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# **The Foreign Dimension of Singapore's Economic Growth**

The role of foreign multinationals and labor on Singapore's  
economic growth since the 1960s

by

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Master Thesis within the main profile of International Business

This thesis was written as a part of the master program at NHH. Neither the institution, the supervisor, nor the censors are - through the approval of this thesis - responsible for neither the theories and methods used, nor results and conclusions drawn in this work.

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## Abstract

Singapore's growth from its independence in 1965 to present day is truly remarkable. Much of the country's economic success is due to the policies and strategies implemented by the Singaporean government and its agency the Economic Development Board (EDB). These include active promotion and targeting of foreign multinationals (MNCs) to invest in the country, a dynamic sectoral allocation of industries, and a shrewd use of both skilled and unskilled foreign labor.

As foreign investment into Singapore has increased throughout the years, so have the amount of foreign laborers in Singapore. The government has always had an open-door policy for foreign skilled workers aiding Singapore to achieve its goals of industrialization and subsequent upgrading. With economic growth, the need for low-skilled foreign workers also emerged to maintain the country's competitiveness. These workers would help to keep wages low, fill in labor shortages, and do menial jobs that Singaporeans would increasingly refuse to do.

The aim of this paper is to show how foreign MNCs, skilled labor, and unskilled labor have intertwined in Singapore's growth story, and the extent to which this foreign dimension has contributed to the story. The story begins in the early 1960s when Singapore first made the push for foreign MNC operations to invest in Singapore, but the authors' analysis will mostly focus on the period post-1980 where data is more available on foreign MNCs and labor.

## Chapter 1 Background/Problem Statement

### 1.1 Singapore's Early Development from 1819-1965.

Singapore has always had a strong foreign influence to both its population and economic growth. Ever since its colonization and establishment as a trading post in 1819 by Sir Thomas Stamford Raffles and the British East India Company, Singapore has been a country of immigrants. The economic development of Singapore has been possible as a result of favourable initial conditions, such as geography and free trade policy established as a means to derive maximum benefits from its location (Huff, 1994). Singapore's strategic location on the southern tip of Malayan Peninsula, from which it is separated only by a narrow strait, can be regarded as a natural resource that gave the country a competitive advantage. Throughout the 19<sup>th</sup> century Singapore was the main trading port of the Malayan Peninsular. It then gained more prominence after the opening of the Suez Canal that directed most of the ships going from Europe to the East through the Straits of Malacca (Grice & Drakakis-Smith, 1985).

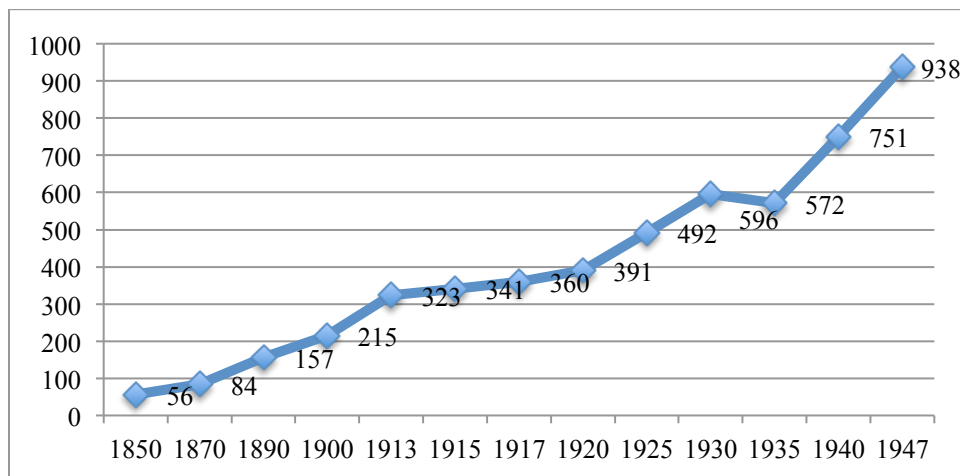
Foreign labor has played a significant role in the economy of Singapore from the country's founding, as the descendents of Chinese, Indian, Indonesian, and Peninsular Malaysian immigrants would account for most of Singapore's population growth from 1819 until the beginning of World War II (Pang & Lim, 1982). The rise of foreign labor was fueled by both early economic growth as well as a lack of restrictions on foreign immigration. On the 28<sup>th</sup> of January 1819 when Sir Stamford Raffles landed on the island and established Singapore as a British settlement, the population amounted to about 150 people, from which presumably 120 were Malays and the rest Chinese (Newbold cited in Swee-Hock, 2012). Within a year the population rose to 5000, mainly of Chinese descent (Raffles cited in Swee-Hock, 2012). Thereafter Raffles reported in his memoirs rapid population growth of the new colony, which by November 1822 amounted to over 10,000 and by 1836 to 29,984 citizens. However, these numbers may be exaggerated on account of Raffles' enthusiasm. According to Sir Thomas Braddell, the attorney general of the



colony the population amounted to only 5,874 in 1821 (Bradell cited in Swee-Hock, 2012). Nevertheless, new citizens, mainly Malays and Chinese from Malacca but also Indians and Indonesians, were attracted by the prospects of profits in the new British trading center. Large number of Indians were transported to Singapore from the territories on the Indian subcontinent that were administered by Britain (Pang & Lim, 1982).

Raffles, keen to attract traders to his new colony, developed the land along the Singapore River to encourage its use as a port. To aid in his cause, this port of Singapore was declared to be a free port, unlike other regional ones at the time that had burdensome restrictions. As such, Singapore soon attracted junk traders from China, which consequently led to many Chinese settling on the island. In addition, traders, as well as indentured laborers and convicts came over from the Indian subcontinent to trade and settle in Singapore. The thriving free port of “The Lion City” spurred soaring population growth rates, and the period up to 1849 saw the highest growth rates in the demographic history of Singapore. From 1824-1840 the population grew at about 7.7 percent annually, and 4.6 percent from 1840 to 1849 (Hock cited in Chew & Lee, 1991). The data presented in Chart 1, adapted from Angus Maddison, traces the population of Singapore up until 1947. It wasn’t until a few years past World War II that the country surpassed a million inhabitants.

**Chart 1** Singapore’s Population (in 000’s) 1850-1947



**Source:** (Maddison, 2010)

According to Pang and Lim (1982), large number of the Chinese, Indonesian and Indian immigrants were indentured until 1910, with transient males representing a significant share. A large disproportion by gender in the Singaporean population dates back to the early settlement. According to the census from 1836, female citizens constituted only 26 percent of the population (7,729 out of 29,984). This impediment to future growth was regarded as a matter of great importance. The flow of Chinese immigrants, which constituted the largest group of immigrants, was strongly influenced by market conditions and infrequent colonial regulations, such as the Alien Ordinance implemented in 1933. It aimed to limit male immigration by setting quotas and at the same time encourage female immigration in order to normalize the sex ratio of the population (Pang & Lim, 1982). Since the large immigration of Chinese suited colonial needs, the British colonialists pursued a laissez-faire policy towards them until 1945. The first comprehensive policy concerning immigration was enacted in 1953. It tightly enforced the number and quality of immigrants coming to Singapore (Pang & Lim, 1982). However, the immigrants from Peninsular Malaysia were free to settle in Singapore until 1965, when the country became an independent nation state.

The booming tin industry in the late 1800s and rubber industry in the early 1900s in neighboring Malaysia, demonstrated the importance of Singapore's geographical location, caused a rise in its entrepôt trade, and consequently created a demand for workers. As such, more and more foreign workers came to settle in Singapore, the majority of which were Chinese. The increasing population size as well as the number of immigrants, provided the country with human capital, and contributed to the Singapore's economic success. Following World War II, Singapore struggled with economic stagnation, as the country lost its role as a centre of Britain's colonial trade movement (Grice & Drakakis-Smith, 1985). During the 1950s high unemployment between 10 to 15 percent, intensified social problems. The rising unemployment was a result of stagnation in the trade sector that for a long time had been Singapore's driving force. In order to tackle this problem, as well as to boost the economic development Singapore initiated an industrial program. The focus was initially on domestic market production, however the circumstances changed after the separation from Malaysia. Thereafter the focus shifted to the production of labor-intensive goods for the world market (Pang, 1980).

When Singapore achieved self-governance, the government started playing an essential role in encouraging economic development (Huff, 1994). Until then the administration mainly focused on maintaining peace and stability, conditions which would set the stage and prove necessary for future growth. In 1963, Singapore became independent from Great Britain and tried to create a federated union with Malaysia. However, after only two years and many unproductive discussions, Singapore and Malaysia parted ways with Singapore becoming an independent city-state. Amidst its newfound independence, Singapore faced a myriad of economic and social difficulties. The empowered People's Action Party with Yusof bin Ishak as President, and Lee Kuan Yew as Prime Minister, had a lot of tough issues to tackle to get the country on the right track.

The Singaporean leaders and the government agencies they created would set the stage for the country's industrial upgrading, attraction of foreign investment and talent, and economic growth, which would transform Singapore from an entrepôt to a truly industrialized country. This paper will show, how, due to their efforts, foreign MNCs would come to dominate the economic landscape, and foreign skilled and unskilled labor would play a major part in economic growth. This foreign dimension: foreign MNCs, foreign skilled labor, and foreign unskilled labor would serve to reinforce each other to bring about an economic transformation in Singapore.

## 1.2 Problem Statement

Singapore's strategies to advance its economic development were very successful, and its policies to promote foreign multinational investment contributed to the country's success. The challenge is to analyze the data and show how the inclusion of MNCs and the increase of foreign skilled and unskilled workers affected the economic growth of Singapore. As such, our research question is:

**Question: To what extent has the invitation of foreign MNCs and foreign skilled and unskilled labor contributed to the growth of Singapore since its independence, with specific reference to post-1980?**

The question is phrased as primarily referencing post-1980 because the data before 1980

is, for the most part, not available. Consequently, although we can draw some inferences before 1980, it is more difficult to prove our points beyond doubt without the relevant data. This will be discussed forthwith in the following section on data sources.

### 1.3 Data Sources in the Paper

It is very important to note that the authors' task of writing a paper on the impact of foreign labor (and the foreign MNCs) on Singapore's growth is significantly hindered by the limited data that is available on population movement and foreign labor statistics. Singapore is secretive about such data, regarding it as "sensitive" (Low, 1995; Chia, 2011) and does not fully reveal the amount of, nor the source of its foreign workers because of political considerations (Low, 1995).

Through extensive research, the authors realized that the amount of information on foreign labor post-1980, although still lacking in many regards, is more available than the information from 1960 to 1980<sup>1</sup>. As Singapore's Economic Development Board (EDB) started pushing for MNCs to invest in Singapore in the 1960s, and as some large foreign firms began operations in the country shortly thereafter, the authors were at a loss in understanding why there is hardly any information available on the subject during the 1960-1980 period. Academic and Singaporean data sources offered little insight on the matter. Consequently the authors queried Dr. Lee Soo Ann, an economist who has been involved in the Singaporean government, business, and academic spheres for more than 40 years. Dr. Lee worked with Dr. Goh Keng Swee, the Singaporean Minister of Finance in the late 1960s, and has served as a board member of the Port of Singapore Authority, Jurong Town Corporation, and NTUC Income, among others. He was also the Dean of Accountancy and Business Administration and Director of the School of Management in the National University of Singapore (NUS). Dr. Lee responded in an email,

“The brief answer to your question is that there was little ‘foreign’ labour before 1980. There were foreigners, but they were from Malaysia, and Singapore tends to regard those from Malaysia as if they are Singaporeans. Under British rule up

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<sup>1</sup> Although post-1980 data is more available, the reliability of said data is often questionable. This will be touched upon shortly.

to 1963, there were no restriction on persons from the Malayan mainland coming to, and staying in Singapore, and of course there were none when Singapore was part of Malaysia from 1963-65.

After independence in 1965, foreigners needed a permit to enter Singapore for employment but permits were liberally given to those from Malaysia. Malaysian citizens contributed to the CPF like Singaporeans and were even allowed to buy HDB flats<sup>2</sup>. Many who came from China married Singaporean Chinese, making it difficult to distinguish them. Hence the statistics do not show that there were many foreigners in Singapore.

The number of Malaysians dried up as a source of foreign labour during the 1980s (they went to Australia, etc.) and in 1990, foreign supply was opened to non-traditional sources like the Philippines, Bangladesh, Indonesia, Myanmar, etc. on a work permit basis for those less skilled (with a levy), and on an employment pass basis to those who were professionals and executives. They are generally not allowed to contribute to the CPF and not many qualify to be permanent residents.

The MNCs did not become that numerous until the 1980s, when business services and financial services became two engines of growth. Only in the manufacturing sector were MNCs significant in the 1970s. In the 1960s, MNCs were not significant in trade, which was the fourth engine of growth. As a rule, statistics do not cover MNCs in the areas that they were not significant. The same goes for foreign skilled labour.

The reason why foreign skilled labour and employment passes are not covered currently, is because the Singaporean educated sees them as competing away their jobs as PMET (professional, managerial, executive and technical). The government is currently about to raise the income foreigners need to earn in order to get employment passes, so that locals are protected from foreign competition.

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<sup>2</sup> The CPF refers to Singapore's Central Provident Fund which was the government's savings plan initiated in 1955. The HDB refers to Singapore's Housing and Development Board, established in the 1960s, which is responsible for public housing in the country.

Today, of the 1.5 million foreigners, about 400,000 are from Malaysia (the other major foreign group are the Chinese, numbering also about 400,000). Although many Malaysians have become citizens, there are many who retain their Malaysian citizenship as they can then own land in Malaysia.”

As such, the paper is organized into two parts; the first analyzes the foreign dimension of MNCs and labor between 1960 to 1980, and the second from 1980 to present. While the section analyzing the effect of foreign MNCs and labor on the growth of Singapore from 1980 to present relies on many data sources, the previous section from 1960 to 1980 focuses more on qualitative data and hypotheses on the data. In addition to more data available from 1980 to present, there is also significantly more foreign investment, foreign labor (both skilled and unskilled), and foreign MNCs attracted to Singapore in this period than in the period from independence to 1980. As such, the second part of the paper, focusing on foreign labor and MNCs from 1980 to present, is split into two chapters: the foreign dimension in the 1980s, and that from the 1990s to present.

This paper relies on a variety of informational and data sources to support its conclusions. These include:

- Singapore census data, which show population growth trends and from which time series data can be extrapolated. The first census post-independence took place in 1970. It is also important to note that these must be read carefully: reporting changes occurred after the 1990 census, the 2000 census only reveals information on the resident population, not separating the foreign and domestic population, and the 2010 census excludes large numbers of the country's unskilled labor (Chia, 2011).
- Singapore Ministry of Manpower (MOM) statistics, which show the employed resident and foreign workers by sector and to some extent the GDP growth attributable to residents and nonresidents. However, the Ministry does not always release information regarding the amount of employment passes and work permits that have been issued.
- Singapore Department of Statistics (DOS) data on the GDP contribution of

foreign firms and labor. Though, outward remittances are not identified, and not listed on the country's balance of payments (Chia, 2011).

- Singapore's Economic Development Board (EDB) which includes historical information on the mindset and process of wooing foreign investors and skilled workers. The EDB sources also have relevant information on MNCs in Singapore and the steps that must be taken to invest in the country.
- Singaporean newspapers, such as the Straits Times, which include information on foreign labor, and opinionated pieces on the topic. These must be taken with a grain of salt, as the media is to a large extent controlled by the government. Indeed, an international assessment of press freedom produced by Reporters Sans Frontieres (RSF), a French media organization, ranked Singapore as number 141 among 169 countries in 2007, by far the lowest of all advanced economies (Reporters Without Borders, 2007).
- The World Economic Forum and the International Institute for Management Development, which provide rankings and polls on global competitiveness and the attitudes of Singaporeans to certain issues.
- Official statements from key members of the Singaporean government regarding foreign MNCs and labor.
- Media and NGO reports that relate to foreign workers. These include for example, Human Rights Watch, which has shown the abuses faced by low-skilled labor in Singapore.
- Academic papers which have attempted to fill in some of the gaps of the "missing" data by estimating certain markers, and also providing theory on foreign labor.

By glancing over the sources to be used, one can see difficulties in reaching irrefutable conclusions. Many data markers that one would normally expect to be available in a developed country are not available in the case of Singapore. Much of this information is kept internally, for three reasons: (1) Singapore does not see the necessity of revealing

the information, (2) to protect political interests with regard to foreign policy, and (3) to protect domestic policy interests. Each of these three will be briefly touched upon in turn.

First, Singapore was part of the East Asian “miracle,” in which countries in the region achieved incredible growth levels by defying conventional logic, thriving without the supposed prerequisite of democracy. Singapore was thrust into independence as a developmental state, and has continued to thrive as an autocratic state with palpable governmental influence over things such as the media and the right to freedom of speech. As such, the government has the final decision on what information it deems appropriate to reveal.

With regard to the second reason, foreign policy, Singapore has always been a melting pot of cultures and workers because of its geographic location. This led to Singapore's growth in the transshipment trade, and its status as a gateway to Asia and a bridge from the West to the East. In recent years, Singapore has played host to migrant workers from many Asian countries, which has at times led to strained relationships with these countries. For example, a Filipino maid, Flor Contemplacion, was hanged in Singapore in 1995 after being charged for a double murder, leading to a drastic rift in the relationship between the two countries (Yeoh, et al., 1999). Prior to the incident the economic ties between the two countries were at an all-time high. Singapore exports to the Philippines more than doubled between 1992 and 1995, from US\$809 million to US\$1.9 billion. Philippine exports to Singapore increased more than threefold in the same period, from US\$317 million to US\$1.1 billion (IMF cited in Yeoh, et al., 1999). Yet, soon after the hanging, economic relations between the countries turned sour. Singaporean investments in the Philippines fell from a record US\$65 million in 1994, to US\$3.7 toward the end of 1995 (Yeoh, et al., 1999).

The Singaporean government has tried to protect its interests by not being very forthcoming in terms of revealing accurate foreign labor statistics, which presents a number of problems for the authors in their research. For example, in 1990, the Philippine Overseas Employment Administration acknowledged only 11,000 total



Filipino workers in Singapore, while the Philippine Embassy put the number of Filipina *domestic workers* alone at 70,000 to 80,000 (Yeoh, et al., 1999). This presence of illegal migrant workers complicates data research. In addition, Singapore's annually issued labor statistics only show the trend in aggregate foreign labor since 1991 and sectoral distribution, while paying no regard to source country, occupation, or gender (Chia, 2011). As Singapore has a vested interest in protecting its political and economic relationships with its Asian trading partners, it has not had the desire to acknowledge all of the foreign labor that exists within its borders.

Finally, referring to the third reason, Singapore's data does not accurately nor completely encompass all of the foreign skilled labor so as to protect domestic political interests. As Dr. Lee mentioned, many Singaporeans feel that foreign skilled workers are taking jobs away from them. This has led to criticism and disgruntlement in recent years among the educated Singaporeans, who have to seriously compete for jobs, and has caused some to emigrate from Singapore.

