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OUT OF PASSIVITY

Potential Role of OFDI in IFDI-based Learning Trajectory

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Abstract

This study discusses how *outward* foreign direct investment (FDI) can complement the *inward* FDI-based technological capability-building process, through an analysis of the Shanghai Automotive Industry Corporation case. When a firm is upgrading its technological capability, outward FDI can allow learners to have access to human-embedded skills and knowledge and other intellectual assets that are hardly accessible through the inward globalization strategy. Access to a wide range of external resources is a critical ingredient for improving technological capability, and it can also promote self-learning capability by encouraging subsequent learning-by-doing practices. Accordingly, outward FDI can augment “active” nature in the “passive” learning mode created by the inward globalization strategy.

JEL classification: L24, L52, L62, N65, O25.

Keywords: Asia, China, auto industry, SAIC, outward FDI, technological capability, learning, catch-up

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“A housekeeper can never replace a master.”

— Wang Xiaoqiu, former general manager of SAIC Motor¹

1. INTRODUCTION

What roles can “outward” foreign direct investment (FDI) play in the international joint venture (IJV)-based technological catch-up process? Developing countries often consider the IJV an effective FDI-hosting arrangement to improve local technological capabilities, as it involves continual collaboration and cooperation between local and foreign actors. Given the existence of a substantial technological gap between partner firms, however, the IJV-based learning mode tends to be passive, as it is often the party with a superior technological capability that takes the actual initiative in determining the key aspects of the IJV-induced learning mode, such as what, when, and how to learn (Nam, 2011). Extending this argument, our study attempts to demonstrate that outward FDI (OFDI) can play a critical role in reducing the passivity embedded in the “inward” globalization learning model.

Our discussion is based on a detailed case study of the Shanghai Automotive Industry Corporation (SAIC). For three reasons, we believe that the SAIC case serves ideally for testing our hypothesis. First, SAIC has operated Shanghai-Volkswagen (SVW) and Shanghai-General Motors (SGM), which are among the most successful Sino-foreign auto assembly joint ventures when success is measured as market share, local content ratios, and organizational sustainability (Depner and Bathelt, 2005; Gallagher, 2006; Harwit, 1995; Thun, 2006). Both SVW and SGM not only have led China’s passenger car sector in terms of market share and localization but also have gradually upgraded themselves from completely knocked-down (CKD) kit assemblers to

¹ Quoted in Bradsher (2006).

more advanced auto producers that retain partial but non-negligible in-house research and development (R&D) and engineering capabilities. Even the SAIC case, however, failed to convince the Chinese government of the efficacy of its “trade-market-for-technology” catch-up regime, as the model’s full realization is uncertain or takes too long (NDRC, 2004).² In other words, the SAIC case may help us demonstrate that even a successful IJV operator can confront a serious bottleneck in its FDI-based catch-up process.

Second, SAIC is the first Chinese automaker that acquired foreign automotive assets and managed manufacturing operations outside China.³ This fact may be interpreted in two ways. One is that the IJV-based success in the domestic market allowed SAIC to seek an external market, and the other is that SAIC needed OFDI to access certain strategic assets. We see that, however, the asset-seeking motivation dominates the market-seeking motivation because SAIC has focused almost exclusively on the domestic market even after such outward globalization efforts. We, thus, expect that the SAIC case would help us explore what complementarity may exist between inward and outward globalization strategies in the path of building technological capability.

Finally, SAIC made solid progress in its independent vehicle-development projects, abandoned for over two decades despite its IJV operations, only after making its first step in outward globalization in 2004. SAIC first produced a self-developed sedan SH760 as early as in 1959, although it was a reverse-engineered imitation of the 1956 Mercedes 220S (Posth, 2006). SAIC discontinued production of SH760 in 1991, and focused solely on Volkswagen (VW) and

² We borrow the term *trade-market-for-technology* from Mu and Lee (2005).

³ As of 2007, SAIC held the 11th largest overseas assets valued at US\$2.3 billion among China’s non-financial enterprises (Fudan and VCC, 2009). SAIC was the only automaker on the top 20 list.

GM-branded vehicles lineups afterwards. In November 2006, SAIC's own-brand lineup was revived with the market debut of Roewe 750, built on acquired platform technologies for Rover 75 under the leadership of SAIC's earliest OFDI project Ricardo 2010. Since then, SAIC's own-brand passenger-vehicle lineup has been rapidly expanded to include over 10 models. Given the sequence and overlap in timing between SAIC's OFDI and boosted in-house technology development, we believe that the SAIC case is helpful in exploring OFDI's potential role in the IJV-based catch-up regime.

Although there are reasons to suspect certain positive roles played by OFDI in China's automotive sector, most existing studies limit their discussion to the "inward" FDI (IFDI) variable in assessing market or technological learning performance in China's automotive sector (Altenburg et al., 2008; Gallagher, 2006; Harwit, 1995; Zhang and Taylor, 2001; Zhao *et al.*, 2005). Their analytical frameworks are thus incomplete, as they neglect the possibility that OFDI can contribute to late market entrants' technological catch-up. Even the studies discussing China's outward globalization often treat OFDI's impact simply as "one-shot" technology adoption, and rule out the possibility that OFDI's potential contribution to technological catch-up may last beyond a short run (Nolan, 2004; Rugman, 2009). Our study is motivated by the need to fill the gaps between the literature and reality, and aims to draw useful implications from the SAIC case regarding the potential synergy in technological catch-up among OFDI, IFDI, and self-learning practices.

2. THEORETICAL FRAMEWORK

Our main hypothesis is that OFDI can substantially reduce the passivity embedded in the IFDI-based learning model. Here, we define "passivity" in terms of two aspects. One is who actually

determines the basic nature of the learning mode. We consider a learning mode passive when teachers determine what, when, how to learn, while we see it as active when learners themselves do so. The other aspect is what the main subject of learning is. We consider a learning strategy passive when learners seek after the *outcome* of others' technological capability, while we call it active when learners aim to internalize others' *technological capability itself*. Our theoretical framework on the potential synergy between IFDI and OFDI in improving local technological capability consists of the following three propositions (Figure 1).

First, we begin with the thesis that IFDI's contribution to the local technological capability-building process tends to be partial, drawn from key findings of Nam (2011). A firm's competitive edge is created primarily from its in-house capabilities for production, project execution, and innovation (Amsden and Hikino, 1994; Lall, 1992). In many cases, however, the inward globalization learning model is effective in nurturing production capability, but is not in promoting project-execution and innovation capabilities, particularly when there exists a substantial technological gap between FDI source and recipient firms (Gallagher, 2006; Nam, 2011). Learning-by-doing practices in the model are, by and large, limited to the dimensions of production capability and partial project-execution skills, where FDI source firms convey advanced knowledge and know-how to local firms through official transfer or unintended spillover mechanisms.

Then, we theorize that perceiving this limitation, some learners are motivated to shift toward a bidirectional globalization catch-up model and seek alternative sources of their project-execution and innovation capabilities. An appropriate OFDI project is expected to allow learners to access a broad range of external resources, some of which are hardly accessible through market transactions or strategic alliances, and subsequent learning-by-doing practices help

learners to internalize the external resources in a more complete manner.

Our framework also hypothesizes that the bidirectional globalization model generates a feedback loop, which does not exist in the inward globalization model. That is, when learners succeed in improving their technological capability through the combination of IFDI, OFDI, and subsequent self-learning practices, the improved capability strengthens preexisting IFDI's commitment to local technology development.

As noted earlier, we use the SAIC case to test the validity of our hypothesis and theoretical framework. We take a case study approach mainly due to (i) the characteristics of our research question, which asks *why* and *how* in order to build a causal link among variables, and (ii) the small number of relevant cases, as suggested by the fact that SAIC was the only Chinese automaker that established sizable overseas investment by early 2010. We particularly saw as inevitable a series of in-depth interviews with those familiar with the context of key firm-level decisions and their actual effects, as such information is largely unpublished and unavailable to the public. We made a shortlist of potential interviewees (including managers and engineers of selected firms, local government officials, journalists, researchers, and consultants in China's automotive field), and completed a total of 25 in-depth interviews by summer 2008, using semi-structured but open-ended questionnaires. To raise the reliability of the collected data, we only use the data and information triangulated by multiple interviews and complemented the primary data with various secondary sources.

3. LITERATURE REVIEW

This section draws from the literature key implications for our research, focusing on the primary motivations of South-originated FDI and MNCs. Then, we discuss what is insufficient in existing

theories and what contribution this study can make to the literature.

3.1. FDI and multinationals from South

What motivates FDI? Particularly, what benefits can *ownership and control over foreign equity* add further to those from portfolio investment?

