



Best Practices in Investment for Development

Case Studies in FDI

How to Create and Benefit from Foreign Affiliate – Domestic SME Linkages

Lessons from Malaysia and Singapore

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Note

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The following symbols have been used in the tables:

Two dots (..) indicate that data are not available or not separately reported. Rows in tables have been omitted in those cases where no data are available for any of the elements in the row.

A dash (-) indicates that the item is equal to zero or its value is negligible.

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A slash (/) between dates representing years – for example, 2004/05, indicates a financial year.

Use of a dash (–) between dates representing years – for example 2004–2005 signifies the full period involved, including the beginning and end years.

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Preface

The *Investment Advisory Series* provides practical advice and case studies of best policy practice for attracting and benefiting from foreign direct investment (FDI), in line with national development strategies. The series draws on the experiences gained in, and lessons learned through, UNCTAD's capacity-building and institution-building work in developing countries and countries with economies in transition.

Series A deals with issues related to investment promotion and facilitation and to the work of investment promotion agencies (IPAs) and other institutions that promote FDI and provide information and services to investors. The publications are intended to be pragmatic, with a how-to focus, and they include toolkits and handbooks. The prime target audience for series A is practitioners in the field of investment promotion and facilitation, mainly in IPAs.

Series B focuses on case studies of best practices in policy and strategic matters related to FDI and development arising from existing and emerging challenges. The primary target audience for series B is policymakers in the field of investment. Other target audiences include civil society, the private sector and international organizations. Series B was launched in response to a call at the 2007 Heiligendamm G-8 Summit for UNCTAD and other international organizations to undertake case studies in making FDI work for development. It analyses practices adopted in selected countries in which investment has contributed to development, with the aim of disseminating best practice experiences to developing countries and countries with economies in transition. The analysis forms the basis of a new technical assistance work programme aimed at helping countries to adopt and adapt best practices in the area of investment policies.

For Series B, UNCTAD's approach is to undertake case studies of a pair of developed and developing or transitional economies that exhibit elements of best practices in a selected issue. Country selection follows a standard methodology, based primarily on the significant presence of FDI and resulting positive outcomes.

The *Investment Advisory Series* is prepared by a team of UNCTAD staff and consultants in the Investment Policies Branch, under the guidance of James Zhan. This study of the Series B was prepared by John Kline, Edmund Terence Gomez and Shandre Thangavelu. A fact-finding mission was undertaken in Malaysia in July 2009, while the case of Singapore was prepared based on desk-based research. The report was finalized by Ioanna Liouka and Cam Vidler. Contributions and comments were received from Chantal Dupasquier, Quentin Dupriez, Fulvia Farinelli, Ralf Krueger, Fiorina Mugione, Joerg Weber, and Stephen Young. The report has also benefited from views of current and former government officials, the domestic and foreign private sector and academics. Financial support was received from the Asia-Pacific Economic Cooperation forum (APEC) under the APEC-UNCTAD Joint Capacity Building Project for Addressing Knowledge Gaps in the Use of Foreign Direct Investment. The programme also receives financial support from the Government of Germany.

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CONTENTS

Note	3
Preface.....	4
CONTENTS.....	5
I. Introduction	8
II. Case Analysis: Malaysia	11
<i>A. Economic and FDI background</i>	<i>11</i>
1. Country profile and policy context	11
2. Development model and role of FDI.....	12
<i>B. The SME Sector in Malaysia</i>	<i>15</i>
1. General SME sector institutions and programmes	17
<i>General SME financing</i>	<i>17</i>
<i>Building SME capabilities.....</i>	<i>19</i>
<i>Promoting SME market expansion.....</i>	<i>21</i>
<i>Programme coordination and assessment.....</i>	<i>21</i>
2. Policies and programmes specific to FDI-SME Linkages	22
<i>Specific Linkage Programmes.....</i>	<i>22</i>
<i>Other ways to build linkages</i>	<i>27</i>
III. Case Analysis: Singapore.....	29
<i>A. Economic and FDI background</i>	<i>29</i>
1. Country profile and policy context	29
2. Development model and role of FDI.....	29
<i>B. The SME sector in Singapore.....</i>	<i>31</i>
1. General SME sector institutions and programmes	34
<i>General SME financing</i>	<i>34</i>
<i>Upgrading SME capabilities</i>	<i>35</i>
<i>Promoting SME market expansion.....</i>	<i>37</i>
2. Policies and programmes specific to FDI-SME linkages.....	39
<i>The Local Industry Upgrading Programme.....</i>	<i>39</i>
<i>Other ways to build linkages</i>	<i>41</i>
IV. “Best Practices” lessons for creating beneficial FDI-SME linkages	42
V. Conclusions	58
References	59

Figures

Figure II.1 FDI inflows in Malaysia (\$ million).....	13
Figure III.1 FDI inflows in Singapore (\$ million).....	31

Boxes

Box II.1: Malaysia's affirmative action policies	11
Box II.2: Regional development strategies.....	14
Box II.3: Sectoral strategy and GLCs.....	14
Box II.4: The Malaysian car project and the vendor system	23

Box II.5: SME-TNC linkages in the food processing industry	24
Box II.6: Public-private cooperation for skill building: the case of Intel in Penang	26
Box II.7 Microsoft and the BizSpark program.....	26
Box II.8: The case of Globetronics Technology Berhad	27
Box III.1: Enhancing SME innovation capabilities	36
Box III.2: Local SME expansion into the global electronics market	38
Box III.3: Honeywell strengthens aerospace operations with local SMEs.....	41

Tables

Table II.1: Definition of SMEs	17
Table II.2: SME technology enhancement	20
Table II.3: The Vendor Development Programme (VDP)	22
Table II.4: Industrial Linkage Programme (ILP).....	24
Table II.5: Global Supplier Programme (GSP)	25
Table III.1: Share of SMEs and large enterprises in Singapore (2007).....	34
Table III.2: SME Technology Enhancement.....	37
Table III.3: The Local Industry Upgrading Programme.....	40

Abbreviations

APEC	Asia Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
A*STAR	Agency for Science, Technology and Research
CCS	Competition Commission Singapore
CPI	Corruption Perceptiond Index
DFI	Development Finance Institution
EDF	Economic Development Board
EOI	export-oriented industrialization
FDI	foreign direct investment
FTZ	Free Trade Zone
GDP	gross domestic product
CGC	Credit Guarantee Corporation Malaysia Berhad
GLC	government-linked company
GSP	Global Supplier Programme
HDC	Halal Industry development Corporation
HICOM	Heavy Industries Corporation of Malaysia Berhad
HRDB	Human Resources development Board
HRDF	Human Resource Development Fund
ICT	information and communications technology
ILP	Industrial Linkage Programme
IMP	Industrial Master Plan
ISI	import-substituting industrialization
LIUP	Local Industry Upgrading Programme
MBC	Malaysian Biotechnology Corporation Berhad
MDeC	Multimedia Development Corporation
MIDA	Malaysian Industrial Development Authority
MIDF	Malaysian Industrial Development Finance
MITI	Ministry of International Trade and Industry (Malaysia)
MSC	Multimedia Super Corridor
NEP	New Economic Policy
NSDC	National SME Development Council
PDC	Penang Development Corporation
PFI	participating financial institution
PLE	Promising Local Enterprise
PSDC	Penang Skills Development Centre
R&D	research and development
SME	small and medium enterprise
SME Corp	Small and Medium Enterprise Corporation Malaysia
SMIDEC	Small and Medium Industries Development Corporation
SPRING	Standards, Productivity and Innovation Board
SSIC	Selangor State Investment Centre
TAF	Technology Acquisition Fund
TIP	Technology Innovation Programme
TNC	transational corporation
VDP	Vendor Development Programme
WTO	World Trade Organization

I. Introduction

Promoting the growth of domestic small and medium-sized enterprises (SMEs) represents an important development objective in most countries for both economic and socio-political reasons. Domestic SME development can increase employment, create local value-added, improve domestic innovation and entrepreneurial capabilities and generate economic growth. Although there are obvious benefits from SME growth, many developing countries lack the resource base or a sufficient market size to foster further internal expansion.

Some specific obstacles to SME growth in these situations may also include the following: *First*, limited access to fund and credit. The cost of capital is often high-priced, particularly in times of economic uncertainty, when lenders tend to be more risk averse. SME funding is essential not only to cover the start-up, expansion and working capital requirements of SMEs, but also for research and development purposes, as SMEs too often lack assistance for developing new ideas and turning them into marketable products. *Second*, deficiencies in human capital and difficulties in establishing the required programmes both in terms of the overall education system and on-the-job training. For instance, universities and vocational institutions may face challenges to supplying the managerial and technical training programmes needed to support local business operations. *Third*, weak infrastructure with respect to information and communications technologies, transportation and energy, which can limit access to markets and erode business revenues. Evidence shows that such constraints, including the digital divide, present particular challenges for SMEs across many business sectors. *Fourth*, limited information on possible markets and clients. Many SMEs have indeed little experience, particularly for becoming suppliers to foreign affiliates or exporting to foreign markets. *Fifth*, the extent of government regulation and compliance costs. These cover many issues ranging from taxation and reporting requirements to laws that promote occupational health and safety. The cost of complying with national and international standards can also be very expensive for SMEs. *Sixth*, the broader economic situation. SMEs are often most vulnerable to economic slowdowns due to the lack of insurance and higher risk of business failures.

FDI-SME linkages

Foreign direct investment (FDI) can enhance local SME development through linkages between foreign affiliates and domestic SMEs. These linkages can take several forms, including backward, forward or horizontal. Backward linkages exist when foreign affiliates acquire goods or services from domestic firms, and forward linkages when foreign affiliates sell goods or services to domestic firms. Horizontal linkages involve interactions with domestic firms engaged in competing activities.

Linkages offer benefits to foreign affiliates and domestic SMEs as well as to the economy in which they are occurring (Blomström and Kokko, 2000). For affiliates of transnational corporations (TNCs), such benefits may include lowering transaction costs, providing greater flexibility, spurring local adaptations and fostering corporate social responsibility. For local SMEs, potential gains relate to increased local market opportunities, upgraded management skills, benefiting from new technology, facilitating their access to capital and increased possibility of internationalizing their business. For the host economy as a whole, linkages can stimulate economic activity through substituting local inputs for imported ones. The strengthening of domestic firms can in turn lead to spillovers to the rest of the host economy.

Linkage-related benefits to domestic firms and the local economy are not automatic. The ability of a host country to fully benefit from linkage-related spillovers (i.e. the economy's "absorptive capacity") is determined to a great extent by the technological and managerial capabilities of existing domestic firms. Few spillover benefits will be captured if large "capability gaps" exist. When domestic firms are characterized by weaker capabilities, foreign affiliates often decide to use preferred foreign suppliers within or outside the host country.

The role of government policy

Although foreign affiliates may have an interest in creating and strengthening local linkages, their willingness to do so is influenced and reinforced by government policies addressing market failures at different levels of the linkage formation process. In this regard, a multi-faceted and comprehensive approach to building and deepening linkages needs to bring together the public and private sectors in creating linkage opportunities and ensuring their effective implementation. Two major policy areas are relevant for building FDI-SME linkages (UNCTAD, 2006). *First*, there is need to improve the investment climate to attract FDI in strategic sectors. *Second*, government policy should aim at strengthening the local absorptive capacity and developing domestic SME suppliers.

First, the creation of beneficial FDI-SME linkages depends on the capacity to attract a substantial quantity and quality of FDI for the host country. In this regard, the national strategy to promote FDI-SME linkages should be consistent with and supported by all relevant policies to attract higher FDI inflows taking into account the specificity of each country, including factors such as human capital and technological capacity.

Second, strengthening the absorptive capacity of domestic firms is vital to establish linkages and to assimilate efficiently the technology and knowledge that these linkages may provide. Studies have shown that firm-level absorptive capacity depends on the firm's environment. Such environment is generally characterized by the availability of educated persons with management and engineering skills or the quality of basic (e.g. roads, electricity) and advanced infrastructure (universities, specialized vocational training centres, diversified financial sector, etc.). Consequently, programmes aimed at developing SME capabilities by supporting technology and innovation, building SME human capital and fostering internationalization capacities are important.

The case studies

This report on "best practices" of how to create and benefit from foreign affiliate – domestic SME linkages assesses both public and private sector factors, including the manner in which they interrelate. Within the context of host country conditions to attract FDI, government objectives, policies and programmes constitute the main public sector elements. International or regional factors as well as actions by the FDI home-country or third countries also play a role. The primary private sector actors are the foreign affiliates themselves and their TNC network along with domestic SMEs. Other significant actors include business associations, universities, research centres and mixed private-public partnerships that can facilitate linkages.

By analyzing the interactive effects of both government and private sector factors in Malaysia and Singapore, useful insights can be derived regarding the circumstances under which different policy and programmatic options can yield the

best results. This report identifies strategic policy choices for government and business which could generate the most effective outcomes to benefit domestic SMEs, TNCs and the host country economy.

II. Case Analysis: Malaysia

A. Economic and FDI background

1. Country profile and policy context

Malaysia's economic objectives and policies have been shaped by the country's political and social context. Malaysia is a constitutional monarchy with a system of federalism where power is divided between a Central Government and 13 State Governments. However, the distribution of power overwhelmingly favours the Federal Government, thereby providing scope for centralized economic planning. Of Malaysia's almost 27.7 million multi-ethnic inhabitants in 2008, *Bumiputeras*¹ accounted for 65 per cent, while Chinese constituted about 26 and Indians 8 per cent, with additional minor ethnic groups. This multi-ethnic feature of Malaysia's population has influenced the character and constitution of political entities. The Government is led by the *Barisan Nasional* (National Front), a coalition comprising about a dozen, mostly ethnically-based parties.

Despite achieving steady, relatively high economic growth with low inflation for over a decade following independence in 1957, income inequality in Malaysia increased and half the population lived in poverty in 1970. Bumiputeras remained disproportionately poor, living largely outside modern urban and corporate sectors. With relatively few entrepreneurs, they were concentrated in low-productivity peasant agriculture and the public sector. Instead of fostering social stability, economic development seemed to be exacerbating social inequalities and frustrating Malay aspirations. These social factors, along with the inequities in corporate equity distribution among ethnic groups, contributed to race riots in May 1969. The resulting policy of affirmative action, a social and economic response to this crisis (box II.1), subsequently informed all public policies involving investment in the Malaysian economy, including FDI, with repercussions on initiatives to promote the SME sector. Bumiputera participation in manufacturing projects grew between 1975 and 1985, with equity participation always above 40 per cent (Yasuda, 1991). Yet, this proportion subsequently declined after the Government introduced liberalization and deregulation initiatives to address the mid-1980's recession. Although affirmative action policies were reinstated in the early 1990s, pressures associated with the 2009 recession saw the Malaysian Government liberalize the regime once again. Bumiputera equity requirements were removed or reduced in 27 services sub-sectors, as well as for foreign companies listing on Malaysian stock exchanges.

Box II.1: Malaysia's affirmative action policies

The primary objective of the affirmative action-based New Economic Policy (NEP), announced in 1970, was to achieve national unity by 'eradicating poverty', irrespective of race, and by 'restructuring society' to achieve inter-ethnic economic parity between the predominantly Malay Bumiputeras and the predominantly Chinese non-Bumiputeras. One key social engineering aspect of the NEP (originally a 20-year plan) that has become its key component was a goal that Bumiputeras should own 30 per cent of corporate equity by 1990.

To meet NEP objectives, the Government increased state intervention and public sector expenditure. In the corporate sector, the NEP involved targeting a selected group as recipients of government-created concessions to promote the rise of Bumiputera-owned

¹ *Bumiputera*, which means 'sons of the soil', is the term used in reference to ethnic Malays and other indigenous peoples.

conglomerates. This form of targeting, which had a major bearing on the shape of capital formation and development, was introduced to rectify inequities in corporate ownership and control patterns that had emerged during British colonial rule.

In pursuit of the NEP's objectives, the Government adopted an Industrial Coordination Act in 1975, requiring unexempted companies to ensure at least 30 per cent Bumiputera participation in their ventures. This aspect of the Act was denounced by foreign and particularly domestic Chinese business interests who perceived it as an attempt to advance Malay interests in the manufacturing sector. Although protests led to several amendments of the Act's requirements, other policies and regulations advanced affirmative action goals. Among the measures used to ensure that foreign companies followed NEP guidelines on Bumiputera equity participation and employment were an Investment Incentives Act, the Capital Issues Committee's regulatory approval of public listing or changes in company operations, and a Foreign Investment Committee that was established to oversee FDI. However, Bumiputeras' ownership of corporate equity had only increased to 19 per cent by 1990, providing a basis for further extending the affirmative action policy.

The NEP certainly achieved positive outcomes. Poverty was reduced appreciably among beneficiaries of the policy and a well-educated, prosperous Bumiputera middle class emerged. However, the policy has also been criticized as undermining inter-ethnic social cohesion, contributing to new intra-Bumiputera inequities and inhibiting genuine entrepreneurial capacity, including in the SME sector. According to 2006 government statistics, Chinese still hold twice the volume of equity owned by Bumiputeras, despite nearly four decades of affirmative action support. Chinese business has continued to thrive with entrepreneurship honed by rigorous competition, concentrated particularly in the SME sector.

Sources: Seventh Malaysia Plan; Eighth Malaysia Plan; Mid-Term Review of the Ninth Malaysia Plan

2. Development model and role of FDI

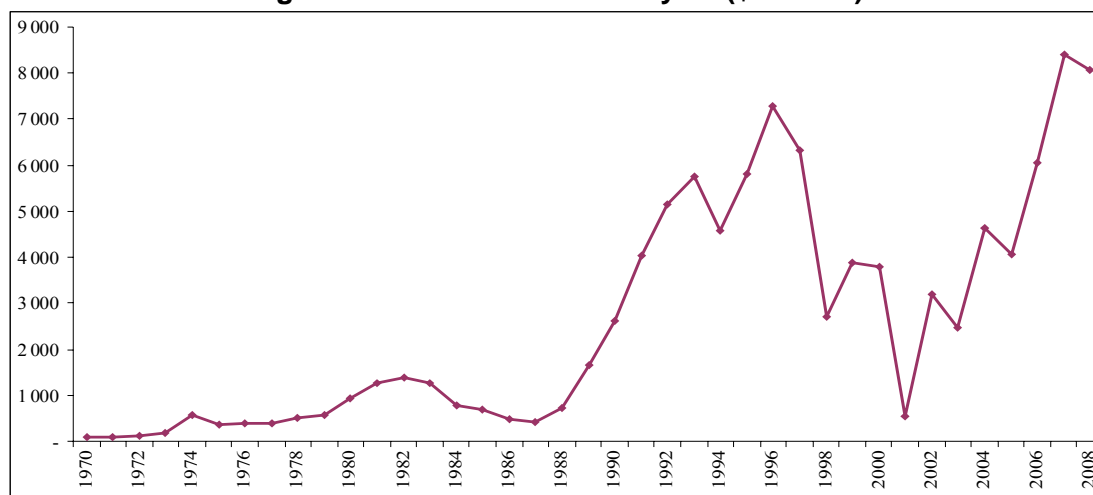
Although Malaysia's specific development model has changed over its history, FDI has always played a central role. Foreign manufacturing enterprises, especially British concerns, were dominant in the colonial and immediate post-colonial periods. Although local Chinese investors were also significant over this period, their share of ownership and control of corporate equity was small relative to foreign capital. By 1970, Chinese ownership of manufacturing companies amounted to 22.5 per cent, while foreign enterprises accounted for nearly 75 per cent of the remaining equity. However, by the mid-1980s, the share of equity in Malaysian companies owned by foreigners had fallen significantly, largely due to the expansion of local Chinese businesses. Nonetheless, FDI inflows have grown substantially since the late 1970s with the exception of economic crises in the mid-1980s, late 1990s, and 2009 (figure II.1).

