SINGAPORE INVESTMENTS IN CHINA: IMPLICATIONS FROM PROJECTS DURING EARLY 1980s AND DURING EARLY 1990s

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INTRODUCTION

It is well known that foreign investments by the industrialized world are driven by the private sector leveraging its technological, management and marketing skills, and that those by developing countries arise because of geographic proximity, social and economic homogeneity, and cultural familiarity. In the case of Singapore, a unique characteristic is the direct participation by government-related corporations and their affiliates, and persuasion by statutory bodies such as the Economic Development Board and Trade Development Board for the corporate sector to venture abroad. Although Singapore is active in the property sector in China and elsewhere, its limited technological resource suggests that its future overseas manufacturing would rest on collaborations involving larger scales of operations and higher technologies from the developed world. In fact, as it is inevitable that host countries will require higher quality foreign investments, it is crucial that these alliances be created to take advantage of Singapore's present business experiences and cultural links in China and other Asian countries.

INTERNATIONALIZATION OF DEVELOPING COUNTRY FIRMS

Generally accepted explanations of international operations argue that firms must possess superior product and/or manufacturing technologies to compete with indigenous and other international corporations. These theories include the product cycle model (Vernon, 1966), the transaction costs or internalization approach (Buckley and Casson, 1976; Teece, 1981) and the eclectic paradigm (Dunning, 1979). Within this superior technology and management framework, foreign investments by developing and newly industrialized nations are an incongruity. These multinationals

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flourish largely on the basis of geographic nearness, cultural familiarity and appropriate, usually mature, technologies (Kumar and McLeod, 1981; Wells, 1983; Mullor-Sebastian, 1983; Pang and Komaran, 1985a; Aggarwal, 1985). Sometimes, the foreign investment activity is initiated by national strategies. According to a dynamic model with government intervention (Aggarwal and Agmon, 1990), the internationalization process originates with policies to alter the country's comparative advantage in selected industries. In the first of three stages, the country adopts an inward looking policy of industrialization. During this *import substitution* phase previous imports of targeted goods and services are produced domestically. The experience accumulated in manufacturing goods and services for domestic consumption is then exploited for similar, related or different products for exports. Local corporations prospering under protection begin to develop products and strategies to compete with foreign firms at home and abroad. During the *export promotion* phase, the government's role is reduced but not its ability to ensure low wages and high savings rate to sustain internal investments. This export-led growth metamorphoses into the foreign direct investment (FDI) stage during which the government's role is minimized substantially while private interests attenuate the momentum of external investments. The government does not support the outward expansion of investments and in fact discourages it in preference to sustaining and maintaining the domestic economy. In contrast, the corporate sector motives of profit maximization, market control and market diversification abet foreign expansion.

The internationalization of South Korean *chaebols* as in the case of Japanese *zaibatsus* corroborates the Aggarwal and Agmon explanation. Companies such as Samsung (electronics), Hyundai (automobiles, heavy engineering), Daewoo (industrial equipment) and Lucky Gold Star (home appliances) that grew rapidly during years of high inward tariffs are vigorously expanding in Asia and elsewhere. In India, the much awaited liberalization is set to increase two-way trade flows with rest of the world. But, those that benefit from protectionist policies have to gain exposure and critical skills through international trade and marketing in order to develop potential for foreign operations. Indian multinationals, despite their country's technological sophistication in numerous consumer goods, cars, precision tools, telecommunication equipment, jet aircrafts and rockets have yet to make an impact. National policies in Malaysia and Indonesia have unquestionably altered their comparative advantages in industries such as automobiles and light aircrafts respectively. Behind state protection these countries are consolidating experience by exporting a proportion of their output. While Malaysia and Indonesia remain largely in the *export promotion* stage, Singapore, a small country with a solid import-export sector, is enlarging its foreign investments rapidly in Malaysia, Indonesia, Thailand, China, Vietnam, Myanmar and Laos. However, the Singapore expansion is not anticipated by the Aggarwal and Agmon model because the

FDI phase is encouraged – not retarded – by the government, and, in some cases, the expansion is undertaken by government-linked companies.

INTERNATIONALIZATION OF SINGAPORE FIRMS

At least two studies have systematically explained the foreign expansion of Singapore firms (Pang and Komaran, 1985a; Aggarwal, 1985). Singapore's early foreign investments are spread across neighboring Peninsula Malaysia where several generations of family ties still exist. Besides vast real-estate interests, Singapore's external investments are in mature and labor intensive industries such as food processing, printed circuit boards and household appliances. The number of Singapore companies with sophisticated technical, financial or marketing skills to invest abroad is relatively small (Pang and Komaran, 1985a, 1985b; Komaran, 1985). Those with foreign investments do not resemble the vertically integrated operations typical of many advanced country multinationals. Many of Singapore foreign investments are joint ventures, especially minority ones. In more recent research on the pattern of industrial and geographic diversification of Singapore investments in China, some backward integration is observed, though only in the foods sector (Tan, 1994; Komaran and Tan, 1995)

The main catalyst for foreign operations is the limited size of the domestic market of three million residents occupying an area of about 640 sq km. While exporting final products is an option, it risks trade restrictions by countries seeking to develop their own industries. Also, the exporting firm has less opportunity to monitor competition from indigenous companies that emerge from time to time to pinch shares from markets created by foreign brands.