One view is to link FDI with a firm's desire to reduce market competition through full or partial ownership and control over its foreign operations (Hymer, 1960). In other words, FDI can be seen an institutional means that helps a firm establish oligopolistic market conditions outside its home base and offset the "liabilities of foreignness" (Zaheer, 1995). This conceptual lens, however, seems incomplete, as reduced market competition is not the only way to strengthen a firm's market position. A more complete answer needs to incorporate an "internalization" perspective (Buckley and Casson, 1976, Rugman, 1981).

Contemporary scholars highlight an asset-seeking motivation underlying FDI, although other motivations (natural resources, markets, and factor inputs) may also initiate FDI (Dunning, 1998). A firm's growth depends largely on its organizational capability to create competitive advantages that cannot be easily emulated by others (Penrose, 1959). Firms, aiming to strengthen such advantages (or core competencies), are encouraged to internalize external strategic assets, as core competencies are outcomes of various combinations of tangible and intangible internal resources (Barney, 1991; Conner, 1991; Prahalad and Hamel, 1990). FDI can serve for the internalization purpose, particularly when the targeted external resources (whether location- or firm-specific) reside outside a firm's home base (Dunning, 1977).

Prevailing FDI theories, however, may still be incomplete, as they are largely built on North-originated FDI cases (Ramamurti, 2009). Little attention to South-originated FDI is mainly

due to the minor role of the developing world as FDI sources. In the period 1989-1991, for example, the Global South accounted for only 2.7% of the world's total FDI outflow volume (UNCTAD, 2009). The South-originated FDI flows, though increasing rapidly, still account for less than 10% of the global FDI transactions. In particular, South-North FDI (up-market FDI from South to North) flows, on which this study focuses, have attracted even less attention due to their negligible size. In 2002, for example, South-North FDI flows accounted for less than 4% of the world's total or roughly half the annual South-South FDI volume (World Bank, 2006). Thus, even FDI scholars long considered South-North investment flows rare and exceptional cases.

Similar to South-originated FDI, only limited attention has been paid to multinational corporations (MNCs) headquartered in the developing world. Pioneering works on South-based MNCs (Lall, 1983; Wells, 1983) highlight that local adaptation of imported technologies under protectionist regimes gave birth to them. Their core arguments are: (i) South-based firms, often forced to use more local inputs (instead of foreign imports) and labor (instead of capital) under the import substitution (IS) regulation, employ production technologies distinguished from those prevailing in the market; and (ii) such localized production technologies, having merits throughout the developing world sharing similar local factor/market conditions and protectionist regime, would allow some South-based firms to expand their business beyond their home bases. Although this conceptual lens has been losing its foundations with the demise of the IS regime (Wells, 2009), its essence still seems valid, given that many global contenders from the South owe their core competencies partly to their in-house capability to learn and recreate existing knowledge developed through various policy incentives under protectionist regimes (Hobday, 1995; Kim, 1997; Nelson and Pack, 1999; Amsden, 2001).

At present, some stylized facts are drawn on South-based MNCs. One is their intra-

regional characteristic. With few exceptions, leading emerging MNCs tend to produce and sell large proportions of their output in their home regions (Rugman, 2005). Given this fact, one may argue that it is too early to call them MNCs, as they are not yet truly multinational (Rugman, 2009). Another interesting fact concerns increasing asset-seeking OFDI, initiated by South-based MNCs. In particular, firms from China and India have shown active moves as buyers in recent cross-border merger and acquisition (M&A) deals (BCG, 2009). This can be seen as an outcome of increasingly converging interests between global market leaders (e.g., restructuring) and market followers (e.g., global expansion) under recent economic fluctuations.

3.2. China's OFDI

In contrast to China-received FDI, China-originated FDI has not been of primary interest, due to its modest size. It was not until 2005 that China's annual OFDI volume reached US\$10 billion, or the 1992 level of China's FDI inflow volume. Since then, however, China's OFDI soared rapidly to reach US\$50 billion in 2008 (UNCTAD, 2010), suggesting that China's role as a capital exporter is worthy of greater attention.

The recent rapid growth of China's OFDI has been led by cross-border mergers and acquisitions (M&As) rather than green-field investments. In 2008, for example, over 60% of China's OFDI took the form of cross-border M&A, presenting a striking contrast to the way that China hosts FDI, where green-field transactions are dominant (UNCTAD, 2010). China's M&A-dominant OFDI entry mode coincides with India's recent experience, although they may differ in terms of ultimate orientations (Ramamurti and Singh, 2009). In general, China's OFDI tends to aim at vertical integration, while India's OFDI intends horizontal expansion (Kumar and Chadha, 2009). China's acquisition-centered OFDI pattern, however, contrasts the experience of Asia's

earlier capital exporters, such as Japan and Korea (Fleury and Fleury, 2011). In their early globalization periods, Japanese and Korean MNCs preferred green-field investment over cross-border M&As, recognizing OFDI as a supportive measure for their export-oriented growth strategy (Chang and Delios, 2006). Difference in preferred OFDI modes between the two country groups seems to be associated with the fact that China and India, compared with Japan and Korea, have utilized IFDI more intensively for industrialization under clearer inward orientation, but validation of this possibility would need more thorough examinations.

China's OFDI destinations are geographically concentrated in Asia. For the period of 2004-2008, Asia received 64% of China's annual OFDI flows, illustrating an extremely Asia-biased pattern (Figure 2). Particularly, Hong Kong was the single dominant destination of China's OFDI, followed by the British Cayman Islands and the British Virgin Islands. These three small open economies, known for generous corporate-tax policies, have hosted three-quarters of China's OFDI collectively. This very fact, however, raises a concern that China's official FDI statistics are not adequate to draw a precise map of China-exported capital because the tax havens are often intermediate locations for FDI, not final destinations. One extreme example of this concern is "round-tripping" FDI, which refers to China's OFDI that is imported back to China. It is widely believed that China's official FDI statistics have been overestimated at least by 20% due to "round-tripping" FDI flows (World Bank, 1996; Wong and Chan, 2003).

The major sectoral target of China's OFDI has shifted from the resource-extracting sector to the service sector. In China's early reform period, resource-seeking FDI was substantial: the resource-exploiting sector alone accounted for roughly 30% of China's OFDI flows between 1979 and 1998 (Yang, 2005). Such OFDI aimed to meet soaring demand for quality natural resources and raw materials, necessitated by China's rapid industrialization (Cai, 1999; Zhan,

1995; Whalley and Xin, 2007). Recently, however, the tertiary sector has received the dominant share of China's OFDI. For the period 2004-2008, for example, three-quarters of China's OFDI went to the service sector, such as leasing and business services, finance, and wholesale and retails, and only slightly less than a quarter of it involved the secondary sector (Figure 3). This partly evinces that Chinese MNCs have shown increasing interests in the acquisition of global distribution channels and trading infrastructure for consumer goods produced in China (Pradhan, 2011).

Large state-owned enterprises (SOEs) have been main agents of China's OFDI. As of 2007, for example, 16 out of China's 18 leading, non-financial overseas investors were SOEs, enjoying quasi-monopolistic status in China's domestic market (Fudan University and Vale Columbia Center, 2009). Of the 18 firms, seven were in basic sectors (oil refinery, power generation, and steel making), five were consumer goods manufacturers, and the other five were in logistics, construction, and other sectors (*ibid.*). The dominance of large SOEs suggests that the central government is behind China's growing OFDI, as it is closely related to preferential policies for selected large SOEs in allocating national resources, including "soft" loans (Luo *et al.*, 2010). Private firms are also increasingly involved in overseas investment, but their investment scale is often too small to register and is thus omitted in official statistics (Morck *et al.*, 2008).

3.3. China's automotive policy

For decades after the Chinese automotive sector entered into the IS stage, FDI was at the center of Chinese automotive policy. China's government clearly recognized FDI-induced inward globalization as the most feasible way to modernize its local automotive sector without being

constrained by foreign exchange reserves (Sit and Liu, 2000). Through the seventh (1986-1990) and eighth (1991-1995) Five Year Plans (FYPs), the State Planning Commission (SPC) designated the automotive sector as a national pillar industry, placing an emphasis on import substitution in its passenger-vehicle segment. The IS-implementation scheme delineates that six strategic auto assemblers picked by the SPC would be given priority of forming IJVs with leading global automakers. Since the mid-1980s, the IJV has been the only institutional arrangement, through which MNCs could access China's passenger-vehicle market and control their China-based manufacturing subsidiaries (Liu and Dicken, 2006).