#### **1.4 Definitions of Important Terms**

The paper focuses on the impact of foreign multinational companies (MNCs) and foreign labor on the economic growth of Singapore. As such, it is important to clarify what the authors mean by these terms. Multinational companies, also referred to as multinational corporations or multinational enterprises, are "firms that engage in foreign direct investment (FDI) by directly controlling and managing value-adding activities in other countries" (Peng, 2014, p. 5). To be classified as a multinational company, a firm must be engaged in the management of foreign assets through either the production of goods or services (Gooderham, et al., 2013). As such, those simply investing in foreign assets, such as hedge funds investing in foreign stock markets, would not be sufficient to warrant the term multinational company (Gooderham, et. al., 2013).

In addition, it is essential to distinguish between different types of foreign labor in Singapore. For the purpose of this paper, we are considering that there are only two types

of labor, skilled and unskilled labor<sup>3</sup>. Depending on this labor classification, Singapore's policies toward foreign workers have been radically different.

Normally the distinction between skilled workers and unskilled workers is based on education; skilled workers are those with a college degree, while unskilled workers have no college education (Sill, 2002; Krusell, et al., 2000). However, many other sources also consider skilled workers as those who have acquired significant experience in a certain area, but the categorization remains not well defined and can vary from country to country (Iredale, 2000). The OECD offers a broad definition of skilled workers to include: "highly skilled specialists, independent executives and senior managers, specialized technicians or tradespeople, investors, physicians, business people, 'keyworkers' and subcontract workers" (OECD 1997:21 cited in Iredale, 2000, p. 883). Skilled labor is needed for countries to accumulate technological and skill-based advantages, and skilled workers are needed to train other aspiring skilled workers (Krusell, et al., 2000). Workers who have attained higher education levels, greater skills, and more knowledge earn higher wages than those who haven't (Sill, 2002). The difference in wages between high-skilled and low-skilled workers is referred to as the skill premium.

One metric for showing inequality within a country is the Gini Coefficient. Table 1 shows the Gini Coefficient for OECD countries since the mid-1970s, where the data is available.

**Table 1 Gini Coefficient after taxes and government transfers**

	mid-70s	mid-80s	around 1990	mid-90s	around 2000	mid- 2000s	late- 2000s
Slovenia	..	..	..	..	..	0.246	0.236
Denmark	..	0.221	0.226	0.215	0.226	0.232	0.248
Norway	..	0.222	..	0.243	0.261	0.276	0.250
Czech Republic	..	..	0.232	0.257	0.260	0.268	0.256
Slovak Republic	..	..	..	..	..	0.268	0.257
Belgium	..	0.274	..	0.287	0.289	0.271	0.259

<sup>3</sup> The term semi-skilled labor occasionally is used by sources that will be cited in the paper. Semi-skilled labor presents a difficult classification, and as such the authors have chosen to only focus on skilled and unskilled labor.

	mid-70s	mid-80s	around 1990	mid-90s	around 2000	mid- 2000s	late- 2000s
Finland	0.235	0.209	..	0.218	0.247	0.254	0.259
Sweden	0.212	0.198	0.209	0.211	0.243	0.234	0.259
Austria	..	0.236	..	0.238	0.252	0.265	0.261
Hungary	..	..	0.273	0.294	0.293	0.291	0.272
Luxembourg	..	0.247	..	0.259	0.261	0.258	0.288
France	..	0.300	0.290	0.277	0.287	0.288	0.293
Ireland	..	0.331	..	0.324	0.304	0.314	0.293
Netherlands	0.263	0.272	0.292	0.297	0.292	0.284	0.294
Germany	..	0.251	0.256	0.266	0.264	0.285	0.295
Iceland	..	..	..	..	..	0.257	0.301
Switzerland	..	..	..	..	0.279	0.276	0.303
Poland	..	..	..	..	0.316	0.349	0.305
Greece	0.413	0.336	..	0.336	0.345	0.321	0.307
Korea	..	..	..	..	..	0.306	0.314
OECD Total	..	..	..	..	..	0.316	0.314
Estonia	..	..	..	..	..	0.349	0.315
Spain	..	0.371	0.337	0.343	0.342	0.319	0.317
Canada	0.304	0.293	0.287	0.289	0.318	0.317	0.324
Japan	..	0.304	..	0.323	0.337	0.321	0.329
New Zealand	..	0.271	0.318	0.335	0.339	0.335	0.330
Australia	..	..	..	0.309	0.317	0.315	0.336
Italy	..	0.309	0.297	0.348	0.343	0.352	0.337
United Kingdom	0.268	0.309	0.354	0.336	0.352	0.331	0.342
Portugal	0.354	..	0.329	0.359	0.356	0.385	0.353
Israel	..	0.326	0.329	0.338	0.347	0.378	0.371
United States	0.316	0.337	0.348	0.361	0.357	0.380	0.378
Turkey	..	0.434	..	0.490	..	0.430	0.409
<b>Singapore</b>	..	..	..	..	<b>0.434</b>	<b>0.449</b>	<b>0.452</b>
Mexico	..	0.452	..	0.519	0.507	0.474	0.476
Chile	..	..	..	0.527	..	0.503	0.494

**Source: (OECD, 2013; Department of Statistics Singapore, 2013)**

A high Gini Coefficient represents high inequality within a country, and as such Singapore has high inequality. Of the industrialized economies shown in Table 1 above, Singapore has one of the highest Gini Coefficients. Theoretically, Singapore's high, and widening, income gap could be due to rising wages for the highly skilled workers and depressed wages for unskilled workers due to low-cost foreign workers. By applying these theories through the recent history of Singapore, we infer certain challenges that

Singapore has faced through its economic growth. Since the 1960s, and moreso from the mid-1980s, the country has been involved in continual technological upgrading, which has required strong recruitment of skilled workers. As the skill gap has increased at a faster rate than the domestic supply of skills, the need for foreign skilled workers in the country has increased. Extensive experience with foreign skilled workers has led Singaporeans to refer to them as “foreign talent.” These workers augment Singapore's human capital, and support the intended industrial policy by providing FDI and helping to establish a service sector (Thangavelu, 2013). On another note, the combination of these foreign skilled laborers training Singaporeans and Singapore's own policies for training and educational upgrading have caused the skill level among Singaporeans to grow immensely. As a result, Singapore has emerged as an advanced and industrialized country, but has also been left with a scarcity of domestic low-skilled workers.

Low-skilled workers are needed for a plethora of occupations in the country such as construction and domestic work. Due to the increasing skill levels among Singaporeans, many have become overqualified for these tasks themselves. In addition, hand-in-hand with increasing skill levels and economic growth has been a rise in wages. During certain parts of the late 20<sup>th</sup> century, Singaporean wages have risen at levels that were deemed too high to maintain the country's global competitiveness. It has thus been necessary to attract more low-skilled workers from abroad to handle rising costs and the dislocating, or “hollowing-out” effects, that the MNCs have had on the Singapore economy (Thangavelu, 2013).

The definition of a foreigner in statistics pertaining to Singapore would normally include foreign students, employees and their family members that have temporary permits, and those in the country on public affairs business (Miyamoto, 2006). Most permanent residents of Singapore are Malaysians that have been able to obtain permanent residency after attaining certain educational, skill, and income levels; yet permanent residents are not counted as foreigners in statistics (Miyamoto, 2006). Thus, workers that have Malaysian nationality, who have become permanent residents of Singapore, are treated as Singaporeans in statistics, and not as foreigners (Miyamoto, 2006). It makes the challenge of determining foreign labor influence on Singapore that much more difficult, as the statistics for foreigners are thus often underrepresented.

## Chapter 2 Foreign MNCs and Labor 1960 to 1980

### 2.1 Introduction: Brief History Leading up to Independence

“If our experience can be used as a general guide to policy in other developing countries, the lesson is that the free enterprise system, correctly nurtured and adroitly handled, can serve as a powerful and versatile instrument of economic growth.” (Goh, 2013, p. xii)

Since its founding by Sir Stamford Raffles in 1819, Singapore was a British colony, and the capital of the British Straits Settlements. When Singapore gained self-governing status in 1959 the future of the small country was anything but clear. In the 1950s and early 1960s two camps of pundits emerged with divergent thoughts on the future of Singapore. On one side were the optimists who thought that Singapore had many positive attributes that would lead to a bright future. On the other side were those that felt that without British colonial rule Singapore was doomed to follow in footsteps of other flailing decolonized countries.

Many chose to believe in this optimistic side, thinking that the country would continue on its path of promoting trade and economic growth. F. Benham, an academic observer of Singapore, wrote in 1957: “there seem to be no good grounds for supposing that stable, political and economic conditions will not continue. It is most unlikely that any government which comes to power will follow policies adverse to industry and trade” (Benham cited in Huff, 1994, p. 298). In 1959, The People's Action Party (PAP) assumed power, and has been Singapore's ruling party to this day. Following Benham's statement, W.G. Huff wrote, “Even so, it would have been difficult to envisage the vigour of the post-1959 PAP economic development initiative, made possible by decolonization. The success of that initiative itself promoted political stability, but first it brought about striking economic change in the 1960s and beyond” (Huff, 1994, p. 298).

For a short period, from 1963 to 1965, Singapore became a part of Malaysia. The idea was to form a Federation of Malaysia with Malaya, Sabah, Sarawak, and Singapore. Separation between the two was attributed to differences in Malay and Chinese interests,

and various diverging political interests (Parmer, 1966). Regardless of the reasons involved, on August 9, 1965, Singapore became an independent republic. The uncertainty in the previous ten years caused some to join the camp believing that Singapore was doomed to struggle for years to come. One source writes, "When Singapore attained self-government in 1959, the setting could hardly have been less auspicious. Singapore was a small island, with no natural resources, no hinterland to fall back upon, gripped with an endemic problem of mass unemployment and poverty" (Wong, 2007, p. 1). The broken ties with Malaysia led to an even more uncertain future. John Andrews of *The Economist* wrote, "With the link to the natural riches of Malaysia . . . severed, Singapore was doomed to live on the wits of its people. They were not a promising mix" (Andrews, 1986, p. 4). At the time of independence, 70 percent of the country's households were living in overcrowded conditions, unemployment was hovering around 14 percent, GDP per capita was less than \$2,700, and roughly half of the population was illiterate (The World Bank, 2009). To provide a comparison, Singapore's GDP per capita in 1965 was similar to those of Nicaragua, Guatemala, Iran, Lebanon, Ecuador, and Romania (Maddison, 2010).

In the years following World War II, a wave of decolonization swept much of the world, leading to dozens of new and independent countries. In 1963, Singapore would finally become an independent country of its own, when it declared independence from its colonial master, Britain. The dismantling of colonialism is one of the long-term effects of the Second World War (Tenold, 2013). According to Palmer, et al. (2002),

"Of all the great political changes in the history of the modern world, affecting hundreds of millions of people, nothing was more revolutionary, more dramatic, or more unexpected than the end of the European overseas colonial empires... But many of the new nations were nations only in a limited sense. They were sovereign territorial entities, internationally recognized, and with seats in the United Nations, but many of them lacked the internal coherence and shared experience of nations in the older sense of the world. Nor did nationhood for the most part bring democracy, civil rights or the rule of law."

As the above passage suggests, many countries would struggle to establish their own national identities following decolonization. Many newly decolonized countries in Africa would struggle for many years amidst fights for power and in the hopes of achieving a national identity, and these countries would primarily do so without democracy, strong civil rights, and weak law systems.

It is very interesting here to compare the divergent paths between many newly decolonized countries in Asia versus those in Africa. Many African countries that suddenly lost their colonial rule would be in shambles for decades to come. Singapore, along with some other Asian countries, was able to flourish following its decolonization, on its way to becoming an economic success story – a “miracle”. According to a paper comparing development in South East Asia with that of sub-Saharan Africa by Van Donge, Henley and Lewis (2012), Africans were much richer on average in the 1960s than South East Asians. Between 1960 and 2005, however, South East Asian economies grew at almost 6 percent annually while sub-Saharan African countries had an annual growth rate of 3.5 percent, with an even more pronounced contrast in per capita terms as population growth was higher in the African countries (Van Donge, et al., 2012). Consequently, people living in South East Asia were almost 2.5 times wealthier than those in Africa in 2005 (Van Donge, et al., 2012).

Discussing the problems following decolonization in Africa, Englebert writes,

“Of all the regions in the world, Africa has the highest proportion of countries where the process of state creation was exogenous to their societies and where the leadership, or ruling class, inherited the state rather than shaping it as an instrument of its existing or developing hegemony... The state became therefore either a potential resource to be appropriated, or the possible instrument of the domination of other groups to be resisted.” (Englebert cited in Hagen, 2002, p. 150)

David Landes adds that, “the energy, resources and potential goodwill of these successor states have been depleted in the process of defining themselves” (Landes, 1999, p. 436). As such, many countries in Africa faced many power and political struggles following

their decolonization that would diminish their economic resources and hinder possible economic growth.

On the other hand, many countries in South East Asia would start to flourish following their decolonization, among them Singapore, Malaysia, Indonesia. Although these countries were economically successful for a variety of reasons, chief among them were government policies which would serve to promote economic growth. Singapore, Malaysia, and Indonesia all promoted macroeconomic stability and financial stability (for example, low inflation and exchange rate stability) (Van Donge et al., 2012). These countries would also promote education, especially at the primary level, and maintain stable political regimes.

It is thus interesting to explore how Singapore – in the midst of decolonization, a new political regime, a failed union with Malaysia, newfound independence, and a plethora of social and economic problems – was able to turn its fortunes around and set the stage for sustained economic growth. A few positive inertias at the time would allow the country to flourish following its decolonization. Singapore's geographic location and its experience with international trade were significant boons that would continue to enable the country's growth and success. This allowed the country to reap significant economic benefits previously from both the tin and rubber industry in Malaysia. Finally, and perhaps most importantly, the policies enacted by the government with regard to attracting foreign multinationals and foreign investment would enable Singapore to begin and maintain economic growth.

## **2.2 Singapore's Decision to Target MNCs**

In the 1950s and entering the 1960s, Singapore's primary economic dilemma was unemployment. As such, the government was focused on job creation. Yet, as Grice and Drakakis-Smith (1985) point out, in 1959 Singapore was lacking a very important component: indigenous entrepreneurship and traditions in manufacturing that would foster the development of the country in the short run. So how could Singapore mobilize its underemployed workforce to create economic growth when the country lacked domestically important precursors to do so?



Subsequently, the newly empowered PAP asked the United Nations Bureau of Technical Assistance to send an Industrial Survey Mission to aid the country with its economic future. According to Dr. Lee, there was consultation between the UN Mission and those behind Singapore's Development Plan of the early 1960s in terms of government and economic direction. The UN Mission, led by Dr. Albert Winsemius, proposed industrialization as the necessary means to promote both jobs and future economic success. To this effect, the UN Mission recommended the creation of the Economic Development Board (EDB) (Le Blanc, 2008). The EDB, established in 1961, is the country's primary agency for economic planning and strategy to improve Singapore's position as a global business and investment hub (Yuen, 2008). The UN Industrial Survey Mission also revealed that a substantial amount of job creation was necessary. For successful economic transition, 214,000 new jobs were needed for the 1960s, equating to roughly a 50 percent increase in the labor force (Yuen, 2008). The EDB was thus set up with substantial funds from the government and a mandate to aid in industrialization, economic development, and job creation.

Singapore, like many of its Asian counterparts and other developing countries, first sought economic growth through import-substitution protection for "infant industries" based on pioneer industries and using advanced technologies from the West and Japan to get these new and advanced industries off the ground (Le Blanc, 2008). However, the period of import-substitution was short-lived, lasting only from 1959 through the early 1960s. Singapore with its small labor force and small domestic market, realized the futility of import-substitution policies. Yet, during the 1960s the Singapore did not have adequate capital on its own to invest in its economy and infrastructure, and thus it was deemed essential to attract foreign capital (Siddiqui, 2010).

Consequently, the strategy shifted rather rapidly to export development through promotion of MNC investment (Le Blanc, 2008). And so, while Malaysia and Thailand, with their much larger domestic markets, took the more common route of import-substitution industrialization, Singapore was one of the first countries to seek out MNC investments in the early 1960s, owing to necessity (Natarajan & Juay Miang, 1992). The government realized the importance of creating an environment conducive to

industrialization, and the EDB was tasked with the the challenge of convincing foreigners to invest in the country (EDB, 2013a). A plan was created to provide incentives to foreign companies, and the Jurong Town Corporation (JTC) and the Economic Expansion Act sought to create low cost production sites for foreign investors (Siddiqui, 2010). According to Goh Keng Swee, Singapore was one of the first Asian countries to attract and receive multinational companies and their investments in the early 1960s, when, at the time, the prudence of this strategy was often doubted (Natarajan & Juay Miang, 1992).

### **2.3 Motivations for Foreign MNCs to Invest in Singapore**

Thus, Singapore had the impetus to attract foreign investment to support industrialization, but what motive did foreign MNCs have for investing in Singapore? With recent decolonization from Britain, a new political party, and severed ties and an uneasy relationship with Malaysia, Singapore could hardly have been the most auspicious place for foreigners to invest their money.

Nevertheless, Singapore had many attributes that enabled its success in attracting foreign investment. The country already had some manufacturing operations, many prerequisites for industrializations, and because of the entrepôt trade, fairly extensive infrastructure and a modern banking system. Together with the substantial supply of unemployed Singaporeans, most possessing some education, the country was ready for industrialization (Le Blanc, 2008). The Singaporean government also took steps to increase its pull for foreign investment. New laws were enacted which would lower labor costs and reduce labor union strikes, exchange rates and inflation were successfully managed, and tariffs on imports and duties on exports were set very low (Porter, et al., 2008).

The authors have compiled a list of attributes that made Singapore an attractive investment location for MNCs. These factors are adapted from Edgar Schein's book *Strategic Pragmatism*, as well as a paper on foreign investment in Singapore by Teck-Wong Soon and William A. Stoeber.

- *Geographic Location*
- *Cultural Factors*
- *Government Strategy and Attitudes*
  - *Political Stability and Business Orientation*
  - *Active but Limited Role of Government*
  - *Freedom from Bureaucratic Hassles*
- *General Economic Factors*
  - *Abundance of Cheap Labor*
  - *Open Economy*
  - *Conducive Investment Climate*
- *EDB Characteristics*
- *Infrastructure*

While some of these attributes were already manifested in the 1960s, others have emerged in more recent decades. So although Singapore offered a strong incentive to MNC investment in the 1960s, its changing economy and policies have created even stronger motivations in subsequent decades.

### ***Geographic Location***

The geographic location of Singapore has been and will continue to be one of the country's greatest assets. Its location originally caught the eye of Sir Stamford Raffles and the British in the early 1800s, and set the stage for Singapore's entrepôt trade and its booming port. Later, the geographic location (as well as other incentives) would induce MNCs to make Singapore their regional headquarters for the South East Asian region. Although Singapore itself did not boast a large labor force or domestic market, its location made it ideal to access other Asian markets with large markets that offered customers, suppliers, and raw materials (Schein, 1997).