A second factor is the lack of resources which plagues the viability of a growing number of enterprises in Singapore. The severe shortage of land, labor and materials are forcing the relocation of manufacturing and assembly. During the early 1990s, to overcome this plight, there has been effort to integrate resources within the region. The Southern Growth Triangle or SIJORI (Singapore-Johor-Indonesia, where Johor is the southernmost Malaysian state) is one such attempt to combine advantages of Singapore (technology, finance, international trade and marketing, management), Malaysia (labor, natural resources) and Indonesia (land, labor, natural resources).

A third factor is the accommodating role of social and cultural familiarity. Much of Singapore's early foreign investments are in Malaysia because family ties are conducive to expansion of closely run operations. About 75% of Singaporeans are Chinese and most trace their ancestry to southern China where the Fujian (Hokkien) and Chaozhou (Teochew) dialects predominate. During the recent two decades of China's economic liberalization, Singapore Chinese have been reviving their family and ethnic ties on the mainland. Social and cultural familiarity facilitate negotiations that otherwise can be protracted when conducted between individuals from distinctly different cultures. Because of linguistic similarities there is less need for interpreters. Active involvement by top management, entrepreneurs and owners has been important in Singapore's investment process. Many of these individuals have *guanxi* – personal ties, relationships and connections – in the mainland (Komaran, 1985, pp. 30-37), or have cultivated networks. Singapore investors have also relied on similar cultures and customs to invest in Indonesia, Thailand, the Philippines, Vietnam and Laos. Nevertheless, in China, the range of regional customs, dialects and nuances, and the vast geographic territory are quite bewildering even to Singaporeans.

A fourth and an increasingly prominent factor for the foreign expansion by Singapore is the direct and indirect push by the Singapore government. Directly, investments are undertaken by Government Investment Corporation and government-linked companies under Temasek Holdings which includes Keppel Corporation (shipyard and engineering), Neptune Orient Lines (shipping), Sembawang Shipyard (shipyard and engineering) and Pidemco (property). For example, Keppel Corporation leads a consortium to develop an industrial park in Suzhou. Another major conglomerate is Singapore Technologies which with its subsidiaries are evolving a regional portfolio. The Economic Development Board and the Trade Development Board are two statutory bodies that have organized numerous trade and investment missions and field trips to promote foreign expansion.

SINGAPORE-CHINA ECONOMIC RELATIONS

China's success in luring foreign investments is remarkable. As a monolithic trade, investment and business opportunity, it has attracted 105 nations to invest in it by 1992 (Bertrand and Barneto, 1993). Hong Kong, Macau, Taiwan, Japan, USA and Singapore are the key investors. It is irresistible to set foot in an economy of 1.2 billion people.

Singapore trade and investments rose rapidly after 1985 when several agreements including the Investment Promotion and Protection Agreement, Double Taxation Treaty, and Tourism, Civil Aviation and Exhibitions Agreement were finalized. In 1990, full diplomatic ties between Singapore and China were established thus encouraging economic partnership. Previously, in absence of official relations, a 1979 agreement permitted each country to set up national trade offices in the other to promote commerce, investment and economic cooperation. In 1981, the pact was expanded giving trade representatives *de facto* diplomatic status. Between 1979 and

1987, Singapore's main investments, in frequency and value of projects, were real estate and tourist facilities, and business services including those related to oil exploration. The hotel construction boom led to unattractive occupancy levels, room-rate discounting and poor management in some cases, including neglect in building maintenance. In 1989, none of the 68 Singapore ventures with a total value of S$190 million was in hotel construction (The Straits Times, October 17, 1990). Between 1987 and 1989, there were 113 new investments in manufacturing of products such as electronics, and foods and other consumer goods. The total value of these commitments was approximately S$1.8 billion, but unlike the typical average of S$20 million per hotel project, manufacturing activities were in small and low-tech industries that averaged under S$2 million per investment. Between 1985 and 1995, Singapore accumulated a total of US$2.2 billion of investments – more than the first nine months of 1995 alone – in China making it the fifth largest investor there (The Straits Times, February 17, 1996). Total trade between the two nations surged from S$800 million in 1983 to over S$3 billion in 1992.