The IJV-based IS strategy was recapitulated in China's 1994 automotive industry policy. This first comprehensive policy framework of China, dedicated to the automotive sector, aimed to meet fast-growing domestic demand for passenger cars by incubating up to ten volume producers, four of which would target the global market, as well. In the 1994 policy, the IJV-arranged trade-market-for-technology strategy was reaffirmed as China's official approach to the goal. In particular, the six SPC-picked IJVs⁴ were directed to take a lead in reshaping and upgrading the existing industrial organization, operation scale, industrial location, and production technologies (Chu, 2011). The follow-up ninth FYP (1996-2000) allocated the passenger-vehicle segment twice the budget received by the commercial vehicle category, clarifying that the former was at the heart of China's auto-sector modernization.

However, a critical modification in the policy direction was signaled in the tenth FYP (2001-2005), advocating a strategic shift from *yinjīnlai* (inward globalization) to *zouchuqu* (outward globalization). This change was primarily because China saw OFDI as an effective

⁴ The six IJVs are SVW, FAW-VW, DF-Citroën, Beijing-Jeep, Guangzhou-Peugeot, and Tianjin-Daihatsu.

means to relax a currency-appreciation pressure while showing off its expanded role in the world's economy. China's outward globalization conception was formalized in 2002, when overseas investment was included in the official policy agenda by the 16th National Congress of the Communist Party. As follow-up actions, by 2005 the Commerce Ministry published the Countries and Industries for Overseas Investment Guidance Catalogue, which list potential investment target industries by country, and simplified related administrative procedures substantially.

China's second automotive industry policy, announced in 2004, reflects the new policy direction. In this policy, several post-IS upgrading schemes are highlighted to nurture four to five local automakers that can be contenders for the list of the world's top 500 corporations. One of them is scale-up. For this purpose, the policy encourages intra-industry M&As and vertical integrations, and grants large players with a market share of 15% or higher to draft their own growth plans.

Another scheme is indigenous technology and brand development, away from IJVs. This is perhaps the most important message of the policy, as it suggests that the market-technology-exchange strategy has been officially abandoned. The primary reason for this change is that visible self-driven technology development outcomes by FDI-independent automakers like Chery and Geely increased skepticism about the IJV-based "sequential" catch-up model, assuming the initial CKD-kit assembly IJV's evolutionary trajectory to an R&D-capable IJV or an independent automaker with competitive technological capability. Accordingly, preferential treatment for foreign investors has been reduced or withdrawn not to penalize high-performing indigenous local firms, and substantial local R&D requirements are imposed on new IJV projects or existing ones' expansion.

The new automotive policy also expects outward globalization to play a catalytic role in the sector's post-IS upgrading process. OFDI is emphasized as one way to access advanced foreign technology, meaning that China began to see it as an industrial policy measure. The 11th FYP reaffirms the major policy directions formulated in the 2004 policy and encourages local automakers' investment in other countries as a way to implement its new "leapfrogging" development model, which replaces its former FDI-dependent sequential catch-up model.

3.4. Implications for this study

Although MNCs from the emerging economies are rapidly expanding their roles in the global economy, scholars have paid little attention to the developing world as FDI sources. Accordingly, the existing FDI theories built mainly on North-originated FDI need to incorporate more up-market FDI or emerging MNC cases for their increased generality. The South-North FDI having asset-seeking motivations seems to be a subject of great urgency, as the literature on the subject is particularly sparse while such FDI appears to be forming a new mainstream FDI trend.

Our descriptive analysis shows that Chinese firms prefer M&As over green-field investment as their primary mechanic for global expansion. This may suggest that the primary motivation for China's OFDI is beyond taking location-specific advantage, as supported partly by China's recent automotive policy specifying OFDI as an industrial policy measure. In contrast to the 1994 policy, emphasizing IJV-based IS, China's 2004 automotive policy encourages domestic automakers to initiate more self-driven technology development and *outward* globalization practices. The revised policy regime brings OFDI into relief as a means to reduce passivity embedded in the IJV-based catch-up model.

In sum, the literature reviewed in this section suggests that our study has value in that it

enriches the existing literature on the up-market FDI having asset-seeking motivations; and it illuminates OFDI's potential roles in technological capability-building process, which have gone largely unexplored or often been misunderstood in the existing literature.

4. CASE STUDY: SAIC

SAIC's OFDI was, in short, a firm-level strategic response to national policy constraints. As a primary beneficiary of the central automotive policy, SAIC had obligations to comply with the new policy direction emphasizing indigenous technology development. Accordingly, SAIC reshaped its managerial objectives in accordance with the national policy goal. SAIC's own experience, however, demonstrated that IJVs would not be ideal means to achieve this end. This recognition led SAIC to explore alternative ways to expand its in-house R&D capacity, beyond IJVs, and OFDI was one of them. SAIC's transition toward a bi-directional globalization model became clearer, after China relaxed regulations on technology-seeking OFDI.

In this section, we provide a detailed study of SAIC's outward globalization experience, and explore how such experience has helped the firm build its technological capabilities.

4.1. MG-Rover and Ricardo 2010

SAIC commenced its outward globalization with acquisition of vehicle-manufacturing technologies from the British sedan maker Rover. Since founded in 1904, Rover had taken several different owners, and the German automaker BMW was one of them. When BMW took it over in 1994, the Rover Group consisted of Rover, Land Rover, Riley, Mini, Triumph, and Austin-Healey divisions. By 2000, however, BMW restructured them into three divisions, and then sold Land Rover and MG-Rover divisions to Ford and the Phoenix Consortium, respectively,

while keeping the Mini division only. What is interesting is that the MG-Rover deal did not include the Rover trademark, allowing BMW to retain its exclusive rights to the Rover brand name even after the deal. The Phoenix Consortium was granted to use the Rover badge only for the pre-existing Rover 25, 45, and 75 models. This unique arrangement was due to a request by Ford, which wanted to keep Land Rover's brand value from being compromised by MG-Rover's market performance. Ford was to have the priority for negotiation if BMW determined to sell its rights to the Rover brand.

In 2004, the MG-Rover Group was on the market, again, as the Phoenix Consortium could no longer manage its accumulated operating loss. By mid-2005, SAIC took over the Rover portion of the group, and the Nanjing Automotive Group (NAG) obtained the MG division. SAIC's acquisition of the Rover division, however, came without ownership of the brand name. BMW sold exclusive rights to the Rover badge in 2006, which was sold again to the India-based Tata Motors in 2008.

Evidence shows that the acquired Rover technologies spurred SAIC's own-brand vehicle-development projects. SAIC's key acquisitions include a complete set of property rights to two models of Rover's sedan lineup (Rover 25/75) and the Powertrain K-series engine.⁵ In particular, the Rover 75 platform became the matrix of SAIC's first own-brand model Roewe 750, as the Roewe 750 project involved a minor adaptation of pre-existing technologies applied to Rover 75. But this project exposed SAIC to the whole modern vehicle development and manufacturing process and helped the firm better diagnose its weaknesses in the process.⁶

⁵ Interview #4.

⁶ Interviews #5 and 20.

This deal might have been a conventional inter-firm trade of dated hard technology, unless SAIC made additional efforts to absorb ex-Rover R&D manpower. SAIC was aware that the ownership of two vehicle models and their relevant intellectual properties alone would not be sufficient to fully assimilate the know-how and skill that underlie such outcomes. What SAIC sought outside desperately was not only tangible assets that existed in the form of drawings, specifications, or platforms, but also the tacit knowledge that was necessary to create the concrete outcomes. From SAIC's perspective, the most feasible way to secure access to such tacit knowledge was through human resources. For this reason, when close to reaching a deal with Rover in early 2005, SAIC was already discussing the establishment of an independent R&D JV with an England-based automotive consultancy, Ricardo, PLC, having extensive working experience with the world's leading automakers and tier one parts suppliers.

In May 2005, shortly after the Rover deal was completed, SAIC and Ricardo, PLC founded an automotive R&D JV called the Ricardo 2010 Consultants, Ltd. The primary responsibility assigned to Ricardo 2010 was to assist SAIC's new vehicle development projects based on the ex-Rover technology and to function as the commanding center for related technological adaptation and renewal tasks. Ricardo 2010's 150 engineers, the majority of whom were recruited from Rover's core R&D department, played a leading role in the launch of the first two of SAIC's own-brand models (Roewe 750 and 550). In January 2007, SAIC took over Ricardo PLC's stake in Ricardo 2010, after the successful completion of the two Roewe projects. Since then, Ricardo 2010 has remained SAIC's wholly owned subsidiary, serving as the European branch of SAIC's pivotal in-house engineering arm, the Shanghai Automotive Engineering Academy.

SAIC's Rover-related expansion project was completed with its NAG merger in 2008.