In the immediate post-colonial period, import-substituting industrialization (ISI) was encouraged through a combination of infrastructure investments and fiscal incentives administered by the Ministry of Commerce and Industry, which has since been at the centre of Malaysia's industrial policy.² Foreign investors were important beneficiaries of these policies. In the 1960s, FDI made up 50 per cent of total investment in the manufacturing sector. Significant public expenditures were made in the transport, power and communications sectors, often through the creation of industrial estates. The most important incentive for FDI was tariff protection offered through the 1958 Pioneer Industries Ordinance, which also provided tax allowances

² The Ministry of Commerce and Industry was renamed the Ministry of International Trade and Industry (MITI) in 1990.

to pioneer firms based on the size of their investment.³ However, despite the promotion of large, capital-intensive industries, most foreign companies participating in ISI merely established subsidiaries for assembling, finishing and packaging goods produced with imported materials for profitable sale within the protected domestic market. The development of indigenous industries remained limited, mainly due to the government's reliance on FDI.

Figure II.1 FDI inflows in Malaysia (\$ million)



Source: UNCTAD, FDI/TNC database

Recognizing the problems associated with ISI in the mid-1960s, government policy changed direction and began to pursue an export-oriented industrialization (EOI) strategy. Fortuitously, TNCs were beginning to relocate labour-intensive production processes abroad to reduce production costs. A variety of measures relating to tax and export incentives was passed to reorient the economy and to encourage domestic and foreign investment in these industries, while promoting Bumiputera business activities.⁴ One particularly important piece of legislation at the beginning of the EOI period was the Free Trade Zone (FTZ) Act of 1971 (replaced by the Free Zones Act in 1990), which provided companies with pioneer status, involving tax holidays and tariff exemptions, to encourage FDI inflows in export-oriented manufacturing. Where FTZs were not established, firms could use licensed manufacturing warehouses with similar privileges, allowing greater flexibility in locating export-oriented factories. The Malaysian Industrial Development Authority (MIDA) was also established in 1967 with the aim of encouraging industrial investment by providing incentives and infrastructure to attract FDI. Reporting to the MITI, MIDA has functioned since then as a comprehensive and autonomous investment promotion agency. Also important in these years were regional government efforts to offer subsidized land, water, electricity and other physical and institutional infrastructure to draw TNCs (box II.2). By 1993, the manufacturing sector had doubled in size to 30 per cent of GDP (from 13 per cent in 1970), while exports grew from US\$ 1.7 billion in 1970 to US\$ 13.6 billion in 1986.

Although Malaysia has largely followed an EOI strategy since the early 1970s, tariff protection was temporarily reintroduced in several heavy industries during the

³ "Pioneer status" is now a standard incentive package given under various programmes.

⁴ These measures included the 1968 Investment Incentives Act (replaced by the Promotion of Investment Act in 1986), the 1971 New Economic Policy, and the 1975 Industrial Coordination Act.

early 1980s (in some cases even tripling the rate). To further encourage the development of these sectors, the Malaysian Government encouraged the formation of heavy industry conglomerates involving TNCs and government-linked companies (GLCs).⁵ For example, state-owned Heavy Industries Corporation of Malaysia Berhad (HICOM) collaborated with foreign, mainly Japanese TNCs in industries ranging from steel and cement production to the manufacture of a local car, the Proton Saga. The promotion of heavy industries through GLC-TNC joint ventures, however, was largely unsuccessful, with only the indigenous car industry still under domestic control. Tariffs and other import restrictions were reduced, and the country had reverted to its EOI strategy by the early 1990s.

Box II.2: Regional development strategies

In Malaysia, regional strategies contributed significantly to the attraction of export-oriented manufacturing FDI. This is particularly the case in the electronics and electrical sector promoted by the state of Penang, which emerged in the 1970s as a major setting for FDI. The Penang Development Corporation (PDC), created in 1969, was particularly effective at creating infrastructure and incentives tailored to particular TNCs. The state also acquired a strong reputation among investors for efficient institutions and effective government leadership. Penang currently houses the offshore operations of TNCs such as Intel, AMD, Motorola, Sony, Agilent Technologies, Seagate and NEC. The PDC and other regional development corporations like Selangor State Investment Centre (SSIC) continue to offer a variety of infrastructure, incentive, skill development and R&D promotional services.

More recently, Malaysia established five economic growth corridors in various regions of the country, with each corridor designed to draw on regional strengths. These include Iskandar Development Region (IDR), Northern Corridor Economic Region (NCER), East Coast Economic Region (ECER), Sarawak Corridor of Renewable Energy (SCORE) and Sabah Development Corridor (SDC). The growth corridors, administered by regional development authorities who provide incentives as well as infrastructure, were seen as a way to reduce the drop in FDI inflows due to the Asian financial crisis in 1997, but also hope to replicate the success of decentralized industrial policy as in the case of Penang.

During the 1990s, services surpassed manufacturing as the leading economic sector, with further expansion anticipated in key sub-sectors relating to Islamic financial products, outsourcing and shared services, and information and communication technology (ICT). In 2003, new importance was placed on commercializing agriculture, recognizing growing local and foreign demand for foodstuff and the need to increase income in rural areas where poverty remains a serious issue. A key component of Malaysian economic policy in the 1990s and 2000s has also been the use of specialized GLCs to promote sector-level development. As opposed to GLCs involved in direct ownership of enterprises, such as HICOM, these specialized GLCs have been typically focused on servicing the private sector with infrastructure, sector-based incentives, as well as various relevant training and R&D activities (box II.3).

Box II.3: Sectoral strategy and GLCs

GLCs engaged in sector-specific policies and programmes are institutions that, while owned by the government, are staffed by industry experts and other specialized private sector professionals. Similar to regional GLCs (e.g. PDC), these institutions typically offer infrastructure, financial incentives, skills and R&D incentives and services, as well as administrative and coordinating services to domestic and foreign investors. In addition, these

⁵ A government-linked company (GLC) is a corporate entity that may be private or public and to which the government is a stakeholder.

GLCs may engage in technology acquisition in order to distribute it to local firms. They work in cooperation with private sector bodies, public research institutions, and other programmes and objectives set by the MITI and other relevant ministries. Examples include the Malaysian Biotechnology Corporation Berhad (MBC), which aims to maximize returns from the agricultural sector by ensuring value-added in downstream activities, as well as the Halal Industry Development Corporation (HDC), created in 2006, which seeks to make Malaysia a global leader in the production of Halal products.

Perhaps the most significant GLC initiative is the Multimedia SuperCorridor (MSC), which is managed by the Multimedia Development Corporation (MDeC). Created in 1996 to help develop the ICT sector, the MSC is a zone encompassing Kuala Lumpur and including five "Cybercities": Cyberjaya, Technology Park Malaysia, UPM-MDTC, KLCC and Menara KL. The MSC offers an exceptional package of incentives including a zero corporate tax regime, 100 per cent exemption from taxable statutory income, 100 per cent Investment Tax Allowance, and eligibility for R&D grants. Telecom and utility services come with performance guarantees. TNCs have commended these and other infrastructure incentives and the Corridor has become a dynamic ICT hub, hosting over 1,200 TNCs and domestic companies that focus on multimedia and communications products, solutions, services and R&D. For example, Dell which had been operating a manufacturing plant in Penang, established an office in Cyberjaya in 2008, occupying a building paid for by the Government. This central location in the MSC enables Dell to access MDeC's services easily and facilitates an "e-supply chain" for managing its branches and suppliers.

In general, Malaysia has been providing an environment favourable to FDI attraction. The country was ranked by UNCTAD's *World Investment Prospects Survey 2007-2009* among the top 20 most attractive countries for FDI. A key factor that has drawn FDI to Malaysia is the country's high literacy rates of about 94 per cent, while individuals leaving school to enter the job market have at least 11 years of basic education. Nevertheless, a shortage of skilled workers was identified by the World Bank and other groups as one of two top constraints for Malaysia's economy. The second constraint was the regulatory burden on business, including racial preference policies. All investment proposals (foreign and domestic) are reviewed and often require approvals from multiple agencies. Malaysian FDI policy traditionally restricted levels of FDI ownership but case adjustments were negotiable. Malaysia ranked 47th on Transparency International's 2008 Corruption Perceptions Index (CPI), but its position has slipped 11 places since the Index was created in 2001. The country's more complex and layered administrative structure may explain part of the problem, presenting multiple opportunities for individuals to influence the decision-making process. FDI in sectors targeted for growth by domestic industrial policies has received favourable treatment, including significant financial and other incentives. The recent financial crisis and subsequent recession has led the Malaysian government to further improve their FDI attractiveness.

B. The SME Sector in Malaysia

Although SME policies have existed throughout Malaysia's development, until recently they were typically introduced as components of broader development policies (rural industrialization efforts in the 1950s included support to SMEs, while there were programmes to promote Bumiputera SMEs during the 1970s) or limited to programmes focusing on linkages with foreign firms. Although central government coordination of SME promotion efforts emerged in the late 1980s, it was not until the late 1990s and the early 2000s that SME promotion specifically became one of the Government's top priorities.

Taking advantage of the country's significant FDI inflows, SME policies in the 1980s and early 1990s focused primarily on creating linkages between local SMEs⁶ and foreign affiliates, the most notable being the Vendor Development Programme (VDP). Various other ministries also began SME promotion programmes, largely as appendages to their principal development initiatives. However, given problems related to the ability of local firms to meet the supplier requirements of TNCs and to absorb the benefits of associated spillovers,⁷ a more general and concerted approach to SME development ensued. The mid-1990s saw the emergence of broader policies directed at or applicable to local SMEs, such as assistance with marketing, technical development, finance and infrastructure. In the 1996, the Small and Medium Industries Development Corporation (SMIDEC) was created as a specialized agency under the auspices of MITI.

In addition to fostering linkages between local and foreign enterprises, SMIDEC was tasked with coordinating the provision of infrastructure facilities, financial assistance, advisory services, market access and other support programmes to SMEs. In response to a reordering of development priorities by the new Prime Minister in 2003, a high-level National SME Development Council (NSDC) was created in 2004. In 2009, SMIDEC was officially transformed into Small and Medium Enterprise Corporation Malaysia (SME Corp). SME Corp now serves as the secretariat of the NSDC as well as the coordinator of SME programmes across all related Ministries and Agencies. This Council is chaired by the Prime Minister and comprises 15 Ministers and heads of four key agencies involved in the development of SMEs.

Shortly after the creation of the NSDC in 2004, Malaysia's Third Industrial Master Plan (IMP3) (2006-2020) identified SMEs as one of six targeted future growth areas. This recognition marked an important policy shift from developing large-scale Malaysian conglomerates to cultivating internationally competitive SMEs. The new policy priority then drove a rapid expansion of SME-related initiatives, as most Ministries and relevant agencies and GLCs developed or enhanced programmes to aid SME growth in their area of responsibility. The importance of effective policy coordination cannot be understated given that in 2007 alone there were 189 SME-specific programmes implemented by a combination of 14 ministries and 60 agencies, expending RM4.9 billion to benefit 286,755 SMEs.

SME sector – definition and description

According to the 2005 census of the corporate sector, SMEs constitute approximately 99.2 per cent of business establishments in Malaysia. The Government has adopted a common definition of SMEs to facilitate identification of such firms in the various sectors and to aid the formulation of policies and programmes to nurture entrepreneurial SMEs. Table II.1 provides the Malaysian Government's SME definition of micro-, small- and medium-sized enterprises, classified by economic sector, based on annual sales turnover or number of full-time employees. Almost 80 per cent of SMEs can be classified as micro-enterprises. A large majority of 87 per cent are in the services sector, compared to 7.2 per cent in manufacturing and 6.2 per cent in agriculture. Nearly 70 per cent of SMEs in the services sector are in wholesale, retail or restaurants, yet around 26 per cent of the

⁶ Consistent with the government's affirmative action policies, linkage programmes often focused on developing firms owned by Bumiputera.

⁷ In the 2nd IMP, MITI identified limited technology and innovation capabilities as the main constraints hindering the growth of local SMEs.

total number of SMEs export their products abroad. SMEs employ more than 5.6 million workers and contribute about 32 per cent of real GDP.

Table II.1: Definition of SMEs

	Micro-enterprise	Small enterprise	Medium enterprise
Manufacturing, Manufacturing-Related Services and Agro-based industries	Sales turnover of less than RM250,000 or full time employees less than 5	Sales turnover between RM250,000 and less than RM10 million or full time employees between 5 and 50	Sales turnover between RM10 million and RM25 million or full time employees between 51 and 150
Services, Primary Agriculture and Information & Communication Technology (ICT)	Sales turnover of less than RM200,000 or full time employees less than 5	Sales turnover between RM200,000 and less than RM1 million or full time employees between 5 and 19	Sales turnover between RM1 million and RM5 million or full time employees between 20 and 50

Source: <http://www.smidec.gov.my>

The following two sections review Malaysia's policy and programme efforts in the SME sector. The first section focuses on policies and programmes aiming to enhance the capabilities of local SMEs. The buildup of these capabilities can be seen as a pre-requisite to the creation of linkages with TNCs, and the appropriation of TNC spillovers by local SMEs. The second section reviews policies and programmes related specifically to linkages between local SMEs and foreign TNCs operating in Malaysia, with a focus on the reasons for their successes and failures.

1. General SME sector institutions and programmes

General SME financing

Although private capital is available to Malaysian SMEs, the Government has made additional efforts to expand financing opportunities. Traditionally, government policy has pressured domestic banks to lend to local SMEs, and certain agencies were created to facilitate the flow of credit. Partly as a result, financing has been relatively affordable (e.g. interest rates hovered below five per cent from 1998-2005). Current government initiatives seeking to improve access to finance, many of which have emerged since the late 1990s and early 2000s, continue to rely on or complement the domestic banking system.

SME finance policies in Malaysia confront challenges both regarding encouraging the use of finance among SMEs in general, and the use of government finance programmes in particular. Traditionally, many smaller SMEs are family-based enterprises that rely on internal financing and credit from suppliers rather than bank loans. In addition, Chinese-owned SMEs are reputedly reluctant to seek financing from the Government, distrusting how they might use divulged information. However, due mostly to larger SMEs, bank loans still make up 90 per cent of total recorded SME financing, and the share of SMEs in total business lending by banks rose from 27 per cent in 1998 to 40 per cent in 2009.

An important early example of government cooperation with private banks to finance SMEs is the *Credit Guarantee Corporation Malaysia Berhad (CGC)*, founded

in 1972 under Bank Negara, Malaysia's Central Bank.⁸ In 1973, the CGC introduced the Small Loans Guarantee Scheme, which guarantees loans from private financial institutions to small businesses in order to reduce barriers associated with their lack of collateral. The loans can be used for working capital or capital assets. The CGC has also become involved in new financial products, including SME loans securitization and equity financing. In its history up until 2008, the CGC has guaranteed support for a total of 392,000 SMEs, involving financing amounting to RM42 billion. Loans currently guaranteed by this programme can range from RM10,000 to RM10 million. Another new initiative which similarly relies on facilitating access for SMEs to bank loans is the SME Credit Bureau, established in 2008, which acts as a credit databank, providing financial institutions and trade creditors with information about an SME's financial track record to facilitate its access to loans.

Malaysia also directly provides capital to SMEs through development finance institutions (DFIs). In 2006 alone, the six largest DFIs together approved a total of RM6.9 billion in financing for more than 18,000 SME accounts. Founded in 1960, the *Malaysian Industrial Development Finance (MIDF)* is one of the more significant public finance institutions in the country. It is designed by the Government to manage and disperse several financing schemes and administers nine financing initiatives. Current schemes relevant for SMEs include, for example, the Soft Loan for Small and Medium Size Enterprises, the Soft Loan for Factory Relocation, the Fund for Small and Medium Industries 2, and the Small and Medium-Scale Industry Promotion Programme. In 2005, the Government facilitated the creation of *SME Bank*, which distributes typical financial products and services offered by commercial banks, but specializes in SMEs in particular. In 2008, even as the global economy began to slow, SME Bank approved a total of RM2.2 billion in 2008 to 1,624 clients.

Other government finance initiatives relevant for SMEs have been introduced since 2006, including microfinance access for micro enterprises, and the launching a RM300 million venture capital fund for agriculture businesses. Following the onset of the global financial crisis in 2008-2009, the Government introduced further incentives to help SMEs, including: SME Assistance and Modernization Facilities (RM1.2 billion); Micro Enterprise Fund (RM200 million); SME Guarantee Assistance Scheme (RM2 billion); Working Capital Guarantee Scheme (RM5 billion); and the Industry Restructuring Financing Guarantee Scheme (RM5 billion).

Increasingly, government financing of SMEs in Malaysia has been accompanied by advisory services that focus on improving the firm's financial knowledge and strategies. In 2003, *Bank Negara*, which has played a role in a number of financing schemes (including the CGC and some of the initiatives under MIDF), created the SME Special Unit to provide a central location for SMEs to explore financing options, complete loan applications, and to address problems faced by SMEs without access to finance. Dedicated consulting services on financial issues are also available through the Special Unit. Similarly, *SME Bank* goes beyond the typical functions of a DFI by acting as a one-stop shop for SME financial services. While it distributes typical financial products and services offered by commercial banks, it also provides specialized business advisory services which facilitate loan approvals.

⁸ Although some government-sponsored finance was made available to supplier firms involved in the Vendor Development Programme in the 1980s, it was not available to SMEs in general.

Building SME capabilities

Malaysia has developed a number of policies and programmes to help improve the capabilities of local SMEs. These initiatives relate to building entrepreneurship and human capital, as well as R&D, technological, and product development capabilities. These initiatives are offered by a range of Government Ministries, public agencies and GLCs, and are often related to broader industrial policies.