Singapore-led Industrial Parks in China

Its economic success and administrative efficiency have made the city state a role model for emerging Chinese cities. Singapore is an important business associate in Shantou Special Economic Zone, and Jiangsu province where a 70-sq-km Suzhou Industrial Park has been created by a 20 member consortium led by Keppel Corporation, a government-linked shipyard with manufacturing and banking operations, and where the 10-sq-km Wuxi-Singapore Industrial Park is being built by the Wuxi municipality and a consortium of Singapore corporations headed by Singapore Technologies Industrial Corporation, a subsidiary of Singapore Technologies, another government-linked company. Government-to-government collaborations have a beach-head effect for the corporate sector to expand. The two industrial parks are promoting their facilities to Singapore, Japan, South Korea and other countries. The Suzhou Industrial Park has commitments from South Korea's Samsung group (semiconductors) and Japan's Pokka Corporation (canned drinks), Daiwa Packaging (packaging) and Towa Electron (capacitors). The private sector has its own collective effort. A group of 20 Singapore companies, through their Singapore Furniture Industries Council, has created a furniture-making enclave known as Singapore Furniture Industry Park in Kunshan Economic and Technological Development Zone in Jiangsu in October 1995. In the Council's first foray into China, the 350,000 sq m Singapore Furniture Industry Park serves as an offshore manufacturing base on 50-year land leases. Its proximity to Shanghai and major industrial cities of Suzhou and Wuxi provides access to raw materials, transportation, communications and port facilities rendering it ideal for Asia Pacific operations.

Overseas Chinese and Guanxi

Although companies from over 100 countries are in China, the main source of capital and technologies are overseas Chinese residing in Taiwan, Hong Kong, Macau and Singapore who form a definitive part of the *bamboo connection.* Much of the investments from Hong Kong and Macau Chinese are in Shenzhen and Hainan Special Economic Zones (SEZs), and Taiwan in Xiamen SEZ. In 1994, the group accounted for 70% of the US$491 billion of foreign investments in China (Kohut and Cheng, 1996). In contrast, American and Japanese investment shares are 7.3% and 6.1%, respectively.

Even before China opened its doors, overseas Chinese have close ties with their ancestral hometowns. As fifth largest investor, Singapore is noticeable in the provinces of Guangdong, Fujian, Jiangsu and Shandong. In Fujian and Guangdong, the greatest ethnic and linguistic similarities exist because many Singapore Chinese are first and second generation descendants of immigrants from these provinces. These similarities coupled with personal relationships and typical Chinese patience help Singapore businessmen get preferential treatment and incentives. Singapore businessmen are pragmatic by exploiting their heritage and revived *guanxi* – connections, relationships and contacts – to facilitate negotiations and obtain priorities. Guanxi is rooted in or derived from memberships in clans, associations, villages, schools, and social and business networking. Personal relationships and connections are essential for smoothing transactions, and providing information and resources, and without guanxi, it is difficult to do business or get anything done in China (Davies *et. al.* 1995). Connections are vital not only when the commercial laws are unclear and bureaucratic, but because they have been used extensively in the cultural and historical sense.

Different categories of guanxi exist: *local-to-local* among mainland Chinese; *foreign-to-local* for the bond between foreigner and Chinese; and *local-to-foreign*, a recent link that describes the connections mainland Chinese have established with foreigners either from previous or ongoing dealings or by mainland Chinese who have returned from overseas studies. Singapore investors straddle between the first two types of guanxi as they claim special association based on ancestral ties in Quangdong and Fujian, and referrals from connected associates.

The first investment is an important foothold and around this several others would be organized by taking advantage of guanxi. Agritrade International, a trading and commercial organization, has four manufacturing plants in Jiangsu, three of which in the fast expanding city of Wuxi. Another example is Fook Huat Tong Kee, a fresh fruits trader, that has not only installed processing plants for farm produce, but has diversified into plastics manufacturing and property development. All its China projects are located in the Shandong town of Longkou.

Within a short period of time, it is not easy to understand bureaucracy, local customs and recognize economic opportunities, and for these reasons, local entities are strategic choices for joint ventures and partnerships, the preferred mode of operation for Singaporeans. Because guanxi works best with participation by top management, and top level involvement is favored by the Chinese, it is characteristic that Singapore entrepreneurs, proprietors and top executives participate actively in negotiations and operations. Invariably, China operations are headed by one or two senior executives nicknamed variously as "our *China expert*" or "our *China link*".

SINGAPORE INVESTMENTS IN CHINA, EARLY 1980s AND EARLY 1990s

The trend and pattern of Singapore investments in China are established from two sample studies covering approximately equal time spans: 1983-1985 (Komaran, 1985) and 1990-1993 (Tan, 1994). Although estimates suggest in the city of Suzhou alone there are 343 Singapore-China projects (The Straits Times, July 7, 1995, p. 45), 314 projects worth US$868 million (S$1.3 billion) in Shandong province (Singapore Trade Development Board, December, 1994), and 475 Singapore ventures in Shanghai (The Straits Times, October 21, 1995, p. 14), only 46 projects and 78 projects for the early 1980s and early 1990s, respectively, obtained from press reports and publicly available corporate releases are available for analysis in this study. Additional information and insights are obtained through interviews with individuals familiar with investments and business operations in China. The industrial mix of Singapore activities is summarized in Table 1.

