the total JVs) were liquidated or dissolved.

The results for the 12 year period (1987–1999) are very similar. The dominant pattern (82 cases or 54% of the total JVs) is one where Japanese parents kept their JV stake: in 67 cases or 44% of the total Japanese stakes remained unchanged; in four cases, or 3 percent of the total Japanese stakes increased but not to over 95 percent; and in 11 cases, or 7 percent of the total, Japanese stakes decreased. The second most popular pattern was one in which Japanese parents bought out the JV stakes of their partners (49 cases or 32 percent of the total JVs); in most of them (44 cases and 29 percent of the total JVs), Japanese parents bought out the stakes of their American partners. In a third strategy (20 cases or13 percent of the total JVs), the Japanese sold off their ownership so it reached less than 5 percent; in nine of these cases (6 percent of the total JVs), the Japanese parents sold their stakes to their American partners, and in two cases, to other firms. Seven JVs (5 percent of the total JVs) were liquidated or dissolved.

None of our three hypotheses are supported in the 9 year time frame. Hypothesis 1 was not supported because the number of cases where the ownership shares remained unchanged (84) was higher than 50, the sum of the number of cases where the Japanese partner bought full ownership from their 1987 American partner (37), the JV was liquidated (4), and the Japanese partner sold its stake to its American partner or to a firm other than their 1987 American partner (9).

Hypothesis 2 received no support either in the 9-year period analysis. The number of cases where Japanese partners sold their stakes to their 1987 American partners or to a firm other than their 1987 American partner (9) or where the JV stakes remained unchanged (84), was higher than the number of cases where the Japanese bought their American partners' JV shares (37). Counting the case of a Japanese JV partner acquiring its 1987 American partner case as one of Japanese parent buying out the JV stake of its American partner did not change the results.

Hypothesis 3 was not supported since the number of cases where the Japanese partner divested its share to the American partners or to a firm other than their 1987 American partner (9) and where the ownership shares remained unchanged (84) was higher than that of cases where the Japanese partner bought out the JV stake of the American partner (37) or where the JV was liquidated (4). This result was also the same if we added the Japanese acquiring their 1987 American partner case into the Japanese JV buy out category.

We also tested these hypotheses over a 12-year period, 1987 to 1999. All three hypotheses were not supported in this case as well, even if we put the case of a Japanese firm acquiring its 1987 American partner in the 'buying out the US JV stake' category.

5. Discussion and Conclusion

` In the late 1980s two influential articles (Reich and Mankin, 1986; Hamel, 1991) argued that American firms should eschew entering into equity joint ventures with Japanese firms. Reich and Mankin and Hamel reasoned, along with many other management scholars, that JVs were mechanisms by which partners internalize each other's contributions. For example, in JVs between a foreign investor and a local firm, the local firm was expected to attempt to absorb the technological knowledge supplied to the JV by the foreign investor, while the foreign investor would try to internalize the knowledge of the local environment contributed by the local firm. For Reich and Mankin and Hamel, JVs are learning races, with the winner the parent who manages to be the first to absorb the contribution of its partner. Once that knowledge is absorbed, the winner has the bargaining power and the incentive to close the JV. Since the other partner is no longer contributing a needed resource, there is no reason for the winner to share the profits of the JV with the loser. The most logical strategy is then to buy out the loser's JV stake. Another scenario is one where the winner forces the liquidation of the venture. A third, less likely possibility, is for the winner to sell off its stake to its foreign partner and to recreate a parallel wholly-owned operation to compete with its former partner.

For Reich and Mankin and Hamel, Japanese firms use JVs with US firms as some kind of Trojan Horses to capture the skills of their American partners, hence the naming by Hennart et al (1999) of this theory as the Trojan Horse Hypothesis, or THH. Besides the assumption that firms enter JVs to internalize the knowledge of their partners, THH is based on two further assumptions. First, the Japanese always come up winners in learning races because they tend to learn faster than their US partners. Second, the Japanese will have no qualms about breaking up JV relationships that no longer deliver short-term value. Put together, these three assumptions imply that the lives of US-Japanese JVs will be short, with most of them ending up wholly-owned by their Japanese parents.

Hennart et al (1999) tested THH by looking at the evolution of Japanese-US manufacturing JVs in the United States between 1980 and 1989. THH predicts that most if not all JVs would end up being fully owned by their Japanese partners. The results showed instead that in the majority of the cases Japanese ownership stakes remained unchanged.

This paper looks at the mirror image of Hennart et al (1999). It examines the evolution of US-Japanese manufacturing JVs *in Japan* over the 1987-1996 and 1987-1999 periods. THH, with its view that JVs are learning races, sees the Japanese trying to steal the technological knowledge brought by US investors, while the Americans attempt to learn the knowledge of the local environment held by their Japanese partners. Since THH predicts that this race is always won by the Japanese partner, the dominant pattern should be one where most JVs end up liquidated or bought up by their Japanese partners. Instead we find that in more than half of the cases the stake held by the Japanese partner in the JV remained unchanged. This pattern obtains whether the observation window is 9 or 12 years. Hence our findings are not consistent with the Trojan Horse Hypothesis. The actual pattern does not seem to be one where the Japanese attempt and/or succeed in internalizing the technological skills of their US partners, or if they do succeed, they do not follow through by ending up the JV relationship.