Several Government Ministries have offered a variety of programmes to support early stage entrepreneurship and skills development. Most efforts have focused on education and vocational training or mentoring support. As of 2007, the *National Institute for Entrepreneurship*, under the Ministry of Entrepreneur Development and Cooperative Development, operated 449 programmes on entrepreneurship training through 225 planned courses. Some 69,200 people reportedly participated in these courses in 2007. Public Higher Education Institutions also organized entrepreneur foundation courses, with 18,000 students attending. In addition, GLCs, such as MDeC and MBC, have initiated programmes to train entrepreneurs in specific sectors. For example, MBC's Ignite Programme with Cambridge University employs experts to provide a free "boot camp" for applicants in the biotechnology field to help them refine their business ideas. Other entrepreneur programmes are still targeted and oriented specifically at promoting entrepreneurship in the Bumiputera community. Among the 2007 entrepreneur development programmes designed for Bumiputera were training in budget hotel operations (Ministry of Tourism), the pepper industry (Ministry of Plantation Industries and Commodities), and the wastewater industry segment of the energy sector (Ministry of Energy, Water and Communication).

The accumulation of human capital in SMEs is encouraged through on-the-job training and skills development programmes. As many as 28 government ministries and agencies operate training programmes registered through a Human Resources Development Portal. Although not targeted at SMEs, medium-sized manufacturing firms of over 50 employees can benefit from the *Human Resource Development Fund*, which was established in 1993 to finance on-the-job training. SME Corp, through the *Skills Upgrading Programme*, provides grants to SMEs to use 22 registered regional skill development centres throughout the country, such as the Penang Skill Development Centre (PSDC). These centres provide specialized training modules for employees. In 2007, for instance, 2,050 SME employees received training. Various Ministries also offer programmes on technical aspects of certain products or sectors, such as palm oil milling or tourism services, or more general skills, such as those related to exporting. For example, in 2007, nearly 20,000 SME employees enrolled in courses from the Ministry of Tourism, while 3,007 SMEs participated in seminars on export skills under a programme organized by the Ministry of International Trade and Industry (SME Annual Report 2007).

In addition to targeting entrepreneurship and skill development capabilities among SMEs, the Malaysian Government has taken steps to increase firm-level technological intensity, the rate of innovation, and to encourage improvements to firm products and processes. Often, SMEs benefit from broader policy initiatives in these areas. For example, SMEs benefit from the MITI's *Commercialization of Research and Development Fund*, which provides partial grants of up to 50 to 70 per cent (or RM2 million) of R&D expenditures, including market research, product design and development, standard and regulatory compliance, intellectual property concerns, and demonstration costs. Similarly, SMEs have access to the *Technology Acquisition Fund (TAF)*, which provides grants of up to 70 per cent (or RM2 million) to purchase

technology licenses and patent rights. Other programmes focusing specifically on product and process development include SME Corp's grants (RM27.9 million distributed to 162 SMEs in 2007, according to the SME Annual Report 2007). Several smaller technology-related programmes organized by Ministries, GLCs and other agencies available to SMEs are summarized in table II.2.

Table II.2: SME technology enhancement

Organizing body	SME development programme	Number of participants in 2007
Ministry of International Trade and Industry	<i>RosettaNet Standard Implementation Scheme</i> Assistance to SMEs to help improve business processes in preparation to embrace the global Supply Chain Management (SCM) system	50 SMEs
Ministry of International Trade and Industry	<i>Soft Loan for ICT Adoption</i>	4 SMEs
Malaysia Productivity Corporation and SIRIM Berhad	<i>System Development Programme</i> Advice on how to implement the Total Quality Management (TQM) system	21 SMEs
SIRIM Berhad under the Ministry of Science, Technology and Innovation	<i>Incubator Programmes</i> Favourable environment in which to develop products with ready access to skills and tools required to create a successful technology business	12 SMEs graduated from the Incubator Programme to become entrepreneurs with their own facilities
Multimedia Development Corporation (MDeC) under the Ministry of Science, Technology and Innovation	<i>MSC Malaysia Status Incubators & MSC Malaysia Technology Commercialisation Centre</i> Java Technopreneur Development Centre (JTrend) in collaboration with Sun Microsystems and Multimedia University .NET Technopreneur Development Centre (NTDC), in collaboration with Microsoft, HP and Multimedia University	As at March 2008, 160 prototype projects have been developed at the technology laboratories
Ministry of Plantation Industries and Commodities	<i>Rubber Research Institute of Malaysia</i> <i>Mini Station</i> Platform for training, technology transfer and value-add activities	97 participants

Source: SME Annual Report 2007

SME technological development is further encouraged through initiatives that are available regardless of company size, such as in regional development corridors. For example, the city of Cyberjaya in the Multimedia Super Corridor (MSC), primarily targeted at larger firms and top TNCs, provides a growth environment for Malaysian ICT SMEs. By 2005, only a decade after the MCS was proposed, nearly 74 per cent of the 3,500 SMEs in the ICT sector had achieved MSC-programme-status, which provides infrastructure, financial and R&D incentives. By the end of 2008, 444 of the 474 companies actually located at Cyberjaya were Malaysian firms with MSC-status. Nevertheless, the MSC is seen by some SMEs as infrastructure meant primarily for TNCs and large firms, with inadequate provisions for SMEs. For example, SMEs

cannot buy land in the MSC nor is it offered to them, while such privileges are accorded to TNCs.

Promoting SME market expansion

Several Ministries, public agencies and GLCs are involved in programmes that attempt to build off successful cases of SME product and technology upgrading by assisting them to enter foreign markets or expand foreign sales. Some assistance simply provides showcases for SME products. An example of this is SMIDEX, an annual showcase that provides a platform for SMEs to display products and services for outsourcing activities, as well as MITI-sponsored trade shows and foreign trade missions. Some showcases focus on targeted areas, such as the Malaysian International Halal Showcase. Public export-financing schemes from MATRADE are also important tools to encourage SMEs to sell internationally. Aside from standard trade finance, MATRADE distributes Market Development Grants (MDGs) to assist in activities to develop SME export markets. In 2007, RM12.3 million was distributed under this programme.

Franchising operations provide another avenue for SMEs to expand their markets. This mechanism can involve foreign franchises held by Malaysian firms or domestic franchising by Malaysia enterprises that have established ventures abroad. In 1992, the Government established a Franchise Development Division in the Prime Minister's Department and introduced a long-term plan with related legislation to regulate the sector. SME Corporation and SME Bank have played a supportive role in this process. By 2009, 373 franchise systems were registered with the Government, of which two-thirds were homegrown while one-third were foreign franchises. The retail sector has had particular success within this policy framework. Some 26 homegrown retail franchises already have business ventures in 50 countries. Among the best know franchises are Royal Selangor, a family business founded in 1885 to produce and sell pewter ware. A more recent SME success is Secret Recipe, established in 1997 as a cafe serving fine quality cakes and fusion food, which expanded into outlets throughout Southeast Asia, China, Pakistan and New Zealand.

Programme coordination and assessment

Given the Malaysian Government's recent policy emphasis on promoting SMEs, the level and breadth of programmatic activity, only sampled above, is impressive yet concerning. A wide array of governmental institutions, agencies and enterprises exercise authority, assume responsibilities and operate SME promotion programmes in the economic sector they serve. With too many agencies involved, sponsoring an expansive range of SME programmes, there is little coordination between them regarding the services provided. The Government recently recognized the need to create a more efficient and coordinated strategy that will focus resources on prioritized goals while reducing overlap, red tape and bureaucratic delays.

The formation of the NSDC in 2004 has been an important initiative towards addressing this issue. Yet, while the NSDC has certainly helped coordinate the expansion of SME programmes, it still remains faced with a difficult task. A 2006 survey of more than one hundred SMEs in Selangor found that government policies, and bureaucratic issues in particular, were perceived to be the most significant SME barriers (Saleh, Caputi and Harvie, 2006). Some responses, such as creating GLCs run by contracted professionals outside the civil service to help deliver services more efficiently, may still add complexity by further diversifying and layering government programmes.

2. Policies and programmes specific to FDI-SME Linkages

With FDI playing a crucial role in Malaysia's economy as well as its future development plans, the concept of linkages between FDI and SME promotion seems both logical and inevitable. Indeed, although general SME promotion has been a more recent priority in Malaysia, supplier linkages programmes, such as the Vendor Development Programme (VDP), were incorporated in earlier government initiatives. As SME promotion assumed more importance and FDI attraction gained greater urgency in periods of economic downturn, government agencies with portfolios involving FDI began to explore more ways to encourage FDI-SME linkages that would benefit both FDI and SME policy goals. This section outlines specific linkage programmes, as well as the role of public agencies and GLCs in matching local firms with TNCs.

Specific Linkage Programmes

Malaysia's early experience with promoting SME linkages with TNCs yielded a decidedly mixed record of achievement. When ISI-related FDI failed to generate domestic business growth, the government targeted FDI for export-oriented manufacturing sectors, employing a combination of restrictions and incentives to promote the creation of indigenous conglomerates and local, and especially Bumiputera, SME suppliers. The *Vendor Development Programme (VDP)* was introduced in 1988 to help these SMEs emerge as suppliers of industrial components, machinery and equipment (table II.3). The VDP essentially complemented the *Sub-contractor Exchange Scheme (SES)*, a database of local companies initiated in 1986 to match local producers with foreign investors according to capabilities and needs.

Table II.3: The Vendor Development Programme (VDP)

Aim	<ul style="list-style-type: none"> • Provide opportunities for SMEs to participate in subcontracting arrangements and other joint-venture related activities • Develop and strengthen the SME performance as manufacturer and supplier of components, input materials, machinery, parts and supporting services to large corporations and TNCs
How it works	<ul style="list-style-type: none"> • Vendors supply components and spare parts to the anchor companies - the large local corporations or TNCs operating in Malaysia • In return, the anchor companies are directly involved in the development of the SME, particularly through technology transfer and by providing a stable market • This long-term contract will enable the vendors to grow into large corporations and also be penetrate the international market
Incentives for SMEs	<ul style="list-style-type: none"> • The anchor company provides a market for the SME products and technical facilities to the vendors, such as in the area of training and quality improvement • The government provides various facilities such as soft loans and other types of financial support
Incentives for TNCs	<ul style="list-style-type: none"> • Anchors do not receive financial assistance under this programme

Source: Masayuki (1999)

The automotive sector was the first to be involved in the VDP. As the programme developed, it broadened its approach to other sectors and became less restrictive. The Electrical and Electronics Components Scheme was introduced under

the VDP in 1992, and in 1993, a tripartite arrangement involving the Ministry of Trade and Industry (MITI), an anchor company and a bank was introduced to facilitate SME loans and better monitor implementation. Non-Bumiputera-owned companies were allowed to participate in the vendor system in the mid-1990s, when economic liberalization measures were adopted to stimulate local investment, especially in the manufacturing sector. At the beginning of 1997, nearly a decade after the vendor system was introduced, 27 anchor companies were linked to 94 SMEs, including a number of successful non-Bumiputera firms.

The most prominent example of the vendor system involved the Proton car project and specifically targeted Bumiputera firms for SME promotion, according them preferential rights to supply Proton with locally-produced goods. This mechanism proved unsuccessful when the supplied material revealed quality and pricing problems (box II.4). The vendor system might have produced different results had contracts been issued on broader merit to companies with better capacity to produce high quality products at a reasonable price. This point is illustrated by the success of Chinese-owned SME autoparts suppliers to Proton. For example, incorporated in 2000 after the removal of ethnic ownership restrictions, Proreka (M) Sdn Bhd commenced business as a prototype builder and supplier of small plastic automotive parts. The company has since grown into a firm specializing in the design of car components, with total sales of RM50 million in 2007. The promotion of social policy goals alongside efforts to develop a competitive business enterprise may not always be compatible. Although the VDP continues to remain an important tool to encourage linkages (for example, in 2005, the VDP developed 75 vendor companies based on the appointment of three anchor companies), Malaysia has since created other programmes to link TNCs and local SMEs.

Box II.4: The Malaysian car project and the vendor system

In the early 1980s, state-owned Heavy Industries Corporation of Malaysia Berhad (HICOM) chose Mitsubishi as its initial foreign joint-venture partner in the domestic car project, Proton. The vendor system was introduced in December 1988 as part of the Government's attempt to promote Bumiputera involvement in manufacturing. Proton was to serve as an "anchor firm" responsible for cultivating SMEs by using them to supply components parts for the car project. To promote Bumiputera enterprises, these firms were preferentially accorded the rights to supply Proton with locally-produced goods.

The vendor system proved unsuccessful in nurturing Bumiputera firms in the automobile industry, however, though there is some evidence that non-Bumiputera companies fared better. In general, SMEs tied to Proton showed little capacity to enhance their technological skills or develop the ability to serve other companies. Most of these SMEs did not improve the range and quality of their products.

Proton's concern about the quality of products it was receiving from vendors led the company to reduce the volume of goods acquired from favoured SMEs and seek out other suppliers. By around 2007, nearly 182 vendors were supplying Proton with 4,000 component parts. Inevitably, Proton's original SME vendors found it difficult to grow, given the appreciable increase of component suppliers in the automobile sector. More significantly, the poor quality of goods provided by SME vendors helped saddle Proton model cars whose lower quality image undermined the car project's viability as well as the SMEs' prospects (Shunji, 1998; Leutert and Sudhoff, 1999; Rashid, Lall and Tatsuo, 2008).

Proton's experience with the vendor system suggests that selective intervention to promote Bumiputera capital failed, though not because of inadequate government support. This same vendor system might have produced different results had contracts been issued to companies with the capacity to produce high quality products at a reasonable rate, which also would have aided the Malaysian car project. The outcome cautions against attempts to tie preferentially treated SMEs to larger projects when the results could weaken prospects for the latter. Programmes that specifically target business development policies should ensure that

recipients of government concessions can sustain themselves in a competitive environment. The Malaysian government has now been searching for another foreign partner to salvage the car enterprise.

These newer programmes, such as the *Industrial Linkage Programme (ILP)* and the *Global Supplier Program (GSP)*, do not only match foreign and domestic enterprises, but also provide incentives to SMEs to develop the necessary capabilities for their engagement in advanced production processes and global supply chains. Created in 1996 under SMIDEC (now SME Corp), the ILP promotes selected manufacturing activities, although it is now moving into service industries as well. The programme seeks to build TNC-SME linkages by offering tax incentives to SMEs producing eligible products, as well as to foreign affiliates who incur costs by helping to improve SME capabilities (table II.4). As of 2007, 906 SMEs were registered under the ILP, of which 128 were linked to TNCs and other large companies (MITI 2007). That year alone, the ILP reported 304 business matching sessions between SMEs and large companies, including many TNCs. As of 2007, the ILP had generated sales of RM512.2 million (MITI 2007). One of the ILPs recent successes is the increased sourcing of local food processing SMEs by TNC hypermarkets such as Tesco (box II.5).

Table II.4: Industrial Linkage Programme (ILP)

Aim	<ul style="list-style-type: none"> To develop domestic SMEs into competitive manufacturers and suppliers of parts and components and related services to TNCs and large companies
How it works	<ul style="list-style-type: none"> Matching services supported and enhanced by SMIDEC's existing financial schemes and developmental programmes
Incentives for SMEs	<ul style="list-style-type: none"> Pioneer Status with tax exemption of 100 per cent on statutory income for 5 years and Investment Tax Allowance of 60 per cent on qualifying capital expenditure incurred within a period of 5 years are provided to eligible SMEs To become qualified for the incentives, SMEs must manufacture products or undertake activities in the List of Promoted Activities and Products in an ILP. They should also be supplying to TNCs or large companies
Incentives for TNCs	<ul style="list-style-type: none"> Expenses incurred in developing SMEs such as training, product development and testing, factory auditing and technical assistance to ensure the quality of vendors' products will be allowed as deduction in the computation of income tax

Source: SME Information and Advisory Centre

Box II.5: SME-TNC linkages in the food processing industry

Linkages with retail TNCs located in Malaysia are another way to stimulate SME market expansion. Through the ILP, and in collaboration with other relevant public agencies and GLCs, SMIDEC (now SME Corp) has played a major role in linking local food processing SMEs to foreign retailers. This achievement supports the Government's general objective to promote value-added activities in agriculture and agro-business after years of prioritizing industrialization in more heavy and technology-intensive industries.

The sourcing of local food products is particularly important considering that many small retail outlets, most of which were supplied by local SMEs, began to lose significant market share when foreign ownership restrictions in the distributive trade sector were relaxed during the mid-1980s. Tesco and Carrefour now account for 60 per cent of retail sales and the survival of food processing SMEs has depended on being able to supply these TNCs.

For example, Tesco promotes the sales of Malaysian food processing SMEs, both to Tesco's 31 locations within Malaysia, as well as those located in other countries. As a result, by 2009, over 70 per cent of Tesco Malaysia's 60,000 products were produced locally, and 60 per cent of the company's suppliers were Malaysian SMEs. Once SMEs are taken on as suppliers by Tesco, they benefit from the TNC's targeted efforts to help them meet global standards by producing consistent and quality goods. In addition, Tesco often takes top firms abroad, helping to open markets for them in Europe and the United States.

Although many of the linkages are the result of Tesco's internal supplier development programmes, SME Corp has played a key supporting role. Under the ILP, for instance, TNCs are given tax incentives to help build capacity within local SMEs. As of 2007, SMIDEC had been directly involved in the creation of 23 linkages, several of which resulted in local SMEs becoming house brands. Strict assessment criteria for SME selection have helped ensure that linkages are mutually beneficial. Also, since 2004, the annual Tesco-SMIDEC SME Suppliers Conference has brought together potential suppliers with Tesco buyers. Other agencies involved in these efforts include the Malaysian External Trade Development Corporation (MATRADE), the Ministry of Domestic Trade and Consumer Affairs (MDTCA) and HDC, which provides technical assistance to SMEs regarding halal products.

The retail linkage strategy has enabled many Malaysian SMEs to develop overseas markets yet, as with other programmes, there have been complaints about selective patronage when the Government cultivates such ties on behalf of certain SMEs. Some Chinese-owned firms believe they are excluded from these market access arrangements regardless of their products' quality and price.

The GSP complements the tax incentives under the ILP by funding SME skill development in order to make local SMEs more effective participants in global supply chains. Originally created in 2000 as an initiative by the regional Penang Skills Development Centre (PSDC) with the support of United States TNCs in particular, the GSP was quickly expanded at the federal level by SMIDEC (now SME Corp). Under the GSP, subsidies are provided to SMEs for training programmes at a variety of regional centres and institutes (table II.5). The key element of the GSP in terms of linkage creation is that TNCs representatives design the content of the training programmes and participants are selected based on TNC criteria (Henderson and Phillips 2007, cited in UNCTAD). Within the first year of its existence, the GSP had already trained 813 employees from 225 SMEs, with the involvement of 23 TNCs or large domestic companies. The case of Intel in Penang and Microsoft's BizSpark programme illustrate how government and TNCs can work together to generate long-term supplier linkages beneficial to local technological development (boxes II.6 and II.7).