The two active sectors for both periods are *real estate, construction and engineering*, and *manufacturing*. The importance of property development mirrors the fact that the top 20 richest Singaporeans are in hotels, property, insurance, banking and finance (The Straits Times, August 4, 1995, p. 15). A number of non-property related organizations that diversified into real-estate in Singapore during the boom in the last two decades is exploiting the new-found fortune and experience. In real estate, China's hotel boom of the early 1980s has been replaced by residential, industrial and administrative projects such as those in Jiangsu province in the 1990s. Manufacturing investments during the 1980s include mature household appliances and semiconductors typical of outward investments by developing countries that contrast with more innovative ones by advanced countries (Mullor-Sebastian, 1983). Industries such as food, beverage, basic metals, electrical, some electronics, plastics, and textiles and garments have limited opportunities in Singapore, and are sectors for which Singapore multinationals have significant international experience (Pang and Komaran, 1985a, p. 40). High local wages and managerial costs and lack of industrial space are also factors behind the investment flows into China and Asia-Pacific.

Table 1: Singapore Investments in China, early 1980s and early 1990s

INDUSTRY	EARLY	1980s	EARLY	1990s	COMBINED	
	Number of Projects	% of Total	Number of Projects	% of Total	Number of Projects	% of Total
Real Estate, Construction & Engineering	20	43%	24	3%	44%	35%
Offshore Oil Exploration	6	13%	0	0%	6	5%
Manufacturing:	14	30%	34	44%	48	39%
- PVC & chemicals-related	1	2%	3	4%	4	3%
- food & beverage	1	2%	10	13%	11	9%
- electronics & electrical	11	24%	4	5%	15	12%
- machinery, hardware & transport equipment	0	0%	9	12%	9	7%
- textile & garments	1	2%	2	3%	3	2%
- paper products, printing & - publishing	0	0%	2	3%	2	2%
- other manufacturing	0	0%	4	5%	4	3%
Commerce:	0	0%	6	8%	6	5%
- wholesale trade	0	0%	3	4%	3	2%
- retail trade	0	0%	3	4%	3	2%
Transport & Storage	0	0%	6	8%	6	5%
Business Services	0	0%	6	8%	6	5%
Agriculture & Livestock	1	2%	1	1%	2	2%
Others	5	11%	1	1%	6	5%
TOTAL	46	100%	78	100%	124	100%

Source: Rajah V. Komaran, 1985, *Singapore Investments in China*, Table 4, p. 49, adapted, and Tan Ee-Lin, 1994, *An Analysis of Singapore Investments in the People's Republic of China*, Table 4.1, p. 20, adapted. Percentages do not add up due to rounding.

During the early 1990s, construction and real estate remain Singapore's most active sectors, accounting for about S$4.5 billion although the estimate is biased upward because of land values. Manufacturing activities are another of Singapore's important investments, but is a distant second at about S$840 million. There is a comparatively higher frequency of *manufacturing* compared with *real estate, construction and engineering*, but the total value of property-related ventures outweighs manufacturing investments by about 3.5 times. During the 1980s, electronics and electrical production predominate because of availability of appropriate low labor skills and wages. Manufacturing activities have shifted to food, beverage, machinery, hardware and transport equipment, industries that were minimal during the 1980s. In food and beverage, two Singapore trading companies have integrated backward. Agritrade

International, a commodities trader, has cocoa and oil processing operations in Jiangsu province, and Fook Huat Tong Kee – a fruit wholesaler whose owner has 28 years' experience dealings with the Chinese – has fruit and vegetable processing facilities in Shandong province. This is significant though limited evidence as an earlier study on Singapore multinationals finds no vertical integration typical of many advanced country multinationals (see Pang and Komaran, 1985a).

Elsewhere, the slow-down in oil exploration in the region has curtailed the support sector of repairs, bunkering and supplies, hence the disappearance of these enterprises in the 1990s. Other fields such as *commerce, transport and storage,* and *business services* have expanded due to greater awareness and understanding of the business climate in China, encouraging presence of Singapore expatriates, and frequent government urgings for regional and international expansion.

Sino-Singapore Joint Ventures

The dominance of the joint venture is shown in Table 2 which summarizes different ownership levels by industrial categories. The data for 46 projects in the earlier period, 1980s, show no trace of wholly-owned subsidiaries, but although six out of the 78 projects in the second period, 1990s, are wholly-owned, the occurrence is modest. These fully-owned operations are in food and beverage, commerce and business services and are low in investment values. In real estate, construction and engineering, existing Chinese regulations prohibit private land ownership which explains the absence of foreign ownership of real estate.

The persistence of the joint venture reflects concerns of uncertainty surrounding business prospects and operations partly because of the relative recency of liberalization by the communist regime and an under-developed legislative framework for commerce.