Until right before the merger, NAG had trouble in taking advantage of the acquired MG technologies to boost its market and technology performance. In contrast to SAIC, NAG marketed dated MG lineups without visible technological renewals, which resulted in poor sales records.⁷ Behind this unfortunate outcome was NAG's weak R&D capacity for technological adaptations and renewals.⁸ The failure to retain ex-MG-Rover's key R&D manpower further constrained potential contributions of the acquired foreign operation to strengthening NAG's technological capability. From SAIC's perspective, however, NAG was an attractive target for a merger, given a potential synergy between MG and Rover technologies.⁹ NAG-owned MG platforms, designs, labor power, and brand name, all could complement SAIC's acquired Rover technologies. The deal was also expected to allow SAIC to expand its passenger-vehicle manufacturing and local market bases beyond Shanghai, which the SAIC management saw as critical to the group's future growth.

4.2. Ssangyong Motor

In January 2005, SAIC announced that it officially became SYM's majority shareholder. This deal was a new milestone for China's automobile industry, as it produced the first China-based multinational automaker. Leading global automakers, however, viewed this event with suspicion, as SAIC's global management capability was in question.

SYM, whose matrix is the HaDongHwan Motor Company founded in 1954, is one of Korea's oldest automakers. Donga Motors, renamed from the HaDongHwan Motor Company in

⁷ Interview #25.

⁸ Interviews #19 and 25.

⁹ Interviews #19 and 25.

1977, focused on the assembly of foreign-licensed bus and jeep lineups, which shaped its identity as a sports utility vehicle (SUV) maker afterwards. SYM came to have its current name when Donga Motors merged with the Ssangyong Group in 1986. In 1998, SYM was sold again to the Daewoo Group, having Korea's then-second largest vehicle-production capacity. Although Daewoo Motors (sedan) and SYM (SUV) were expected to create substantial synergy, the Daewoo Group's financial insolvency in 2000 dissolved the alliance even before this synergy came true. In 2005, SAIC acquired a 48.92% stake in SYM from the firm's creditor group.

At the time of this deal, few considered SYM an attractive M&A target. Despite its long history, SYM had never been a market leader in Korea. In 2004, SYM's share in the domestic market was barely over 10%, and its annual production volume (130,783 units) was still far from the sector's minimum efficient scale of one-quarter million units a year (HKM, 2008). Rising oil prices and the firm's SUV-dominant portfolio (about 90% in 2004) made SYM's future even more uncertain. In addition, one may question if SYM had strategic assets worthy of acquisition. When SAIC acquired SYM, for example, all of Ssangyong's SUV line-ups were still built on the technologically backward frame-body structure instead of on the industry's standard, the monocoque-body technology, which ensures a higher level of vehicle safety and fuel-efficiency.¹⁰ Similarly in question was SYM's in-house R&D capability for core parts components, exemplified by the fact that the firm's major passenger-car line-ups installed Mercedes engines under an official license agreement. Furthermore, SYM's Diesel-based technologies could not apply directly to SAIC's gasoline-based vehicle line-ups.

Then, why did SAIC want SYM so desperately?

¹⁰ Interview #15. SYM failed to market monocoque-structured vehicle models even until 2009.

4.3. Limitations of the IJV-based learning model

One view of the JV is as an institutional arrangement for a strategic alliance (Barney, 2007). The JV, when used to form a strategic alliance, is appropriate if the alliance partners can create greater value from the combination of their exclusive internal resources. Complementarity, interdependency, and reciprocity are key determinants of the JV's durability (Mohr and Spekman, 1994; Park and Ungson, 2001). A JV-based strategic alliance is sturdy and begets mutual learning, when each alliance partner sees others' core competencies essential to create synergy and all of the allied firms exercise similar leverage power on their collective assets (Crossan and Inkpen, 1995; Hamel, 1991; Inkpen and Beamish, 1997; Lane and Lubatkin, 1998; Mowery *et al.*, 1996).

IJVs in China's auto sector, however, lack such interdependency and reciprocity. It is well known that most Sino-foreign auto assembly JVs split roles between Chinese and foreign equity holders (Gallagher, 2006; Harwit, 1995; Mann, 1997; Nam, 2011; Posth, 2006). The Chinese side is mainly in charge of dealing with the government and managing human resources and local distribution/sales networks, while foreign shareholders take the lead in most technical issues, including technology license and parts purchase. One may argue that what Chinese partners contributed to the JV, compared to what foreign partners brought to the JV, was things that could be learned by others relatively easily within a short time period. In fact, a huge technological gap between them often allows MNCs actual leverage power over various IJV-related affairs beyond their equity shares, although the legal arrangement ensures that each party has the same level of influence as its equity share on every decision-making process within the JV (Nam, 2011). Also, until a decade ago, China's passenger-car market was neither big nor growing fast enough to let Chinese automakers offset such bargaining power differentials vis-à-vis MNCs. Rather, a heated bidding war among Chinese local governments for a potential IJV

collaboration raised MNCs' leverage at the negotiation stage. Under such conditions, China's trade-market-for-technology strategy was doomed at best to partial success.

So far, few MNCs have been active in expanding local R&D. Perhaps weak intellectual property rights protection in China is part of the reason. Chery's best-selling model QQ, a reverse-engineered version of GM's Spark, is an example that may in part justify MNCs' strict control over their intellectual properties.¹¹ Some MNCs even worried that their technologies might be leaked to rival MNCs through the mediation of their Sino-foreign JVs, given that one Chinese firm often has multiple JVs with different foreign firms.¹²

A more fundamental reason, however, seems to be that MNCs did not see a strong need to localize their technological capabilities. From MNCs' perspective, it was too costly to clone their core in-house R&D capability in China or even to transfer part of it, given China's weak local R&D bases. Instead, they wanted to take advantage of China's low-waged, unskilled labor force. The JV arrangement meant no more than a government-imposed obstacle that had to be cleared for access to China's market (Gallagher, 2006). Even at present, most Sino-foreign JVs are specialized for the assembly of foreign-developed passenger vehicles, and peripheral R&D activities, such as minor modifications of interior designs or body frames to suit local tastes.¹³

When it comes to nurturing local vehicle-development capabilities, it is uncertain how helpful current Sino-foreign JVs could be. A new vehicle development project, in general, needs around five years to complete and involves roughly seven stages, each of which requires up to one year (Figure 4). The project begins with advance engineering. This first stage focuses on the

¹¹ Even some parts and components were compatible between QQ and Spark (Interview #14).

¹² Interview #2.

¹³ Interviews #1, 3, 8, and 12.

development of the power-train module for a new vehicle. The design, prototype production, and testing of key power-train components, such as the engine and transmission, should be completed even before a detailed product development plan is under way. The second stage is design-concept development and its approval, led by the marketing or planning department. The third stage is the detailed design stage, of which the R&D department is in primary charge. Exterior and interior design is completed, and detailed drawings come out by a group of modules, such as the chassis, electrical appliances, and body. The fourth stage is to develop prototypes for the new vehicle in conformity with the drawings. As part of this task, engineers examine existing problems in parts and vehicle production, and check the quality of design and the potential market value of the product. The fifth stage is pilot production and testing. The sixth stage is preparing production: the assembly line is designed and actually installed. The final stage is production and market launching.

Of the seven stages, Sino-foreign JVs are involved in stages 6 and 7 and part of stages 4 and 5, while core competencies of leading global automakers are based on their ability to carry out the first three stages. In particular, the powertrain module and platform development of stage 1 is the essence of a new vehicle development project, which largely affects the project's success.¹⁴ This is a primary reason why the IJV-induced sequential catch-up trajectory that Chinese policymakers expected lacks reality. Sino-foreign JVs were not set up to carry out locally the entire process of new vehicle development, and simply licensing the outcomes of the first three stages would provide Chinese local firms with only limited learning opportunities for such essential tasks. In addition, Sino-foreign JV experiences were little helpful in developing the

¹⁴ Interview #15.

organizational capacity for managing and coordinating the whole process of new vehicle development. Even after operating IJVs, most local firms were still not sure where to start or what to do in order to improve their technological capabilities in a competitive way. The learning-by-doing dynamics, crucial in technological catch-up (Amsden, 1989), are missing from such practices.

MNCs have also minimized the spillover possibility of production knowledge once brought into China (Nam, 2011). MNCs take the initiative in determining which models to introduce in China, and how manufacturing plants for these models are to be designed.¹⁵ MNCs design manufacturing plants and determine the equipment to be installed in them, as the production line needs to reflect MNC-owned production technologies. The decision-making process for such matters allows little room for the Chinese side's voice. In the production stage, Chinese JV shareholders still have limited access to key information, such as specifications of vehicle models and core parts components. Most vital information is kept at MNCs' home base, and foreign equity holders strictly control their intellectual properties within the JV, even when such information resides in China.¹⁶ In addition, Chinese local firms cannot own or use foreign-licensed technologies permanently, as licenses on model-specific technologies are withdrawn with model changes.¹⁷ The three to four years of an average model change cycle in China is not enough for Chinese firms to absorb foreign technologies, even when perfect access to such information is assumed.