Table II.5: Global Supplier Programme (GSP)

Aim	<ul style="list-style-type: none"> To develop SMEs into competitive suppliers of parts and components, not only to TNCs in Malaysia, but also their worldwide operations through the mentoring activities and the linkage initiative of the GSP
How it works	<ul style="list-style-type: none"> Involves training in critical skills with TNC input into curriculum and SME selection criteria
Incentives	<ul style="list-style-type: none"> The training initiative is implemented in collaboration with local Skills Development Centers (SME Corp has appointed 42 training providers to undertake skill training for SMEs: e.g. Penang Skills Development Centre (PSDC)) SMEs that send their employees for courses at any of the training providers will be eligible for 80 per cent training grant from SMIDEC The remaining costs can be claimed through the Human Resource Development Fund (HRDF), if the company is registered with the Human Resources Development Board (HRDB)

Source: SME Information and Advisory

Box II.6: Public-private cooperation for skill building: the case of Intel in Penang

Penang has received some of the highest levels of manufacturing FDI in the country, particularly in the electronics and electrical sector. This FDI has been used by the Malaysian Government and local authorities to develop the indigenous industry and SMEs, primarily through providing a market for local machine tool and contract electronics manufacturers. The share of TNC procurement from local sources rose from between 10 and 15 per cent in the early 1980s to 46 per cent in 1996. By 2007, there were over 3,000 SMEs in Penang.

A widely successful initiative by the State Government and PDC to encourage the development of local suppliers has been the Penang Skills Development Centre (PSDC). Founded in 1989, the Centre brings together TNCs and SMEs in joint-training activities. The PSDC is managed by the industry, and includes representatives from TNCs and local SMEs. Membership rose from 25 TNCs and six local supplier firms in 1989 to 56 TNCs and 52 supplier firms in 2005. The close involvement of TNCs in the initial selection of SME suppliers and the design of skill development programmes creates specialized SME capacities and facilitates long-term linkages. The Centre's contributions to supplier development inspired the federal-level GSP, which also supports customized SME training based on TNC criteria (and uses the PSDC as one of its registered training centres).

Intel, present in Penang since 1974, has used training services, tax incentives and financial support through the PSDC and the GSP to develop its network of Malaysian suppliers. Intel created a supplier programme called the "Smart Approach," based on developing supplier capabilities and competencies and providing business opportunities for SMEs. The company promotes local supplier development through a five-step process: (1) select promising suppliers on the basis of systematic analysis; (2) provide initial training and TNC engagement; (3) allocate business according to capabilities; (4) raise capabilities by technical assistance and training; and (5) help suppliers diversify and develop into global suppliers. It is Intel's view that these initiatives benefit the TNC as well as the SME by shifting the production of low-level components to dependable local firms, allowing the TNCs to concentrate on upgrading and developing new technologies.

The success of Intel-driven linkages, with the emergence of firms such as LKT Engineering, Eng Teknology, Polytool, Rapid Synergy, Metfab, Prodelcon, Choon Engineering, and Globetronics, has been attributed to long-term commitment by both government and TNCs, targeted FDI strategy to attract TNCs such as Intel, establishment of public-private sector dialogue, formation of meso-institutions like the PSDC, selective support for SMEs, systematic supplier development programmes, and the appropriate use of economic incentives.

Source: UNCTAD 2006, Deepening Development Through Business Linkages

Box II.7 Microsoft and the BizSpark programme

TNC links with government agencies help develop new technologies and operate outreach programmes to local SMEs. For example, Microsoft will invest RM300 million in the BizSpark programme to support development of the local software industry by aiding start-up firms and grooming Malaysian technopreneurs. The venture involves MDeC and the Association of the Computer and Multimedia Industry Malaysia (PIKOM) along with eight other organizations. Under this programme, Microsoft will help nurture up to 500 small firms by providing them access to RM625,000 worth of world-class tools, technologies and market resources, along with technical support, mentoring from Network Partners, and opportunities for exposure to potential investors and customers. By offering free Microsoft software when start-up companies may need it most but can least afford it, the TNC expects to build long-term relationships and help expand the local software economy. Microsoft estimates that assisted companies may create as many as 5,000 jobs in Malaysia and generate an additional RM1 billion for the local economy.

Other ways to build linkages

Many instances of successful linkage creation in Malaysia have occurred outside of official policy initiatives. While TNCs typically do contact MIDA and SME Corp, where they can receive a list of companies in compatible areas of business, most TNCs also conduct independent research before entering the market since they often want to identify and choose their own local partners. This research is often done based on feasibility studies from consultants to help identify supply chains that can be created with SMEs. Once established, in a continuing effort to maintain low production costs, TNCs may seek other local SMEs to integrate in their supply chain. As the above examples of Tesco and Intel show, TNCs often use internal programmes to accomplish these goals. Various business associations and chambers of commerce also play a role in helping match TNCs with Malaysian firms. Some organizations represent domestic firms while others are created along regional and country lines, such as the American Chamber of Commerce, the EU-Malaysia Chamber of Commerce and Industry, and the Japan External Trade Organization (JETRO).

Another way FDI-SME linkages are created occurs when former TNC employees establish their own manufacturing firms, often first contracting as a supplier to their former employer. Unico Holdings Berhad, Eng Teknologi Holdings Berhad and Globetronics Technology Berhad are among the SMEs owned by ex-employees of TNCs that used such linkages to emerge as major enterprises in the electronics and electrical sector. As illustrated in the case of Globetronics (box II.8), which was formed by ex-Intel employee, TNCs may encourage staff to form new supplier firms and help nurture the company throughout its development and subsequent expansion. A constraint on former TNC employees serving as a principal FDI-SME link stems from reported differences among TNC management and technology practices. Malaysians can generally hold senior managerial positions in affiliates of TNCs from North America and Europe, gaining valuable operational experience and strategic perspective. By contrast, senior positions in the management hierarchy of firms from Japan are usually held by Japanese, limiting the scope of knowledge transfer to local employees. Similarly, TNCs from Europe and North America appear more willing to share and transfer technology with local suppliers (up to a point), than firms from East Asia.

Box II.8: The case of Globetronics Technology Berhad

The case of Globetronics provides insights into how a domestic SME developed out of its primary initial links to one TNC. Globetronics was established in 1991 by two former employees of Intel. The founding members of this firm had between them 30 years of experience with Intel. When they established Globetronics, Intel offered them the opportunity to serve as a subcontractor. Intel provided their ex-employees with equipment and facilities to begin their enterprise to ensure their initial capital outlay would not be too high. Intel also transferred a component of its manufacturing system to Globetronics. Intel ensured, however, that their copyright over this system was not infringed. Another important area of support that Globetronics obtained from Intel was the TNC's certification of quality for their products that were to enter the supply chain network. With Intel's backing, foreign and local firms were willing to work with Globetronics. The new Malaysian firm had little trouble securing financing from banks as Globetronics' business model involved working with Intel.

After developing its capabilities, Globetronics built on this initial support from Intel by diversifying its operations. Globetronics' owners saw this step as a second stage in the firm's expansion. From a single product line, Globetronics used value-added engineering to develop and offer multiple product lines that served a range of customers, including other TNCs. The firm's eventual customers included AMD, Agilent, STM, CREE, Epson, Toshiba and

Spanion. Globetronics was aided in broadening its client base by its history of strong links with Intel.

In the company's third stage of growth, Globetronics began to develop unique local capabilities. Globetronics was aware that, while TNCs were willing to teach SMEs certain production methods, there were restrictions on the level and volume of knowledge that would be passed on. Globetronics conceived and executed joint development work with their customers. They shared risks but also had capabilities and core competencies that helped to drive growth. Co-developed products were shared. This practice allowed Globetronics to move up the production and development value chain. In this stage of development, Globetronics assessed that their links with TNCs were more diverse but still crucial, as they were a co-developer of a product with a customer. For this reason, Globetronics focused additional attention on R&D to develop new technologies that will help the firm emerge with a global presence in supplying components for personal computers.

Some facts should be noted from this brief history of Globetronics links with TNCs. Intel outsourced just one item to Globetronics when the latter started operations. It was cheaper for Intel to outsource this item than to continue producing it on its own. Since what Intel outsourced was not new technology, the TNC ran minimal risk in its initial dealing with Globetronics. Intel wanted to focus internal resources on higher value-added production, so transferring low-end manufacturing jobs helped fulfill this goal. Assisting a new SME to become a reliable local supplier of quality components also served Intel's interests. As Globetronics developed more capabilities and found new customers, the firm loosened its initially tight dependence on Intel's own interests.

The owners of Globetronics acquired the capacity to use and adapt technology when first employed by a TNC and managed to use their knowledge, connections and entrepreneurial talents to nurture a start-up firm in the electronics and electrical sector. This example shows how employment with a TNC can be an important avenue for entrepreneurs who wish to create new SMEs with the capacity to innovate. TNCs such as Intel understand that mutually beneficial relationships can be forged with ex-employees who establish local firms willing and capable of taking on work that the TNC would eventually outsource elsewhere. Globetronics' history also shows that new SMEs can expand beyond producing component goods solely for a former TNC employer by developing internal capabilities and expanding their customer base.

Source: Interviews with Globetronics management, July 2009.

III. Case Analysis: Singapore

A. Economic and FDI background

1. Country profile and policy context

Singapore is an independent city-state that operates under a parliamentary system of government. Originally a British Crown colony that became self-governing in 1959, Singapore joined the federation of Malaysia in 1963, but left in August, 1965 to establish a sovereign republic. Singapore has a unicameral Parliament headed by a President but political authority is exercised by a Prime Minister who leads the majority party and a Cabinet appointed by the President on the Prime Minister's advice. The People's Action Party (PAP) has dominated Singapore's politics since the first general election in 1959. An opposition party had resigned from Parliament in 1961, leaving PAP unopposed for two decades. Although opposition parties now contest some seats and place a few members in Parliament, PAP's leadership remains in firm control of the government.

Singapore is one of the world's most densely populated countries. It reflects a varied linguistic, cultural and religious heritage although nearly three-fourths of residents are Chinese, followed by Malays at roughly 13.5 and Indians at 9 per cent. Singapore's rapid growth from a modest trading post to a developed nation is one of the more notable stories of successful growth and development in the second half of the 20th century. The Singapore economy experienced one of the highest rates of growth in the world over the past three decades, with GDP appreciating at an annual rate of about 7.6 percent during the period 1970-2005. The result in turn propelled Singapore's average real per capita income from US\$512 in 1965 to over US\$26,982 by 2005, which surpassed the level of many developed countries.

However, long-term averages can hide the vulnerability of the city state to external shocks. Singapore experienced an acute economic contraction in 2001, following the sharp downturn in the global electronics industry and sluggish regional and global growth. A confluence of negative factors exacerbated the recession, including September 11, 2001, Bird flu and SARS, Tsunami, Middle-East war, oil-shocks and the dot.com bubble crash. With manufacturing and services as "twin" engines of the economy, Singapore regained its robustness over the next few years. Of course, the most recent global recession dealt another blow to Singapore's economy. This crisis again raised concerns about the challenges facing Singapore's open, trade-oriented policies and how best to manage the country's essential interdependence with other economies.

2. Development model and role of FDI

The cornerstone of Singapore's economic strategy has been its broad engagement with international trade and investment flows. The country has one of the most open economies in the world, with a trade to GDP ratio of about 250 percent. With few natural resources, the city state must be particularly aware and responsive to the forces that transform markets and alter ways of doing business, so as to remain "ahead of the game." For example, advances in information and communication technology (ICT) have significantly shrunk economic distances between nations and markets, possibly reducing the demand for some conventional roles for Singapore such as entrepôt, overseas headquarters, or other ancillary services. Competition for investments, export markets and skilled labour has

intensified and, as more economies embrace open door trade and investment policies, some of Singapore's hub roles can be duplicated by lower cost regional rivals. In policy terms, Singapore recognizes that it must maintain a liberal policy environment in both trade and investment in order to retain its attractiveness as a global or regional TNC hub.

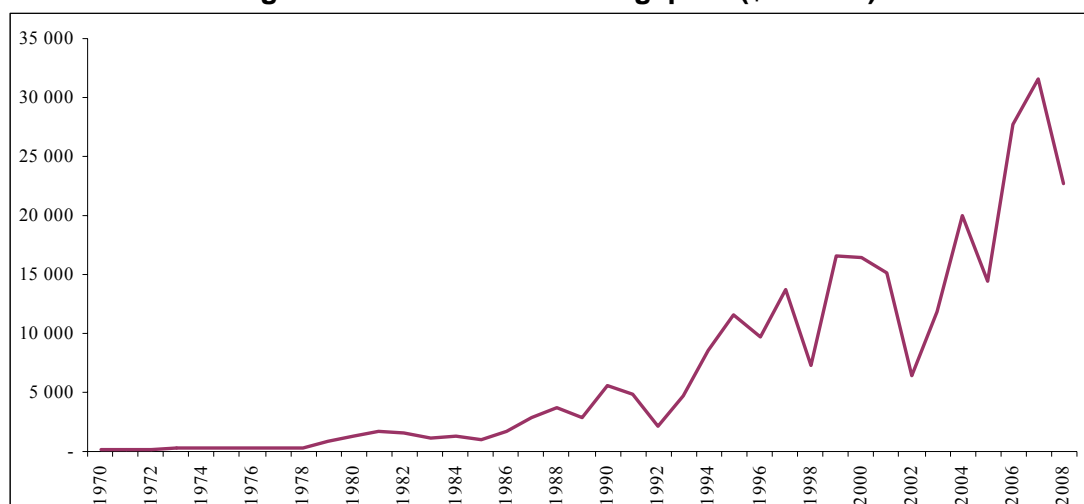
With its economic growth and development tied to the global economy, Singapore supports liberal trade policies and maintains almost no applied tariff barriers of its own. As an increasingly services-based economy with strong export interests, Singapore gives particular emphasis to securing greater market access and a transparent rules framework in trade in services. While among the most ardent of supporters of the global trading system as the preferred approach, Singapore also pursued a regional track to liberalization through involvement in both the ten-member Association of Southeast Asian Nations (ASEAN) grouping and the larger twenty-one member Asia Pacific Economic Cooperation (APEC). Negotiating bilateral trade pacts provides a third track approach when multilateral and regional progress is slowed by financial crises or the sheer size and diversity of the groupings. In most cases, Singapore's bilateral trade accords are best understood as a formalization of the *de facto* extensive and deep linkages that already exist.

The Singapore Government actively encouraged FDI inflows from early on. The country's skilled workforce and efficient business infrastructure, combined with stable and largely corruption-free institutions, drew FDI from over 7,000 TNCs that now account for over two-thirds of Singapore's manufacturing output and direct export sales. The Economic Development Board (EDB) was established in 1961 as a one-stop agency to lead Singapore's industrialization drive through attracting export-oriented FDI to Singapore. EDB has worked closely with various ministries and other government bodies to facilitate FDI entry into key strategic industries. Over the 1980s, FDI played a central role in Singapore's development, representing up to 30 per cent of gross domestic investment, more than double the share in other regional economies. Levels of FDI inflows have followed an overall increasing trend (figure III.1), yet the vulnerability of the economy to external shocks has created large spikes, particularly in years around major global crises. While the initial emphasis was on labour-intensive manufacturing, the focus has shifted to encouraging inflows in higher value-added areas and skill-intensive manufacturing activities as well as knowledge-based professions, financial activities, ICT and offshore services. International businesses are also encouraged to establish R&D facilities in Singapore as well as to use the country as international or regional headquarters. Singapore's FDI promotion has always emphasized developing key priority clusters, so the EDB targeted chemical, electronic and engineering areas of manufacturing. More recently emphasis has been placed on product development, biomedical research, educational and health care services.

Singapore does not impose any restrictions on foreign ownership in manufacturing activities but maintains restrictions on strategic sectors for security reasons and on certain service sector activities. However, since the late 1990s, the Government has been relaxing foreign ownership restrictions in key service industries, for instance, lifting the 40 per cent limit on foreign ownership of local banks in 1999. A 70 per cent limit on foreign ownership of the Stock Exchange of Singapore and all ownership restrictions in telecommunication services were removed in 2002. Restrictions remain in specific professional services such as air transport, law and media (newspaper publishing). Overall, the Singapore government neither screens FDI inflows nor maintains policies on performance requirements. Singapore largely complies with WTO Trade-Related Investment Measures obligations and has signed Investment Guarantee Agreements with its ASEAN

members and a number of other countries. Many trade pacts also offer some form of investor protection. In any event, the Singapore government has not expropriated foreign investments in the past. In addition, Singapore benefits from a strong reputation for fair and transparent government decisions, ranking fourth in Transparency International's 2008 Corruption Perception Index, a high position the country has essentially maintained since the index was first developed in 2001.

Figure III.1 FDI inflows in Singapore (\$ million)



Source: FDI/TNC database

Singapore ranked as the top country for “Ease of Doing Business” in the World Bank’s “Doing Business 2010” report. The Government provides world-class infrastructure for foreign investments as well as competitive direct and indirect incentives for FDI in key sectors. Incentives normally include concessionary corporate tax rates of between 5 to 15 per cent or corporate income tax exemptions. Non-tax incentives including grants can be offered for particular high-value-added sectors, training and R&D. Among the government’s support for R&D-related businesses, Singapore Science Park provides modern infrastructure in its three science parks. The Agency for Science, Technology and Research (A*Star) also fosters scientific research through, among other initiatives, large infrastructure projects such as Fusionopolis (for information and media industries) and Biopolis (for the biomedical sciences industry). Singapore offers a good policy environment for high-technology TNCs, including strong Intellectual Property Rights protection. To resolve disputes in a new knowledge frontier like e-commerce, Singapore Subordinate Courts offer Alternative Dispute Resolution. To promote healthy competition among firms in the market, the newly established Competition Commission of Singapore administers and enforces the Competition Act rules.

B. The SME sector in Singapore

Although Singapore’s early industrial strategy mainly focused on attracting TNCs, the importance of SMEs for the country’s economic growth has been emphasized since the 1980s, particularly with the SME Master Plan in 1987. The Singapore Competitiveness Report in late 1990 and the more recent SME 21 initiative in 2000 have strengthened the country’s focus on developing a strong local SME sector. Increasingly, SMEs are becoming an important component of the Singapore’s domestic and global economic activities.

In the 1960s, Singapore’s main focus was to attract TNCs to spearhead an export drive in the manufacturing and services sector. As a result, the development

of domestic enterprises and entrepreneurial activities was neglected and played only a marginal role in supporting industrial activities. Although Singapore's industrial strategy mainly focused on attracting TNCs, the importance of SMEs for Singapore's economic growth was emphasized in the 1980s, particularly with the SME Master Plan in 1987, driven by the Economic Development Board (EDB). The Plan's objective was to develop indigenous global enterprises by strengthening the capabilities of domestic SMEs. Following the economic slump, the Small Enterprise Bureau was established in 1986 and worked closely with the EDB to manage a number of SME assistance programmes. Emphasis was placed on helping local firms to improve and modernize their plants and technology, product design, management skills, and marketing capabilities.