Collaborations between Singapore and China are intrinsic. Not many Singapore companies are cash rich, and China is favorably endowed with land, material and labor, the very key industrial factors being exhausted in Singapore. China offers factories or plants that require refurbishing, and in some cases, provides manufacturing equipment and working capital, as it hopes to acquire technical and management expertise from the alliance. Companies such as GES Singapore, a computer manufacturer, gains access to domestic markets that may be difficult to establish through exports. Similarly, Singapore Automotive Engineering provides training and technical expertise in return for space, building and other resources for the project. In TIBS International's 50% joint venture for the construction of transport vehicles, the Chinese contribution is a 14,000 sq m plant.

Table 2: Types of Investment Involvement by Singapore in China by Industry, early 1980s and early 1990s

	EARLY 1980s				EARLY 1990s			
INDUSTRY	Total number of project	Wholly owned	Joint venture	Others *or Unkn.	Total number of project	Wholly owned	Joint venture	Others*/ Unkwn.
Real Estate, Construction & Engineering	20	0	13	7	24	0	20	4
Offshore Oil Exploration	6	0	4	2	0	0	0	0
Manufacturing	14	0	3	11	34	4	25	5
- PVC & chemicals-related	1	0	0	1	3	0	2	1
- food & beverage	1	0	1	0	10	2	7	1
- electronics & electrical	11	0	1	10	4	0	3	1
- machinery, hardware & transport equipment	0	0	0	0	9	0	8	1
- textile & garments	1	0	1	0	2	0	1	1
- paper products, printing & publishing	0	0	0	0	2	0	2	0
- other manufacturing	0	0	0	0	4	2	2	0
Commerce:	0	0	0	0	6	1	5	0
- wholesale trade	0	0	0	0	3	1	2	0
- retail trade	0	0	0	0	3	0	3	0
Transport & Storage	0	0	0	0	6	0	6	0
Business Services	0	0	0	0	6	1	3	2
Agriculture & livestock	1	0	1	0	1	0	1	0
Others	5	0	2	3	1	0	1	0
TOTAL	46	0	23	23	78	6	61	11

Source: Rajah V. Komaran, 1985, *Singapore Investments in China*, Table 4, p. 49, adapted, and Tan Ee-Lin, 1994, *An Analysis of Singapore Investments in the People's Republic of China*, Table 4.4, p. 33, adapted.
* "Others" include contracts and turnkeys. Unkwn. = unknown.

Transfer of technology of the conventional kind does not always occur. Even in property-related investments, by nature of the project, the mainland Chinese provide land, labor and materials but the foreigner underwrites the construction costs and project risks as in the case of Asiawide Investment's residential and commercial complex in Guangzhou in Guangdong province. Although the Chinese have contributed funds and working capital, they are persuading Singaporeans to provide 70% or more of the financing.

The Chinese accumulate experience by observing and participating in modern management and industrial practices executed by Singapore partners. Such skills transfers are an integral component of the Qingdao Lintech venture in which the Singapore company, Lintech Engineering, has a 55% stake. The arrangement with two Chinese parties requires Lintech to transfer specialized technologies in oilfield equipment repair, industrial and marine engineering services, and day-to-day management. Another example in which the Chinese are eager to master new business skills is Singapore Mandarin International's purchase of 25% equity of the four-year-old run-down 290-room Capital Hotel in Beijing. In this joint venture, Singapore Mandarin becomes the first foreign hotel chain to acquire a Chinese-built and owned hotel staffed fully by locals. After extensive renovations, the hotel will retrain the Chinese staff. This project adds to the chain's other joint venture – Shanghai JC Mandarin Hotel – that has the distinction of being the first Singapore-managed hotel in Shanghai.

The demonstration effect imparts another form of executive training. Engineers from Singapore Aerospace work alongside their Chinese colleagues in designing and manufacturing new helicopters, while Singapore Airport Terminal Services, a wholly-owned subsidiary of Singapore Airlines, is actively engaged in planning, designing, development and operation of in-flight kitchens.

During the 1980s, Singapore operations in the mainland were either joint ventures or technology transfer arrangements. The Chinese have eased ownership requirements, allowing wholly-owned operations in some sectors, to accelerate the inflow of foreign investments and technologies, but the minority joint venture remains predominant in the 1990s (Tables 4 and 5). While lack of investment funds for wholly owned operations is the main reason, local partners are crucial for their domestic connections, and understanding of consumers and business culture. Singaporeans stretch their symbiotic ties to preserve the special treatments and opportunities for expansion.