### ***Cultural Factors***

Due to its colonial ties with the British, Singapore had adopted English law, and accounting systems, as well as a population widely versed in the English language

(Schein, 1997). In the 1960s, at the time of independence, Singapore's population consisted of mostly Chinese, a moderate proportion of Malays and Indians, and a small proportion of Westerners and others. "[Singaporeans] were industrious, thrifty, risk-taking, amenable to training and industrial discipline, and eager to educate themselves and their children" (Soon & Stoever, 1996, p. 332). Many of these already had a significant background in trade, commerce, and banking from working in the transshipment trade, and would enable Singapore to move into a modern, industrializing climate.

### ***Government Strategy and Attitudes***

#### *Political Stability and Business Orientation*

Although Singapore has never been a democratic nation, it has been linked to moderate political and economic leadership since its independence. Prime Minister Lee Kuan Yew was a strong leader for nearly thirty years of Singapore's history, with a firm grasp on his country's populace and capabilities. As such, he was able to take a long-view of political and economic decisions (Soon & Stoever, 1996) Even during Singapore's tumultuous 1950s and 60s, it was widely believed that Singapore's government would continue to follow stable policies of pro-trade and industrialization.

Since the late 1950s, the Singaporean government has shown a high degree of business orientation and proclivity to seek and want industry (Schein, 1997). Singapore showed early attention to labor-intensive, export-oriented investment in the 1960s, when Singapore's separation from Malaysia forced the country to adopt new policies (Soon & Stoever, 1996). Consequently, Singapore became one of the first countries to seek and receive MNC investment. Finally, Singapore's policies throughout the years have led to an near absence of corruption, providing a stable business environment for investors (Schein, 1997).

#### *Active but Limited Role of Government*

The Singapore government took an active role in shaping its development, by creating numerous government-owned corporations with certain industrialization objectives. The

government recognized preferred sectors over time that it sought to capitalize on, and attract investment into, and relied on incentives to reach its goals. As Soon and Stoever (1996, p. 332 ) write, “a number of state-owned corporations were established to promote various industrialization objectives, but even these were supposed to operate under laissez-faire principles and to succeed or fail on their own. The EDB was provided with funds to invest directly in industrial ventures<sup>4</sup>, which in practice went mainly into joint ventures with foreign investors. Its role was to provide seed or venture capital, and it tended to sell off its interests to private investors after the ventures got underway. Thus the multinationals were able to operate in the same competitive market conditions as everybody else”. Finally, strong property rights have been an important facet in attracting foreign investment, as foreigners investing in Singapore did not have to worry about losing their assets to seizure.

#### *Freedom from Bureaucratic Hassles*

Foreign companies faced the same requirements as those placed on locally owned firms. These firms only had to deal with one agency, the EDB, which had significant influence with other agencies on issues of foreign investment proposals (Soon & Stoever, 1996). In many developing countries, foreign investment entailed high amounts of paperwork and bureaucratic hassles. In addition, Singapore has had clearly defined and consistently applied rules, and is well known for cooperating with MNCs in solving problems and using internal cooperation to find a speedy solution (Schein, 1997).

#### ***General Economic Factors***

##### *Abundance of Cheap Labor*

In the 1960s, Singapore offered foreign firms low local labor costs. Singapore, which had undergone a few disastrous labor strikes in the 1950s, had put in place new measures to prevent labor strife and pave the way for pro-business directives (Soon & Stoever, 1996). The government was able to get the labor unions to acquiesce to their policies, which

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<sup>4</sup> The EDB was established by the Singaporean government in 1961 with a budget of \$100 million dollars (Tan, 1999).

would help serve to keep the costs of labor low. While offering low labor costs, Singapore also boasted a comparatively well-educated, widely English speaking, and entrepreneurial labor force. The country would continue to offer foreign firms low cost labor until the mid-1980s when rising wages would force Singapore to readjust its competitive position.

### *Open Economy*

Following the Singapore's withdrawal from the Federation of Malaysia in 1965, Singapore soon began to adopt outward-oriented policies. Besides a few years with tariffs for infant industry protection, Singapore adopted mostly *laissez faire* economic policies. Of the four Asian Tigers, Hong Kong relied the most on a *laissez faire* approach, followed by Singapore, with Taiwan and South Korea more closed and relying on government intervention and foreign aid. Singapore differed from Hong Kong in that it boosted its savings rate by forcing contributions to its Central Provident Fund (CPF). The country then was able to fuel significant investment, and to avoid significant GDP deficits, by channeling funds from the CPF. Singapore also boasted liberal immigration policies for foreign professionals and skilled workers, who faced far fewer challenges in immigrating to Singapore than most other developing countries.

### *Conducive Investment Climate*

A fairly unique characteristic of Singapore's foreign investment policies were the minimal restrictions, while the few restrictions in place for foreign businesses were continually reduced. "The government worked hard to keep Singapore an attractive place to invest. It tried to maintain contacts with investors, learn what their complaints and problems were, and take corrective actions where possible. As a sign of its willingness to safeguard foreign companies' interests, it signed investment guarantees with a number of countries" (Soon & Stoeber, 1996, p. 333). Apart from the oil crisis in the mid 1970s and a couple of years in the early 1980s, Singapore has boasted a low inflation rate since the early 1960s, which has served to reduce investor fears and attract investment (Trading Economics, 2013).

*Labor Training and Subsidies*

As Singapore lacks natural resources, it has recognized the importance of manpower development from the beginning. Consequently, the country began to put stock in investing in education and vocational training. The government has continually upgraded the labor pool, especially from its "Second Industrial Revolution" beginning in 1979, as later sections of this paper will show. In addition, subsidies were offered to foreign enterprises to train and support local labor.

*EDB Characteristics*

In the 1960s, foreign investment was proactively sought by the EDB and by senior ministers of the government, who traveled abroad to promote the country's investment opportunities. EDB satellite sites were soon put in place in New York and Hong Kong, and throughout the years in more and more cities and countries around the world. The EDB proved to be a "one-stop service" for foreign firms, by serving as the point agency in dealing with other Singaporean agencies, and displaying a "can-do attitude" by helping to solve all challenges and problems for foreign firms thinking of investing in Singapore (Schein, 1997).

*Infrastructure*

Early on, Singapore realized the value of improving its infrastructure. In addition to the already established port infrastructure stemming from the entrepôt trade, the government made significant efforts to develop the country's physical infrastructure in the 1960s. The Jurong Industrial Estate, and other industrial estates built in the 1960s, provided all the necessary facilities and services for attracting foreign investment (Soon & Stoeber, 1996). Ongoing development of transportation, telecommunications and financial services, as well as the increased quality and quantity of living amenities, aided in the country's draw for foreign investors. Singapore's port has been upgraded significantly over the years, as well as its roads, water resources, and its housing, the latter three helping to create a clean and safe urban environment (Schein, 1997). Singapore's upgrades in infrastructure have carried over to this day and continue to provide the

country with a comparative advantage. Singapore's port has been the busiest port in the world in measurements of shipping tonnage (Maritime and Port Authority of Singapore, 2013). Changi Airport, which opened in 1981, is one of the most recognized and awarded airports in the world, and currently the 7<sup>th</sup> busiest (Changi Airport, 2013).

## **2.4 Timeline from 1960-1980: The EDB, MNCs and Foreign Investment, and Foreign Labor**

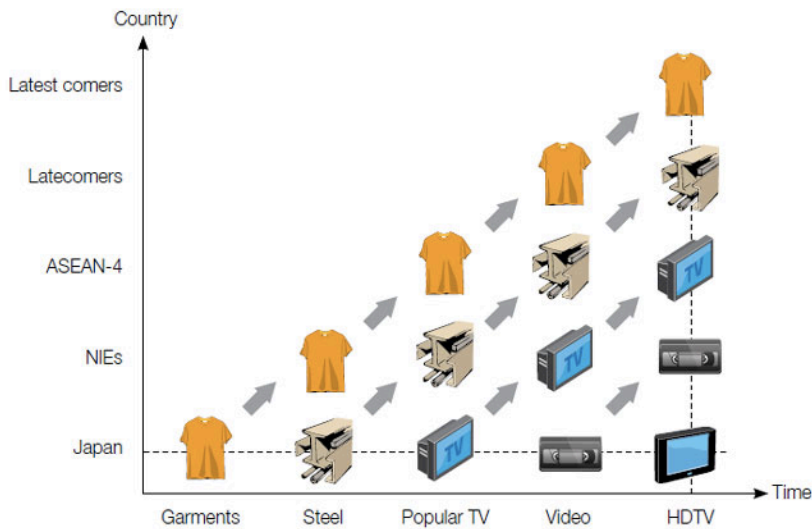
The flying geese pattern of economic development, coined by Akamatsu Kaname in the 1930s, is very relevant in the discussion of Singapore's economic growth story. The theory shows how an underdeveloped country can quite rapidly become developed, by effectively adopting industries from industrialized countries. Products produced are initially simple and cheap, but gradually the products become more expensive and of higher quality. When the procedure is repeated many times, a rapid process of economic development ensues (Korhonen, 1994). As the following model on the structural transformation in Asia shows (Figure 1), the latest comers to industrialization begin with producing garments (shoes, clothing, etc.) which are labor intensive. The latest coming country has a competitive advantage in these labor intensive endeavors because of abundant and cheap labor. Japan, and the NIEs (Asian Tigers), many years previously lost their advantage in garments to other developing Asian countries because of rising wages.<sup>5</sup>

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<sup>5</sup> The newly industrialized economies (NIEs) refer to the four Asian countries of Singapore, Hong Kong, South Korea, and Taiwan who all experienced high levels of economic growth in the second half of the 20<sup>th</sup> century. These countries are also referred to as the Asian Tigers.



**Figure 1**      **Structural Transformation of Asian Economies**



**Source: (Okita cited in Ho, 2012)**

Figure 1 shows that the story of Asian growth has been one of catch-up, and follow the leader. The story began with Japan, which had its own period of playing catch-up with the industrialized countries of the West. It then continued with the NIEs trying to follow Japan's economic success. The ASEAN4 (Indonesia, Malaysia, Thailand, and the Phillipines) then followed the footsteps (economic growth) of the NIEs. The late comers, like China, have sought to follow the ASEAN4, and the latest comers, such as Vietnam (and India), are now followers of the late comers. In the early 1960s, when the authors' story of Singapore starts, the country was underdeveloped and unindustrialized, but on the verge of making its own structural transformation. At this time, Singapore was manufacturing garments, toys, textiles and mosquito coils (Wong, 2007).

Singapore's initial growth strategy in the late 1950s and early 1960s was import substitution, but would soon find out that industrializing behind tariff walls was not viable for a small country with no raw materials (Soon & Stoeber, 1996). These factors would drive Singapore to becoming a harbinger of the export-led, foreign investment driven growth strategy, which would come to be often used and praised among developing countries, especially other South East Asian industrializers. Yet, while other NIEs such as Taiwan and South Korea relied on local entrepreneurs and local capital inputs in their export-led growth strategies, Singapore came to rely primarily on MNC

investments.

The EDB was the government's vehicle for industrialization and attracting foreign investment. According to Dr. Goh Keng Swee,

“To bring about...economic transformation, on which our survival depends, the Government cannot adopt a purely laissez faire attitude. Nor can it play a simple administrative role of just maintaining civil stability and providing the basic essential services. To initiate the road to industrialisation, the Government has to play a positive and direct role. The Economic Development Board (EDB) which we seek to set up under the authority of the Bill now before the House will be the agency of Government to direct this transformation of Singapore's economy.”  
(Goh cited in Wong, 2007, p. 14)

The EDB faced the difficult task of convincing foreigners to invest their money in Singapore, many of whom that could not even place Singapore on a map (Wong, 2007). It engaged in cold calling, interaction with CEOs, and the opening of overseas offices to sell the idea of investing in Singapore (Wong, 2007). Finally, it made the industrial environment of Singapore more attractive, and paved the way for MNC investments, with the creation of several large-scale industrial sites, including the Jurong Industrial Estate. These offered excellent physical infrastructure at subsidized rates, and were even more attractive when combined with the country's relatively skilled yet low cost labor. An early success story of EDB cooperation was the creation of the Jurong Shipyard, which was built through a joint venture between the EDB and a Japanese firm (Soon & Stoeber, 1996).

The government of Singapore would completely embrace the foreign investment strategy by the late 1960s. In 1967, the Economic Expansion Act was introduced which would provide additional fiscal incentives for foreign investment into Singapore (Soon & Stoeber, 1996). In 1968, the government initiated a reorganization of the EDB so as to make the organization's objectives clear. The EDB initially included a Finance Division, an Investment Promotion Division, a Projects Divisions and an Industrial Facilities Division. Both the Industrial Facilities Division (becoming the JTC) and Finance

Division (Development Bank of Singapore) were spun off, so as to leave only Investment Promotion and the Projects Division under the scope of the EDB (Soon & Stoeber, 1996).

At the time, world trade and investment flows were surging and American and European companies sought after new off-shore manufacturing sites (Porter, et al., 2008). This, coupled with Singapore's strong campaign to attract foreign investment, set the stage for Singapore as a viable location for foreign MNCs. Manufacturing factories, especially those involved in electronics, were among the first entrants to Singapore (Porter, et al., 2008). Texas Instruments Singapore, established in 1968, was the first semiconductor company to take advantage of the government's industrialization program (METI, 2003). Their S\$6 million deal to manufacture semiconductors and integrated circuits heralded the beginning of Singapore's electronics industry (EDB, 2013a). By 1969, seven major firms in the electronics industry, including SGS, Fairchild, and National Semiconductor had located plants in Singapore, mostly manufacturing components to be sent back to their American parent companies (Porter, et al., 2008). Philips, which had previously built trading offices in Singapore, and others, such as STMicroelectronics, took advantage of EDB support and began manufacturing operations (Sabhlok, 2001). "Philips...was assisted in manpower sourcing through EDB's network, tax incentives and research grants. STMicroelectronics received assistance in the leasing of land for its factories" (Sabhlok, 2001, p. 29). Tandon established operations in 1971, and Hewlett Packard in 1972, attracted to Singapore because of engineers who spoke English, tax incentives, suppliers, and market availability (Hiratsuka, 2011).

The role and culture of Singapore's EDB are the topic of Edgar Schein's *Strategic Pragmatism*, in which he discussed many of the ways in which the EDB targeted foreign firms in their early years. He wrote of the EDB wooing Hewlett Packard (HP), when the firm was thinking of building a manufacturing facility outside of the United States to capitalize on low labor costs. When Clyde Coombs, the HP employee in charge of relocating manufacturing, thought of Singapore as a suitable country, he telephoned a representative of the EDB. The representative turned out to be a salesman who wouldn't quit until HP would at least agree to visit Singapore and see the country and the operations for themselves (Schein, 1997). HP soon found out that the EDB would provide

one-stop service in making available appropriate tax incentives, lands, facilities, labor, training support, financial aid if needed, and whatever relevant information was required (Schein, 1997). Coombs is reported to have said: "If you asked them about something, it would be on your desk the next day; if other government agencies were involved, they would do all of the negotiating and problem solving for you" (Schein, 1997, p. 20).

While Singapore's focus in the 1960s was on industrial development and tackling the unemployment situation, the 1970s sought to promote high growth by attracting MNC investment in capital and skill-intensive manufacturing, as well as technological upgrading, with electronics continuing as the key industry focus (EDB, 2013a). Finance minister, Hon Sui-Sen proclaimed a ten-point program in 1973 to upgrade the manufacturing sector, including initiatives to:

- ensure an orderly wage policy to maintain Singapore's international competitiveness
- upgrade the labor pool through industrial training, and provide different monetary subsidies for training by high technology industries
- an open-door policy for qualified foreign skilled labor
- a five year tax holiday to certain high technology industries

(Soon & Stoeber, 1996)

All of these initiatives served to reinforce the continued approach to attract foreign investment, especially in the manufacturing sector.

In the 1970s both Singapore and the EDB became more entwined in the global economy, with the EDB creating offices around the world. Between 1971 and 1976, the EDB set up overseas offices in Zurich, Paris, Osaka and Houston (EDB, 2013a). During the middle of the decade, the EDB had become so successful in attracting foreign manufacturers to Singapore that manufacturing surpassed trade as the largest sector of the economy (EDB, 2013a). As manufacturing operations among MNCs in Singapore began to yield economic rewards, some firms extended their undertakings to include R&D activities – "demonstrating their long-term confidence" (EDB, 2013a). The EDB efforts were widely successful, attracting multiplant projects from US companies such as General Electric,

Timex, American Optical, GTE, Bethlehem Steel, Grumman and Lockheed; European companies including Siemens, Olivetti and Beecham, and Japanese firms Sumitomo, Seiko, and Yamazaki (Schein, 1997).

Although government policies to attract foreign investment in the 1960s primarily focused on MNCs in the manufacturing sector, FDI was also sought after in other sectors of the economy. For example, the government was able to attract significant FDI in the shipping sector by opening the shipping registry to those of all nations (Tenold, 2003). In 1969, Singapore lifted restrictions on shipowners wishing to fly the Singaporean flag, which facilitated the growth of the Singapore merchant marine (Tenold, 2003). As a result, within a ten year period, from 1969 to 1979, the Singapore merchant marine grew from approximately 250,000 gross register tons (grt) to roughly eight million grt (Tenold, 2003).

With growing numbers of foreign MNCs and continued industrial upgrading, the necessity of importing foreign skilled labor to work in the MNCs and fill in the knowledge gaps in the higher technology industries became more apparent. From the late 1960s, Singapore began to shift its promotion goals from attracting investment in labor-intensive industries to training labor for capital-intensive and higher-tech industries (Schein, 1997).

“To become attractive to the various higher-tech industries, Singapore now had to become the ‘precision engineering shop’ of Asia and therefore had to develop crash programs to upgrade its labor force. This need, combined with the continuing emphasis on internationalization, led to highly innovative joint deals between the EDB and MNCs like Rollei of Germany and Philips of Holland, and eventually to the creation of joint institutes between Singapore and Germany, France, and Japan. By working with organizations that already had the skills that Singaporeans needed, they were able to speed up the training and move workers directly into apprenticeships and regular jobs. Many of the MNCs were specifically selected as targets by the EDB because of their willingness to enter into jointly sponsored training programs that would quickly enhance the skill

levels of Singaporeans in specific targeted areas. At the same time, young Singaporeans were sent abroad as apprentices to selected companies in Germany and Switzerland.” (Schein, 1997, p. 48)

At the same time, the foreign MNCs operating in Singapore, as well as the authorities themselves, sought foreign skilled labor to bring into Singapore both to fulfill roles in the firms and to mentor Singaporeans. Thus, from the onset, Singapore had an open door policy for skilled and professional foreign workers.

It is interesting to find historical parallels to the economic strategies undertaken by Singapore. Many, including scholars, economists, and governments, look to learn from successful strategies employed by countries, as well as trying not to repeat their mistakes. When people started discussing the “Asian miracle,” many would try to understand the strategies that the countries so successfully employed to experience their economic growth, and to see if they could be replicated. As such, the authors have also tried to find historical parallels throughout the years that coincide with Singapore's strategies, and have been used to attain economic growth for other countries.