It is hard to expect substantial information leakage through intra-industry trade, either. In

¹⁵ Interviews #19, 20, and 25.

¹⁶ Interviews #2, 8, 12, 20, and 25.

¹⁷ Interviews #4, 5, 19, and 20.

the auto manufacturing sector, the simultaneous engineering approach is prevalent because it reduces time and financial costs for vehicle design and production (Jurgens, 2001; Shenan and Derakhshan, 1994). From the early stages, major car assemblers operate inter-divisional and inter-disciplinary teams for new vehicle projects in close collaboration with their primary parts suppliers (Nam, 2011). VW-Bosch and Toyota-Denso alliances are examples of such partnerships. Such alliances are often formed among firms sharing the same home bases, through long-term transactional relationships. Key members of these alliances and subordinate supply networks are a kind of firmly established knowledge- and profit-sharing community. This fact well explains why foreign auto assemblers prefer to enter China's market together with their primary parts suppliers. In fact, core parts components for vehicles produced in China are supplied mainly by Chinese subsidiaries of foreign automotive parts manufacturers (Nam, 2011). In this situation, their key knowledge remains within MNCs' global alliance network. In addition, the modularization trend increases the secrecy of knowledge (Baughn *et al.*, 1997). Although Chinese assemblers often endorse local firms as primary parts suppliers for their IJVs, such attempts are not successful because MNCs have veto power over any suppliers that fail to meet MNC-set quality standards.¹⁸ As a result, MNC-initiated localized supply networks provide limited space for Chinese local parts suppliers, even when they are subsidiaries of Chinese JV partners.

For the reasons mentioned earlier, IJVs in China's auto sector failed to nurture local technological capabilities in a complete manner. SAIC's IJV experience was no exception, as the failure was due to the "passive" and "incomplete" nature of the IJV-based learning mode itself (Nam, 2011). SAIC made visible steps to improving its in-house technological capability, only

¹⁸ Interview #19.

after it took advantage of its acquired overseas resources. As displayed in Table 1, 12 of the 14 SAIC-branded models that have already been introduced in the market are built on MG-Rover or SYM technologies. In this process, SAIC's OFDI practices, such as Ricardo 2010 and SYM, have been critical sources for R&D and engineering capabilities necessary to convert the dated base technologies into competitive ones by contemporary market standards. It also needs to be noted that the recent launch of Baojun 630, the locally developed sedan that symbolizes the evolution of the assembly-centered SAIC-GM alliance toward an R&D-capable IJV, came after the successful launch of SAIC's OFDI-based independent vehicle lineup, not vice versa.

SAIC's improved capacity for vehicle development is partly evidenced by the fact that SAIC has carried out internally an increasing portion of R&D and engineering tasks for its Roewe lineups. For example, SAIC utilized its own in-house capabilities for key R&D and engineering tasks for the recent Roewe 350 model, such as concept car development and a comprehensive renewal of dated Rover technologies. This presents a substantial improvement in SAIC's technological capability, compared with the earlier cases of SAIC's own-brand sedans, such as SH760 (reverse-engineered Mercedes 220S) or Roewe 750 (minor-adapted Rover 75).

At present, FAW and DFM—SAIC's primary local rivals—are considerably behind SAIC, in terms of vehicle-development capacity. These two firms' weak technological capability is epitomized by their own-brand vehicle lineups based either on a licensed production arrangement or on their traditional "mix-and-match" method. As of 2009, FAW-Xiali and FAW Car—FAW's two largest own-brand divisions—was still producing licensed Daihatsu and Toyota compact sedans with the Xiali brand, or was selling Hongqi sedans that simply fitted the Chrysler-licensed CA488 engine to the Audi 100 platform (CATARC, 2010; Lee *et al.*, 2006). Similarly, Fengshen S30—the first of DFM's own-brand sedan introduced in 2009—was built on

a mixture of various outsourced components (e.g., the engine for the 2001 Peugeot 307 and Aisin transmissions), matched to a licensed platform for Citroën ZX, whose production in Europe had already ceased in 1998 (Wang, 2009). Furthermore, DFM outsourced key engineering tasks necessary to lead the Fengshen S30 project to Italdesign-Giugiaro S.p.A., an Italy-based automotive engineering consultancy (*ibid.*). This mix-and-match approach is largely irrelevant to IJV-based learning outcomes because it was already prevalent among Chinese automakers long before the first Sino-foreign JV was established. These two firms' experience may speak for OFDI's positive role in SAIC's IJV-based learning trajectory, given that neither FAW nor DFM has been active overseas investors.

4.4. Knowledge-seeking motivation underlying the SYM deal

Given the limitations of the IJV-based learning model, it is not far-fetched to suspect an asset-seeking motivation underlying a series of SAIC's foreign asset acquisitions.¹⁹ SAIC saw SYM's proprietary knowledge and skills particularly valuable, as partly evidenced by the fact that shortly after being SYM's majority shareholder, SAIC commenced to build an information-sharing channel with SYM.²⁰ In 2007, SYM's intranet was fully integrated into SAIC Group's communication network, which even enabled remote access to such assets and information sharing (Spec Watch Korea, 2009). In addition, SAIC enforced an intra-group license arrangement, which authorized SAIC's China-based divisions to access SYM's core intellectual properties including an entire set of drawings and technical notes for SYM's flagship vehicle

¹⁹ Interview #19.

²⁰ Interview #15.

models²¹ (*ibid.*).

SYM was far from the sector's technological leader, but from SAIC's perspective, its technological assets were more valuable than we believe. A GM-China engineer commented:

“Automakers here do not necessarily have to have the world's up-to-date technology. Even without it, you can still compete in China. For example, Chery's QQ²² sells three times more than our Spark, despite its seemingly lower quality. The secret is price—QQ is cheaper than Spark by more than half. Mediocre-quality cars can appeal to Chinese consumers as long as they are operational and affordable. In my view, SYM's base technology is advanced enough in Chinese standards.”²³

In fact, when acquired by SAIC, SYM possessed an independent technology base, developed through strategic alliance with Mercedes-Benz, and held a significant technological edge in the Korean market (Salmon, 2004). In other words, the SYM-owned entire set of information on vehicles and parts components, which was virtually inaccessible through IJVs, could allow SAIC to reduce substantial time cost involved in trial-and-error-based learning.²⁴

SAIC placed high value not only on the technological assets but also on human-embedded knowledge, which is the *source* of such assets. An example is a joint project between SYM and SAIC Motor—SAIC group's own-brand division. SAIC Motor took the lead on the joint project, and hosted around 40 SYM engineers each year to let them technically assist Chinese engineers.²⁵ While collaborating, Ssangyong engineers also helped SAIC Motor conceptualize how to organize its R&D department and how to plan, manage, and implement a

²¹ Kyron (SUV) and Chairman W (full-size sedan).

²² Chery's QQ is a reverse-engineered imitation of SGM's Spark.

²³ Interview #2.

²⁴ Interview #15.

²⁵ Interviews #15 and 19.

new vehicle development project. As a SAIC Motor engineer interviewed, what SAIC lacked most was not particular technologies, to which SAIC already had fairly good access through market transactions, but a system necessary to create such technologies.²⁶ In this sense, the key to understanding motivations underlying SAIC's SYM merger is not whether SYM had cutting-edge technologies, but that SYM was superior to SAIC in terms of organizational capabilities and experience for vehicle development.

4.5. Further discussion of the SYM deal

One may see it controversial to consider the SYM deal a positive factor in SAIC's upgrading strategy, as the merger ended up with a net loss of over half a billion dollars. Even after the merger, SYM recorded a poor market performance, and thus became a financial burden to SAIC, rather than an asset. Fluctuating oil prices and the global economic downturn further drove SYM, having SUV-dominant product lineups, into a corner. In late 2008, SYM's accumulated deficit increased to a level hardly manageable without SAIC's further cash injections. In January 2009, the SAIC headquarters (HQ), pessimistic about the future of SYM, officially refused further investment in SYM, and handed the related matter over to the Korean government. In February, the Korean government decided to inject public funds to prevent Ssangyong's bankruptcy, and it froze SAIC's legal rights as the firm's majority shareholder.

Although SAIC's acquisition of SYM was a disaster from a financial perspective, it may not be so from a different angle. In the first place, it is questionable that SAIC had an interest in strengthening SYM's market position as an independent business entity, as there is little evidence

²⁶ Interview #20.

that SAIC made active efforts to this end. For example, a US\$1 billion investment package, which SAIC promised in public in return for taking SYM's majority stake, was not implemented until SYM went into court receivership in 2009 (Spec Watch Korea, 2009). SYM's labor union further claimed that SAIC put aside Ssangyong-branded new vehicle development projects, although they were crucial for SYM's future market performance (*ibid.*). This claim has basis, given the three-to-five-year new vehicle development project cycle and the time of the first market appearance of SYM's product line-ups concentrated between late 2005 and late 2006 (Table 2).