Singapore's Competitiveness Report of 1998 further underscored the importance of SMEs for continued growth and discussed how SMEs could help advance the country's global economic interests. Three types of domestic SMEs were identified as playing a key role: (a) world-class companies with a global orientation and strong brand name; (b) strategic value-adding enterprises that support TNCs and promote export growth through the TNCs; and (c) domestically-oriented SMEs that focus on services. The report identified several weaknesses of domestic SMEs that needed to be addressed, including the lack of key resources, SMEs' inability to reap economies of scale, and the fact that local SMEs typically undertake too little R&D to upgrade their business and develop competitive advantages. The Report's recommendations focused on: consolidation and pooling of resources to create positive synergy and externalities (which could be linked to economic clusters); enhancing local skills through government investment and incentives for training; promoting innovation and technology upgrading through government financial assistance and TNC-SME linkages; and increasing the market base for SMEs by accelerating the regionalization of Singapore's economy.

The more recent 2000 SME 21 Report has been aiming to further develop Singapore's SME capabilities. SME 21 is a ten-year strategic plan to create vibrant and resilient SMEs in Singapore. This Report emphasizes three principal goals in its 10 year strategic plan, attaching specific targets as measures of success. The first goal relates to nurturing innovative high-growth SMEs with a capability to compete globally so as to maintain a steady flow of world-class Singapore SMEs. These SMEs will produce innovative products and services, use ICT to add value to new products and services, develop global brands and have superior distribution channels. The target is to triple the number of local SMEs with more than S\$10 million in sales turnover to 6,000 by 2010. The second goal concerns enhancing the productivity of SMEs and improving land and labour resource utilization by restructuring, revitalizing and upgrading SMEs in the service sector, particularly in retail. The target is to double annual labour productivity in the retail sector by 2010. The third goal relates to creating a knowledge-based pro-enterprise environment that encourages entrepreneurship and innovation, and eliminates barriers to organizational growth. An important tool is e-commerce, which will open up vast opportunities and remove the traditional barriers to SME growth. The target is to quadruple the number of local SMEs with e-commerce transactions by 2010.

The SME 21 is being implemented by the Government in collaboration with the Chamber of Commerce, industry associations and the private sector. The key coordinating agency, SPRING Singapore, which took over the functions of the Small Enterprise Bureau in 1996, oversees implementation of the SME 21 recommendations. Several initiatives are intended to achieve these goals. A broad-based strategy includes promoting entrepreneurship, financing growth, facilitating market access, strengthening local talent, accelerating e-commerce, and promoting

Singapore as an SME hub. Sector-level strategies focus on developing collaborative partnerships, strategic alliances and upgrading local service sectors. Enterprise-level strategies incorporate specific programmes and methods intended to address the goals of developing entrepreneurs, managing business excellence, harnessing technologies and knowledge for growth, and designing new business models for competitive advantage.

With SMEs becoming an important component of Singapore's domestic and global economic activities and a priority sector for government policy, several public institutions have been charged with formulating and implementing SME-related programmes. The Ministry of Trade and Industry (MTI) is the principal government unit with respect to Singapore's trade and investment policy and economic development programmes. MTI oversees ten statutory boards as semi-autonomous agencies that carry out the Ministry's policies and specific plans. Apart from the EDB, the most significant agencies for FDI and SME promotion currently include the International Enterprise Singapore (IE Singapore), the Standards, Productivity and Innovation Board (SPRING Singapore), the Agency for Science, Technology and Research (A*STAR), and the Competition Commission of Singapore (CCS). The rather concentrated location of administrative responsibilities and resources facilitates a strategy of coordinated targeting for FDI and SME promotion, including the potential to encourage beneficial linkages. The Government of Singapore also indirectly invests in both domestic and foreign companies through its investment holding company, Temasek, and the Government of Singapore Investment Corporation, which manages government funds. These investments can support Singapore's economic strategies by targeting key sectors and business activities. The resulting government linked corporations (GLCs) are managed separately, but some restrictions may limit FDI in such holdings.

SME sector- definition and description

Over the years, the Singapore Government has employed several definitions of SMEs in examining the growth and development of the SME sector. The definitions also determined the eligibility of firms for access to government funds and assistance designated to support the SME development. In 1960s, the Economic Development Board (EDB) defined a small company as one that employed less than 40 workers with fixed capital assets not exceeding S\$2 million in order to be eligible for financial assistance under the Small Industries Finance Scheme. Under the SME Master Plan (1988), an SME is defined as "a company with at least 30 percent local equity and not more than S\$8 million in net fixed asset investment if it is in manufacturing, or employs not more than 50 workers if it is in commerce or services."

More recently, the SME 21 report defined domestic SMEs as companies with at least 30 percent local equity and fixed productive assets (i.e. net book value of building, machinery and equipment) of not more than S\$15 million and employing not more than 200 workers for the services sector. As there is a lack of data for this recent definition, employment size of less than 200 employees has been often used to survey SMEs. Table III.1 illustrates the relative SME share of business establishments, employment and value added for the manufacturing and services sectors. The table shows clearly that SMEs have a large presence in the manufacturing sector, employing nearly 41 percent of workers and contributing about one-third of the sector's value added. An even stronger presence is evident in the services sector where SMEs account for two-thirds of total employment and nearly 60 percent of value added. It should be noted, however, that SMEs tend to experience lower labour productivity (value added per worker) and also tend to pay lower average wages compared to larger firms in both sectors.

Table III.1: Share of SMEs and large enterprises in Singapore (2007)

Industry size (number of workers)	Establishment		Total workers		Value added		Remuneration per worker	Value added per worker
Manufacturing sector								
	No.	Share (%)	No.	Share (%)	S\$ '000	Share (%)	S\$'000	S\$'000
Less than 200	7799	95.5	165385	40.9	18348682	32.8	35.27	110.94
200-299	140	1.7	34215	8.5	5155693	9.2	40.42	150.69
300-999	180	2.2	94931	23.5	19554199	34.9	43.08	188.98
1000 and over	47	0.6	109526	27.1	12962424	23.1	47.94	118.35
Services sector								
Less than 200	137734	99.5	800902	66.9	79043027	59.4	42.86	98.69
More than 200	641	0.5	396611	33.1	53922505	40.6	61.64	135.95

Source: Report on Census of Manufacturing Activities, 2007, Economic Development Board, Singapore and Department of Statistics, Singapore

The following two sections review Singapore's policy and programme efforts in the SME sector. The first section focuses on policies and programmes aiming to enhance the capabilities of local SMEs. The second section reviews policies and programmes related specifically to linkages between local SMEs and foreign TNCs operating in Singapore, with a focus on the reasons for their successes and failures.

1. General SME sector institutions and programmes

General SME financing

Early financial assistance was made available to manufacturing SMEs through the *Small Industry Finance Scheme*, launched in 1976 (in 1985 this programme was extended to the non-manufacturing sectors, and in 1987 some 1,125 loans amounting to S\$297 million were approved by the Economic Development Board under this plan). Since then, Singapore has introduced many other financial assistance programmes, targeting SME start-ups, as well as SME growth and internationalization. Most of these financing programmes are generally administered by SPRING but operated through a network of Participating Financial Institutions (PFIs).

Several initiatives have aimed at encouraging and financing local entrepreneurs to launch and expand SME start-ups. Singapore's Entrepreneurial Talent Development Fund works through higher education institutes to co-invest with students on start-up businesses. A *Micro Loan programme* can fund up to S\$100,000 in working capital to assist micro-enterprises with less than 10 employees (the programme provides fixed interest loans). After its launch in 2001, over 6,000 micro loans amounting to nearly S\$200 million have been approved. The *SPRING Start-up Enterprise Development Scheme* (SPRING SEEDS) (administered by SPRING for non-technology start-ups and EDB for technology start-ups) provides equity financing for Singapore-based start-ups that are innovative and exhibit a strong growth potential across international markets. EDB and SPRING co-invest with a third party

investor on a dollar-for-dollar match, up to S\$300,000. From its inception in 2001 and till 2004, SEEDS had supported a total of 126 projects (EDB and SPRING). To date, SPRING SEEDS has invested in various growth sectors, such as science and technology, ICT, and business services. The *Enterprise Investment Incentive* (also administered by SPRING and EDB) allows investors in innovative start-ups to deduct their investment loss amount against their taxable income. Finally, another initiative under SPRING SEEDS, the Business Angel Fund (BAF) works closely with 3 pre-approved business angel funds to co-invest and nurture growth-oriented innovative start-ups.

Other major programmes have been targeting growth and internationalizing companies: (1) The Small Industries Finance Scheme, renamed the *Local Enterprise Financing Scheme (LEFS)* (administered by SPRING through PFIs), encourages SMEs to acquire productive assets and working capital loans to upgrade and expand their operations. The programme provides fixed interest rate loans for SMEs up to a maximum cap of S\$15 million. In 2004, SPRING approved over 3,300 LEFS applications amounting to more than S\$500 million. (2) The *Loan Insurance Scheme (LIS)* covers variable-cost financing to meet a company's short-term financing needs in Singapore and overseas (open to SMEs and internationalizing Singapore companies). (3) The *Growth Financing Programme (GFP)* is designed to support Singapore-based growth companies that have the potential to become globally competitive enterprises. (4) The *Internationalization Finance (IF) Scheme* (administered by IE Singapore) is essentially a system of risk-sharing between IE Singapore and the PFIs. Increasing their fixed asset investment abroad clearly represents a high risk-taking undertaking for overseas ventures.

Financial support for established SMEs in Singapore totaled \$716 million in 2007 and \$990 million in 2008, including both asset-based and non-asset based / working capital loans. The LEFS provided 1,477 asset-based loans (totaling \$352 million) in 2007 and 719 loans (totaling \$156 million) in 2008. The LIS provided 758 loans (total of \$321 million in 2007) and 1,452 loans (total of \$800 million) in 2008, and Micro Loans totaled \$43 million in 2007 (1,337 loans) and \$34 million in 2008 (902 loans).

In addition to tangible financial assistance, SPRING Singapore also organizes finance-related workshops and exhibitions to educate and provide SMEs with information on key financial matters. The Investment Forum provides a platform for SMEs seeking financing to present their proposal to potential investors and financiers. The SME Clinic gives SMEs an opportunity to seek advice from financial experts.

Upgrading SME capabilities

Singapore's explicit objective to strengthen the capabilities of domestic SMEs is materialized through a set of initiatives aiming at building SME human capital and promoting technology and innovation.

Various enterprise-level development programmes have been put in place to develop SME skills. For example, the \$20 million Management Development Programme (MDP), administered by SPRING, trains SME CEOs and Senior Managers through courses customized to SMEs' needs (these are offered by the National University of Singapore, the Nanyang Technological University and the Singapore Management University). Other examples include the SME Virtual

University provides IT and e-business courses to SMEs through the internet. SMEs can also use the Skills Development Fund (SDF)⁹ and are encouraged to utilize the National Skills Recognition System (NSRS) that provides a framework for establishing job skills and competencies.

Singapore seeks to further develop the capabilities of its SMEs. Under the *Local Enterprise Association Development (LEAD)* programme (jointly managed by SPRING and International Enterprise Singapore), the Government, together with 14 industry associations, have committed over S\$65 million to improve the overall capabilities of SMEs in their industries. Another recent initiative is the S\$35 million *Capability Development Programme (CDP)* that supports SME upgrading by creating new products and forming strategic groupings. While the LEAD programme targets industry-wide capability needs, the CDP complements LEAD by focusing on capability development at the enterprise level.

Other programmes seek to turn local SMEs into technology-based competitors in their own right, with innovative capabilities that provide local growth and potential reach into international markets. The *Small Industry Technical Assistance Scheme*, introduced in 1982 and later renamed as the *Local Enterprise Technical Assistance Scheme (LETAS)* (administered by SPRING), provides assistance to SMEs to defray the cost of engaging consultants to upgrade and modernize business operations in information technology (IT) and business development. In 2004, about 1,310 enterprises benefited from the S\$21 million allocated for local SMEs under this scheme. SPRING's S\$150 million *Technology Innovation Programme (TIP)* aims to enhance the technology infrastructure support for product and process innovations in SMEs. The programme co-funds technology innovation projects by SMEs and supports the set up of Centres of Innovation (COIs) for industry clusters needing focused technology support (box III.1). Table III.2 lists some of the smaller government programmes to promote SME technology and innovation efforts.

Box III.1: Enhancing SME innovation capabilities

The Technology Innovation Programme (TIP) seeks to develop the technological capabilities of SMEs to innovate and move up the technology ladder. TIP assistance is available to SMEs struggling to find breakthroughs in innovation due to lack of funding, scientific resources or technological know-how. Relevant SME projects would involve the application of science and engineering to develop new products, processes or business models. Using TIP funding, SPRING Singapore has established Centers of Innovation (COIs) with the assistance of local universities and polytechnics to help small firms take innovation to the next level. Such COI have been set up in key industry sectors, such as environmental and water technology, food manufacturing, marine, precision engineering and electronics.

Two local SMEs provide examples of TIP assistance in developing new products that improved the firms' competitiveness. TIP funding covered 50-70 percent of the R&D costs when Field Catering Supplies produced Nutri-water, a new beverage with nutraceutical ingredients that was developed with expertise from one of SPRING Singapore's COIs. In another example, AMS system is a company that develops production systems for the garment industry. This SME also utilized TIP funding as well as staff at COIs to improve its human capital. The result was the development of AMS E3000, a cutting-edge production system using radio-frequency identification technology to increase efficiency by 200 percent.

Source: *The Straits Times*, August 26, 2009

⁹ The SDF provides financial support for technical and vocational training through subsidies of 50 to 80 per cent of employees training costs.

Table III.2: SME Technology Enhancement

Domestic Sector Productivity Fund (DSPF) SPRING	<ul style="list-style-type: none">- Supports projects that change industry-wide operations and practices- Typically provides assistance through grants to cover up to 50 per cent of the qualifying cost of the project
Operation and Technology Road-mapping (OTR) A*STAR	<ul style="list-style-type: none">- Helps local companies improve their technology management- Participants are taken through five facilitated workshops, to develop their individual technology roadmaps
Technology for Enterprise Capability Upgrading (T-UP) A*STAR / EDB / SPRING / IES / IDA	<ul style="list-style-type: none">- Secondment of Research Scientists and Engineers (RSEs) from Research Institutes to local enterprises- Partial funding of RSEs' salaries for up to 2 years. Companies could retain the seconded RSEs on a full-time basis if there is mutual agreement- Open to local enterprises with at least 30 per cent local shareholding
Patent Application Fund (PAF) PLUS EDB	<ul style="list-style-type: none">- Grant scheme to cover some of the costs of filing patent applications (i.e. professional and official fees and other related charges of patent filing)- Open to individuals and SMEs (local and foreign Singapore-based)- Since its inception in Oct 2002, there have been 253 awardees, of which 143 were local SMEs
Technology Network (TechNet) programme	<ul style="list-style-type: none">- Facilitates connections between aspiring technopreneurs, innovative SMEs, researchers and experts and venture capitalists

Source: Economic Development Board, Singapore

As Singapore's economy evolves away from basic domestic manufacturing activities to higher valued-added products and more knowledge-based activities, the capabilities of local SMEs need to keep pace. SME suppliers to TNC manufacturers that move facilities to lower-cost locations must accompany those firms or develop their own innovative products or processes. Local SME service suppliers to TNC headquarters or technology-based operations must continually up-grade their capabilities to stay apace with customer needs.

Promoting SME market expansion

Overseas expansion has become a key strategy of growth for Singapore SMEs. In 2009, 69 per cent of SMEs (up from 65 per cent in 2008) had established overseas ventures (SME Development Survey 2009, DP Information). In line with Singapore's development strategy of broad global engagement, SME promotion programmes seek to facilitate expansion into international markets, including through overseas investment. Developing the business scope to access regional markets such as ASEAN, China and India, would also help domestic SMEs create positive externalities from expanded operations and gain economies of scale from larger and longer production runs.

The government has introduced two initiatives to expand market capabilities for SMEs - "Business Connect" and "Singapore Connect" - to provide local and foreign SMEs a platform to meet and discuss potential business partnerships. To develop a good branding strategy, IE Singapore helps to coordinate a series of initiatives to assist SMEs in brand research, staff training in brand issues and to create a platform for Singapore companies to access brand resources and experts. The IE also administers a series of general tax-based incentive programmes that can assist market expansion overseas. For example, companies can deduct from taxable income double the eligible expenses for approved overseas market development projects and use current year losses from approved overseas investments to defer taxes from profitable domestic operations for two years. The Internationalization Finance Scheme, as mentioned earlier, is essentially a system of risk-sharing between IE Singapore and the PFIs for SME overseas market expansion.

Singapore's *Internationalization Capability Development Programme* (iCDP) facilitates the development of a broad range of firm-level capabilities for the purpose of overseas expansion. Examples include branding, design, intellectual property (IP), manpower, franchising and licensing, joint venture (JV), market studies and e-commerce. A recent initiative under the iCDP is the IE's *SME Market Access Programme* (SME MAP), designed to encourage SMEs to enter new markets. The Programme addresses the third party costs of entering new markets which are often entry barriers for smaller companies. Examples of these costs include those related to submission of legal documents, product listing fees, and identifying distributors and partners. The SME MAP will defray 50 per cent of such third-party costs, capped at S\$100,000 per company per financial year regardless of the number of new markets.

Other government initiatives take a more selective and targeted approach to providing SME assistance, evaluating particularly a firm's growth potential in terms of international markets and the SME's relationship to key sectors targeted in FDI policy goals. This approach focuses attention on SMEs that, with some special assistance, can be successful in their own outreach to international markets. For example, SMEs selected by the EDB as a Promising Local Enterprise (PLE) are evaluated on whether they have the potential to achieve local TNC status, that is, develop into a regional and global company (box III.2). Initiated in 1995, the programme met its goal of producing 100 PLEs with S\$100 million in sales by 2005. Another assessment criterion for government assistance by certain programmes examines how an SME's growth might support government efforts to attract FDI to key economic sectors.

Box III.2: Local SME expansion into the global electronics market

AEM Holding Ltd is now a publicly-listed company on the Singapore Exchange with sales revenue of more than US\$100 million, a global workforce of 1,100, and operations in Malaysia, Philippines, and China. AEM is in the core business of design and manufacturing of equipment, precision engineering products, chemicals and organic substrates as well as providing engineering materials and services to the microelectronics industry.