The case of Japan in the late 1800s provides an interesting historical parallel to Singapore's early industrialization. Increased factory production in textiles led to Japan's take off in the second half of the 1880s (Taira, 1970). Following the Meiji Restoration in 1868, a flood of Western culture flowed into Japan, bringing different values, education, and management ideas into the country (Taira, 1970). Yet, Japanese government leaders at the time understood that Western technologies could not be used effectively without improved education which would lead to a skilled workforce (Godo & Hayami, 2002). Consequently, like Singapore decades later, Japan recognized that education was paramount to increased economic growth. In the late 1880s, Japan initiated compulsory primary education, and continued to invest very heavily into education for the next several decades trying to catch up with Western countries (Godo & Hayami, 2002). A significant portion of this educational spending went both toward employing foreign skilled workers and sending young Japanese overseas for studies (Murats, 2005). Increasingly by the early 1900s Japanese businesses were run by a new cadre of

managers who were highly educated in Japan and Western countries (Taira, 1970).

While Singapore highly sought after foreign skilled workers, the situation for foreign unskilled labor was quite different. Singapore's biggest problem in the 1950s and 60s was unemployment, and prior to 1968, no foreign unskilled workers were permitted (Low, 1995). However, with the country's industrial upgrading, the entrance of foreign investment, economic growth, and small labor force size, the situation quickly changed from a labor surplus to a labor shortage. The government began to shift its mentality toward unskilled labor as economic growth necessitated more workers to fill labor shortage gaps. Foreign unskilled workers in construction, manufacturing, and domestic services, began to come to Singapore in significant numbers following the deregulation of foreign workers in 1968, many of whom not from the traditional source – Malaysia, but rather from “non-traditional sources” such as India, Bangladesh and Thailand (Chia, 2011). Pang and Lim (1982) write that during a high period of economic growth in 1973, the number of non-citizen work permit holders was around 100,000, at the time about one-eighth of the labor force.

In the 1970s work permits for foreign unskilled laborers were introduced, including permits for foreign domestic workers (FDWs) which would enable higher numbers of female Singaporeans in the workforce, and levies for workers in the construction sector (Chia, 2011). However, at this time the permits for workers from Malaysia were significantly less burdensome than those for workers from other countries (Chia, 2011). These permits and levies have remained to this day, as a way for Singapore to control the number of low-skilled foreign workers.

A wholly Singaporean workforce became unrealistic, and foreign labor grew, reflected in 72,590 noncitizen and nonresident (foreign) workers in 1970 and 119,483 in 1980, or 11.15 percent and 11.09 percent of the total labor force, respectively (Census of Population, 1970 & 1980, referred in Low, 1995). In response to the fast increasing number of foreign workers, the government established in 1979, a “corrective” high-wage policy to somewhat reduce reliance on foreign labor (Pang & Lim, 1982). However, during the three year when the policy was in place, labor shortages continued to rise,

along with wages, which caused supply bottlenecks, particularly in the construction sector (Pang & Lim, 1982). As it became more difficult to recruit more low-skilled workers from Malaysia due to increasing demand for labor and growing wages there, in mid-1981 the government liberalized importation of all skilled and unskilled workers from both traditional and non-traditional sources for a two year period (Pang & Lim, 1982).

Government leaders spun the benefits of increasing foreign workers to the Singaporean public, portraying foreign labor competition as a means to rouse Singaporeans to work harder. Prime Minister Lee Kuan Yew, said in 1976, “[immigrants] will do many jobs better than the next generation Singaporean would because the next generation Singaporean will have been brought up in an easier environment that has not deprived him of enough basic necessities to make him really want to work so hard” (Lee cited in Pang & Lim, 1982, p. 551). Goh Chok Tong, the Minister for Trade and Industry echoed these sentiments of foreign labor rousing the competitive spirit of Singaporeans: “There is nothing like the bitter, real-life experience of having to hunt for a job, and finding it difficult to get one, to make Singaporeans take seriously the call to increase productivity” (Goh cited in Pang & Lim, 1982, p. 551).

Similar to the parallel between Singapore's attraction of foreign skilled labor (foreign talent) with Japan's previous endeavors of attracting foreign knowledge and foreign skilled workers, history is full of examples of countries that have chosen to recruit and effectively utilize foreign unskilled labor. The United States built many of its railroads in the late 1800s using primarily Chinese immigrants, as well as some Irish immigrants. In recent years, many industrialized European countries have effectively utilized foreign unskilled workers to fill in gaps in their labor force; often hiring workers from less developed Eastern European countries. Norway has seen the Polish become their largest immigrant group, with many working in manual labor jobs, and significant numbers in construction. Germany has had an influx of foreign unskilled workers from Turkey, and more recently those from Bulgaria and Romania. Some of these countries, like Singapore, have enacted different legislative approaches to restrict excessive foreign unskilled labor immigration. For example, in the case of the United States, after the Transcontinental Railroad was finished, and amidst rising unemployment and increasing racial tensions,



the government passed the Chinese Exclusion Act of 1882 designed to almost entirely exclude Chinese immigration (U.S. Department of State. Office of the Historian, 2013).

The following tables show the result of Singapore's economic policies in the 1960s and 1970s, and their positive effect with regard to foreign investment, GDP, and GDP per capita. Table 2 shows FDI into the four NIEs (Singapore, Hong Kong, Taiwan, and South Korea) as well as other Asian emerging economies (Indonesia, Malaysia, the Philippines, and Thailand) from 1970-1979<sup>6</sup>.

**Table 2 Foreign Direct Investment into Select Asian Developing Economies 1970-1979 (In S\$ Million)**

Country	Year									
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
China, Hong Kong	50	59	110	271	153	377	255	274	477	648
China, Taiwan	62	53	3	62	83	34	71	51	114	126
Indonesia	145	299	254	581	182	1,292	748	235	418	226
Malaysia	94	100	114	172	571	350	381	406	500	573
Phillippines	-1	22	4	59	131	114	154	210	101	7
<b>Singapore</b>	<b>93</b>	<b>116</b>	<b>161</b>	<b>353</b>	<b>340</b>	<b>292</b>	<b>231</b>	<b>291</b>	<b>300</b>	<b>836</b>
South Korea	66	42	496	4	2	6	5	132	169	172
Thailand	43	39	69	78	188	86	79	106	56	55
<b>Singapore FDI*</b>	<b>16.85</b>	<b>15.89</b>	<b>13.29</b>	<b>22.34</b>	<b>20.61</b>	<b>11.45</b>	<b>12.01</b>	<b>17.07</b>	<b>14.05</b>	<b>31.63</b>
	%	%	%	%	%	%	%	%	%	%

\* as a Percentage of ALL Selected Asian Developing Economies

Source: (UNCTADstat, 2012)

Per Table 2, for most of the 1970s, Singapore did not witness a very high amount of FDI inflows. It wasn't until the initiation of Singapore's "Second Industrial Revolution" in 1979 that foreign investment began to surge into the country; this will be discussed in the following section. In that year, Singapore received the largest amount of FDI compared to these other Asian developing economies (UNCTADstat, 2012).

Table 3, using data from Angus Maddison (2010), shows the GDP and GDP per capita of Singapore from 1960 to 1979 using 1990 international Geary-Khamis dollars.

<sup>6</sup> Data from the UN on foreign investment is not available before 1970.

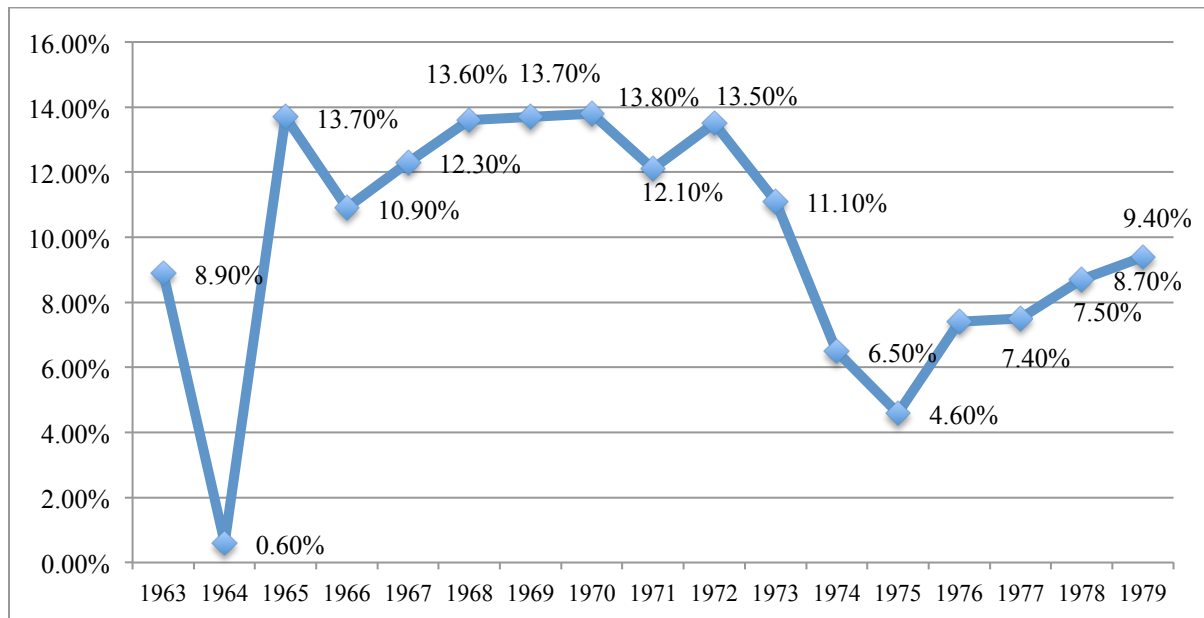
**Table 3** Singapore GDP (million 1990 International GK dollars) and GDP per capita 1960-1979

<b>Year</b>	<b>GDP</b>	<b>GDP per capita</b>
1960	3,803	2,310
1961	4,123	2,422
1962	4,411	2,520
1963	4,848	2,701
1964	4,680	2,541
1965	5,033	2,667
1966	5,593	2,891
1967	6,255	3,163
1968	7,123	3,540
1969	8,098	3,965
1970	9,209	4,439
1971	10,362	4,904
1972	11,752	5,460
1973	13,108	5,977
1974	13,994	6,276
1975	14,549	6,430
1976	15,588	6,797
1977	16,797	7,224
1978	18,245	7,752
1979	19,932	8,362

**Source: (Maddison, 2010)**

As Table 3 shows, Singapore witnessed extraordinary growth in both GDP and GDP per capita from 1960 to 1979. GDP more than quintupled, and GDP per capita almost quadrupled during this period. In essence, both Singapore's economy and the standard of living were dramatically improving.

Chart 2, below, shows Singapore's GDP growth rates from 1963 to 1979.

**Chart 2** Singapore GDP growth rates 1963-1979

**Source:** (UNdata, 2013)

According to Chart 2, Singapore averaged 9.9 percent annual growth from 1963 to 1979. If we start from 1965, the year of Singapore's independence, then the growth rate through 1979 is 10.6 percent annually. The only minor slump during this time occurred in 1974 and 1975 when the oil shocks brought the world into a recession.

A significant, if not overwhelming, reason for the phenomenal economic success of Singapore during this period were the government's policies to embrace foreign MNCs, and to a lesser extent foreign labor. Singapore's policies in the 1960s with regard to attracting foreign investment helped to solve the problems of unemployment and low savings, and would be a blueprint for economic growth for decades to come. According to Tenold (2003, p. 258),

“In the manufacturing sector, the inflow of investment capital was characterized by the multinational companies which came to dominate the country's export sector and lay the foundation for the transformation of the Singapore economy from a developing to a developed country, and from a stable entrepôt to an exporter of high-technology manufactures.”

The entrance of foreign MNCs in Singapore created the necessity to import foreign skilled workers in growing numbers. These workers, mostly from the U.S. and Europe, would fill in skill gaps in professional, administrative, managerial, and technical positions and also act as conduits to enhancing the skills of Singaporean workers through knowledge transfer. As Singapore's economic situation began to turn around, unemployment became a labor shortage. Singapore was a small country with a small labor force, and so it soon became necessary for the country to bring in not only foreign talent, but also foreign unskilled labor. While at first the foreign workers came mostly from Malaysia, soon enough the labor influx was broadened to include non-traditional sources from the rest of neighboring and developing Asia.

## Chapter 3 Foreign MNCs and Labor in the 1980s

### 3.1 Introduction: The Foreign Dimension in the 1980s

The 1980s were a pivotal decade for Singapore and its further growth and industrialization. From 1979 to 1985, Singapore would undergo its “Second Industrial Revolution”, adopting new and bold economic restructuring policies (Rigg, 1998). The decade would see Singapore continue to very successfully attract foreign investment through new promotion efforts. The government and the EDB would begin the *dynamic sectoral allocation* of FDI and industries that would signal its movement forward in the flying geese pattern, and would come to be a cornerstone of the country's economic success. The EDB would push foreign MNCs not only to invest in their country, but also to make Singapore their total business center for the Asian region. New policies and training programs would be implemented to increase the skill set of Singapore's labor, and foreign labor would become a much greater part of Singapore's landscape. Foreign firms would begin to have a very palpable influence on the Singaporean economy, both with regards to production and employment. Finally, Singapore would show its mettle in the middle of the decade, as the government would implement counteractive policies to overcome a brief recession.

#### *Foreign Investments and Labor in the Early 1980s*

By the early 1980s, Singapore had already become somewhat dependent on foreign firms. The subsequent tables, primarily focused on the early 1980s, show the organization of Singapore's economy and the foreign dimension of influence (foreign firms and labor).

Table 4 presents the number of companies by type of ownership in 1970, 1976, and 1981.

**Table 4**      **Number of companies in Singapore by type of ownership, selected years**

<b>Type of Ownership</b>	<b>1970</b>	<b>1976</b>	<b>1981</b>
Wholly local	1,891 (52.4%)	6,978 (62.1%)	14,258 (66.9%)
Majority local	750 (20.8%)	1,895 (16.9%)	2,762 (12.9%)
Majority foreign	296 (8.2%)	732 (6.5%)	1,336 (6.3%)
Wholly foreign	671 (18.6%)	1,636 (14.5%)	2,967 (13.9%)
<b>Total</b>	<b>3,608</b>	<b>11,241</b>	<b>21,323</b>

**Source: Government of Singapore, Department of Statistics, "Foreign Investments in Singapore," in Economic Survey of Singapore, First Quarter 1984 (MTI, 1984) as presented in Soon and Stoeber (1996: Table 3)**

From 1970 to 1981, the number of companies in Singapore increased drastically. At first glance, one notices the increased proportion of wholly local owned companies from 1970 to 1981, while the proportion of all of the other types of companies (majority local, majority foreign, and wholly foreign) declined during the same period. Relying on these proportions and numbers, one might logically assume that the engine for Singapore's growth was the increase in locally owned companies. This is most likely an incorrect assumption. Most of the newly created wholly local companies were probably small, and family businesses, while most of those with some part foreign ownership were likely larger companies. The absolute number of companies with some foreign participation (majority local, majority foreign, and wholly foreign) roughly quadrupled in the eleven year period.

Table 5 shows the distribution of the foreign investment by sector in 1981.

**Table 5**      **Distribution of Foreign Equity Investment in Singapore by Economic Sector, 1981**

<b>Economic Sector</b>	<b>S\$ Million</b>	<b>Percentages</b>
Manufacturing	8,203.1	48.9
Construction	224.3	1.3
Trade	2,726.5	16.2
Financial and business services	4,904.2	29.2
Others	727.1	4.4
<b>Total</b>	<b>16,785.2</b>	<b>100</b>

**Source:** Government of Singapore, Department of Statistics, "Foreign Investments in Singapore" as presented in Soon and Stoeber (1996: Table 4)

In 1981, nearly half (48.9 percent) of foreign investment in Singapore was in the manufacturing sector. Financial and business services (29.2 percent) attracted significant investment as well. Likely the growth of the financial and business services sector coincided with that of the MNCs, as they would help to serve and finance these companies. Trade (16.2 percent) was also a continued engine of growth.

It is important to look closer at the manufacturing sector, as it represented the lion's share of foreign investment. Table 6 shows the amount of foreign investment that went into the manufacturing sector from 1965 to 1993, both annually and cumulatively.

**Table 6**      **Foreign Investment (Gross Fixed Assets) in the Manufacturing Sector in Singapore, 1965-1993 (In S\$ Million)**

<b>End of Year</b>	<b>Annual Amount</b>	<b>Cumulative Amount</b>
<b>1965</b>		157
<b>1966</b>	82	239
<b>1967</b>	64	303
<b>1968</b>	151	454
<b>1969</b>	146	600
<b>1970</b>	395	996
<b>1971</b>	580	1,575
<b>1972</b>	708	2,283

<b>End of Year</b>	<b>Annual Amount</b>	<b>Cumulative Amount</b>
<b>1973</b>	376	2,659
<b>1974</b>	395	3,054
<b>1975</b>	326	3,380
<b>1976</b>	359	3,739
<b>1977</b>	406	4,145
<b>1978</b>	1,097	5,242
<b>1979</b>	1,107	6,349
<b>1980</b>	1,171	7,520
<b>1981</b>	1,073	8,593
<b>1982</b>	1,014	9,607
<b>1983</b>	1,516	11,123
<b>1984</b>	1,057	12,180
<b>1985</b>	980	13,160
<b>1986</b>	960	14,120
<b>1987</b>	1,710	15,830
<b>1988</b>	2,301	18,131
<b>1989</b>	3,393	21,524
<b>1990</b>	2,609	24,133
<b>1991</b>	1,698	25,831
<b>1992</b>	2,734	28,565
<b>1993</b>	3,177	31,742

**Note: Foreign Investment (Gross Fixed Assets) excludes cost of land; it is based on EDB's Survey of Actual Investment by Foreign Manufacturing Companies**

**Source: Government of Singapore, Economic Development Board (EDB), Annual Report, various years as presented in Soon and Stoeber (1996: Table 1)**

As Table 6 shows, manufacturing investment really took off from 1978, and to the greatest extent from 1987 onwards. One can also see the slightly lower amounts of investment in 1985 and 1986 when Singapore was experiencing a recession.

Table 7 shows the largest investors in Singapore's manufacturing sector in certain years



from 1967 to 1992.