The internal conflict became even worse, when SAIC attempted to mobilize SYM's internal resources for its China-based projects. It was the L-project effective in June 2006 that firstly exposed the internal conflict to the Korean public. The L-project was a joint project between the SAIC Group and SYM, which controversially authorized SAIC's China-based divisions to access the complete set of technical documents and other intellectual properties related to SYM's then-newest SUV model, Kyron, under the US\$20 million license arrangement (Spec Watch Korea, 2006). The course of the project contract was not at all smooth. In its early stages, SAIC faced intense oppositions from SYM's Korean stakeholders, seeing the L-project as a threat rather than as an opportunity. From their perspective, the project was soon to weaken SYM's market position, in exchange for a small license income, as SYM-branded vehicles would eventually be replaced by SAIC's independent lineups, built on SYM's technologies. SYM's management and labor felt that SAIC was abusing the majority shareholdership to benefit its China-based operations at SYM's expense. The serious opposition left the project in abeyance for several months.

From SAIC's perspective, however, access to SYM's strategic assets was a primary

motivation underlying its OFDI. Accordingly, the SAIC HQ chose shock therapy to break the impasse. In November 2005, the SAIC Group replaced SYM's hardliner chief executive officer, Soh Jin-Kwan, with the then-director of the SYM R&D department, Choi Hyung-Tak, and appointed then-SAIC vice president Zhang Ziwei as SYM's new executive manager (Chang, 2007). In addition, more seats in SYM's management board were reserved for SAIC delegates. The L-project was approved in seven months after then.

A pro-SAIC management was not a solution to mitigating the internal conflict, however. Since the new management came onstage, the SYM labor union formed a broader alliance to push SAIC away from its one-sided, coercive managerial practices. For example, the SYM labor sought support from external actors such as the Korean Metal Workers' Union—the Korean equivalent of the United Auto Workers—and the Spec Watch Korea—a Korea-based non-profit organization responsible for publicizing foreign investors' speculative behavior. The SYM labor union was also active in using the mass media to attract public attention, particularly to the following issues. One concerns the nature of the subject of the license contract, granting SAIC's China-based divisions full access to SYM's up-to-date technologies and know-how. In the automotive industry, it has been a very rare practice to license a firm's latest technology to others because such a practice may open the firm's core competences to its rivals.²⁷ This convention within the industry provides some grounds for suspecting a link between the L-project and the abuse of SAIC's managerial power against SYM's benefit. The second issue raised was whether or not SAIC paid the right price for the licensed intellectual properties. According to SYM's labor union, the US\$20 million license royalty that SAIC paid for the SYM technologies according to

²⁷ Interviews #15 and 17.

the contract, was no more than 10% of the technologies' market value (Spec Watch Korea, 2006; Chang, 2007).²⁸

The conflict of interest between the stakeholders and the lack of managerial leadership to tune the conflict, exemplified in the L-project case, were serious obstacles to maximizing SYM's market potentials. Evidence shows that there were other practices similar to those of the L-project²⁹, and such practices further weakened the internal solidarity. The deep-rooted mutual distrust between management and labor raised SAIC HQ's skepticism as to its new investment in SYM, and the absence of timely investments gradually crowded SYM's dated models out of the market. With court receivership in 2009, SAIC's US\$ half a billion seed capital, used to acquire SYM's majority stake, became a sunk cost.

Such an economic loss, however, may be seen as a kind of investment, in that SAIC's primary motivation for the deal was the absorption of the SYM's vehicle design and production know-how, rather than profit maximization. SAIC seems to have obtained what it primarily aimed to get from the deal, as exemplified by the fact that C200, the first SAIC-branded four-wheel drive SUV model, is based on SYM's technologies and technical assistance. In addition,

²⁸ In 2006, Korea's Seoul District Court, however, dismissed SYM labor union's accusation against SAIC by ruling that the L-Project and its related technology transfer contracts did not violate any laws or regulations (Kim and Moon, 2009).

²⁹ In early 2009, for example, SYM's labor union filed another lawsuit against SAIC's and SYM's management, accusing SAIC of attempting to abuse SYM-possessed Diesel hybrid technologies, which were partially funded by the Korean government. In November 2009, the Suwon District Court found in favor of SYM's labor union, ruling that part of SYM-possessed hybrid technologies were leaked to SAIC without the SYM Board of Directors' appropriate approval process (Choi, 2009).

the managerial lessons learned from the Ssangyong deal can be seen as a precious experiential asset or a meaningful pilot project for SAIC's future multinational business.³⁰ Apart from challenges from outside, SAIC could not deal with the internal conflict successfully, mainly due to its lack of international management and cultural experience. SYM's labor union and its resistance were among the most challenging cultural shocks that SAIC experienced in Korea, as these did not exist in China or rarely occurred in China.³¹

4.6. Feedback effect: OFDI as leverage to maneuver IFDI

Recently, there have been several events that symbolically show that the preexisting SAIC-GM strategic alliance is being reshaped in such a way as to expand SAIC's role in the alliance. This change was primarily due to SAIC's improved technological capability through a bidirectional globalization model.

First, GM has shown a clear intention to expand its China-based R&D activities, in particular since SAIC launched its Roewe lineup. In 2007, GM announced that it would closely cooperate with SAIC to equip the Pan Asia Technical Automotive Center (PATAC) with full vehicle development functionality (Li, 2009). PATAC then had only *partial* engineering capability focused on minor adaptation and safety-testing tasks, although it was the largest automotive R&D IJV project ever implemented in China. The announcement might have met with surprise from the industry circle, as foreign automakers had long been suspicious about developing new vehicle models in China. A senior engineer from GM-China commented on GM's new R&D strategy.

³⁰ Interview #19.

³¹ Interview #23.

“Roewe 550/750 demonstrates that SAIC has already developed substantial vehicle development capability, though its in-house capability may not yet be as competitive as ours. Regardless of our China strategy, SAIC ultimately will find a way to get what it demands from us now, either from other foreign companies or from its own assets. In this situation, it would be wise to expand and upgrade the existing SAIC-GM alliance as SAIC wants; and the stronger alliance with SAIC would in fact not be against GM’s benefit, either. We need help from SAIC for our global business as much as SAIC needs from us.”³²

Evidence supports this view that GM has begun to consider China as a place to *develop*, not just assemble, cars. Baojun 630—the first model of the SAIC-GM alliance’s independent brand lineup launched in May 2011—is a good example. This compact sedan, based on GM’s Excellence platform technology, is a pilot project of the extended R&D collaboration between SAIC and GM, which targets Chinese mid-low income customers (Chen, 2011). The full renewal process of the mature technology required to develop the low-cost, fuel-efficient sedan was done locally by extensively utilizing the R&D resources of SAIC Motor and PATAC (*ibid.*). Both SAIC and GM plan to further extend their joint R&D activities to put the Baojun lineup on the right track and control China-targeted vehicle development costs (*ibid.*).

Second, GM ensured SAIC more room in SGM’s operational control. On December 4, 2009, SAIC took over from GM a 1% stake in SGM, and thus became the majority shareholder, controlling 51% of SGM’s total equity (Ho and Shirouzu, 2009). This is the first case in China’s automotive sector in which the initial IJV equity-control structure was revised afterwards. Although the basic management frame remained the same—three board members from each side—and GM had the privilege to buy back the 1% stake, SAIC would exercise stronger managerial influence on SGM and PATAC³³ with its veto rights and a deciding vote on the SGM executive board (Muller, 2010). A cash income of US\$85 million provided GM with a primary

³² Interview #2.

³³ SGM controls half the equity in PATAC; SAIC and GM directly control the other half.

incentive for this deal (Bradsher, 2009), but GM might not have given up its control premium over SGM unless it had substantial trust in SAIC's managerial and technological capability, given the growing importance of its China business³⁴.

Finally, the SAIC-GM alliance seeks markets beyond China. In late 2009, SAIC and GM agreed to establish a new 50-50 JV operation in India, with a plan to expand their JV-based collaboration to other emerging markets in the mid run (Bradsher, 2009; Newton, 2009). Their India project is considered a win-win partnership, as GM can benefit from SAIC's financial contribution³⁵ and low-cost manufacturing capability,³⁶ and SAIC holds a good opportunity to expand its business beyond China and to become a global player (Ho and Shirouzu, 2009). This event shows that GM treats SAIC as an equal business partner, and SAIC's improved technological capability in part has contributed to GM's changed view of its IJV partner. Until now, no comparable practices have been found in other Sino-foreign auto assembly JVs.