To make sense of these findings, we may want to revisit the three main assumptions on which the THH hypothesis rests. The first one is that Japanese and American parents enter JVs to steal and internalize each other's knowledge. The second assumption is that the Japanese always win this learning race. And the third one is that once they have won they will quickly act to terminate the JV.

The view that JVs are learning races and that they are inherently unstable can be contrasted with the transaction costs perspective of Hennart (1988) and Zeng and Hennart (2002) which views JVs as ways for partner firms to access, as opposed to internalize, their partner contributions. This view sees JVs as more inherently stable. Hence one reason for our findings might be that JVs are not learning races, but instead exercises in cooperative specialization in which partners exchange access to their continuously evolving capabilities. This contrasts with the essentially static viewpoint of THH, in which the partners' contributions are set at the inception of the JV and are not supposed to grow over time. If, as Zeng and Hennart (2002) argue, they are periodically replenished, a learning race strategy of internalization loses most of its appeal. Instead, parties stay in a JV because this allows them to continuously benefit from access to their partner's innovations. Consistent with such a cooperative specialization point of view is the finding of previous research (Asanuma, 1989; Dyer and Nobeoka, 2000) that the Japanese put a lot of effort in learning to work with their partners in order to improve the efficiency of the collaboration. This suggests that these collaborations can be made to yield continuous benefits.

One possible consequence of these investments in relationships can be, however, that they make termination more psychologically difficult. Hence another possibility is that many of the JVs that we see remain unchanged should have instead been sold off or liquidated. Our finding that the Japanese's second most popular JV evolution pattern is buying out the JV stake of their partner can also be interpreted as a desire to continue the relationship with the affiliate, even when it may not have been economic to do so.

A third possible reason for the patterns of stability we find could be that Japanese parents do systematically steal the knowledge of their Western JV partners, as argued by THH protagonists, but, contrary to THH, are reluctant to terminate the JV. Instead, they prefer to continue to operate the JV with their Western partners, even though it has no longer much strategic significance. Hence Toyota, having acquired from General Motors through their NUMMI JV the skills on how to manage a US workforce, used that knowledge in their wholly-owned plants elsewhere in the US, but kept NUMMI in business, even though with a very limited role. Unfortunately the data at our disposal is not sufficient to ascertain the extent to which these three alternative explanations can account for our results.

Finally, this paper looks at evolution of Japanese JVs with American partners in Japan. To increase the external validity of our results, it might be interesting to look at the evolution of Japanese JVs with European firms. It may also be interesting to conduct a new study replicating Hennart et al (1999) and using sample definitions and a time period similar to this one in order to systematically compare the evolution of Japanese-American JVs in the US with the present study.

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Table 1. Change in ownership levels of Japanese partners in Japanese-American JVs in Japan (July 1987–October 1996)

		Final level (1996)					
		0–4.9	5–49.9	50	50.1-94.9	95–100	Total (1987)
Initial level (1987)	Minority	5	9	0	0	1	15 (10%)
	50%	8	4	55	3	26	96 (64%)
	Majority	1	1	2	22	14	40 (26%)
	Total (1996)	14 (9%)	14 (9%)	57 (38%)	25 (17%)	41 (27%)	151

Table 2 Change in ownership levels of Japanese partners in Japanese-American JVs in Japan (July1987–November 1999)

		Final level (1999)					
		Zero	Minority	50%	Majority	95–100%	Total (1987)
Initial level (1987)	Minority	6	8	0	0	1	15 (10%)
	50%	13	4	43	3	33	96 (64%)
	Majority	1	1	3	20	15	40 (26%)
	Total (1996)	20 (13%)	13 (9%)	46 (30%)	23 (15%)	49 (32%)	151

Table 3. Summary of the change in Japanese ownership in Japanese-American JVs in Japan (July 1987–October 1996 and July 1987-November 1999)

	N (1996)	N (1999)
Japanese parent stake increased to 95–100%	41	49
Japanese parent bought stake from the 1987 US partner	37	44
Japanese parent acquired the 1987 US partner (note 1)	3	3
Japanese parent bought stake from firm other than the 1987 US partner (note 2)	1	1
Japanese parent acquired a firm other than the 1987 US partner (note 3)	0	1
Japanese stake increased but not to 95–100%	3	4
Japanese stake decreased but not to zero	9	11
Japanese stake becomes zero	14	20
Japanese parent sold stake to the 1987 US partner	8	9
Japanese parent sold stake to a firm other than the 1987 US partner	1	2
Japanese parent was acquired by the 1987 US partner	0	0
Japanese parent was acquired by a firm other than the 1987 US partner (note 4)	1	2
Joint venture was liquidated or dissolved	4	7
Japanese stake unchanged	84	67
Total	151	151

Notes to the Table

(1) In one of these cases the Japanese parent acquired its 1987 American partner with another European firm (the Japanese and the European firm bought 50% each) in 1990. This is counted as Japanese acquiring the 1987 American partner.

(2) In this case the American partner was merged with a European firm in 1989, and the Japanese partner bought the JV stake from the European firm in 1994.

(3) In this case parts of the American parent's business which included the JV, were acquired by a European firm in 1989. Afterwards, the Japanese parent bought the JV stake from the European firm in 1998.

(4) In one of these cases the Japanese parent became a subsidiary of a US firm when two American shareholders of the Japanese parent (both with a 25% stake) merged and the total investment of the integrated American shareholder of the Japanese JV parent became 50% in 1999.