**Table 7 Cumulative Foreign Investment in the Manufacturing by Source Country for Selected Years (In S\$ Million)**

Source Country	1967	1973	1978	1984	1987	1990	1992
United States	27 (8.9%)	992 (37.3%)	1,601 (30.5%)	3,649 (30.0%)	5,258 (33.2%)	8,037 (33.3%)	9,678 (33.9%)
Japan	31 (10.2%)	237 (8.9%)	801 (15.3%)	2,874 (23.6%)	4,162 (26.3%)	7,546 (31.3%)	9,093 (31.8%)
Europe	148 (48.8%)	954 (35.9%)	2,005 (38.2%)	4,139 (34.0%)	4,754 (30.0%)	7,161 (29.7%)	8,331 (29.2%)
UK	85 (28.1%)	390 (14.7%)	791 (15.1%)	1,590 (13.0%)	1,896 (12.0%)	2,853 (10.7%)	2,860 (10.0%)
Netherlands	62 (20.5%)	381 (14.3%)	904 (17.2%)	1,558 (12.8%)	1,685 (10.6%)	2,818 (11.7%)	3,367 (11.8%)
Germany	1 (0.3%)	102 (3.8%)	144 (2.7%)	262 (1.9%)	366 (2.3%)	488 (2.0%)	666 (2.3%)
Other European	-	81 (3.0%)	166 (3.2%)	728 (6.0%)	807 (5.1%)	1,272 (5.3%)	1,438 (5.0%)
Others	97 (32.0%)	476 (17.9%)	835 (15.9%)	1,518 (12.5%)	1,086 (6.9%)	1,388 (5.8%)	1,463 (5.1%)
<b>Total</b>	<b>303</b>	<b>2,659</b>	<b>5,242</b>	<b>12,180</b>	<b>15,830</b>	<b>24,113</b>	<b>28,565</b>

**Source: Government of Singapore, EDB, Annual Report, various years as presented in Soon and Stoever (1996: Table 2)**

In the late 1960s, almost half (48.8 percent) of the foreign investment in the manufacturing sector was from Europe, and almost exclusively from the UK (28.1 percent) and the Netherlands (20.5 percent). In 1973, the US became the largest source of foreign investment in the manufacturing sector (37.3 percent). By the late 1980s, the US, Europe, and Japan all had similar shares of investment in Singapore's manufacturing sector. In 1992, the US (33.9 percent), Europe (29.2 percent), and Japan (31.8 percent) made up 94.9 percent of the foreign investment in the manufacturing sector. Lastly it is interesting to see that the cumulative foreign investment that came from outside the US,

Europe, and Japan steadily decreased over time, from 32 percent in 1967 to 5.1 percent in 1992.

While the previous tables gave a look at foreign investment into Singapore post-independence, the following two tables show how foreign labor had already gained a foothold in Singapore by 1980. Table 8 contains statistics on Singapore's working population in 1980.

**Table 8**      **Statistics on the Characteristics of Resident and Non-Resident Workers in Singapore, 1980**

	Singapore Residents		
	Citizens	Non-Citizens <sup>7</sup>	Non-Residents <sup>8</sup>
<b>Number</b>	957,607	40,208	79,275
a. Female	34.9%	28.2%	31.1%
b. Chinese	79.4%	49.7%	56.1%
c. Malays	13.5%	25.5%	18.4%
d. Aged 30	53.2%	32.7%	60.1%
e. Single	47.5%	29.0%	55.9%
<b>No Qualification/Primary</b>	72.1%	77.7%	74.7%
<b>Tertiary</b>	2.8%	8.3%	10.7%
<b>In Manufacturing</b>	28.6%	34.0%	46.1%
<b>In Construction</b>	5.5%	8.4%	20.2%
<b>In Trade</b>	22.3%	22.1%	9.4%
<b>In Personal and Household Services</b>	3.3%	7.0%	7.4%
<b>Manufacturing Workers in</b>			
a. Textile, Garments and Leather	12.9%	19.9%	27.8%
b. Wood and Wood Products	5.8%	10.2%	12.8%
c. Electrical and Electronics	27.2%	23.2%	16.6%
d. Transport Equipment	11.3%	10.8%	11.1%
<b>Professional and Technical</b>	8.7%	9.6%	9.9%
<b>Administration and Managerial</b>	4.4%	7.3%	8.6%
<b>Clerical and Sales</b>	30.0%	19.1%	5.3%
<b>Production and Related Workers</b>	38.2%	45.5%	64.5%

Source: Compiled from tables in Singapore, Department of Statistics, *Census of Population 1980*, release no. 4 Singapore: Singapore National Printers, 1981 as presented in Pang and Lim (1982: Table 1)

Table 8 shows the sex, age, marital status, and education compositions of citizens and foreign workers (non-citizens and non-residents) in 1980. At this time, Singapore's labor

<sup>7</sup> Non-citizens refer to those that are permanent residents of Singapore but not citizens.

<sup>8</sup> Non-residents are those who are working, living, or studying in Singapore on a non-permanent basis.

force contained almost 1.1 million workers, and of these about 120,000 (11 percent) were foreign workers (40,208 non-citizens and 79,275 non-residents). Among citizens, women made up only 34.9 percent of the labor force, but the proportion of women workers was even lower for foreign workers (28.2 percent female non-citizens workers and 31.1 percent female non-residents workers). The table shows that the Chinese made up the largest ethnic group among citizens (79.4 percent), non-citizens (49.7 percent), and non-residents (56.1 percent) with the Malays coming a distant second in all three groups.

With regard to age, 53.3 percent of citizens are aged 30 or above compared to only 32.7 percent of non-citizens, but less than the 60.1 percent of non-residents. Foreign workers have higher levels of education than Singaporean citizens; 8.3 percent of non-citizens and 10.7 percent of non-residents had tertiary education as compared to only 2.8 percent of citizens. As this chapter will soon show, one of the major initiatives undertaken by Singapore in the 1980s was to upgrade its labor force by improving training programs and expanding education. The authors have already shown that manufacturing was the largest sector for foreign investment at this time, but it is also interesting to point out here that manufacturing workers were most likely to be in either electrical and electronic manufacturing or in textile, garments and leather. As Singapore had made a large push to attract foreign investment in electronics in the late 1960s and 1970s, it is no surprise that electronics had a significant share of Singapore's manufacturing in 1980. It is a bit more surprising to see that textile, garments, and leather still had a large share itself, considering that this sector is considered to be the initial building block on the flying geese pattern. It could be assumed that Singapore was still in the midst of transition on the pattern, beginning to move forward, yet still retaining a bit from the past. The other, and perhaps more likely, explanation is that the industry of textiles, garments, and leather involved primarily locally owned businesses, without significant foreign ownership.

Finally it is important to note that foreign workers are more highly represented among certain occupational sectors. For example manufacturing and construction workers, production and related workers, and also a much higher percentage of administrative and managerial occupations. Table 9 shows the percentages of workers by occupational group in 1980, and validates the statements above.

**Table 9 Working Persons by Occupational Group Industry and Residential Status, 1980**

	Total		Singapore Residents		%
	Persons	%	Citizens	Non-citizens	Non-residents
<b>By Occupational Group</b>					
<b>Total</b>	<b>1,077,090</b>	<b>100.0</b>	<b>88.9</b>	<b>3.7</b>	<b>7.4</b>
Professional and Technical	95,145	100.0	87.7	4.1	8.2
Administrative and Managerial	52,175	100.0	81.4	5.6	13.0
Clerical	167,473	100.0	97.7	1.4	0.9
Sales	131,977	100.0	93.9	4.0	2.1
Services	112,196	100.0	87.4	5.3	7.3
Agricultural Workers and Fishermen	20,954	100.0	92.9	4.2	2.9
Production and Related Workers	434,996	100.0	84.0	4.2	11.8
Not Classifiable	62,174	100.0	98.2	1.0	0.8
<b>By industry</b>					
<b>Total</b>	<b>1,077,090</b>	<b>100.0</b>	<b>88.9</b>	<b>3.7</b>	<b>7.4</b>
Agriculture and Fishing	16,962	100.0	94.0	3.4	2.7
Quarrying	1,139	100.0	84.0	4.0	11.9
Manufacturing	324,121	100.0	84.5	4.2	11.3
Utilities	8,464	100.0	94.6	4.4	1.0
Construction	72,346	100.0	73.2	4.7	22.1
Trade	229,759	100.0	92.9	3.9	3.3
Transport and Communication	119,917	100.0	93.8	2.7	3.5
Financial and Business Services	79,412	100.0	91.9	3.2	5.0
Other Services	224,554	100.0	92.0	3.3	4.7
Not Classifiable	416	100.0	95.2	2.6	2.2

**Source: Compiled from tables in Singapore, Department of Statistics, *Census of Population 1980*, release no. 4 Singapore: Singapore National Printers, 1981 as presented in Pang and Lim (1982: Table 2)**

Foreign workers represented 11 percent of Singapore's workforce in 1980, and made up even larger shares of certain occupational groups (12.3 percent of professional and technical positions, 18.6 percent of administrative and managerial positions, 12.6 percent

of service occupations, and 16 percent of production and related workers). In terms of industries, foreign workers accounted for 16 percent of quarrying, 15.5 percent of manufacturing, and a high 26.8 percent of workers in the construction industry.

From Table 9, we can infer that both foreign skilled and unskilled workers had a palpable influence in certain occupations. Just non-residents, not taking into account foreigners that were non-citizens, represented 8.2 percent of professional and technical jobs, 13 percent of administrative and managerial jobs, and 7.3 percent of service jobs; likely almost all of these were foreign skilled workers. Fully 22.1 percent of construction workers were non-residents of Singapore; most of these likely unskilled laborers from regional countries.

Table 10 shows an estimation of the numbers and origins of foreign workers in Singapore with data used from the census in 1980.

**Table 10** Estimates of Foreign Workforce in Singapore by Source and Resident Status<sup>a</sup>

	Permanent Residents (non-citizens) <sup>b</sup>		Non-residents
Malaysia	17,446		80,000+
Indonesia	1,322		4,000+
China and Taiwan	965		1,300+
South Asia (b)	4,160		30,000+
Other Asian (c)	9,326		
Europe	8,787		1,200
U.S.A. and Canada	3,408		277
Other	231		68
Unknown	19,152		630
Subtotal	64,797		97,475
<b>TOTAL</b>		<b>162,27</b>	

**Notes:** <sup>a</sup> Country estimates for noncitizen resident and nonresident workers was derived by taking the population in Singapore of permanent resident and nonresidents from each country and multiplying these by the labor force participation rate for permanent residents and nonresidents, respectively.

<sup>b</sup> Includes Bangladesh, India and Sri Lanka.

<sup>c</sup> Primarily Thailand and the Philippines.

**Sources:** *Census of Population, 1980*. Releases Nos. 2 and 4. As presented in Stahl (1984: Table 1)

The majority of the immigrant workers in Singapore in 1980, according to the estimates, came from Malaysia. Yet, even this data is assumed to be conservative, and does not take into account the Malaysians that commute daily for work to Singapore from nearby Johor (Stahl, 1984). Other popular origins of foreign workers in Singapore in 1980 were other South Asian countries, with a small percentage coming from Europe and North America.

Table 11 shows population statistics of Singaporean citizens by country of birth.

**Table 11** Population by Country of Birth, Singapore Citizenship and Sex

Country of Birth	TOTAL			SINGAPORE CITIZENS		
	Persons	Males	Females	Persons	Males	Females
<b>Singapore</b>	<b>1,886,793</b>	<b>965,050</b>	<b>921,743</b>	<b>1,875,260</b>	<b>959,484</b>	<b>915,776</b>
Outside Singapore	527,152	266,710	260,442	319,020	158,875	160,145
Peninsular Malaysia	228,349	111,939	116,410	100,906	47,556	53,350
Sabah-Sarawak	4,813	2,193	2,620	2,232	911	1,321
Indonesia	27,113	13,024	14,089	16,220	8,633	7,587
Philippines and Thailand	5,826	2,046	3,780	711	299	412
China, Hong Kong, and Taiwan	189,262	90,787	98,475	171,703	82,297	89,406
India, Pakistan, Bangladesh, and Sri Lanka	42,379	30,448	11,931	24,900	18,050	6,850
Other Asian Countries	11,109	6,123	4,986	1,129	529	600
Others	18,301	10,150	8,151	1,219	600	619
<b>Total</b>	<b>2,413,945</b>	<b>1,231,760</b>	<b>1,182,185</b>	<b>2,194,280</b>	<b>1,118,359</b>	<b>1,075,921</b>

**Sources:** Compiled from *Census of Population, 1980, Singapore*. Release No. 2, Table 5 As presented in Stahl (1984: Table 2)

According to Table 11, besides the already significant numbers of non-residents and non-citizens in Singapore in 1980, the country had already naturalized many foreign born persons. According to the table, 319,020 people who were not born in Singapore, were subsequently granted Singaporean citizenship. When this is added to the numbers of foreign people living and working in Singapore without citizenship status, estimated between 160,000 and 220,000 in 1980, then we can see that Singapore had significant foreign representation in the population and the work force (Stahl, 1984). This shows that Singapore was able to acquire a significant amount of human capital that was paid for

elsewhere (Stahl, 1984). People born in Peninsular Malaysia, not surprisingly, represented the largest group overall in terms of total Singaporean residents, but people born in China, Hong Kong, and Taiwan represented the largest group that subsequently became Singaporean citizens.

### **3.2 “The Second Industrial Revolution”**

The efforts of the Singaporean government and the EDB would continue to attract foreign investment and make Singapore a trailblazer in South East Asia in the early 1980s. Singapore would boast South East Asia's first silicon wafer manufacturing plant and first Apple plant in 1981 (EDB, 2013a). The EDB would continue its global expansion in the 1980s by creating 22 overseas offices in the United States, Europe and Japan to attract international business projects (Soon & Stoeber, 1996). The policies initiated in the late 1970s and early 1980s would come to be called Singapore's “Second Industrial Revolution,” and would make Singapore an attractive place for foreign investment for many years to come.

Prior to 1980, MNCs were largely attracted to Singapore because of the low cost of labor for manufacturing operations. As economic growth in Singapore was causing wages to increase, MNCs started looking elsewhere to set up operations. The new policy initiatives sought to restructure and transform Singapore into a high-technology based economy, with higher skilled labor, and provide new investment outlets for foreign firms (Chellaraj, et al., 2009). Prime Minister Lee Kuan Yew said of the new direction of Singapore's economy, “All sectors of the economy have to mechanize, automate, computerize, and improve management; or relocate their factories” (Lee cited in Tan, 1999, p.7). According to one source, Singapore adopted industrial policies which included “a formidable mix of institutional devices and incentives that are designed to reward the firm that upgrades and in some way punishes the firm that does not do so” (Hakam, 1985, p. 99).

The policies also set the stage for Singapore's entry into more advanced industries. Goh Chok Tong, wrote in the 1981 budget, “Textiles, shoes, furniture-these are subject to high tariff and import quotas beyond control. The prime objective of the plan is to develop

Singapore into a modern industrial economy based on science, technology, skills and knowledge” (Goh cited in Schein, 1997, p. 49). As such, labor-intensive industries were to be phased out in favor of knowledge-based technological and service industries. Whereas in the past global competitiveness meant keeping wages low, now Singapore sought to maintain competitiveness by upgrading the quality of its labor force and its industries as a whole. Consequently, the goals of the policies (and indeed their effects), would be to upgrade Singapore's workforce and to usher in Singapore's era of *dynamic sectoral allocation*, which are the focus of the following sub-sections.

### ***Labor Upgrading***

In order to promote foreign investments in the desired higher-technology industries, it was necessary for Singapore to upgrade its labor force. The “Second Industrial Revolution” was partly based on the foresight of EDB and government planners that they would need higher levels of training and development of Singaporean workers to attract foreign investment into newer and more advanced sectors of the economy (Schein, 1997). Two programs were specifically targeted to upgrade Singapore's labor force. (Rigg, 1998). The first, the Skills Development Fund, would provide subsidies to companies for labor training, and would also offer monetary incentives to encourage overall upgrading (automation, mechanization, etc.) (Soon & Stoeber, 1996). This fund would reimburse employers 70 percent of the costs for retraining workers in specific activities (Rigg, 1998). The second, the Vocational and Industrial Training Board was set up to raise educational levels, specifically in engineering and the sciences in higher education.

### ***Dynamic Sectoral Allocation***

The other important facet of the new policies, and more pertinent to our discussion on the foreign dimension of Singapore's growth, was the shift in Singapore's prioritized sectors of investment. As this process would continue to shift throughout Singapore's growth, the authors refer to it as Singapore's *dynamic sectoral allocation*. Singapore had yet to be considered an “Asian Tiger” or to be considered in talks of Asian “economic miracles,” but a good starting point to these discussions would be this shift in sectoral allocation.



The policies attempted to shift Singapore further along the flying geese pattern by prioritizing and attracting investment in more advanced and diversified industries. Singapore would move from simple to more sophisticated products, and from consumer goods to more capital goods. Soon and Stoeber (1996, p. 327) write of the industries that were prioritized during Singapore's "Second Industrial Revolution:"

"[The EDB] designated 11 primary and supporting industries as targets for promotion: automotive components, machine tools and machinery, medical and surgical apparatus and instruments, specialty chemicals and pharmaceuticals, computers, computer peripheral equipment and software development, electronic instrumentation, optical instruments and equipment, advanced electronic components, precision engineering products, and hydraulic and pneumatic control system."

The labor upgrading discussed previously went hand-in-hand with industry upgrading, as more skilled workers would be needed for these specialized industries. "The emphasis on education and training shifted from training skilled technicians to increasing the number of graduate engineers and expanding the whole technical education sector" (Schein, 1997, p. 49).

The authors would like to briefly discuss the importance of the *dynamic sectoral allocation* strategy to Singapore's economic success. Alwyn Young, and later Paul Krugman wrote articles on the "Asian miracle," both arguing that there really wasn't an "economic miracle" that occurred in Singapore, and the other Asian Tigers, but rather only a remarkable mobilization and utilization of factor inputs. They argued that as Singapore and the other Tigers did not rely on growth through increased total factor productivity (TFP), the growth would inevitably level off in Singapore and the others because of diminishing returns from factor inputs (Rajan, 2012).

Yet, by adopting the new strategy of *dynamic sectoral allocation*, and due to technology embodied in capital, Singapore did not in fact witness these diminishing returns. The new foreign investments into Singapore from its *dynamic sectoral allocation* "embodied new technologies that would significantly improve the efficiency of the productive process"

(Fogel, 2009). Many economists (Young, Krugman), discussing the “Asian miracle,” thought that without a large residual (without significant TFP growth) the growth of the Asian Tigers (due to an increase of factor inputs) was due to movements along the production function, subject to diminishing returns (Rajan, 2012). However, another viewpoint, is that because Singapore continually and effectively mobilized resources into higher technology sectors, and due to technology embodied in capital, Singapore (as well as the other Tigers) was able to grow without diminishing returns; i.e. growth did not solely come from movements along the production function, but rather *shifts* along the production function (Rajan, 2012). According to Nelson and Pack (1998, p.4), “The ability to hold off diminishing returns is a reflection of the fact that the NICs<sup>9</sup> could draw on a very extensive frontier of technologies that already were in use in other countries. The richness of the frontier was manifest in the fact that the ‘elasticity of substitution’ was high”.

To be sure, adopting the technologies of the advanced countries required, among other things, high rates of investment in physical and human capital, and the NIEs achieved these high rates (Rajan, 2012). Nelson and Pack (1998, p. 10) add, “The basic issue in question is how much of experienced growth of output per worker can be ascribed simply to the large experienced increases in physical and human capital per worker that were achieved over the period between 1960 and 1995, and without recourse to the argument that the production function ‘shifted’”. Additionally, the paper by Nelson and Pack brings up important points in relation to Singapore and its foreign dimension of growth in the 1980s. The high foreign investment that would come into higher technology sectors in Singapore as a result of its new strategy would necessitate more investment into human capital. Thus, it plays into the government’s policies to concurrently upgrade its labor force. Nelson and Pack (in the above quote) argued that the high frontier of technologies resulted in “elasticity of substitution.” Singapore was thus able to adopt its strategy of *dynamic sectoral allocation* very effectively, as the country could continually mobilize its resources into newer and higher technology sectors, move up in the flying geese pattern, shift its production function, and without experiencing diminishing returns. The strategy

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<sup>9</sup> NICs refer to Newly Industrialized Countries, which in this case refer to the NIEs, or Asian Tigers – Singapore, Hong Kong, Taiwan, and South Korea.

relied on an increase in skilled foreign labor, as technology transfer into Singapore from industrialized countries would necessitate foreign skilled laborers to assist with the use and training of the new technology.