Table 3: Types of Singapore-China Joint Ventures, early 1980s

INDUSTRY	Total number of projects	Wholly-owned	Maj. JV	Equal JV	Min. JV	Unkwn .JV	Contracts & Turnkeys	Unkwn. involve-ment
Real Estate, Construction & Engineering	20	0	2	0	4	7	1	6
Offshore Oil Exploration	6	0	0	2	1	1	2	0
Manufacturing:	14	0	0	2	0	1	11	0
- PVC & chemicals-related	*1*	*0*	*0*	*0*	*0*	*0*	*1*	*0*
- food & beverage	*1*	*0*	*0*	*1*	*0*	*0*	*0*	*0*
- electronics & electrical	*11*	*0*	*0*	*1*	*0*	*0*	*10*	*0*
- machinery, hardware & transport equipment	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
- textile & garments	*1*	*0*	*0*	*0*	*0*	*1*	*0*	*0*
- paper products, printing & publishing	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
- other manufacturing	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Commerce:	0	0	0	0	0	0	0	0
- wholesale trade	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
- retail trade	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Transport & Storage	0	0	0	0	0	0	0	0
Business Services	0	0	0	0	0	0	0	0
Agriculture & Livestock	1	0	0	0	0	1	0	0
Others	5	0	1	0	0	1	0	3
TOTAL	46	0	3	4	5	11	14	9

Note: maj. = majority; min. = minority; unkwn. = unknown.
Source: Rajah V. Komaran, 1985, *Singapore Investments in China*, Table 4, p. 49, adapted.

Table 4: Types of Singapore-China Joint Ventures, early 1990s

INDUSTRY	Total number of projects	Wholly-owned	Maj. JV	Equal JV	Min. JV	Unkwn JV	Contracts & Turnkeys	Unkwn Involve-ment
Real Estate, Construction & Engineering	24	0		2	6	6	3	1
Offshore Oil Exploration	0	0		0	0	0	0	0
Manufacturing:	34	4		6	10	2	1	4
- PVC & chemicals-related	*3*	*0*		*0*	*1*	*0*	*0*	*1*
- food & beverage	*10*	*2*		*3*	*2*	*2*	*0*	*1*
- electronics & electrical	*4*	*0*		*1*	*1*	*0*	*0*	*1*
- machinery, hardware & transport equipment	*9*	*0*		*1*	*5*	*0*	*1*	*0*
- textile & garments	*2*	*0*		*1*	*0*	*0*	*0*	*1*
- paper products, printing & publishing	*2*	*0*		*0*	*0*	*0*	*0*	*0*
- other manufacturing	*4*	*2*		*0*	*1*	*0*	*0*	*0*
Commerce:	6	1		0	2	1	0	0
- wholesale trade	*3*	*1*		*0*	*0*	*1*	*0*	*0*
- retail trade	*3*	*0*		*0*	*2*	*0*	*0*	*0*
Transport & Storage	6	0		0	0	5	0	0
Business Services	6	1		1	1	0	2	0
Agriculture & Livestock	1	0		0	1	0	0	0
Others	1	0		0	0	1	0	0
TOTAL	78	6	1	9	20	15	6	5

Note: maj. = majority; min. = minority; unkwn. = unknown.

Source: Tan Ee-Lin, 1994, *An Analysis of Singapore Investments in the People's Republic of China*, Table 4.4, p. 33, adapted

Table 5: Singapore Government-Related Investments In China, early 1990s

Singapore Government-related Companies	Industry in Singapore	Activity in China	Project Status
1. Far East Levinston Shipbuilding Ltd (Keppel Corp.)	Mfg	car factory	completed
2. Far East Levinston Shipbuilding Ltd (Keppel Corp.)		Extension of factory building	completed
3. Far East Levinston Shipbuilding Ltd (Keppel Corp.)		Factory building	completed
4.Lintech Engineering Pte Ltd (Keppel Corp.)	Mfg	repair & overhaul oilfield equipment	started in 1993
5.Neptune Orient Lines (Temasek Holdings)	transport & storage	container liner services	started in 1993
6.Neptune Orient Lines (Temasek Holdings)"		cargo services	in operation since 1989
7. Neptune Orient Lines (Temasek Holdings)		trucking services	in operation
8.Neptune Orient Lines (Temasek Holdings)"		cargo & freight forwarding	in operation
9.Pidemco Land (Temasek Holdings)	real estate / construction	tourism complex	
10 Sembawang Aviation Pte Ltd (Sembawang Shipyard Ltd)	transport & storage	domestic travel services for tourists & businessmen	in operation
11. Sembawang Aviation Pte Ltd(Sembawang Shipyard Ltd)		marketing China-made commercial aircraft	in operation since 1991
12. Sembawang Engineering Pte Ltd (Sembawang Shipyard Ltd)	Mfg	fabrication & installation services for offshore drilling units & pressure vessels	in operation
13.Sembawang Aviation Pte Ltd (Sembawang Shipyard Ltd)		hook-up & mechanical completion of drilling & production	has contract

		platform	
14. Singapore Aerospace (Singapore Technologies)	Mfg	light helicopters	in operation since 1990
15. Singapore Airport Terminal Services (SIA)	Airport operations	in-flight kitchen	started in 1995
16. Singapore Automotive Engineering (Singapore Technologies)	Mfg	rebuild & repair vehicles for Chinese car industry	in operation since 1992
17. Singapore Commuter Pte Ltd (Chartered Industries of Singapore)	transport & storage	computerized taxi radio network for Shanghai Dazhong Taxi Co.	
18.Singapore National Printers Ltd (Temasek Holdings)	Mfg	pre-press services	
19 Straits Steamship Land Ltd (Keppel Corp.)	real estate / construction	holiday resort & golf course	to complete in 1996

Source: Adapted from Tan Ee-Lin, 1994, *An Analysis of Singapore Investments in People's Republic of China*, Appendix. Parent companies in parenthesis. Temasek Holdings is the parent company of Keppel, Neptune, Sembawang and SIA. Singapore Technologies is the parent of Chartered Industries of Singapore. NA = not available.