In sum, all of the aforementioned events suggest that SGM, which initially functioned as GM's China-based assembly operation, has evolved into a self-contained business entity with a substantial in-house technology development capacity. This evolution path is in fact what the

³⁴ The GM Group lost a total of US\$4.8 billion in 2009, but its emerging-market operations earned US\$1.2 billion; roughly two-thirds of the profit from its emerging-market operations (US\$764 million) came from GM's Chinese operations (Muller, 2010).

³⁵ Due to GM's limited financial capacity, SAIC is likely to play a primary role in financing their India project, which is estimated to require US\$400 million (Bradsher, 2009).

³⁶ As SAIC cooperates with GM for advanced technologies, GM also tries to learn from SAIC *how to make profits through producing cheap, compact vehicles* (low-cost vehicle production know-how), which is SAIC's core competency and would be essential to the success of GM's global business targeting emerging markets (Muller, 2010).

Chinese government expected when it initially formulated the IJV-based catch-up strategy. However, the SAIC-GM alliance case suggests that such a goal is hardly achievable only through *inward* globalization, given that (i) only SGM, whose Chinese equity holder has established other alternative sources of knowledge and know-how apart from its IJVs, followed this evolution path and (ii) GM redefined its Chinese operations in such a way as to emphasize their self-contained technological capability only after SAIC had already developed significant in-house vehicle development capability through foreign asset acquisitions. In other words, it is possible that OFDI not only contributes to the technological capability-building process itself by allowing a learner to establish access to complementary external resources but also creates synergy with IFDI in that the OFDI-catalyzed improvement in technological capability can increase maneuvering space for the learner within the FDI-based strategic alliance.

5. CONCLUSIONS

FDI is often considered knowledge-embedded capital, as foreign investors necessarily bring their knowledge and know-how to host economies in the course of managing their local operations. Thus, FDI-based inward globalization is expected to expose local firms to advanced knowledge and encourage their learning. This inward globalization model, however, is likely to beget a passive learning mode, as key aspects of the learning process tend to be controlled by foreign investors. Therefore, depending solely on IFDI for external resources, latecomers may confront a serious bottleneck in their technological catch-up path.

In this study, we argue that OFDI may be effective in easing the passivity embedded in the IFDI-based learning mode, with the case example of SAIC. Among Chinese automakers, SAIC is arguably the one that has made the best use of the IJV arrangement for its market

position and technological capability-building. What interests us more is the fact that SAIC has been more active in managing foreign assets and operations than its local rivals, despite its successful IJV business. In contrast to the existing literature, neglecting the OFDI variable that may underlie inter-firm performance variations, we hypothesize that SAIC's successful learning outcome was in part from its effective OFDI practices, highlighting their knowledge-seeking motivation.

Our case study demonstrates that OFDI meant more than one-shot technology adoption in SAIC's learning trajectory, creating synergy with its IJV-based catch-up model. OFDI helped SAIC get over the bottleneck in building its technological capability by providing access to complementary external resources and encouraging self-initiated learning-by-doing practices. OFDI also helped SAIC effectively incorporate manufacturing and assembly process know-how from its IJV projects into its independent vehicle development projects. The improved in-house capability developed through the combination of IFDI and OFDI and self-learning practices has increased SAIC's leverage against its IJV partner firms, which has allowed SAIC to utilize existing IFDI stock effectively for its technological capability-building process. Table 3 summarizes this synergy among the three learning modes, when OFDI is implemented effectively.

Although this study is based on the SAIC case only, it conveys some key implications applicable to others. First, technological catch-up based on IFDI may work only up to a certain point, as the process is substantially controlled by the investor. This point is also backed up by many other studies of the Third World's FDI-based automotive sector development experience (Shapiro, 1991; Moreno-Brid, 1996; Kim, 1997; Gallagher, 2006; Nam, 2011). However, this is not to argue that inward globalization is an undesirable practice; instead, it is to highlight that IFDI alone cannot nurture every aspect of technological capability, though the accumulation of

capital and experience from it seems valuable in a firm's learning path.

Second, OFDI can provide access to certain valuable external resources that may not be accessible through IFDI, such as tacit knowledge, augmenting the active nature in an IFDI-based learning mode. As demonstrated by the SAIC case, certain OFDI practices by latecomers are intended to seek alternative sources of learning, and such attempts can accelerate learning-by-doing practices, which are another major source of organizational learning. However, IFDI and OFDI are complementary, rather than substitute each other.

Finally, the acquisition of external technologies can provide more sustainable sources of industrial upgrading, beyond one-time technological adoption, when it is accompanied by an effort to internalize the tacit knowledge underlying the resources. Perhaps SAIC could have gotten far less from the Rover deal, for example, if it had failed to absorb a sizable pool of ex-Rover engineers through Ricardo 2010, as evidenced by NAG's less successful OFDI experience. Moreover, SAIC's access to 1500 SYM engineers was crucial to the completion of the first SAIC-branded SUV development project.

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Table 1: Details of SAIC's Own Brand Model Development Projects

<i>Platform</i>	<i>Type</i>	<i>Brand</i>	<i>Models</i>	<i>Market Debut</i>	<i>Base Technology</i>
No. 1	Four-wheel drive (4WD) layout for SUVs	Roewe	C200 AP13	Jan 2011 Dec 2011	Ssangyong
Nos. 2 & 3	Front-wheel drive (FF) layout for mid-sized sedans	Roewe	350 450 550 750 BP21 750H	Apr 2010 Dec 2008 Jul 2008 Mar 2007 Jun 2010 Sep 2010	Rover
Nos. 4 & 5	Front-wheel drive (FF) layout for compact-sized sedans	MG	5Z 7Z	Jun 2009 Sep 2009	Nanjing-MG
No. 6	Front-wheel drive (FF) layout for compact-sized coupes	MG	3Z TF	Sep 2008 Jun 2009	Nanjing-MG
Delta 2	Front-wheel drive (FF) layout for a compact sedan	Baojun	630	May 2011	GM (Excelle)
CN 100	Utility vehicle	Wuling	Hongguang	Sep 2010	SAIC

Source: Interview #19, Zhang (2009), and Yamamoto (2011).

Table 2: SYM's Product Line-up, as of 2008

<i>Models</i>	<i>Segment</i>	<i>First Appearance in Market</i>
Rexton*	SUV	Apr 2006
Kyron*	SUV	Nov 2006
Actyon**	SUV	Oct 2005
Actyon Sports**	SUV	May 2006
Rodius*	MPV	Sep 2005
Chairman**	Luxury sedan	Oct 1997
Chairman W**	Luxury sedan	Mar 2008

Note: SUV = sports utility vehicle; MPV = multi-purpose vehicle.

Source: * Zhang (2009); ** HKM (2008).

Table 3: Synergy between Learning Modes: The SAIC Case

	<i>Inward FDI</i>	<i>Outward FDI</i>	<i>Learning-by-Doing</i>
Source of Knowledge	External	External	Internal
Nature of Learning Mode	Passive	Active	Active
Synergy with Inward FDI	n/a	Substantial	Low
Synergy with Outward FDI	Substantial	n/a	Substantial