The success of Singapore's promotion efforts were quick and profound, helping to increase foreign investment in the desired areas. Net investments into Singapore were very high in the first half of the 1980s driven by expansion into higher value-added sectors such as computers, electronics, machinery, and pharmaceuticals (Soon & Stoever, 1996). Consequently, Singapore's "Second Industrial Revolution", and the policies on which it was established, had the intended effects. Singapore began to upgrade its labor force and change the composition of its industries, while at the same time increasing foreign investment in these desired industries.

### **3.3 The Foreign Dimension from 1985-1990**

#### **3.3.1 Recession, and promotional policies leading to increased investment**

During the latter half of the 1980s, Singapore would experience both a slow down, from a recession, and then significant growth again, stemming from both previous and new promotion efforts. A recession in 1985 would bring the country's incredible growth in the early 1980s to a standstill. However, a quick and thoughtful response by the Singaporean government led to new policies that would get the country quickly back on track and pave the way for increased international investments and exposure. New promotional policies in the latter half of the 1980s would lead to the total business center and new growth sectors for Singapore.

#### ***1985 Recession***

Singapore's recession in 1985 did not emerge from one primary cause, but rather due to a plethora of factors. Growing labor costs, creeping fees by Singaporean statutory boards, a slump in international trade (especially with the United States), a buoyed construction sector, and the strength of the Singaporean dollar, all reduced the international competitiveness of Singapore and squeezed profitability (Rigg, 1998; Soon & Stoever, 1996). An economic committee, created to determine the cause of the recession and

spearheaded by the Minister of Trade and Industry, concluded that the cost of doing business had become prohibitive, and that the country should look for new economic growth strategies (Schein, 1997). The recession itself isn't very pertinent to our discussion on the foreign dimension of Singapore's growth, more so these new policies and promotion efforts that emerged from it.

### ***Policies and Promotion Efforts 1985-1990***

The recession, in a way, was a wake up call for Singapore. Much of its growth to this point was based on foreign investment (especially into the manufacturing sector) because of cheap labor in Singapore and incentives from the EDB. The recession showed Singapore that it was losing some of its international competitiveness; a very important point to consider for a country relying heavily on foreign investment. As such, the government sought to shift its priorities toward guaranteeing sustainable long-term development (Soon & Stoeber, 1996). Tax rates were lowered, rebates were offered on site rentals and port fees, and most importantly to our discussion, promotion efforts were intensified, especially in attracting investment in higher technology industries (Soon & Stoeber, 1996). All of these efforts would help Singapore maintain its competitive edge in attracting foreign investment.

Singapore took steps to attract new MNC investments by persuading foreign companies to make the country their Total Business Center. The idea was that Singapore would serve as their regional headquarters in Asia, while the firms would place their production facilities in close by countries that boasted bigger and cheaper labor pools. Special tax incentives were provided for the firms that were granted operational headquarter status, and between 1986 and 1987 nine large MNCs had established operational headquarters in Singapore (Soon & Stoeber, 1996). Again, investment was sought after in higher technology, and higher value-added industries. Singapore positioned itself as a Total Business Center, with the EDB attempting to attract multinational service firms specializing in finance, education, medicine, lifestyle, software and IT, and denoting PC, disc drive manufacturing, and printed circuit boards as sunrise industries (EDB, 2013a).

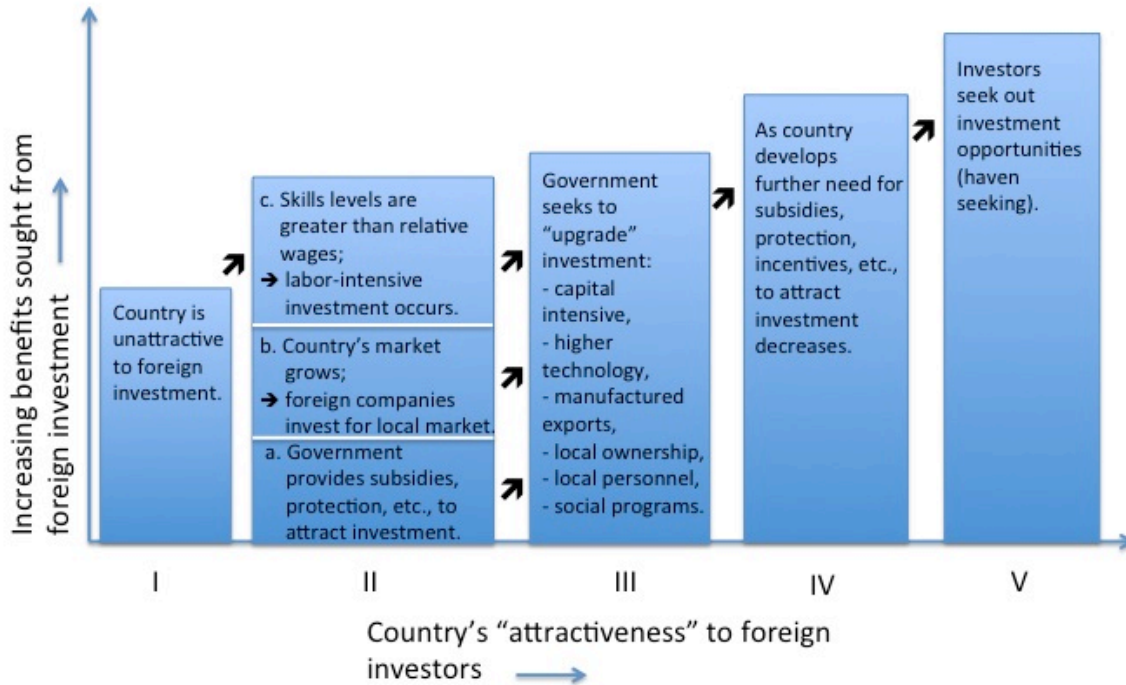
In 1985, the government gave S\$100 million to the EDB to establish a Venture Capital

Fund so as to invest in new technology companies and promote entrepreneurship (Koh & Wong, 2005; Soon & Stoever, 1996). The EDB had a busy year in 1988, creating the Strategic Business Unit for Biotechnology to aid this newly forming sector, the Science Park to encourage private sector R&D, and the Robot Leasing Scheme to aid manufacturers seeking to automate operations (EDB, 2013a). Singaporean ministers visited the United States, Europe, and Japan advertising Singapore's strategic location and superior infrastructure (Soon & Stoever, 1996). They also promoted the largely English speaking workforce, and highlighted that continuing education and training of the labor force was producing capable local managers to run regional operations (Soon & Stoever, 1996).

### ***Foreign Investment into Singapore in the 1980s***

Singapore has always been at the forefront in Asia in terms of using new, and untested strategies to enhance foreign investment and economic growth. The 1980s were no different. The country, in addition to promoting the Total Business Center and *dynamic sectoral allocation*, also continually relied on the strategy of reducing restrictions on foreign companies' operations. Whereas many Asian countries at the time required that foreign firms engage in joint ventures and mergers with domestic firms (and some, like China, that still do to some extent), so as to encourage learning and technology transfer, Singapore was making it easier and easier for foreign firms to enter. "By the late 1980s, Singapore boasted that it made no distinction between local and foreign capital in most sectors and that it allowed foreign companies to form wholly owned foreign subsidiaries just as easily as joint ventures with local partners" (Soon & Stoever, 1996, p. 330). William A. Stoever proposed the following model (Figure 2) that shows the stages of a developing country's policies toward foreign investment.

**Figure 2 Evolution or "Stages" of Developing Country Policy toward Foreign Investment**



Source: (Soon & Stoeber, 1996: Figure 1)

In the 1950s, Singapore was at Stage 1 in Figure 2, relatively unattractive to foreign investment. In the 1960s, Singapore began to move to Stage 2a by offering subsidies and encouraging foreign investment. In the 1960s and 70s, Singapore also managed to break through to Stage 2c by having an abundance of semi-skilled English speakers and attracting labor-intensive investment, especially in the manufacturing sector. Singapore has never really moved into Stage 2b, involving a growing market and foreign enterprises investing to reach the local market, due to its small market size.

The 1980s, however, was when Singapore really managed to make inroads into this model, and when foreign investment began to surge into the country. Although Singapore's market has always been small, and lacking with regard to Stage 2b, the country was able to convince foreign firms to use Singapore as their Asian base to conduct business with larger Asian markets. All of the labor and sector upgrading beginning in the "Second Industrial Revolution" would lead Singapore into Stage 3, whereby the country began to attract higher technology and more capital intensive investment. By the end of the 1980s, Singapore began to move into Stage 4. Singapore

had reduced almost all restrictions on foreign firms and would treat them the same as domestic firms. As such, Singapore was allowing market forces to play a greater role in attracting foreign investments.<sup>10</sup>

Table 12 shows the amount of FDI into the Asian Tigers and other Asian developing economies from 1980 to 1989 in \$US millions.

**Table 12 Foreign Direct Investment into Select Asian Developing Economies 1980-1989 (In \$S Million)**

Country	Year									
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
China, Hong Kong	710	2,063	1,237	1,144	1,288	-267	1,888	6,250	4,979	2,041
China, Taiwan	166	151	104	149	199	342	326	715	961	1,604
Indonesia	180	133	225	292	222	308	258	385	576	682
Malaysia	934	1,265	1,397	1,261	797	695	489	423	719	1,668
Phillippines	114	243	193	247	137	105	157	415	999	568
<b>Singapore</b>	<b>1,236</b>	<b>1,660</b>	<b>1,602</b>	<b>1,134</b>	<b>1,302</b>	<b>1,047</b>	<b>1,710</b>	<b>2,836</b>	<b>3,655</b>	<b>2,887</b>
South Korea	6	102	69	69	110	234	460	616	1,014	1,118
Thailand	189	289	188	356	412	160	262	354	1,106	1,837
<b>Singapore FDI*</b>	<b>34.96</b>	<b>28.11</b>	<b>31.94</b>	<b>24.38</b>	<b>29.15</b>	<b>39.90</b>	<b>30.81</b>	<b>23.65</b>	<b>26.09</b>	<b>23.27</b>
	%	%	%	%	%	%	%	%	%	%

\* as a Percentage of ALL Selected Asian Developing Economies

Source: (UNCTADstat, 2012)

From the beginning of the “Second Industrial Revolution”, in 1979, FDI into Singapore increased dramatically. This fits with Lee Son Ann’s statement from the beginning of the paper. It was not until the 1980s (or in this case 1979) that Singapore truly had a significant number of MNCs in the country. Among these eight countries, Singapore had the second highest level of inward foreign investment in the 1980s (19,069 \$USm), just shy of Hong Kong (21,333 \$USm). Throughout the decade Singapore represented about 1/3 of all foreign investment into these eight countries. According to Miyamoto (2006), the number of MNCs from developed countries that had established operations in

<sup>10</sup> In more recent years Singapore has moved into Stage 5, whereby money coming into Singapore has been investment and haven seeking. As Singapore’s financial sector has flourished, so have the opportunities for foreign investors. These include, among other things, foreign investors utilizing Singapore as a tax haven.

Singapore reached 3,200 in 1988. Although 650 of these MNCs were in the manufacturing sector, new investments were emerging in finance, information and technological service industries (Miyamoto, 2006).

Table 13, using Maddison's data, presents changes in Singapore's GDP and GDP per capita from 1980 to 1989.

**Table 13 Singapore GDP and GDP per capita 1980-1989 (million 1990 International Geary-Khamis dollars)**

<b>Year</b>	<b>GDP</b>	<b>GDP per capita</b>
<b>1980</b>	21,865	9,058
<b>1981</b>	23,960	9,450
<b>1982</b>	25,601	9,654
<b>1983</b>	27,695	10,298
<b>1984</b>	30,006	10,938
<b>1985</b>	29,451	10,710
<b>1986</b>	29,975	10,900
<b>1987</b>	32,817	11,743
<b>1988</b>	36,491	12,718
<b>1989</b>	39,857	13,475

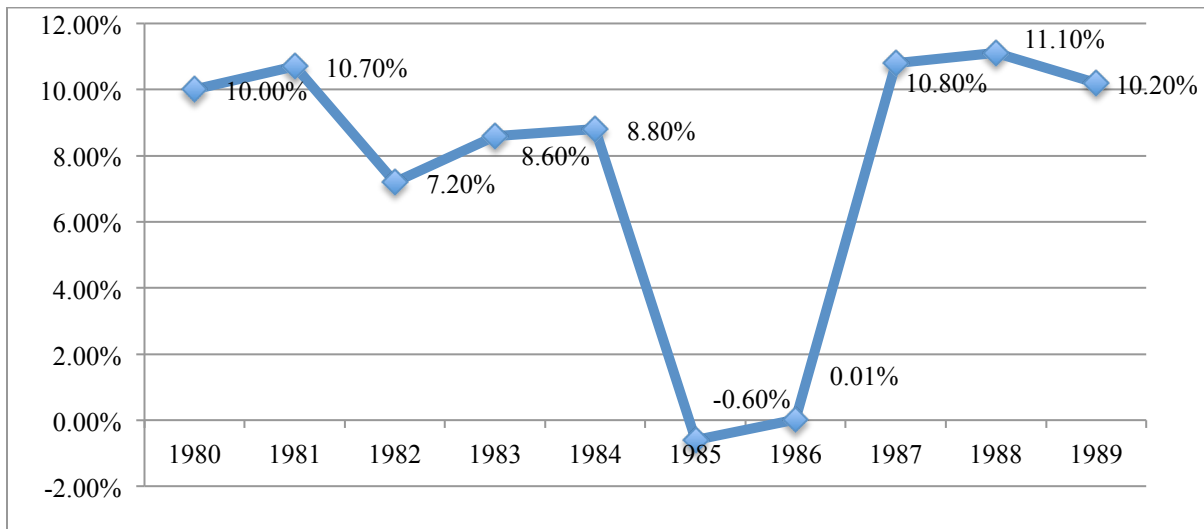
**Source: (Maddison, 2010)**

The table shows that during the 1980s, GDP nearly doubled, and GDP per capita increased by roughly half. The only off year was 1985, where both GDP and GDP per capita decreased. The reason for this, of course, was Singapore's recession in 1985.

Chart 3 shows GDP growth rates for Singapore in the 1980s.



**Chart 3** Singapore GDP growth rates 1980-1989

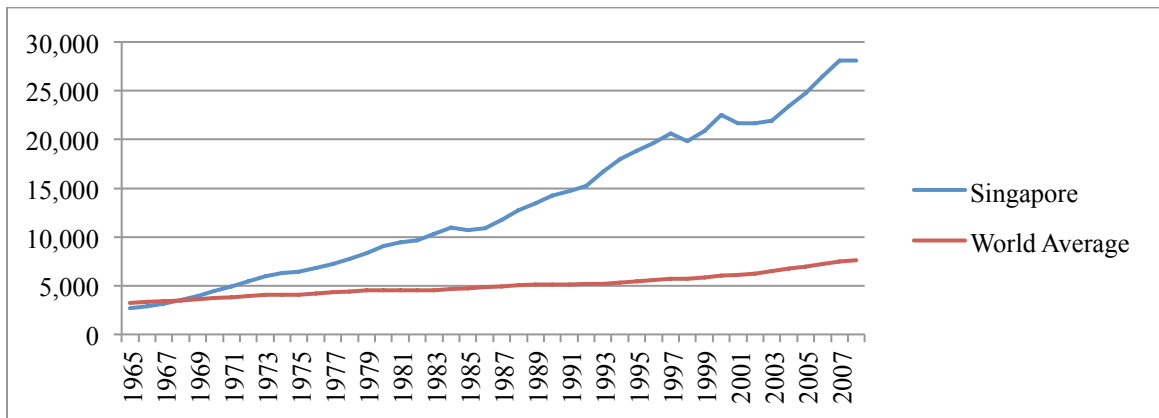


Source: (UNdata, 2013)

The average annual growth of Singapore’s GDP in the 1980s was 7.68 percent. This is a bit less than in Chart 2 which shows the GDP growth from 1963 to 1979, but the growth rate is still very high. The big slump in the above data occurs in 1985 and 1986, because, as previously discussed, Singapore went through a short-lived recession. Because of these high growth rates, economists would come to consider Singapore an Asian “miracle” and refer to Singapore, Hong Kong, Taiwan, and South Korea as Tigers.

Chart 4 presents the comparison between Singapore’s GDP and world’s average GDP, in the period 1965-2007.

**Chart 4** GDP per capita (1990 International Geary-Khamis dollars)



Source: Maddison (2010)

Chart 4 shows Singapore's unprecedented economic growth since its independence in 1965.

### 3.3.2 Foreign Labor in the 1980s

Singapore even more heavily sought after foreign skilled labor in the 1980s in response to labor and industrial upgrading, and as a way to increase vitality in the economy following the recession. With the significant technology transfer through new investments, the importation of skilled labor became more necessary. Singapore employed many new programs from the beginning of its "Second Industrial Revolution" to attract foreign talent. In 1979, the Overseas Graduate Recruitment (OGR) Unit was created to organize new recruitments (Low, 1995). Two years later, the Public Service Commission (PSC) created the Committee to Attract Talent to Singapore (CATS) aimed at attracting foreign graduates. Part of the PSC also included maintaining the Professional Information Programmes Management Service (PIPS), which is a database of foreign professionals seeking opportunities in Singapore. Finally the EDB and National Computer Board also utilized overseas career missions in the late 1980s to recruit foreign talent (Low, 1995).

In addition, the rules for becoming a Singaporean citizen were relaxed in 1981, 1989, and 1990 so as to increase foreign skilled workers living in Singapore (Low, 1995). The net effect of the programs was that the number of foreigners becoming permanent residents of Singapore rose substantially in the late 1980s. This is shown in Table 14, created using data from the *Singapore Straits Times*, country's highest selling newspaper..

**Table 14**      **Number of Foreigners Granted Permanent Residence**

Year	Number
1986	4,973
1987	6,988
1988	8,823
1989	12,303
1990	23,000

**Source:** Singapore Straits Times, June 26 and October 11, 1989, adapted from Low (1995: Table 5)

Relying on data from Table 14, it is readily apparent that the number of foreigners granted permanent residence in Singapore increased every year from 1986 to 1990. The greatest increase over the previous year occurred in 1990, when the number of foreigners granted permanent residence increased by nearly double from the year before. It can be assumed that most of these foreigners were skilled workers, as Singapore was looking to upgrade its labor force at the time.

The story for low skilled foreign laborers in Singapore, however, has always been a different one. Whereas foreign managers, professional, technical, and skilled workers have always been exempt from the levy system, since 1982, a monthly levy was imposed on foreign unskilled workers, which has been raised periodically to curb demand. Miyamoto (2006) writes that the main purpose of the levies is to make sure that foreign worker wages reflect market conditions and not just the marginal cost of hiring foreign workers. In addition, a levy was also imposed on the always hard to define semi-skilled laborers, considered to be those who had a certain skill and five-years of secondary school (Miyamoto, 2006). Regardless, the economic success of Singapore in the 1980s necessitated substantial amounts of foreign unskilled labor, especially in manufacturing, construction, and domestic services.