Singapore Government Investments in China

With exception of state monopolies, commercial operations by governments anywhere in the world are rare, but in the case of Singapore, the government is involved in several industrial activities through its investing arms – Temasek Holdings, Singapore Technologies – and related corporations. Of the 78 projects during 1990s, 19 are undertaken by government-related associates. Table 3 lists the 19 projects in construction, engineering, transportation and leisure activities. Most of the country's shipping companies – Far East Levingston, Neptune Orient Lines, Sembawang Shipyard, Keppel Corporation, Straits Steamship – have taken equity stakes. While Neptune Orient Lines and Keppel Corporation through its subsidiary Lintech Engineering are in their core shipping related business, Far East Levingston and Straits Steamship, through its property subsidiary, have diversified into construction of industrial and leisure properties, respectively.

Apart from property development and shipping projects, the Singapore government is building momentum in tourism, transportation, light aircrafts and printing. It is currently pushing Suzhou Industrial Park to Singapore and foreign producers, and is contemplating similar projects at other locations.

PROSPECTS FOR FURTHER INVESTMENTS IN CHINA

Role of Singapore Managers

Through Singapore Mandarin-speaking managers, the Chinese are introduced to modern management: operations planning and control, cost-control, quality control, sales and marketing, staff selection and training. Singapore executives are also valued for their international marketing experience and negotiation skills for Asia Pacific assignments. While the management styles are not patently indigenous as the management and organizational skills being transferred are a combination of philosophies that are substantively more Western than Singaporean or Asian. Many managers and executives began their careers in English, American and European organizations during the late 1960s, and many more are being trained in local and foreign colleges, professional seminars, and distance learning programs based on American, European and English concepts and case studies. The usefulness of Singapore employees and managers is derived from the fact that Asians are in a better position to communicate and function with other Asians who share similar culture of collectivism, long-term orientation and patience. In contrast, the West and especially the US, are known for their individualistic, short-term, rational-based and businesslike approaches that may not be compatible with Asian cultures. California's Seagate Technology – the first factory to commence production at the Wuxi-Singapore Industrial Park – is managed by an American, with expectations for the rest of the management team, all Singaporeans, to help Seagate learn "how to do business in China" (The Straits Times, May 10, 1995).

Higher technologies and large-scale production

For a small country, Singapore's role in the mainland's modernization drive is impressive. After the 1992-93 construction boom, it shifted to utilization of China's material, labor, land and consumer markets for consumer goods, household appliances, education, tourism, banking, finance and consulting services. But, its ability to undertake large-scale projects chiefly those requiring large out-of-pocket outlays is limited. China is in need of numerous infrastructures for production, trade, business services and tourism, and townships that combine residential and industrial complexes with amenities and administration.

China itself is capable of supplying technologies such as mold and die, machinery and equipment, ceramics and petrochemicals that are appropriate for Asia Pacific economies, and has manufacturing investments in Malaysia (The Straits Times, November 29, 1995). From the Guangdong town of Shunde, the Guangdong Kelon Electrical Holding, China's top producer of refrigerators for domestic consumption, is making inroads in the competitive Hong Kong market with its Kelon brand (The

Sunday Times, June 27, 1993, Review section, p.1). Promoted as an exemplar, the city with an area of 809 sq km, larger than Singapore's 640 sq km, aspires to catch up with Guangdong's SEZs and later the Asia Pacific tigers. Shunde is one of China's largest manufacturing bases for refrigerators, electric fans and rice-cookers and airconditioners. While China is capable of churning out a wide range of mass-produced goods, it lacks management and administrative capabilities to support market-oriented operations (also see Hamlin, 1994). In general, it wants to acquire high technologies in electronics – integrated circuits, components, computers and telecommunications equipment – and new management skills to meet challenges of an open economy.

Even with a planned squeeze on the number of Chinese trade and investment missions, Singapore expected 50 visits in 1995, not insignificant compared with 84 for the previous year, but the investment emphasis is qualitative (The Straits Times, May 4, 1995). In science, technology and manufacturing, if "Programme 863" named after its launch in March of 1986 is an indication, China is pushing for long-term R & D in five key areas of biology, information, automation, energy and new materials during the remainder of this millennium to boost the country's modernization efforts especially in agriculture and telecommunications. Further signal of this drive is evident in the "Super 863 Project" planned for 2001 through 2010 (The Straits Times, April 4, 1996). These Chinese initiatives make it imperative for Singapore to aim for larger scales of operation and newer or higher technologies through collaborations with other multinationals that have those technologies but have been unable to crack the Chinese or regional markets.