AEM was established as Ever Technologies (Singapore) in 1992. The company was selected by EDB as a Promising Local Enterprise (PLE) for local TNC status in 1996. It was also awarded Pioneer Status and accepted for the Innovation Development Scheme (IDS) for the development of semiconductor manufacturing equipment. These designations qualified the firm for special assistance programmes to support its further growth and aid its entry to global markets. Currently, AEM is a leading local enterprise in R&D supporting the microelectronics industry in Singapore and the neighbouring region. Its subsidiary, Microcircuit Technology (S) Pte Ltd, is the first and only advanced organic substrates plant in Singapore.

Source: Singapore Investment News, 2007, EDB

2. Policies and programmes specific to FDI-SME linkages

The early presence of a large amount of foreign investors in Singapore generated significant demand for local partners. At the same time, an early focus on developing a healthy SME sector through financial assistance and capability development programmes allowed for TNC-SME linkages to take place more naturally. Programmes to increase the local pool of human capital in engineering, business management and information technology created a significant stock of skilled workers and entrepreneurs to support TNC activities. By 1990, Singapore enjoyed one of the highest per capita graduation rates for engineers and trained craftspeople, producing a relatively inexpensive pool of employees for skilled design jobs in foreign affiliates.

The government of Singapore actively seeks ways to promote interaction and create beneficial FDI-SME linkages. There is already an extensive network of domestic companies providing parts, components and other services to TNCs in the electronics clusters, where nearly 60 percent of the value-added by supporting industries in the manufacturing sector are from domestic enterprises. Local firms are also gaining prominence in the electronic and chemical clusters where a growing number of domestic SMEs are supporting industries through contract manufacturing and precision engineering.

Some strong linkages can be traced to several important government initiatives that attracted FDI and stimulated TNC involvement. When the EDB created the Small Enterprise Development Bureau in 1986, it also established a Local Industry Upgrading Programme (LIUP) to provide SMEs with capital subsidies to develop supporting production for TNC supply networks. The 1988 SME Master Plan confirmed this strategy of promoting selected SMEs that were innovative start-ups or possessed the critical mass, capability and commitment needed to grow. This section outlines Singapore's LIUP, as well as other possibilities for linkage creation.

The Local Industry Upgrading Programme

From its inception, the LIUP has been part of a wider development vision and industrial policy. The Programme encouraged three stages of progressive SME development, all based on cooperative linkages with larger firms, including local TNC affiliates (table III.3). An initial stage sought to improve efficiency in general SME functions. During a second stage, new products and processes could be transferred to the SME. The third stage envisioned potential joint research and product development with TNC partners. Essentially, the LIUP offered organizational and financial support for upgrading vendor relationships, including FDI-SME linkages. In the mid-1990s, suppliers participating in the LIUP increased productivity by an average of 17 per cent and value added per worker by 14 per cent (Battat et al, 1996). In 1999, some 670 local vendors had formed LIUP partnerships with their larger customers, with nearly three times as many TNC affiliates (30) participating as large local firms (11).

The LIUP helps create an environment conducive to the effective transfer of technology and marketing knowledge to domestic SMEs. Under the programme, TNCs are encouraged to “adopt” SMEs that are part of their value-chain with the objective of improving their efficiency and technological capacity (box III.3). For example, Hewlett Packard in Singapore assisted its LIUP partner, FJ Industrial, to set up production facilities with the process control equipment and sanitized rooms needed to manufacture technologically advanced membrane switches and circuits. The SME’s manager and engineer received training at a factory in Los Angeles and

Hewlett Packard placed a large initial order with FJ Industrial to supply switches and circuits for its calculators and computers (Lim and Fong, 1991). Another interesting example of a company that received support from the EDB in the 1980s and 1990s through the LIUP is STMicroelectronics. In its initial investment phase in 1969 (the Singapore subsidiary was established to assemble and test basic semi-conductors), 40 managers were sent from Europe to transfer their expertise to the indigenous workforce. In the second investment phase (R&D and wafer fabrication in the 1980s and 1990s), there was a strong incentive to develop local suppliers in order to lower supply costs (up to 30 per cent) and also to have suppliers closely located in order to achieve better collaboration and increased service levels. These initiatives resulted in about nine indigenous companies evolving to significant local and international players.

Table III.3: The Local Industry Upgrading Programme

Aim	<ul style="list-style-type: none"> • To upgrade, strengthen and expand the pool of local suppliers to foreign affiliates, by enhancing their “efficiency, reliability and international competitiveness” (Singapore, EDB, 2001, p. 2). • The programme provides support for local suppliers to upgrade through collaborations with TNCs • Local suppliers are also encouraged to expand internationally, e.g. follow their TNC customers when they establish plants elsewhere, notably in South-East Asia.
How it works	<ul style="list-style-type: none"> • The LIUP is implemented in 3 phases: <ul style="list-style-type: none"> - Phase 1: improvement of overall operational efficiency, such as production planning and inventory control, plant lay out, financial and management control techniques. - Phase 2: introduction and transfer of new products or processes to local enterprises. - Phase 3: joint product, process research and development with foreign affiliates’ partners.
Incentives	<ul style="list-style-type: none"> • The LIUP’s activities include a variety of organizational and financial support measures for upgrading vendor relationships, including FDI-SME linkages. • For instance, the EDB contributes to the salary of a foreign affiliate’s representative seconded to a local supplier to make the affiliate’s supplier more competitive.

Source: EnterpriseOne, Singapore

Under the LIUP, local suppliers are also encouraged to follow their TNC customers to other affiliate locations, particularly in the South-East Asian region. This extends the programme beyond conventional local linkage development. AT&T’s local partner, San Teh, expanded enough to claim 14 per cent of the global market for rubber conductive key pads. Close cooperation with its LIUP partner helped Next Technology meet the US Food and Drug Administration’s good manufacturing criteria (Brown, 1998). Other SMEs, such as Advanced Systems Automation, and Manufacturing Integrated Technology, also evolved into first-tier internationalized suppliers (Matthews, 1999).

Although initially based in the electronics sector, the LIUP programme has expanded to include areas such as medical products, transportation and logistics, education, and information technology. In the IT sector, the Information Development Authority (IDA) oversees the Infocomm Local Industry Upgrading Programme (iLIUP) that aims to nurture close collaboration between TNCs and local SMEs. Key TNCs

that participate in this programme include Cisco System, Apple, Hewlett Packard, Microsoft and Oracle (Coe and Perry, 2004).

Box III.3: Honeywell strengthens aerospace operations with local SMEs

In 2003, Honeywell, a global technology and manufacturing leader, and Singapore's EDB announced the participation of Honeywell Aerospace in the EDB initiative to build a pool of highly skilled professionals and local companies. Honeywell Aerospace, set up in Singapore in 1983, operates an aviation repair and overhaul facility in Singapore as well as a regional parts distribution center for Asia and Australasia. Honeywell's Aerospace Electronics Systems (AES) business unit will support the sourcing of material in Singapore by helping to upgrade, strengthen and expand its pool of Singapore-based suppliers.

Under the Local Industry Upgrading Programme (LIUP), local suppliers can gain an in-depth understanding of the company's specification and quality requirements for various commodity types and benefit from its best management practices. This assistance will give local SMEs an opportunity to learn from Honeywell's technology and global network. In addition, Honeywell will also participate in the Training and Attachment Programme (TAP), where 14 engineers from local firms will be posted to the AES facility at Olathe, Kansas, in the United States for training in product design and certification. In 2007, SPRING Singapore committed S\$35 million under the Capabilities Development Programme to help Honeywell upgrade 6 of its SME suppliers.

Source: www.asian-aerocad.com

Other ways to build linkages

Aside from the LIUP, the development of linkages between SMEs and foreign affiliates has been supported by a series of other government matching initiatives which aim to promote Singapore as an SME hub. The *Business Matching* facility managed by IE Singapore facilitates one-to-one business matching events with members of foreign trade delegates for Singapore-based companies to create business collaborations overseas. Another initiative, *PartnerSingapore*, also managed by IE Singapore, makes information on company profiles available including a host of business service providers. USPartnerSingapore is a partnership between IE Singapore and the US Chamber of Commerce. This initiative includes a platform for US companies in the areas of information technology (IT), Life Sciences and franchising to seek business collaborations and partnerships with Singapore companies. Also, the "*BuySingapore*" online business matching portal connects Singapore companies with foreign businesses. This B2B portal initiative by IE Singapore allows Singapore companies to showcase their products and services internationally and search for international contacts. The portal offers fast and accurate matches for Singapore companies to reach to a suitable international business partner, including with foreign affiliates located in Singapore. In 2007, BuySingapore attracted over 6,000 foreign companies to register at the portal and generated more than 9,000 foreign trade leads.

While foreign investors in Singapore have been incentivized to create linkages, some SMEs have also taken more proactive approaches to developing inter-firm cooperation, mainly relying on their innovative capacity. In addition, many of the existing TNC-SME linkages in Singapore have induced several middle and top TNC managers to venture out on their own and create SMEs. Since the 1990s, an increased number of former TNC executives established enterprises that functioned as sub-contractors to their former employers.

IV. “Best Practices” lessons for creating beneficial FDI-SME linkages

The SME sector constitutes a large and socially crucial segment in most economies. SMEs contribute substantially to GDP and are generally important sources of job creation and entrepreneurial potential. However, these firms typically confront obstacles that block their growth and development. Small size hinders access to resources needed for expansion, principally adequate financing but also human capital and technology. Most SMEs lack the internal R&D capacity and funding necessary to translate innovative ideas into concrete business projects. Many governments create SME promotion programmes that seek to overcome these obstacles, but they also often lack sufficient funding, technology and market outreach to meet their goals.

One way to supplement available resources and spur SME development is to create beneficial linkages between the foreign affiliates of invested TNCs and domestic SMEs. Expanding SMEs as suppliers of a foreign affiliate’s export-oriented production is a typical representation of this relationship. Countries considering the promotion of linkages to foster SME development should conduct an assessment of the prevailing conditions and focus on three elements that are essential for beneficial linkages:

- TNCs are willing to participate and increase local sourcing of supplies and/or services;
- SMEs are capable of working with TNCs and meet their required standard of quality and reliability;
- A mutual interest/gain in establishing a lasting business relationship.

Governments have the ability to influence all three elements through policies and programmes. The case studies of Malaysia and Singapore and the literature on the subject highlighted a number of best practices as well as mistakes to avoid.

A. Ensure a favourable business climate for SMEs and TNCs

The potential for building linkages should be considered in the context of a host country's investment climate. Ensuring a favourable business climate is critical to attracting foreign investors in the first place, but also for assisting local SMEs to overcome some of the constraints they face.

1. Attracting FDI is a precondition for creating linkages

Foreign investors need to see a relatively open stance towards FDI. The openness, integration and clarity of national laws and policies frame a country’s investment climate and influence FDI decisions. Efficient, effective and transparent business facilitation also helps attract FDI.

Both Malaysia and Singapore have always put a relatively strong emphasis on FDI attraction. In Malaysia, policy reforms, including the introduction of the Investment Incentives Act in 1968, the establishment of free trade zones in the early 1970s, and the provision of export incentives alongside the acceleration of open

policy in the 1980s, led to a surge of foreign investment. FDI in sectors targeted for growth by domestic industrial policies also received favourable treatment, including significant financial support and other incentives. Apart from these factors, sound macroeconomic management, sustained economic growth and the presence of a well functioning financial system have made the country an attractive destination for foreign investment. The country was ranked by UNCTAD's World Investment Prospects Survey 2007-2009 among the top 20 most attractive countries for FDI. The recent financial crisis and subsequent recession has led the Malaysian Government to further improve the FDI attractiveness. Nonetheless, the World Bank (2010) has identified the regulatory burden as one of two top economic constraints (along with a shortage of skilled labour) in Malaysia's investment climate.

Singapore's small internal market and lack of physical resources led to an early commitment to open trade and investment policies. Attracting FDI was treated as an essential element of the industrial policy designed around an export-oriented growth strategy. Complementary national policies promoted improvements in human capital and business infrastructure, financial incentives encouraged FDI into competitive sectors, few strategic sectors restricted FDI and regulations applied equally to foreign and national firms. Clear national laws were reinforced by proactive bilateral, regional and international efforts to sign agreements ensuring a stable legal framework for international business. Singapore also ranked top in terms of ease of doing business (World Bank, 2010), reflecting the relatively simple administrative structure that carries out policy directives to encourage FDI entry. In addition, the country benefited from its fourth ranking on Transparency International's 2008 Corruption Perception Index, maintaining a largely corruption-free environment for doing business.

2. Cater to the specific needs and concerns of SMEs

SMEs are fragile with respect to some key regulatory constraints because they do not have the same ability as large corporations to confront administrative burden. Complicated and inefficient tax codes, high start-up costs, bureaucratic complications and distortions, inflexible labour codes and other indirect labour costs bear most heavily on SMEs, raising their cost of doing business and depriving them of the flexibility to adapt. Improvements in the business climate make it easier for informal businesses to enter the formal sectors, for new companies to be established and for micro-enterprises to develop into SMEs.

In Malaysia, problems related to doing business are especially burdensome for local SMEs, while foreign investors have the ability to overcome many of the bureaucratic procedures. Some facilitative measures, such as SME advisory services, may help in the short run, but broader reforms are necessary. Singapore, on other hand, has made considerable progress to simplify administrative burden on companies, as illustrated in its high Doing Business ranking. The country has welcomed and provided assistance to both local and foreign companies. To encourage private sector initiatives, administrative burdens have been reduced to a minimum, thereby providing significant benefits to local SMEs and their development.

B. Strengthen the SME sector

A strong and well-developed SME sector is essential for linkages to occur. SMEs need to be at a level of development where it is realistic for them to engage in business relationships with larger TNCs. The latter will not willingly participate in

linkages programmes if that means working with SMEs that do not operate under modern standards of operations, management and quality control that are essential to them. Yet, domestic SMEs in developing countries face important constraints. It is therefore essential that comprehensive support be provided through SME promotion and development programmes to strengthen the absorptive capacity of local firms and ensure that they are "partnership-ready" to capture linkage opportunities. Required support to bring domestic enterprises close to TNC and international standards usually includes technology upgrading to improve product quality and production processes, development of human capital and managerial skills to compete in international markets, and access to financing to enable SMEs to invest in capital equipment and human resources. Appropriate design and development of these supportive mechanisms should be based on a comprehensive business diagnosis and auditing of domestic firms to understand precisely their deficiencies and needs, so that critical areas for improvement can be identified and addressed.

1. Give sufficient policy priority to general SME goals

SMEs are a major part of the economy and need to receive adequate attention in economic development strategies.

SMEs generally constitute over 90 per cent of domestic business establishments and represent substantial shares of employment and GDP. Nevertheless, most industrial policies focus on larger enterprises that can reach economies of scale and scope needed to compete with foreign firms in open domestic and international markets.

With the exception of some basic credit facilitation services, Malaysia did not specifically emphasize the SME sector in early development strategies, having focused primarily on large-scale industrialization and the attraction of foreign investors. When support for the sector was forthcoming, it was often selective, leaving local Chinese-owned SMEs to grow largely outside of these programmes. Although early efforts in Singapore also focused on larger enterprises, some SME programmes came about earlier and were broader in nature, encompassing both financing and capability enhancements. Moreover, Singapore's early promotion of human capital and business infrastructure benefited both domestic and foreign firms.

Successful SME promotion programmes require an accompanying policy priority that can gain the attention and resources needed to attain this goal.

Initially, Malaysia treated SME development as a desirable but lower priority appendage to larger industrialization objectives. It was not until the late 1990s and early 2000s, with the creation of SMIDEC in 1996 and the NSDC in 2004, that efforts were made to prioritize the sector at high levels of government. Consequently, in the 3rd Industrial Master Plan, the SME sector was labelled one of the six key growth priorities.

Early policy in Singapore largely overlooked the potential of the sector, yet not to the same extent as Malaysia. By the 1970s, basic programmes were put in place regarding finance and skills development. In 1987, the SME sector gained explicit recognition as a policy priority in the SME Master Plan, which envisioned developing indigenous SMEs into global enterprises. The 1998 Competitiveness Report laid out a clearer policy goal, describing three types of SMEs that could: operate as world-class competitors; supply value-added export support through TNC linkages; or provide quality local services to support TNC hub activities. These policy goals were refined and reinforced by the SME 21 Report in 2000.

Building local SME capabilities enhances the potential for linkages.

While SMEs can benefit from linkages with TNCs, this requires a certain set of pre-existing capabilities in order to attract TNC partners and to absorb spillovers through this relationship. Malaysia's experience highlights this point. Under the Vendor Development Programme, Malaysian SMEs were set up as suppliers to TNCs with little attempt to ensure their preparedness. Moreover, restrictions related to ethnicity limited the entry of many qualified firms. Partly as a result, the programme's automotive project in particular has been relatively unsuccessful, with limited local enterprise development. The more successful linkage initiatives in Malaysia were those involving joint-capacity building (e.g., Industrial Linkage Programme, Global Supplier Programme), where TNCs were assured of adequate suppliers and given the chance to pool resources with the government to improve SME capabilities. Thus, to create and benefit from linkages, general SME capabilities must meet a certain threshold.

Both countries currently employ programmes that go beyond access to finance and attempt to build SME capabilities by encouraging entrepreneurship, human capital development and the upgrading of technology and innovation capabilities. Malaysia's efforts in this area were very limited until the late 1990s and early 2000s. For example, the Vendor Development Programme was created in the late 1980s, but relied almost exclusively on TNCs to build SME capabilities. After 2003, a clear policy shift towards the objective of building internationally competitive SMEs drove a proliferation of SME-related initiatives from multiple fronts. Most ministries and relevant agencies developed or enhanced programmes to build SME capabilities and support SME growth. In Singapore, policies regarding SME capabilities have been more consistent and were included as early as the 1987 SME Master Plan. The Small Industry Technical Assistance Scheme was introduced as early as 1982 to provide assistance for SME upgrading.

Both countries have also invested heavily in R&D-related infrastructure projects to increase local capacity. Malaysia created Cyberjaya as a "hub" location for computer technology firms, linking it with the Multimedia Superhighway Corridor project. The project offered exceptional financial incentives to develop the ICT sector. Nearly three-fourths of SMEs in the sector have qualified for Multimedia Superhighway Corridor status, although some limits are imposed on benefits. Singapore operated three science parks along with the large infrastructure projects at Fusionopolis and Biopolis.

Building capacity in local SMEs essentially enhances the potential for linkages, as the latter depend on SMEs' existing proprietary knowledge and absorptive capacity. For example, collaborative R&D (as in Globetronics' third stage of growth) required developing significantly higher local competence and some unique capabilities to contribute in co-development ventures. More specialized government assistance may be necessary for the advanced training, sophisticated equipment and access to research institutes needed to support SMEs that reach this stage of development. For instance, Singapore's Technology Innovation Programme provided funding to enhance human capital and develop new products, such as with AMS system's new radio-frequency identification technology.

2. Policy and programme structure for SME promotion

Policies and programmes can be both horizontal and targeted.