### **3.3.3 Emerging Problems with the Foreign Dependence**

Singapore continued its phenomenal growth in the 1980s, stemming from policies initiated in its "Second Industrial Revolution", and those to counteract its recession. It was also the time when the foreign dimension of Singapore really began to take off. However, the decade also saw the emergence of certain problems for Singapore, especially those related to its increasing reliance on foreign MNCs and foreign labor. These problems include: increasing international competition, a high dependence on foreign investment, and domestic firms lagging behind.

#### ***Increasing International Competition***

A primary reason for the severe recession in 1985 was that the country had lost much of its international competitiveness. Due to Singapore's strong economic growth since its

independence, wages had increased significantly. At the same time, other developing countries were recognizing the benefits of strategies that Singapore had so efficiently employed. Many countries began to build their own industrial estates, offering incentives, and recruiting foreign firms including targeting similar industries to those sought after in Singapore (Soon & Stoeber, 1996). In response, Singapore began to change its mindset for foreign investment; instead of continuing to target labor-intensive manufacturers, Singapore sought to target higher-technology and knowledge-based industries.

### ***High Dependence on Foreign Investment***

Singapore had begun to become quite dependent on foreign investment in the 1980s, which in turn left the economy vulnerable to MNC decisions, foreign tariffs, economic downturns, supply and demand changes, and other events outside of its borders and its locus of influence (Soon & Stoeber, 1996). As Singapore is a very small country with a small home market, it was especially vulnerable to these influences. In addition, it faced the problem of “picking the right industries”; or as Soon and Stoeber (1996) put it, Singapore was in danger of “having too many eggs in one basket”. In the 1970s and 1980s, Singapore was engaged in industrial targeting. By this, the authors mean that the country was in the business of “trying to pick winners”: targeting specific industries (higher technology) that were thought to be the industries of the future and those that would bring economic growth for years to come. While Singapore's targeting would provide many positive spillover effects for the country, it also left the country more vulnerable. For example, prior to 1980, Singapore focused heavily on attracting firms in the electronic sector. If there had been a large shock to the electronics industry, it would have had a drastic effect on the Singaporean economy. Singapore's development strategy from the 1980s was to continually upgrade and diversify its industries. As this strategy was highly reliant on maintaining large inflows of foreign investment, it meant that there is high probability that the country's dependence on foreign firms and foreign investment will continue and even increase (Soon & Stoeber, 1996).

***Domestic Firms Lagging Behind***

Singapore had spent so much effort trying to attract foreign MNCs to enhance its economic growth that it had also managed to neglect its domestic firms. Singaporean firms were hard pressed to compete with the foreign MNCs, which “crowded-out” the domestic firms. With the significant number of MNCs in the country, there could have been opportunities for domestic suppliers and contractors to provide materials and components, but this too was neglected (Soon & Stoeber, 1996). In the latter part of the 1980s, Singapore began to recognize the potential importance of its small and medium-sized domestic firms, and initiated programs to support them. This led to the creation of the Small Enterprises Bureau by the EDB in 1986.

The next chapter will begin by focusing on the foreign dimension in the 1990s, and looking at the role of foreign labor in that decade. Then it will continue with the foreign dimension and foreign labor from 2000 to today. Then, the paper will analyze foreign investment and growth from 1990 to present, and culminate with a cost/benefit analysis on foreign labor in Singapore. There will be some overlap in terms of the information and data presented in the following sections because data often does not fit clear-cut into the time periods that the authors have chosen to use to more easily present the information and to show Singapore's economic progress on a decade-by-decade basis.

## **Chapter 4      Foreign MNCs and Foreign Labor from 1990 to the Present**

### **4.1    The Foreign Dimension in the 1990s**

The 1990s would witness a significant surge in both foreign investment and in the amount of foreign laborers in Singapore. The Asian Financial Crisis would hit much of the region in 1997, and affect Singapore to a significant, but short lived, extent. Singapore would continue to extend its sectoral allocation into higher technology sectors, and emphasize knowledge-based manufacturing and services. As a result, and also due to new policies and initiatives, foreign skilled talent into Singapore surged in the 1990s. Consequently, the foreign dimension would continue to play a large role in the economic growth of Singapore.

Singapore's previous successes would help to fuel its successes in the 1990s. The foreign firms that had established regional headquarters in Singapore served to act as a self-promotion to other foreign firms looking for places to invest and establish operations. Again, Singapore sought investment in more advanced and higher technology sectors and continued to upgrade its labor force. In 1991, the Ministry of Trade and Industry established new initiatives and incentives to attract investment in these industries and to further upgrade labor skills. Sectors identified by the Ministry included agrotechnology, information technology, biotechnology, robotics, microelectronics, and automation (Soon & Stoeber, 1996). In the same year, the National Science and Technology Board was established by the government to enhance Singapore's emerging knowledge-based economy, and promote research and development in the science, engineering, and biomedical sectors (MTI, 2005).

The EDB had truly become global by the early 1990s. Alan Murray, chairman and CEO of the Mobil Corporation, said in a phone interview in 1993:

“Though the general climate in Singapore was good for business, it was really the EDB that created the specific economic incentives, provided what was needed like

pioneer status (tax relief for five years), investment tax credits, and so on that made us choose Singapore as a place to make these big investments rather than some of other countries in the region. We do have operations in all those other countries, but Singapore provided the best economic climate for the big investment and was the best locale for exporting.” (Murray cited in Schein, 1997, p. 22)

In 1990, the EDB set up a special business unit called “China Focus” (EDB, 2013a). The Chinese economy represented an increasing share of global economic growth and Singapore sought to build relationships with Chinese investors. EDB Investments was established in 1991, to offer independent equity investment into new strategic sectors and to strengthen existing ones (EDB, 2013a).

Singapore, like its EDB, was also on the way to becoming a global city. According to a paper on global city formation, Singapore represents a global city because it serves as a key base for both transnational corporate headquarters as well as for leading industries of the present period including finance and other service markets, and is strongly connected with the global economy through both inward and outward flows (Olds & Yeung, 2004). Additionally, the 1994-1995 Business Environment Risk Intelligence (BERI) report rated Singapore as “one of the safest places for foreign investors and rated the quality of its labor force as very high” (Soon & Stoeber, 1996, p. 331). Also from 1996 to 1999, the World Economic Forum ranked Singapore at the top of its list of the world's most competitive economies (World Economic Forum, 2013).

The 1990s saw companies moving up the value chain and intensifying their use of technology while the service sector became a strong growth engine. According to the EDB, as Singapore increasingly invited talent from around the world to support the local skill pool, eventually becoming a hub of skilled manpower as well as a headquarters for decision-making (EDB, 2013a). Yet, being a global city also had its disadvantages. Singapore's interconnectedness with the global economy, and especially with regional countries, led to a strong impact from the Asian Financial Crisis in 1997. Although the crisis had a major affected much of South East Asia in the late 1990s, the effect on

Singapore was fairly short-lived. As the crisis did not significantly impact the situation with foreign MNCs or foreign labor, it will only be touched on in brief parts in this section.

#### **4.1.1 Foreign Labor in the 1990s**

Foreign skilled labor had been on the rise since Singapore's economic restructuring in 1979, and this trend persisted in the 1990s. A primary motive of Singapore in the 1990s was to upgrade toward a knowledge-based economy, necessitating a large inflow of foreign talent (Chia, 2011). Although Singapore had begun to nurture local talent and improve its tertiary education and training programs, the need for foreign talent persisted (Chia, 2011). As such, in the latter half of the decade, several initiatives were undertaken by the Singapore government that continued its welcome policy for foreign talent.

Singapore attempted to attract foreign talent through a variety of measures, including liberal immigration policies, scholarships and research fellowships at universities, reducing requirements for permanent residence and citizenship, recruitment missions by government agencies, reducing taxation for expatriates and upgrading living amenities (Chia, 2011). In 1997, the Ministry of Manpower launched Contact Singapore, which provides information on job opportunities in the country and has offices in major cities around the world. The Singapore Talent Recruitment (STAR) Committee was established in 1998, and in 1999 both Manpower 21 and the EDB's International Manpower Program were formed to facilitate foreign talent inflow and move Singapore towards its goal of being a knowledge-based economy (Chia, 2011). Singapore began to look toward new areas for foreign skilled labor, including India, China, and the former Soviet Republics, and placed special emphasis on trying to attract talent from Hong Kong following the country's 1997 issue with China (Low, 1995).

From the early 1990s, Singapore has employed a combination of levies, quotas, and working permits for foreign unskilled workers. The levy is often coupled with a quota, which, depending on the industry, represents "a fixed percentage in relation to a firm's total workforce" (Low, 1995, p. 753). Through a variety of policy measures to control the flow of foreign unskilled laborers, Singapore has been able to integrate its objectives in



the economic, social, and political sphere. While Singapore has always encouraged the immigration of foreign talent, policies toward foreign unskilled laborers have not been so friendly. These workers can not bring their families into Singapore, are not encouraged to marry Singaporeans, and indeed, even a marriage to a Singaporean does not give the right for the worker to enter or remain in the country (Low, 1995). Singapore's strict policies for foreign unskilled workers have led to certain diplomatic strifes with regional countries, such as complaints from Thailand due to caning and deportation of illegal Thai workers, and complaints of maid abuse from the Phillipines government (Low, 1995).

These two tables below show the numbers of foreign workers between 1990 and 2000, and into what sectors and occupations they were employed. It is important to note in these tables that foreigners who are permanent residents of Singapore are counted as Singaporean workers. As such, the numbers for foreigners would be higher in reality. Table 15 shows the composition of foreign workers by industry.

**Table 15**      **Composition Ratios of Foreign Workers by Industry (Unit: 1000 persons)**

	Singaporean Workers		Foreign Workers in Singapore		Share of Foreign Workers (%)	
	1990	2000	1990	2000	1990	2000
<b>Asset-producing Industry</b>						
Manufacturing	337.7	289.1	106.5	146.6	24.0	33.6
Construction	76.0	90.4	47.0	184.0	38.2	67.1
Others	11.6	10.4	0.7	2.2	7.3	17.7
Sub Total	<b>425.3</b>	<b>389.9</b>	<b>154.2</b>	<b>332.8</b>	<b>26.5</b>	<b>46.0</b>
<b>Service Industry</b>						
Commerce	232.5	253.5	7.8	33.5	3.3	11.7
Hotel/Restaurant	91.5	93.4	5.3	21.8	5.5	18.9
Transport/ Telecommunication	141.8	177.9	4.2	19.0	2.9	9.6
Financial Service	58.0	87.5	3.5	8.9	5.7	9.2
Business Service	105.7	191.3	6.5	34.9	5.8	15.4
Social/Personal Service	233.3	287.6	66.4	164.9	22.2	36.4
Sub Total	<b>862.8</b>	<b>1,091.2</b>	<b>93.7</b>	<b>283.0</b>	<b>9.8</b>	<b>20.6</b>
<b>GRAND TOTAL</b>	<b>1,288.1</b>	<b>1,481.1</b>	<b>247.9</b>	<b>615.8</b>	<b>16.1</b>	<b>29.3</b>

**Source: Singapore, Department of Statistics (2000), as presented in Miyamoto (2006: Table 11)**

While the number of Singaporean workers increased by less than 20 percent from 1990 to 2000 (1,288,100 to 1,481,000), the number of foreign workers increased by almost 150

percent in the same period (247,900 to 615,800). Every single industry depicted above in Table 15 shows increases in foreign workers employed from 1990 to 2000. Foreign workers represented 16.1 percent of the labor force in 1990, but 29.3 percent by 2000. Although Singapore significantly increased its recruiting of foreign skilled laborers in the 1990s, the number of foreign unskilled laborers undeniably increased during the period as well. We can assume that most of the foreign laborers in manufacturing and construction were not skilled but rather unskilled workers. These two industries accounted for 330,600 foreign workers, more than half of the total number of foreign workers in Singapore in 2000.

Also very interesting to note from Table 15 is the rise in financial services and business services in the 1990s. The two industries saw the largest increases in terms of labor force size during the period, showing their growing importance in Singapore. On a similar note, the table also shows the decreasing importance of the manufacturing industry. Manufacturing, which up to this point, had been the hallmark of FDI into Singapore, showed an absolute decline in its contribution to the labor force in the 1990s. As Singapore moved into more advanced and more service oriented industries, the role of manufacturing became less pronounced.

Table 16 shows the composition of foreign workers by occupation in 1990 and 2000.

**Table 16**      **Composition Ratios of Foreign Workers by Occupation (Unit: 1000 persons)**

	Singaporean Workers		Foreign Workers in Singapore		Share of Foreign Workers (%)	
	1990	2000	1990	2000	1990	2000
Administrative/Managerial	121.1	212.0	11.1	37.3	8.4	15.0
Professional	68.3	149.7	7.0	36.7	9.3	19.7
Technical	157.2	283.2	8.8	29.9	5.3	9.5
Clerical	194.6	213.5	5.2	16.9	2.6	7.3
Service/Sales	185.6	182.4	9.6	29.2	4.9	13.8
Production Labor	357.0	286.1	116.4	225.0	24.6	44.0
Cleaning/General Labor	140.5	100.8	90.1	234.4	39.1	69.9
Others	65.7	53.4	0.4	1.1	0.6	2.0
<b>TOTAL</b>	<b>1,290.0</b>	<b>1,481.1</b>	<b>248.6</b>	<b>610.5</b>	<b>16.1</b>	<b>29.1</b>

Source: Singapore, Department of Statistics (2000), as presented in Miyamoto (2006: Table 12)

This table helps to clarify the increase in both foreign skilled and unskilled laborers in the 1990s. Clearly, the increase in skilled laborers can be seen in the fact that foreign workers more than tripled among administrative/managerial, professional, and technical occupations from 1990 to 2000. Similarly, the increase in unskilled laborers is also evident in that the number of workers in both production labor and cleaning/general labor more than doubled in the period. By the 1990s, Singaporeans, because of increasing skills, possibilities, and wages, no longer wanted to work at menial and low-paid jobs, and thus the country would be pressured to bring in unskilled immigrants to fill these roles. By 2000, foreign workers would make up 44 percent of production labor and 69.9 percent of cleaning/general labor occupations. Towards the end of the 1990s, the mix of foreign skilled and unskilled labor in Singapore had given the country the distinction of having the highest share of foreign workers in Asia (Yeoh, et al., 1999).

#### **4.2 The Foreign Dimension from the Year 2000**

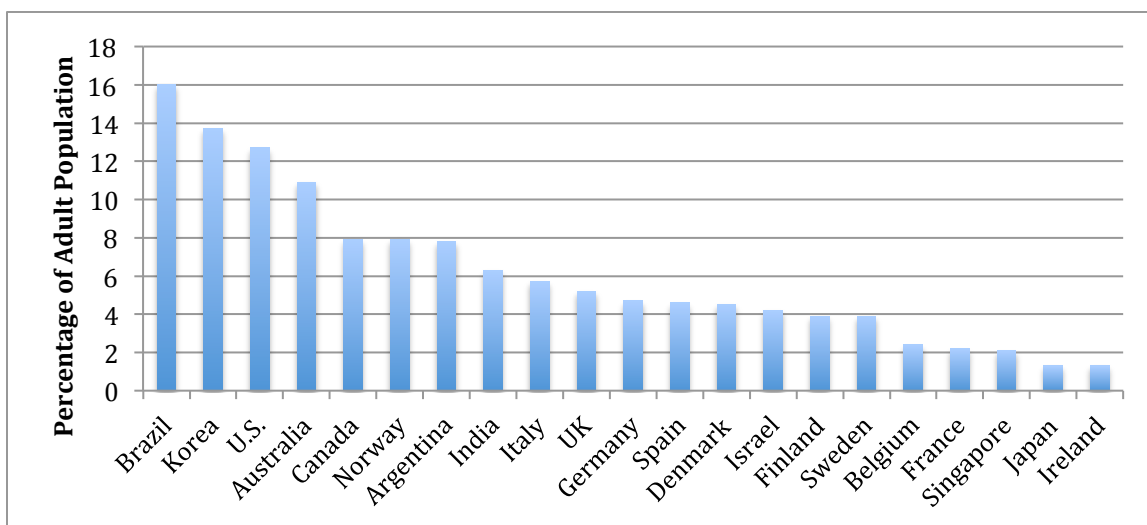
Since the turn of the millennium, Singapore has continued its phenomenal growth, though somewhat moderated, and has become even more internationalized. The International Institute for Management Development ranked Singapore the 4<sup>th</sup> most globally competitive city in the world in 2012, while both the *Wall Street Journal* and AT Kearney's Global Cities Index have ranked Singapore among the top 10 most globalized cities in the 2000s (EDB, 2013b). Singapore has continued to seek out foreign investment, still offering international firms many reasons why they should invest in the country. To this effect, the EDB has continued to serve as the primary agency for promoting investment in Singapore. The EDB currently boasts 24 offices in 14 countries around the world (EDB, 2013c).

The introduction of casinos into the country in the mid 2000s, and the advancement of the tourist industry, have allowed Singapore to remake its image once again, and attract significant foreign investment and foreign spending in different respects. In addition to the increasing number of foreign workers, Singapore has managed to recruit foreigners in new ways. With the educational reputation of the country increasing, more and more international students have joined the ranks of Singapore's university students. The

National University of Singapore was recently ranked as one of the top two universities in Asia, and, as of 2012, foreign students made up 19 percent of university students in the country (Top Universities, 2013). Tourism and the receipts it has generated have also increased Singapore’s global presence and have caused more money to flow into the country.

Singapore’s policy goals in the 2000s were not much different than those from the previous two decades – upgrade industries and attract foreign investment. Though, Singapore had a new policy focus, which was to improve certain lagging aspects of the economy. Chief among these were entrepreneurship and research and development. Studies have shown that entrepreneurship has been severely lacking, and even declining, in Singapore mostly because of the risk-averse culture and the stigma associated with failure (Bhasin, 2007). Inadvertently, the government has also had a prominent role in stifling entrepreneurship. In a paper on fostering entrepreneurship in Singapore, Bhasin (2007, p. 1) wrote, “the paternalistic and authoritative approach of the government contributed to the general population’s averseness to participating in risk-oriented ventures”. A Global Entrepreneurship Monitor (GEM) survey in 2000 (Figure 3 below) revealed that Singapore was ranked Singapore very low in terms of entrepreneurial activity.

**Figure 3 Total Entrepreneurial Activity by Country 2000**



Source: Adapted from Zacharakis, et al. (2000: Figure 4)

The survey measures entrepreneurship through surveys and interviews with field experts, extrapolating percentages of the working age population in a country that are about to start an entrepreneurial task or who have started one in the past few years. As Figure 3 shows, Singapore ranks near the bottom in entrepreneurial activity among the countries studied, significantly less than that in Brazil, the United States, or South Korea in 2000.