SINGAPORE'S FOREIGN MANUFACTURING POTENTIAL

In 1994, Singapore invested a total of US$ 25.5 billion (S$ 37.3 billion) in Malaysia, Hong Kong, Dutch Antilles, the Netherlands, USA, New Zealand, UK, China, Indonesia, Australia and Holland. Details on these investments are scarce, but much Singapore stakes in Australia, New Zealand, UK, China and Malaysia are property-related. Meanwhile, Singapore outward manufacturing activities may decline rapidly. To take advantage of the ASEAN fraternity, whose membership has expanded from the five 1967 founding members – Indonesia, Malaysia, Philippines, Singapore, Thailand – to Brunei (in 1984), Vietnam (in 1995), Laos and Myanmar (1997) and Cambodia (originally planned for 1997 but now in abeyance), it may require large-scale manufacturing or advanced technologies for outward expansion. The urgency would be felt as 2003 has been targeted for commencement of the Asean Free Trade Area (AFTA) when tariffs are reduced to near zero rates and a region of nearly 330 million consumers will be united in a sweeping realignment of manufacturing activities and alliances that should be large-scaled.

Eighty percent of the 300 food and beverage manufacturers in Singapore are small or medium-sized, family-run operations without international brand image (The Straits Times, February 2, 1996). The two largest – Yeo Hiap Seng and Fraser & Neave – are small in comparison with global players such as Nestlé, Heinz, Campbell's and Coca-Cola. Expansion by Singapore in food and drinks and other manufacturing industries can be achieved more expeditiously through partnerships with advanced, big or high tech industries from the West.

Overseas Chinese may lose their impact in Asia Pacific especially in huge projects and high technology industries (see Kohut and Cheng, 1996). American multinationals such as Motorola, Procter & Gamble and Coca-Cola are quickly expanding their China operations, aided by growing consumer markets and development of clearer laws and rules for business and commerce. After 20 years of economic liberalization, ethnic ties and name-dropping, the mainland is beginning to rely on *local-to-foreign* guanxi and favor contractual mechanisms and legal means for conflict resolution.

PUSH AND PULL FACTORS

Although no homogenous set of factors can explain all outward investments by Singapore, there are some common features. Among push factors are lack of natural resources and crowding out by larger, foreign multinationals. Singapore companies do not have enough domestic experience or technological and marketing adroitness to compete against North America, Europe and Japan in many branded consumer products such as automobiles, personal grooming, hi-fi and home appliances. As most Singapore companies are relatively small, the combination of keen international competition for local customers, high rentals, expensive labor, and lack of natural resources is daunting. Since industrialization in the 1970s, Singapore companies have not experienced enough economies of scale and scope primarily because of the physically small domestic market.

The pull factors include cultural familiarity and ancestral links and presence of market niches in China and ASEAN that are unnoticed by or unattractive to advanced country multinationals. For these large multinationals, there are the added difficulty of navigating unfamiliar cultural minds and territories, and the prospect of austere working and living conditions for expatriate staff. Singapore managers know that their willingness to sacrifice personal comfort is an edge in competing with other foreign investors.

The decision to invest in China or anywhere else is predicated on both push and pull factors. Through mere imagination China represents a lucrative market for many goods and services, and prospective Singapore investors have had to make numerous investigative trips to shape relationships and partnerships. Singapore investors remain vigilant about the need to establish a foothold even though doing business in China is tough and making money even more so. These businessmen are patiently contemplating the long term, though somewhat uncomfortably as not many have deep pockets.

CONCLUSION

Developing country multinationals tend to be small and operate either close to their national borders or in locations where they possess cultural advantages over other foreigners. Singapore multinationals emerge out of several clear push and pull factors. The push factors include small domestic market, presence of strong international brands, and rapidly escalating costs of production caused by the triple shortage of land, labor and materials. The pull factors are cultural and ethnic familiarity to facilitate business negotiations and arrangements, as well as niches ignored by larger country multinationals. In addition, Singapore government represents another push factor by encouraging emulation of its own direct and indirect involvement. Through government-linked corporations such as Intraco and Keppel, the government has undertaken several property-related projects in China. Through trade and investment missions, the Economic Development Board and Trade Development Board have been persuading local business people and companies to regionalize.

Singapore's speed of investing in China is extraordinary, but the momentum cannot be sustained along lines of cultural heritage or connections. After two decades of wooing foreign investors, China needs higher-end investments and technologies in computers, electronics, information processing, automation, new materials and energy, most of which are not indigenous to Singapore. To sustain its foreign manufacturing activities, Singapore must evolve partnerships with larger multinationals from North America, Europe and Japan who can make use of Singapore's familiarity and experience with the culture and negotiation in China and ASEAN. In this way, the city state can continue to profit from its cultural and "who you know" links before these are eclipsed by “what you know”.

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