Government proactive interventions to favour specific SMEs or sectors need to be carefully designed. Efforts to target particular SMEs essentially result in disproportionate amounts of funding and assistance provided to a smaller number of firms. While the grooming of few SMEs that are deemed to have the potential to become home-grown TNCs might be a fine option, there are examples of such efforts essentially precluding the growth of other viable local firms. In general, a strategy of selecting winners requires flexibility and also to be coupled with elements of a more horizontal approach.

Both Malaysia and Singapore mixed horizontal and targeted SME promotion. Currently in Malaysia, general SME efforts across all sectors are complemented by services offered through various sector-specific GLCs. For examples, while SME Corp and CGC assist with standard financing a wide range of SMEs, MDeC, HDC and MBC offer skill and technology upgrading programmes to SMEs in the ICT, halal and biotechnology sectors. Singapore's mixed approach materialized through a strategy that increased general SME capabilities while also supporting specific targets for FDI-SME linkages. For example, SME 21 has been following a three-tiered approach, including broad-based support to promote Singapore as an SME hub and targeted sector- and enterprise-level SME goals.

Targeting requires transparent, merit-based SME selection.

Beginning with Malaysia's New Economic Policy, SME sector initiatives in the country have often given preference to Bumiputera SMEs. These preferences resulted in two negative effects: inhibiting the growth of local Chinese SMEs while discouraging some FDI that might have provided linkage opportunities. For example, in the case of the Vendor Development Programme, quality and cost difficulties of new Bumiputera SMEs undermined the programme's objectives. The restricted approach continued with minor adjustments until the mid-1980s when recessionary pressures brought some liberalization of affirmative action requirements. In sum, the selection of SMEs based on non-economic criteria failed in many cases to bring along associated economic benefits and limited the growth of the SME sector.

Some more recent Malaysian programmes have employed more merit-based SME selection. For example, the SME Corp, when administering programmes such as the Global Supplier Programme, picked successful SMEs for promotion based on the criteria of TNCs, with only the most suitable being selected for assistance with specialized training programmes. Similarly in Singapore, the Promising Local Enterprise Programme reflected a targeted approach where the EDB selected specific SMEs assessed capable, with special assistance, of developing into regional or global companies, as illustrated by AEM Holding's example (box III.2). SMEs are selected based on assessment criteria that evaluate the strength of core competencies, growth-oriented management and the capacity and critical mass to grow. The EDB works with SMEs that achieve "local TNC status" to develop new capabilities, identify and facilitate strategic alliances, and provide growth capital. These SMEs are eligible for special financing and other benefits, primarily through Growth Financing and a Start-up Enterprise Development Scheme. Targeted programmes also support the creation of beneficial FDI-SME linkages where an SME's growth can help attract FDI to priority development sectors.

Option: focus on larger SMEs that are usually smaller in number but larger in terms of economic impacts.

One way to balance between horizontal and targeted approaches might be to concentrate programmes for medium-sized enterprises. These firms have larger

economic impacts and their collective numbers are smaller than the universe of micro-enterprises that comprise almost 80 per cent of Malaysia's SMEs. This option leaves out most broad-based programmes and misses entrepreneurial start-ups that may provide new competitive advantages. However, the subset of SME promotion programmes designed primarily to create FDI-SME linkages will generally be concentrated among medium-sized SMEs. These SMEs are also more likely to possess capabilities needed for linkages that result in "win-win" scenarios.

Prioritize and coordinate programmes; consider decentralization.

Both targeting and implementation of SME-related programmes may be easier to manage in sub-national units that are closer to both local SMEs and foreign affiliates. Decentralization of SME programmes at the local level can be linked to more results within the sector and may produce more direct SME development impacts. However, coordination of these policies and programmes is important.

The experience of Penang, and the Penang Development Corporation, demonstrated to the Malaysian government the advantages of having local economic development institutions focused on the provision of research infrastructure, skill development centres and specialized incentives for both TNCs and SMEs. Malaysia, with the recent creation of five economic growth corridors, has adopted a similar approach, seeking to develop regional strengths without being confined by sub-national political boundaries. The country's privately managed sector-specific GLCs were also able to manage programmes for SMEs and adjusted them to specific market environments. In addition to providing more flexibility, decentralization offers a laboratory to develop best practice policies and programmes that can later be expanded at the federal level. For example, the Global Supplier Programme, administered country-wide by SME Corp, is based on successful programmes originating at the Penang Skill Development Centre.

Large-scale decentralization, however, has led to problems of coordination. After Malaysia placed a higher priority on SME promotion in 2003, SME programmes spread across 14 ministries and 60 agencies, diffusing both resources and priority targets. Many sectors sought to develop SME capabilities in new areas of perceived national competitiveness. Since 1996, SMIDEC (now SME Corp) role has been to address this problem by providing policy leadership and coordination across the complex web of targeted SME programmes. Since 2004, SMIDEC has been given support through the high-level NSDC, to which it now plays the role of secretariat. One example of coordination is how the organization incorporated regional skills centres into its broader skill upgrading programmes.

Singapore's rather concentrated geographic location regarding administrative responsibilities and resources facilitated a strategy of coordinated targeting for FDI and SME promotion. However, as in Malaysia, sector-level and enterprise-level strategies are materialized through various public institutions and agencies that deal with the development of the SME sector. MTI is the principal government unit that oversees ten statutory boards as semi-autonomous agencies carrying out policies and specific plans, including EDB, IE Singapore, SPRING, A*STAR and CCS.

Simplify procedures for SMEs.

In Malaysia, SMEs have expressed concern regarding what they see as overlapping programmes, often with separate administrative procedures. The proliferation of regional, federal and sector-based institutions and agencies has expanded the bureaucratic complexity for small firms, many of which have limited

capacity to navigate the system. While most of these institutions make strong efforts to provide simple procedures for SMEs (e.g. many GLCs have explicit guarantees regarding the processing of applications, etc.), SMEs would benefit from more consolidated administrative services.

3. Define SMEs and measure programme outcomes

Be cautious with SME definitions, as these determine programme eligibility. Static criteria (current employees, sales, assets) can miss entrepreneurship and risk ending successful ventures prematurely.

Countries require some definition of SMEs to analyze and understand their own SME sector. Small enterprises typically dominate in several business establishments and, cumulatively, represent a significant proportion of employment and GDP. Malaysia adopted a standard SME definition using number of full-time employees and annual sales with differentiated levels for micro, small and medium-sized enterprises. The definition also adjusted the numerical criteria between two categories of business activity, recognizing that manufacturing, agribusiness and related services are typically larger in scale than primary agriculture, ICT and other services. The 30 per cent Bumiputera equity criteria for SME programme eligibility under Malaysia's New Economic Policy requirements applied to both domestic and foreign enterprises.

Singapore has employed several SME definitions under different government plans, but generally focused on number of employees and fixed assets, increasing the quantitative limits for both measures in later programmes. A qualifying standard of at least 30 per cent local equity was added to Singapore's SME definition, but, in contrast to Malaysia, it established a local participation threshold only for foreign SMEs.

Avoid definitions that ignore pre-SME potential or discourage expansion.

One challenge in promoting SMEs arises in defining and designing programmes that can encourage the creation of SMEs as well as their growth. The SME sector is populated by innovative entrepreneurs with creative talents, many ready with new business proposals but blocked from their execution by financial or other operational constraints. SME programmes with a minimum size threshold are often inaccessible. To avoid this problem, both countries have recently focused on encouraging entrepreneurship and start-up SMEs. For example, the Entrepreneurial Talent Development Fund in Singapore helped finance start-up costs for new business ideas developed by students at institutes of higher education.

A definitional challenge for SME creation arises in determining when to terminate programme support for successful SMEs, especially for enterprises venturing into international markets. Assistance programmes bounded by eligibility based on specified employee numbers and fixed assets or sales will "graduate" successful SMEs. This could happen when continued support is essential to establish a market presence in foreign competition or as the SME is preparing to add a higher value-added component to its business. Some provision for flexibility in case evaluation and/or follow-up programme availability may be desirable to recognize the diversity of SME operations and the challenges they face at particular stages of growth.

Seek standards to evaluate SME promotion outcomes.

Clear, quantifiable and comparable measures of success would permit transparent evaluations of relative returns produced from resources spent across various SME promotion programmes. Unfortunately, few such measures exist due to differences in programme objectives, the timing of outcomes and other intervening variables. Malaysia provided a list of criteria to evaluate programme success, including revenue generated by new SMEs, jobs created and contribution to GDP and exports. Some outcomes can be measured from a zero base for new SMEs, but assessing the contribution of promotion programmes to incremental increases in existing operations is more difficult, presenting a counterfactual situation that assumes what would have happened without the programme's assistance. The intervening role of TNC's operating through FDI-SME linkages further complicated an evaluation of government efforts. Although one set of common criteria would not apply uniformly across programmes focused on different sectors and stages of SME development, particular benefit measures can be selected that best match each programme's objectives, providing at least programme-specific outcome measures.

Singapore's SME21 Report established some baseline measures of success for the principal goals of its 10-year strategic plan. The Report called for tripling the number of SMEs with over S\$10 million in sales, doubling annual labour productivity in the retail sector, and quadrupling the number of SMEs with e-commerce transactions, all by 2010. Determining the contribution of specific promotional programmes to meet these targets would be more difficult, especially where individual SMEs participate in multiple programmes. The measurement challenge would be even harder in Malaysia which operated 189 SME-specific programmes involving some 286,755 SMEs. It would be difficult just to determine all the individual SME results needed to correlate with an evaluation of each programme's relative effectiveness. Achieving success on the sales measure used in the SME21 report would put participating SMEs close to the upper limit on sales under Malaysia's SME definition, but since Singapore does not use sales to define SMEs, achieving the sales target would not jeopardize their eligibility for this programme.

Anecdotes convey real but partial results.

The most common success measure offered by government programmes in both Malaysia and Singapore consists of anecdotal stories about SMEs that received promotional assistance and expanded their operations, often reaching into export or even overseas markets. Cause-and-effect impacts remain suggestive in cases of broad-based programmes but can be more persuasive for narrowly targeted assistance. Although counterfactual limitations still exist, success stories are most convincing where they involve direct FDI-SME linkages. Such examples include Nestle's international marketing of halal products from Malaysian SMEs recommended by SME Corp or Intel's direct assistance to develop Unico into a capable local supplier. Anecdotal stories do not provide a broad or cumulative evaluation, but summaries with specific details that link assistance given to outcomes produced can at least reflect a concrete application of programme goals. If agencies are required to reveal unsuccessful as well as successful cases, comparative analyses could provide useful insights regarding conditions and characteristics associated with beneficial programme performance.

C. Focus on attracting linkages-prone foreign investors

Government policies can target the attraction of FDI in areas with growth potential that match well with local endowments and development strategies. It can

thus provide more potential for sustainable linkages to take place. At the same time, certain types of foreign investments are more susceptible to build linkages in a given economy. Such type of investors could be subject to specific attention by the investment promotion authorities.

1. Attract FDI strategically

Attract and retain quality FDI with potential to create linkages, produce spillovers that benefit the local economy and strengthen strategic sectors vital to key development objectives.

In Malaysia, the Government played a direct role in selecting sectors for FDI attraction in accordance with its national industrial strategy. In each of the industrialization phases, Malaysia defined high-priority industrial sectors and set long-term strategies for their development in the respective Industrial Master Plans. In the 1970s, for example, the Government targeted export-oriented FDI in the electronics and electrical sector. The Penang Development Corporation was particularly effective at creating infrastructure and incentives tailored to particular TNCs. Within a decade, Malaysia became the world's largest exporter of electronic semi-conductors. Since the 1990s, the Government has targeted a number of economic sectors, mainly high-technology companies, Islamic financial services, biotechnology firms, tourism, automotive component manufacturers, and manufacturers of specialized machinery and equipment. After years of prioritizing industrialization in more heavy and technology-intensive industries and in support of the Government's general objective to promote value-added activities in agriculture and agro-business, linkages with retail TNCs have more recently targeted the food processing industry. Through its Industrial Linkage Programme, the Government has played a major role in linking local food processing SMEs to specific foreign retailers.

Singapore has also relied on targeting to move relatively smoothly from attracting FDI in labour-intensive manufacturing to FDI in capital-intensive manufacturing, and, more recently, FDI in knowledge-intensive activities. The fiscal regime targeted incentives for specific investors that would bring new industries to Singapore and create the necessary links with the local economy. For example, Honeywell, a global technology and manufacturing leader, was specifically targeted to assist in the EDB's initiative to build a pool of highly skilled professionals and local companies. Singapore envisaged that Honeywell would strengthen local SMEs by providing them the opportunity to learn from the TNC's technology and global network.

Excessive sectoral focus is risky as it is difficult for governments to identify winners and could bypass new opportunities.

Although attracting FDI in key economic sectors may be effective, there are also risks associated with excessive sectoral focus. Significant resources may be invested in sectors where comparative advantages are absent and fail to develop. At the same time, there is a risk of not supporting nascent opportunities not prioritized by government officials but with significant development potential. While Malaysia had successfully attracted FDI creating local links in the electronics and electrical sector, its early negative experience with establishing linkages in the automotive sector showed the potential risks of focusing on sectors that are still premature to sustain FDI-SME linkages.

2. Assess FDI characteristics to determine SME linkage potential

Various types of FDI have different propensities to form linkages.

Various characteristics of FDI determine the potential for foreign affiliates to develop beneficial linkages with domestic SMEs. They vary among sector or industry, size and mode of investment, the local affiliate's years of experience in the host country and the affiliate's role in the TNC's global network.

Sector characteristics

A sector's relative competitiveness, technological change and structure of business activities will shape the length and depth of its engagement with the host country and, therefore, the nature of potential SME linkages. For example, buyer-driven sectors of the garment industry suffer price competition pressures and periodic location shifts that generally restrain the creation of deep or long-term linkages between a foreign affiliate and specific local SMEs. Malaysia's comparative experience with the electronics sector, particularly in Penang, showed that a higher level of technical quality requirements created a more substantial TNC interest in establishing and maintaining supplier linkages over time. Sectors marked by changing technology also offer the potential for outsourcing and product spin-offs as TNCs concentrate resources on higher value-added elements. In general, linkage opportunities appear greater where business activities can be separated into discrete segments, such as in food processing, IT services or retail supply.

Mode of investment

FDI that establishes a local affiliate of substantial size will have the capacity to internalize more business operations and therefore will have less incentive, at the outset, to rely on outsourcing to domestic firms, especially if existing SMEs lack sufficient scale and experience. Over time, the affiliate can find it expedient and cost-effective to outsource certain processes, perhaps even assisting in the creation of SME suppliers. This was the case of Intel, for instance, which provided training and skilled personnel to initiate outsourcing motherboard production to Unico. Greenfield FDI that grows in stages may create and, if successful, progressively incorporate expanded local linkages. FDI that occurs through mergers and acquisitions will be likely to reassess existing relationships, maintaining effective linkages with local SMEs while seeking replacements for inefficient arrangements.

FDI longevity and TNC networks

Some research in the ASEAN region suggested that a foreign affiliate gains greater autonomy over time, relying less on the parent's supply-chain network. This autonomy can lead to identifying and creating beneficial relationships with local suppliers in the host country. One indicator of how FDI longevity may impact such linkages is that a foreign affiliate's age is negatively associated with its import propensity (Giroud and Mirza, 2006). Intel's long experience in Malaysia traced a record of progressive outsourcing to local SMEs, often assisted by Intel to establish their supply capacity.

The longevity of an FDI venture also can be associated with how well the foreign affiliate is positioned to contribute to the TNC's global supply network. The affiliate's role in the TNC network determines the potential for broadening FDI-SME linkages beyond local ties. For example, the affiliate can recommend local SMEs as component suppliers to regional TNC affiliates that lack reliable local suppliers or as

an alternative to existing production in higher-cost countries. Participation in a TNC's global value chain through foreign affiliate linkages can bring greater stability to the local SME, increasing productivity and expanding business.

A foreign affiliate's potential to establish higher value-added linkages with local SMEs also depends on the affiliate's role in its TNC's global network. Both Malaysia and Singapore placed a high priority on efforts to establish themselves as a "hub" for a TNC's regional network, particularly in high technology sectors and knowledge-based industries. Whereas Malaysia originally used foreign trade zones and more flexible licensed manufacturing warehouses to encourage FDI in manufacturing clusters, the country's new emphasis is reflected in its development of technology-heavy Cyberjaya and the promotion of the Multimedia Super Corridor. By attracting FDI involved in a TNC's R&D operations, the host country gained higher value-added business with a longer time-horizon.

Home country

Some experiences point to generalized differences in how foreign affiliates from various home countries handle issues relating to both local management and technology transfer. Malaysians often hold senior managerial positions in affiliates of TNCs from North America and Europe, while senior managers in Japanese affiliates typically come from Japan. This difference affected the extent to which knowledge regarding business strategy and operations was diffused locally. Similar differences showed in the forms of technology transfer, with East Asian TNCs being slower and more reluctant to share technological know-how. Of course, some differences are interrelated with the longevity of an investment and the nature and level of technology involved in particular projects. However, the increased priority placed by many host countries on attracting and benefiting from higher technology FDI underlined the potential significance of these characteristics.

D. Foster linkages

Once government efforts have attracted foreign investors and fostered the development of a dynamic SME sector, specific linkages policies can be put in place. Linkages may, to a certain extent, occur naturally, but this is by no means guaranteed. Government policies and programmes can contribute greatly to the formation of linkages. Best practices showed that two key principles are essential for successful linkages between TNCs and SMEs to take root:

- Participation must be voluntary on both sides (TNCs and SMEs). Coercive measures are likely to fail, as Malaysia's experience with Proton showed. TNCs are reluctant to participate in linkage programmes unless they retain control over the selection of their domestic partners. This usually results in strengthened confidence in the partnerships.
- To be sustainable, the partnership must be beneficial for the two partners. In particular, TNCs must be sufficiently confident that SME suppliers will offer products that are of high quality, reliable and cost-effective. Linkages must be "win-win" to take place.

1. Use facilitative programmes to match TNCs with local SMEs

Experiences in Malaysia and Singapore revealed a broad array of SME assistance programmes and mechanisms to promote beneficial FDI-SME linkages. Individual programmes were often designed for different stages of SME development. Broad-based efforts can begin at a pre-SME stage, as with Singapore's Entrepreneurial Talent Development Fund to encourage collaborative start-up projects between students and their education institutes. Dell's accreditation of IT professionals and Microsoft's 3P training for university graduates represented FDI-based linkages that enhanced local efforts at this early stage. These TNC initiatives may anticipate building quality relationships that produce longer-range benefits, but often they arose with the support of corporate social responsibility programmes.

Provide information and incentives to encourage TNCs to use local suppliers.