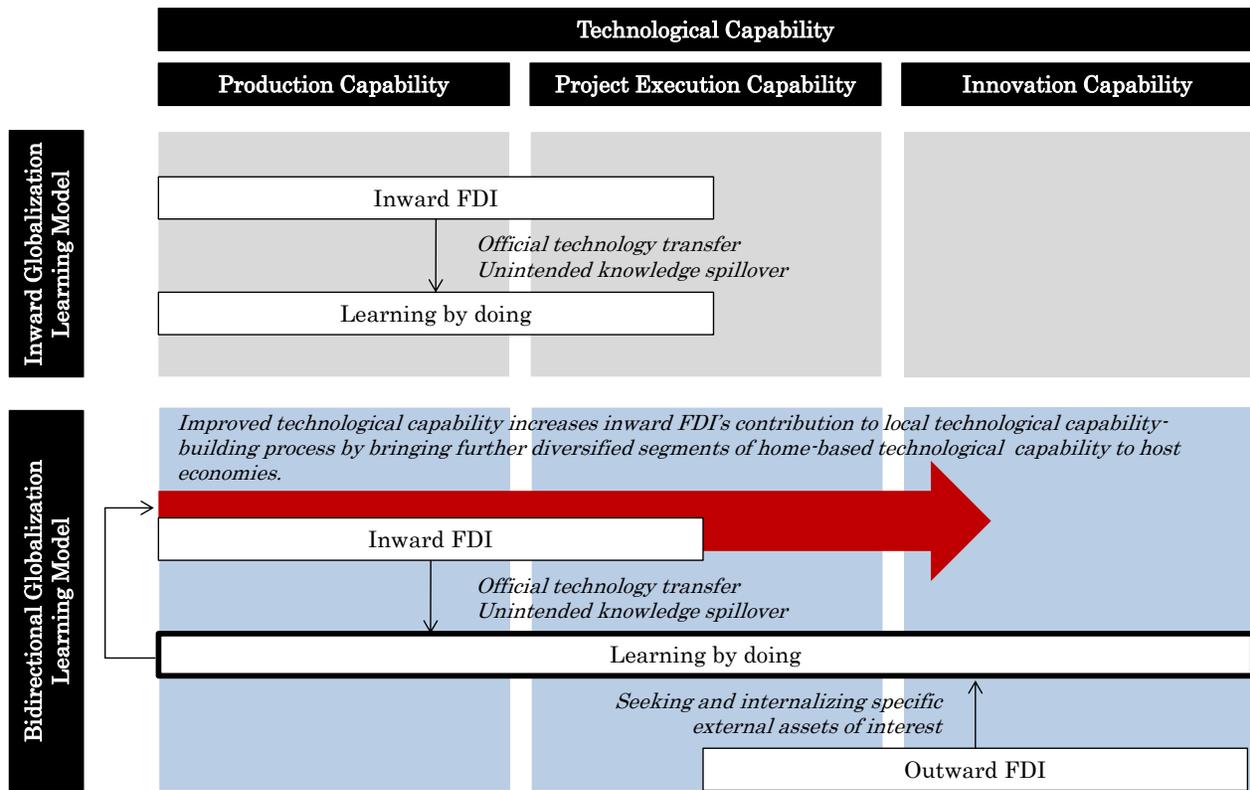


Figure 1: Theoretical Framework

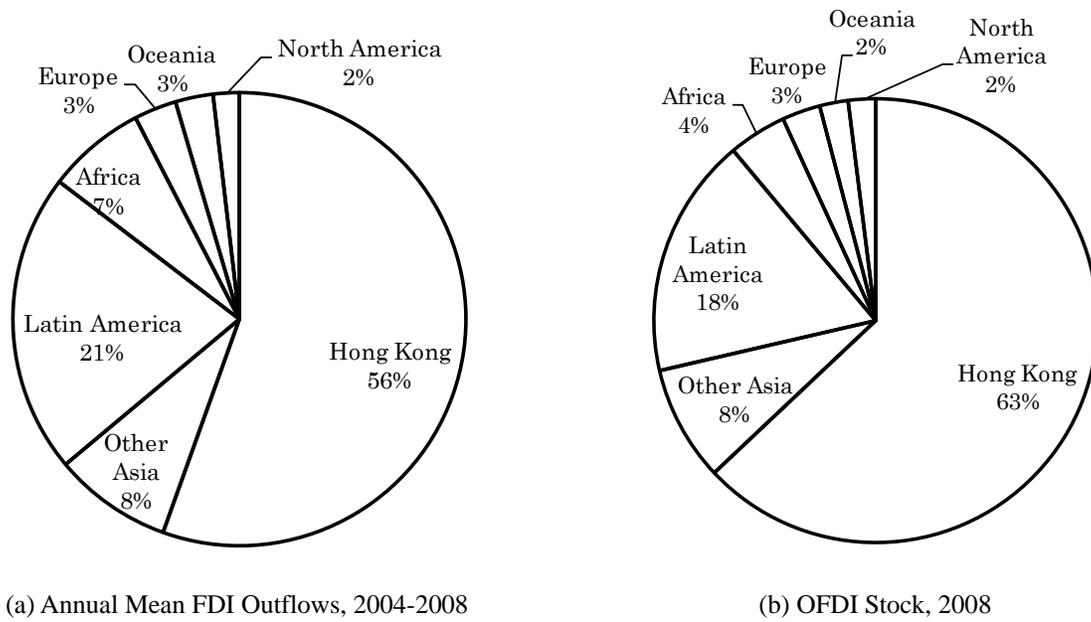
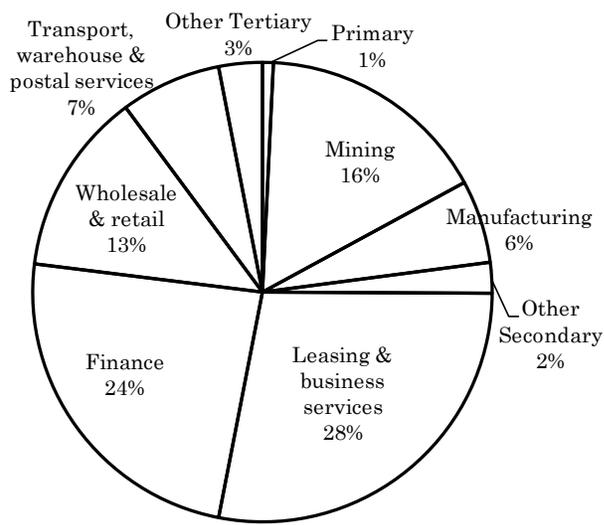
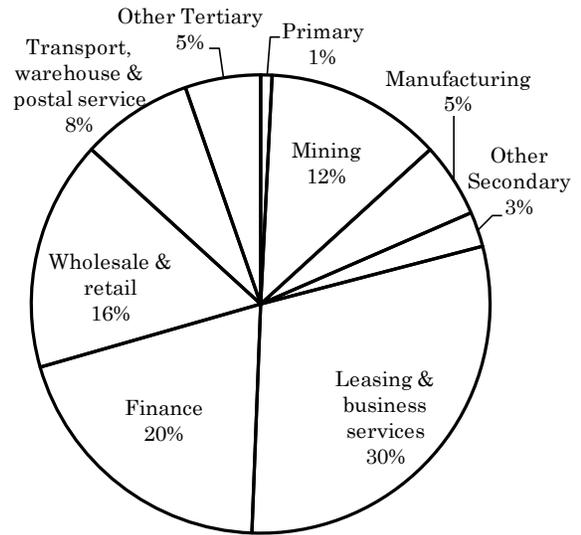


Figure 2: Geographical Distribution of China's OFDI

Note: The British Cayman Islands and the British Virgin Islands are counted as Latin America.
 Source: Computed from the P.R.C. Ministry of Commerce *et al.* (2008).



(a) Annual Mean FDI Outflows, 2004-2008



(b) OFDI Stock, 2008

Figure 3: Sectoral Distribution of China's OFDI

Source: Computed from the P.R.C. Ministry of Commerce *et al.* (2008).

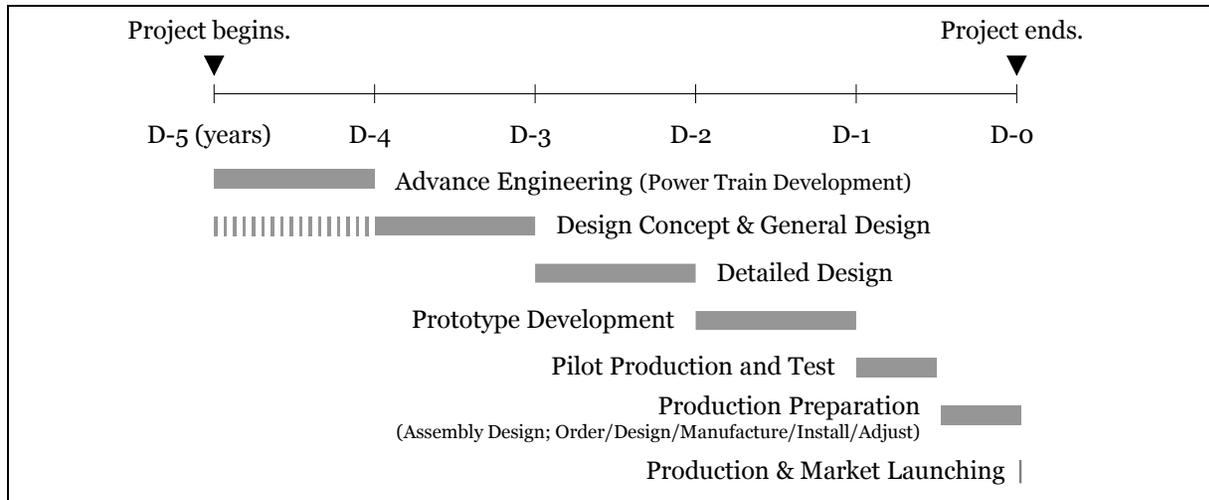


Figure 4: A Typical Flow Chart of a New Vehicle Development Project

Source: Created by author on the basis of Interviews # 13, 15, and 20.