Building local linkages can also involve a "cost" to foreign affiliates in terms of time and resources, especially if local SMEs have weak capabilities. Therefore, some level of government support during a developmental process may be justified. The clearest and most common linkage promotion programmes generally pursue interdependent objectives to: (1) increase local sourcing to foreign affiliates, and (2) create or deepen linkages to upgrade the capacities of local suppliers in higher value-added products. Often, SMEs exist with some local supply capability but government policies may be needed to overcome information or capability "gaps" and to reduce costs and risks for TNCs to pursue local linkage strategies. Although restrictions may be used, such as performance requirements linked to local content, international agreements increasingly constrain such restrictions as their imposition can discourage FDI. Facilitation measures and/or financial incentives provide alternative inducements. Yet, if a sound local procurement market is absent, giving incentives to foreign affiliates is arguably of little use in stimulating and deriving benefit from linkages with domestic firms (Rodríguez-Clare, 1996; Belderbos et al, 2001).

Government programmes should encourage local supplier linkages during pre-FDI discussions, providing information and contacts with capable SMEs, or offering assistance to test and improve local supplier capabilities. Malaysia and Singapore's IPAs (MIDA and EDB) both performed this function as they facilitated foreign investments. The SME Corp screens SMEs according to TNC criteria to assess eligibility for customized skills upgrading programmes. This model's largest success has been in the state of Penang with a strategy focused on building an electronics and electrical manufacturing sector. Singapore's "Business Connect" and "Singapore Connect" platforms illustrated a broad-based facilitation approach.

Accommodate open access or inside "seeding".

Alternatively, the TNC may follow a process sometimes known as "seeding" by assisting local managers interested in developing a new SME. Choosing to work with "known" partners who are familiar with the TNC's products and standards can provide reassurance regarding the reliability and quality of a new supplier. This approach creates local supplier linkages largely independent of government programmes, but it can stimulate more substantial, direct assistance from the TNC than would otherwise occur. As illustrated in Intel's multiple spin-offs, the TNC may even second technical personnel to the new firm and provide training for new employees in a "win-win" scenario that builds SME capacity while providing a supplier transition for the TNC.

2. Use intermediary institutions for linkage support

Private, public or mixed organizations can help embed TNCs in the local economy and increase their interaction with local SMEs.

Intermediary institutions can play an important role in promoting linkage programmes, particularly for elements such as skill building, logistics and financing. Investment promotion agencies, business development services and local economic development centres are among the most common relevant institutions. Organizations may be public, private or mixed. Public-private partnerships between government agencies and TNC affiliates may be especially useful for activities such as coaching, mentoring and skills training. Universities, research institutes and chambers of commerce represent other important resources for institutional coordination.

The Malaysian Biotechnology Corporation partnered with university research institutes to test and develop business proposals in the biotechnology field. The corporation's Ignite Programme and Bionexus Partners Programme took a similar collaborative approach. Various business associations and chambers of commerce play a role in helping match TNCs with local firms. Some organizations represent domestic firms while others are created along regional and country lines, such as the American Chamber of Commerce, the EU-Malaysia Chamber of Commerce and Industry, and the Japan External Trade Organization. Singapore extends the outreach of its SME First Stop programme as the initial contact point for information by locating Satellite SME First Stop Centers at cooperating business chambers and associations as well as other government agencies. A more substantial form of cooperation supports implementation of the Technology Innovation Programme, where universities and polytechnics work with SPRING Singapore to provide Centers of Innovation that assist SMEs with new product and process innovation.

The involvement of private sector leadership with government programmes may facilitate their efficient management and execution. This conclusion essentially underlies the concept behind the development of the GLCs in Malaysia where contracted professionals rather than civil service employees guide the government-controlled entities. GLC-TNC joint ventures developed local SME ties, generally as subcontractors for local supplies, and covered a wide range of sectors, including biotechnology, ICT and halal products. The Multimedia Development Corporation Berhad is one such government-owned enterprise that works with companies in the services sector, specifically those involved in the knowledge-based economy and ICT. Initiatives that involve FDI-SME linkages but incorporate multiple sponsors are also attractive to TNCs. For example, Microsoft's BizSpark Programme was recently launched with the involvement of the Government's MDeC, the Association of the Computer and Multimedia Industry Malaysia and eight other organizations. Such a "pooling" approach increases available resources, enhances credibility and creates useful community ties for the TNC.

3. Seek FDI-SME linkages that move beyond "dependent" to "developmental"

Linkages between foreign affiliates and domestic SMEs can be characterized as "dependent" or "developmental".¹⁰

¹⁰ Driffield and Mohd Noor (1999).

The most beneficial linkages for host countries are relationships that enable and assist local SMEs to grow and prosper in line with the country's development goals. Foreign investors are also arguably better off encouraging developmental linkages that over the longer term ensure a reliable local sourcing capacity. By broadening its customer base, an SME increases its stability, and by strengthening internal capabilities, the SME can respond more flexibly to changes in demand, adjusting product specifications and incorporating new inputs as needed. TNC efforts to promote developmental linkages also represent good corporate social responsibility, assisting local SMEs and communities to grow within the framework of the host country's development policy. Microsoft's BizSpark Programme in Malaysia offers an example of skills training for human capital development that is made available to a wide range of SMEs. Microsoft offers this programme in nearly three dozen countries, reflecting an approach that is linked to implementing the company's corporate social responsibility objectives.

Encourage linkages that build SME capacities

The focus of government programmes often rests on increasing the volume of SMEs operating in a sector rather than ensuring they have adequate capacity to function and grow in a competitive environment. Encouraging TNCs to establish linkages that teach SMEs about supplier operations and processes constitutes a useful but limited first step toward increasing local SME capacities. Nonetheless, TNCs also have personal interest in assisting SMEs to become reliable and high-quality suppliers. The successful example of Globetronics in Malaysia, a leading publicly-listed company in the electrical and electronics sector that progressed along upgrading stages of FDI-linked growth, points to the need for SMEs to eventually develop a self-sustaining business capability for future business expansion.

Specific linkage programmes in both countries have sought to create developmental relationships, improving SME absorptive capacity. In Malaysia, the Industrial Linkage Programme and the Global Supplier Programme do not only match foreign and domestic enterprises, but also provide incentives to SMEs to develop the necessary capabilities for their engagement in advanced production processes and global supply chains. The Local Industry Upgrading Programme in Singapore has been part of a wider development vision and strategy, encouraging progressive SME development based on cooperative linkages with TNC affiliates. Economic incentives, mainly in the form of tax exemptions, may be useful to promote TNC participation in developmental linkages. For example, the Industrial Linkage Programme in Malaysia seeks to build TNC-SME linkages by offering tax incentives to SMEs producing eligible products, as well as to foreign affiliates who incur costs by helping to improve SME capacity through training and technical assistance activities.

Value the many forms of knowledge transfer from foreign affiliates to SMEs

Technological upgrading of local supplier firms is a priority for host countries and several governments have adopted measures to encourage technology transfer from TNCs to SMEs and to strengthen technological cooperation between the two. Technology transfer can occur through many types of FDI-SME linkages, depending both on the TNC's willingness to share knowledge and techniques and the SME's capacity to absorb and utilize it. High-value technology is unlikely to be transferred outside the TNC's control, but linkages can facilitate other beneficial knowledge transfers such as assistance with inventory management, marketing techniques and new practices in finance or purchasing. Process technology transfer can take place through the provision of machinery and equipment as well as technical support for

production planning, quality management, and inspection and testing procedures. Transfers also often occur through sharing product design and specifications, technical consultations, and feedback on SME performance.

In Malaysia, Microsoft's investment in the BizSpark programme will provide support to the development of the local software industry by aiding start-up firms and grooming Malaysian technopreneurs. Under this programme, Microsoft will help nurture up to 500 small firms by providing them access to world-class tools, technologies and market resources, along with technical support, mentoring from Network Partners, and opportunities for exposure to potential investors and customers.

In Singapore, SMEs have benefited mainly from indirect technology transfer such as learning through quality testing and diagnostic feedback, know-how disclosure in product design, and exposure to good manufacturing practices (Wong, 1992). However, government programmes such as the Local Industry Upgrading Programme have helped SMEs move up the value chain from original equipment manufacturers to original design manufacturers, which in turn encourages linked TNCs to consider further nurturing the SMEs technological capabilities (Chew and Yeung, 2001). Upgrading local suppliers to the production of more sophisticated components increases their value-added contribution and opens the potential for new product creation. The Honeywell-SME linkage (box III.3) illustrates a collaborative effort, assisted by Singapore's Local Industry Upgrading Programme and Training and Attachment Programme, to increase SME supplier capabilities, including through training SME engineers at Honeywell's US facility.

FDI-SME linkages that increase local R&D capabilities are especially important to allow domestic enterprises to grow from their ties to a local foreign affiliate and emerge as broader global suppliers. Even the best SMEs can become "stuck in the middle", i.e. firms unable to evolve beyond the point where they are small-sized operations supplying lower-value components to TNC branches. Government programmes may assist this type of progressive R&D through the provision of adequate funding during the early stages of SME growth, enabling the firm to show its aptitude to build on existing technology or what they have learned from work with TNCs.

Expand markets through TNC networks

TNC networks accessible through FDI-SME linkages can also open new markets for domestic firms. Tesco stocked its local and overseas shelves with products from Malaysia's SME suppliers and introduced some firms to direct customer connections overseas. Initiatives such as the Global Supplier Programme provide SME training and mentoring activities needed to operate efficiently in a TNC's global supply network. The Globetronics' story in Malaysia (box II.8) provides a good illustration of how an SME utilized its TNC links in a developmental fashion rather than remaining a successful but dependent local supplier. Another TNC, Nestle, is promoting Malaysia's halal products internationally.

While FDI-SME linkages in Malaysia assist domestic producers to market their products abroad, particularly in the European home base of participating TNCs, there have been complaints about selective support. Preferential treatment for some SMEs, even in furtherance of other public policies, could undermine the relationships between TNCs and SMEs if higher quality domestic producers cannot participate in market arrangements and expand into foreign sales.

FDI-SME certification linkages can be particularly advantageous for SMEs that require endorsement of their product to facilitate expansion in domestic as well as international markets. Foreign customers may require certification of a new supplier's product quality. FDI-SME linkages can reassure potential foreign customers, as reflected in the accreditation effect of Globetronics' strong supplier links with Intel.

A model linkage path to SME development

Intel's "SMART" programme (box II.6) outlined a commitment to developmental linkages with SMEs and provided a model for progressively enhancing SME's capabilities and market outreach. The five-step process uses merit-based selection and advancement of SMEs based on performance capabilities and offers initial and advanced technical training as well as help for the SMEs to diversify and develop into global suppliers. Intel's record in supporting the success of Globetronics, Unico and Eng represents a strong endorsement of how FDI-SME linkages can work to produce beneficial results. Malaysia has promoted this type of relationship with tax incentives and financial support.

V. Conclusions

Promoting beneficial linkages between foreign affiliates and domestic SMEs represents a politically attractive goal for both host governments and invested TNCs. However, the measurable economic return from such programmes has been uncertain compared to the clear challenge of assisting so many firms of diverse quality and commitment. The two countries examined in this case study both followed proactive encouragement policies to promote SMEs and to create beneficial FDI-SME linkages. Malaysia pursued several development strategies that attracted different types of FDI. Early SME programmes primarily served socio-economic goals that sometimes restricted FDI operations as well as SME sector growth. Malaysia's recent policy shift to prioritize SME development sparked a proliferation of government programmes to support FDI-SME linkages. Singapore's limited size and resources led to an early reliance on FDI and relatively early programmes to assist selective SMEs that could develop competitive international capabilities. The large FDI presence in Singapore provided opportunities to forge beneficial linkages with SMEs, initially through supplier relationships that later expanded SME capacity and sometimes provided international outreach.

The case experiences of these two countries can provide insights but not a roadmap for other nations that seek to promote SME development. A realistic self-assessment of each country's economic conditions and FDI climate should inform the chosen goals and approach to SME promotion. The potential for beneficial FDI-SME linkages will depend on many factors, including the foreign affiliate's sector, operational activities, and role in the TNC's global network. For their part, host countries can invest in basic infrastructure and human capital to improve conditions for both local entrepreneurs and foreign investors. More targeted assistance can help at several stages to overcome start-up obstacles for SMEs, spur increased technical capacity, and support international market outreach. FDI-SME linkages, facilitated by government programmes, can contribute to each of these stages by offering initial training and mentoring, expanding and upgrading SME supplier capabilities, and providing foreign market endorsements and channels for overseas sales.

The capacity of host governments to provide effectively designed and efficiently executed SME promotion programmes will largely determine their success. Financial and other support for SMEs, along with targeted incentives for FDI, are sometimes needed to overcome initial barriers to creating FDI-SME linkages. However, cost-saving coordination of government programmes and low-cost business facilitation measures can be equally important factors in supporting SME growth. By establishing an environment conducive to creating beneficial FDI-SME linkages, a host government can encourage entrepreneurial innovation, provide opportunities for commercial realization and exploit untapped reserves in its SME sector for growth and development.

References

- Battat, J., Frank, I. and Sheu, X. (1996). *Suppliers to multinationals: linkage programs to strengthen local companies in developing countries*. Foreign Investment Advisory Services (FIAS), Occasional paper 6, Washington, DC: The World Bank.
- Belderbos, R., G. Capannelli and K. Fukao (2001), "Backward vertical linkages or foreign manufacturing affiliates: evidence from Japanese multinationals", *World Development*, Vo. 29, No. 1, pp.189-208,
- Blomström, Magnus; Globerman, Steven; and Kokko, Ari. (2000). "The Determinants of Host Country Spillovers from Foreign Direct Investment." Centre for Economic Policy Research, Working Paper No. 2350, p.13-25.
- Brown, R. (1998). "Electronics foreign direct investment in Singapore: a study of local linkages in "Winchester City"". *European Business Review*, Vo. 98, No. 4, pp. 196-210.
- Chew, Y. and Yeung, H. (2001). The SME Advantage: Adding Local Touch to Foreign Transnational Corporations in Singapore. *Regional Studies*, Vo. 35, No. 5, pp. 431-48.
- Coe, N., and Perry, M. (2004). Promoting linkage to foreign transnationals in a 'tiger' state: Singapore and the Local Industry Upgrading Programme. *Environment and Planning C: Government and Policy*, Vo. 22, No.2, pp. 363-382.
- Driffield, N. and Mohd Noor, A. (1999). Foreign Direct Investment and Local Input Linkages in Malaysia, in UNCTAD, Transnational Corporations, Vol. 8, No. 3, pp. 1-23.
- Giroud, A. (2000). Japanese transnational corporations; knowledge transfer to Southeast Asia: the case of the electrical and electronics sector in Malaysia, *International Business Review*, Vol. 9, pp. 571-86.
- Giroud, A. and Mirza, H. (2006). Factors Determining Supply Linkages between Transnational Corporations and Local Suppliers in ASEAN, in UNCTAD, Transnational Corporations, vol. 15, no. 3, pp. 1-34.
- Gomez, E.T. (1999). *Chinese Business in Malaysia: Accumulation, Ascendance, Accommodation*, Honolulu: University of Hawaii Press.
- Gomez, E.T. (2009). The Rise and Fall of Capital: Corporate Malaysia in Historical Perspective, *Journal of Contemporary Asia*, vol. 39, no. 3, August 2009, pp. 345-81.
- Hansen, M. and Schaumburg-Muller, H., eds (2006). *Transnational Corporations and Local Firms in Developing Countries – Linkages and Upgrading*.
- Hew, D. (2002). SME Policies and SME Linkage Development in Singapore in *Entrepreneurship and SMEs in Southeast Asia*, edited by Hew, D. and Loi, W.N., Singapore: Institute of Southeast Asian Studies.
- Jomo K.S., Felker, G. and Rasiah, R. (eds) (1999). *Industrial Technology Development in Malaysia: Industry and Firm Studies*, London: Routledge.
- Lall, S. (2001). *Competitiveness, Technology and Skills*, Cheltenham: Edward Elgar.
- Lee, B.C. and Liang, T.W. (2002). Small and Medium Enterprises in Singapore and the New Economy, in *The role of SMEs in national economies in East Asia*, edited by Harvie, C.. Lee, B.C., *Studies of Small and Medium Sized Enterprises in East Asia Series*, vol. 2. Cheltenham, U.K. and Northampton, Mass.: Elgar.

- Leutert, H.G. and Sudhoff, R. (1999). Technology Capacity Building in the Malaysian Automotive Industry, in Jomo, Felker and Rasiah (eds).
- Lim, L. and Fong, P.E. (1991). Foreign Direct Investment and Industrialisation in Malaysia, Singapore, Taiwan and Thailand, Paris: Development Centre Studies, OECD.
- Mathews, J. (1999). A Silicon Island of the East: creating a semiconductor industry in Singapore, *California Management Review*, Vol. 41. No. 2, pp. 55-78.
- OECD (2007). Enhancing the Role of SMEs in Global Value Chains, OECD Tokyo Statement, OECD Global Conference in Tokyo, 31 May – 1 June.
- Rajan, R. and Thangavelu, S.M. (2009). Singapore: Trade, Investment and Economic Performance, World Scientific Publication, Singapore.
- Rashid, A., Lall, M.K. and Tatsuo, K. (2008). Supplier Development Framework in the Malaysian Automotive Industry: Proton's Experience, *International Journal of Economics and Management*, Vol. 2, No. 1, pp. 29-58.
- Rasiah, R. (1995). Foreign Capital and Industrialization in Malaysia, Basingstoke: Macmillan.
- Rodriguez-Clare, A. (1996). "Multinationals, linkages and economic development", *American Economic Review*, Vol. 86, No. 4, pp. 852-873
- Saleh, Al Salman and Nelson Oly Ndubisi (2006). An Evaluation of SME Development in Malaysia. *International Review of Business Research Papers*, Vol. 2, No. 2 p. 1-14
- Saleh, Al. Salman, Caputi, Peter and Charles Harvie (2006). Perceptions of Business Challenges Facing Malaysian SMEs: Some Preliminary results.
- Shunji, K. (1998). The Development Strategy of SMEs in Malaysia, Working Paper Series 97/98, no. 4, IDE APEC Study Center.
- UNCTAD (2001). World Investment Report 2001: Promoting Linkages, New York and Geneva.
- UNCTAD (2003). World Investment Report 2003: FDI Policies for Development: National and International Perspectives, New York and Geneva.
- UNCTAD (2004), Business Linkages: Roster of Good Practices.
- UNCTAD (2006a). Promoting TNC-SME Linkages to Enhance the Productive Capacity of Developing Countries' Firms: A Policy Perspective, TD/B/COM.3/75.
- UNCTAD (2006b). Deepening Development Through Business Linkages.
- Wong, P.K. (1992). Technological development through subcontracting linkages: evidence from Singapore, *Scandinavian International Business Review*, vol. 1, no. 3, pp. 28-40.
- Yasuda Nobuyuki (1991). Malaysia's New Economic Policy and the Industrial Coordination Act, *The Developing Economies*, vol. 29. no 4, pp. 330-349.