As such, both the government and the EDB launched a slew of programs in the 2000s to tackle these facets. In 2001, Start-up Enterprise Development Scheme (SEEDS) was established by the EDB, supporting entrepreneurship and private sectoral investment by matching firm-raised funds up to S\$300,000 (EDB, 2013a). Further supporting entrepreneurship, the EDB created the Business Angel Scheme (BAS) in 2005 offering angel investment (EDB, 2013a). To encourage research and development, more than S\$13 billion was put aside by the government in 2006 to increase gross expenditure in that field (EDB, 2013a). In addition, as Singapore has shifted into a knowledge-based and information-led economy, the country has increased its Intellectual Property (IP) protection and enforcement. Singapore consistently ranks among the top five worldwide in terms of IP protection, and first in Asia (Intellectual Property Office of Singapore, 2013).

A sector that has been neglected in the paper to this point is tourism. Although the tourism sector is perhaps not directly linked to foreign MNCs and foreign labor, it is indirectly linked in many ways. Singapore's infrastructure has been ever expanding to cater to foreign investment and foreign firms, and in return, foreign investment and firms have served as engines of growth. They have led to numerous foreign skilled workers working and living in Singapore, in addition to those working on temporary job assignments. Many foreign firms have also created lavish headquarters, building prestigious skyscrapers around the city. All of these factors have contributed to making Singapore a huge tourist location. Singapore received nearly 15 million visitors in 2012, nearly triple the country's population (The Singapore Tourism Board, 2013). The growth rate of visitor arrivals to Singapore is even more extreme than the country's GDP growth rates. The number of visitor arrivals to Singapore grew by 20.2 percent in 2010, 13.1 percent in 2011 and 10 percent in 2012 (The Singapore Tourism Board, 2012). Most

importantly to Singapore's growth, are the receipts generated by tourism. In this case, these growth rates are even more astonishing, as Singapore boasted a 49.7 percent increase in 2010 and a 17.7 percent increase in 2011, whereby tourism receipts on the year amount to 22.3 billion S\$ (The Singapore Tourism Board, 2012).

#### 4.2.1 Foreign Labor from 2000 to present

Table 17 is one of the most illustrative of the paper, showing the changes in the composition ratios of foreign workers in the total population and the labor force population of Singapore in 1980, 1990 and 2000 (note that permanent residents of Singapore are counted as Singaporeans).

**Table 17 Changes in Composition Ratios of Foreign Workers**

	1980		1990		2000	
		Composition Ratio (%)		Composition Ratio (%)		Composition Ratio (%)
<b>Population</b>	<b>2,413,900</b>	<b>100</b>	<b>3,047,100</b>	<b>100</b>	<b>4,017,700</b>	<b>100</b>
Singaporeans	2,282,100	94.5	2,735,900	89.8	3,263,200	81.2
Foreigners	131,800	5.5	311,200	10.2	754,500	18.8
<b>Labor Force Population</b>	<b>1,077,100</b>	<b>100</b>	<b>1,537,000</b>	<b>100</b>	<b>2,094,800</b>	<b>100</b>
Singaporeans	955,300	88.7	1,288,800	83.9	1,482,600	70.8
Foreigners	121,800	11.3	248,200	16.1	612,200	29.2

**Source: Singapore, Department of Statistics (2000), as presented in Miyamoto (2006: Table 10)**

Table 17 really illustrates how Singapore was becoming (increasingly) internationalized. Singaporean citizens and permanent residents went from constituting 94.5 percent of the total population in 1980, to 89.8 percent of the population in 1990, to only 81.2 percent in 2000, as foreigners continued to increase in numbers. The ratios are even more pronounced in the labor force population. Foreigners went from 121,800 workers (11.3 percent of the labor force population) in 1980 to 612,200 workers (29.2 percent of the labor force) in 2000.

In addition, these statistics are not even near accurate. The census statistics do not include short-term stayers/laborers of less than one year nor include those who are staying or working in Singapore illegally (Miyamoto, 2006). As mentioned before, substantial number of Malaysians commute from nearby Johor and Singapore via the Causeway for daily work, however it is not included in the statistics. The number of these daily Malaysian workers was estimated at 25,000 in the late 1980s and 30,000 to 40,000 in the late 1990s (Miyamoto, 2006). There are also thousands of laborers from all over Asia working illegally in Singapore as domestic help and migrant laborers. According to a paper on migration in the Asia-Pacific region, in 1995 there were 200,000 to 300,000 illegal or unregistered Malaysian workers and 60,000 workers from other Asian nationalities including Filipinos, Indonesians and Thais working in Singapore, and these numbers were calculated using a conservative estimate (Hugo, 2005). In summary, the actual dependence on foreign labor is much greater than the statistics (which already show a significant dependence on foreign labor) suggest.

Hugo (2005) wrote that of all the Asian countries, only in Singapore is there a concerted effort to attract immigrants. However, as this paper has suggested throughout, this has not been without caveats. The Singaporean policies are very selective, whereby skilled laborers referred to as foreign talent are sought after, foreign unskilled laborers, of which more than 100,000 are admitted annually on a temporary basis, are not given access to permanent settlement (Hugo, 2005). In addition, Singapore is hesitant to release all figures on foreign labor in the country because many qualified Singaporeans believe that the extensive foreign labor reduces their job possibilities. Table 18 shows Singapore population statistics from 1970 to 2010.

**Table 18** Population Growth Trends by Residential Status (in millions)

Year	Total Population	Singapore residents			Non-residents
		Total	Citizens	Permanent residents	
<b>Million</b>					
<b>1970 census</b>	2.0745	2.0136	1.8748	0.1388	0.0609
<b>1980 census</b>	2.4139	2.2821	2.1943	0.0878	0.1318
<b>1990 census</b>	3.0471	2.7359	2.6237	0.1121	0.3113
<b>2000 census</b>	4.0279	3.2734	2.9859	0.2875	0.7545
<b>2010 census</b>	5.0767	3.7717	3.2307	0.5410	1.3050
<b>Percent distribution (%)</b>					
<b>1970 census</b>	100.0	97.1	90.4	6.7	2.9
<b>1980 census</b>	100.0	94.5	90.9	3.6	5.5
<b>1990 census</b>	100.0	89.8	86.1	3.7	10.2
<b>2000 census</b>	100.0	81.3	74.1	7.1	18.7
<b>2010 census</b>	100.0	74.3	63.6	10.7	25.7

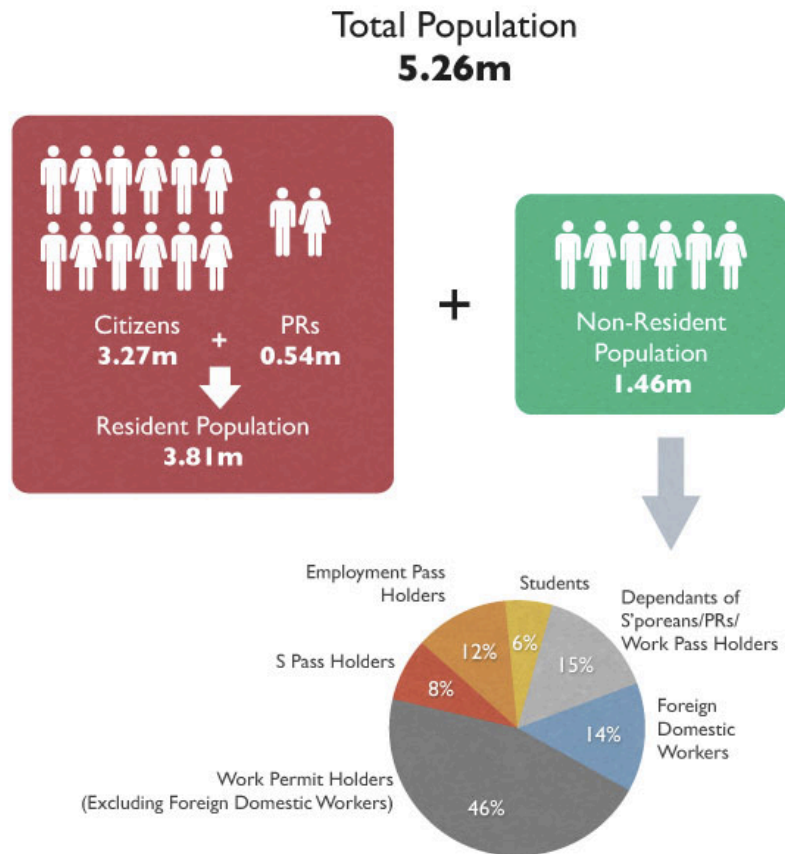
**Source:** Singapore Department of Statistics, Yearbook of Statistics and Monthly Digest of Statistics, as presented in Chia (2011: Table 1)

A key takeaway from Table 18 is that from 1970 to 2010, the number of non-residents in Singapore has increased continuously and immensely, going from just 2.9 percent of the population in 1970 to 25.7 percent of the population in 2010. On the flip side, Singaporean citizens as a percentage of the population fell during the period, decreasing from 90.4 percent of the population in 1970 to 63.6 percent of the population in 2010. More surprising, and showing the growing impact of Singaporean non-residents, is the absolute change in their numbers during the period, which grew from a paltry 60,900 in number to a weighty 1,305,000 by 2010.

Figure 4 is taken from Singapore's National Population and Talent Division from 2011.



**Figure 4 Population Singapore, 2011**



**Source: (A Sustainable Population for a Dynamic Singapore: Population White Paper, 2011)**

According to this figure, two million of the 5.27 million, or roughly 38 percent of the current population in Singapore are not citizens of the country. The non-resident population alone represents nearly 28 percent of the Singaporean population. Again, these statistics are not really a true representation, as the graphic does not take into account illegal or unregistered foreigners, nor those commuting from Malaysia to work in Singapore. The depiction at the bottom is a breakdown of Singapore's non-resident population, of which nearly half consists of work permit holders.

Table 19 shows the employed resident and foreign workers by sector in 2008.

**Table 19**      **Employed Resident and Foreign Workers by Sector, 2008**

	<b>Total</b>	<b>Resident</b>	<b>Foreign</b>		
	<b>Thousand</b>	<b>Thousand</b>	<b>Thousand</b>	<b>% distribution</b>	<b>% total</b>
Manufacturing	586.3	311.9	274.4	24.9	46.8
Construction	360.0	105.5	254.5	23.1	70.7
Trade	401.3	269.5	131.8	12.0	32.8
Transport and storage	197.7	182.4	15.3	1.4	7.7
Hotels and restaurants	179.0	120.0	59.0	5.4	33.0
Information and communications	85.1	87.0	-1.9	-0.2	-2.2
Financial services	160.6	123.6	37.0	3.4	23.0
Real estate and leasing services	68.4	43.0	25.4	2.3	37.1
Professional services	168.6	109.6	59.0	5.4	35.0
Administrative and support services	135.1	84.9	50.2	4.6	37.2
Community and personal services	590.2	391.9	198.3	18.0	33.6
Others	20.1	22.7	-2.6	-0.2	-12.9
<b>Total</b>	<b>2952.4</b>	<b>1852.0</b>	<b>1100.4</b>	<b>100.0</b>	<b>37.3</b>

**Note: "Foreign" is derived from total less resident , also residual errors resulted in negative numbers**

**Source: Singapore Yearbook of Manpower Statistics 2009, as presented in Chia (2011: thang, Table 6)**

We can assume that in Table 19, just as in Figure 4, the resident population consists of both Singaporean citizens and permanent residents. While Figure 4 showed that 28 percent of the population was non-resident in 2011, Table 19 shows that in 2008 they made up an even larger percentage, 37.3 percent of the total workforce. One reason why the representation of non-natives in the workforce is higher than in the overall population is because work permit holders, who comprise a majority proportion of the non-resident population, are not allowed to bring families (Appold, 2005). Another important point from Table 19 are the sectors in which foreign laborers constitute a significant share. Foreign workers made up almost 50 percent of total labor in manufacturing, as well as more than 70 percent of total construction labor in 2008. Again, in these two sectors, we can infer that the majority of these foreign workers are unskilled. Indeed, a *Straits Times* report in March of 2010 concluded that there were 245,000 foreign laborers in the construction sector (Chia, 2011).

Since the "Second Industrial Revolution", which began in 1979, Singapore has actively

sought out foreign skilled laborers and to upgrade its own labor force through training programs and expanding education. Foreign talent responded by steadily increasing their numbers in Singapore since the 1980s. Accordingly, Singapore began to close the skill gap with most industrialized countries, and was able to move into more advanced sectors such as finance and service related industries (Chellaraj, et al., 2009). Not only has Singapore's policy toward foreign skilled laborers always been open arm, but also the process itself for foreign talent to work and immigrate has become increasingly smoother.

On the other hand, government policies toward unskilled foreign laborers have been much more restrictive throughout the years. Prior to 1968, foreign unskilled laborers were not even permitted in the country due to high unemployment levels. As Singapore experienced extreme economic growth concurrently with rising wages, more and more opportunities for foreign unskilled labor opened up. Unskilled laborers from nearby Asian countries flocked to Singapore initially filling in holes in the growing manufacturing and construction sectors, and later as cleaning/general labor and domestic workers. These workers have been managed through a variety of policy measures throughout the years, including the work-permit system, the dependency ceiling (quota system), and the foreign-worker levy (Chia, 2011). Singapore has attempted to match the supply of foreign unskilled laborers with the changing demand for workers. As such, while growing substantially through the years, the number unskilled foreign workers has also been (somewhat) cyclical, as the government has attempted to adjust their numbers according to domestic economic conditions. Government controls toward unskilled and semi-skilled labor, "were relaxed during periods of economic boom (1968-73, 1981-84, first half of 1990s and more recently in 2007-8) to meet labor shortages, and the tap was tightened during periods of economic downturn (in the 1970s, parts of the 1980s, the latter parts of 1990s and the first few years of the new millennium and 2009-2010)" (Chia, 2011, p. 16).

### 4.3 Foreign Investment and Growth from the 1990s and into the Present

With Singapore as a new global city and a hub in South East Asia, foreign investment surged into the country in the 1990s. Table 20 shows FDI into select Asian countries during this time.

**Table 20 Foreign Direct Investment into Select Asian Developing Economies 1990-2012 (In S\$ Million)**

Year	Country								
	China, Hong Kong	China, Taiwan	Indonesia	Malaysia	Philippines	Singapore	South Korea	Thailand	Singapore's Share (%)
1990	3,275	1,330	1,092	2,611	550	5,575	789	2,575	31.33%
1991	1,021	1,271	1,482	4,043	556	4,887	1,180	2,049	29.64%
1992	3,887	879	1,799	5,138	776	2,204	728	2,151	12.55%
1993	6,930	917	2,003	5,741	1,238	4,686	588	1,807	19.60%
1994	7,828	1,375	2,191	4,581	1,591	8,550	809	1,369	30.22%
1995	6,213	1,559	4,419	5,815	1,459	11,943	1,776	2,070	33.88%
1996	10,460	1,864	6,245	7,297	1,520	11,432	2,325	2,338	26.29%
1997	11,368	2,248	4,729	6,323	1,249	15,702	2,844	3,882	32.48%
1998	13,939	222	-207	2,714	1,752	5,959	5,412	7,492	15.98%
1999	25,355	2,926	-1,838	3,895	1,247	18,853	9,333	6,106	28.62%
2000	70,508	4,928	-4,550	3,788	2,240	15,515	9,283	3,410	14.76%
2001	31,291	4,109	-2,977	554	195	17,007	3,528	5,073	28.93%
2002	6,748	1,445	146	3,203	1,542	6,157	2,392	3,355	24.64%
2003	18,601	453	-597	2,473	491	17,051	3,526	5,222	36.11%
2004	22,216	1,898	1,896	4,624	688	24,390	9,246	5,859	34.44%
2005	40,960	1,625	8,336	4,065	1,854	18,090	6,309	8,067	20.26%
2006	44,912	7,424	4,914	6,060	2,921	36,700	9,047	9,501	30.21%
2007	62,110	7,769	6,928	8,595	2,916	46,972	8,961	11,359	30.19%
2008	67,035	5,432	9,318	7,172	1,544	12,200	11,195	8,455	9.97%
2009	54,274	2,805	4,877	1,453	1,963	24,939	8,961	4,854	23.95%
2010	82,708	2,492	13,771	9,060	1,298	53,623	10,110	9,147	29.43%
2011	96,125	-1,957	19,241	12,198	1,816	55,923	10,247	7,779	27.77%
2012	74,584	3,205	19,853	10,074	2,797	56,651	9,904	8,607	30.51%

Source: (UNCTADstat, 2012)

Foreign investment into Singapore intensified in the 1990s. Case in point, the FDI into Singapore in one year, 1999 (18,853), was almost as much as the total FDI into the country in the 1980s (19,069). Of the Asian developing economies depicted in Table 20, only Hong Kong (90,276 total), again, was slightly ahead of Singapore (89,791) in FDI received in the 1990s. Table 20 also shows the impact of the Asian Financial Crisis on many of these economies. Only Hong Kong and South Korea appear to be unaffected by the financial crisis, showing positive growth in both 1998 and 1999. FDI into Singapore decreased by almost two-thirds from 1997 to 1998, but experienced a very quick recovery, boasting higher FDI in 1999 than in 1997. Malaysia and the Philippines took longer recovery times in terms of recuperating foreign investment growth, and Indonesia was the country hit the hardest by the Asian financial crisis.

Apart from 2008, when the global financial crisis began, investment inflows into Singapore have really picked up since 2006. Again, Hong Kong has received the most FDI since 2000 per the data in Table 20. Indonesia, Malaysia, and South Korea have also received much more FDI since the turn of the century. It is very interesting to see the sharp decline in FDI into Singapore in 2008, especially when most of the other countries depicted above show relatively little change in their FDI received in this year. One could argue that Singapore would be more interconnected with the global economy, and thus the global financial crisis because of the country's strong connection with financial markets. However, as Hong Kong is also a financial hub, and did not witness a decline in FDI in 2008, this argument does not appear to be convincing.

Table 21 shows from which countries FDI into Singapore originated.

**Table 21 Foreign Direct Investment in Singapore (changes in stock)**

1988			1998		
Investors Top 5 Nations	Investment (Million S\$)	Composition Ratio (%)	Investors Top 5 Nations	Investment (Million S\$)	Composition Ratio (%)
1. USA	7,672.5	21.4	1. Japan	22,839.6	18.2
2. Japan	6,489.8	18.1	2. USA	20,002.8	15.9
3. UK	3,920.6	11.0	3. Switzerland	13,350.8	10.6
4. Australia	3,321.6	9.3	4. UK	9,570.3	7.6
5. Canada	2,192.9	6.1	5. Netherlands	9,221.6	7.3
<b>TOTAL</b>	<b>35,799.2</b>	<b>100.0</b>	<b>TOTAL</b>	<b>125,638.2</b>	<b>100.0</b>

**Source: Singapore, Department of Statistics (2001), as presented in Miyamoto (2006: Table 1)**

In 1988, five (industrialized) countries, the USA, Japan, the UK, Australia, and Canada made up 65.9 percent of all FDI. The USA was the largest investor, at 18.1 percent of the total FDI. By 1998, Japan had become the largest investor in Singapore, at 18.2 percent of total FDI.

Up to this point, the paper has only focused on inward foreign investment. However, as Singapore, and many of Asian developing economies have industrialized and experienced high economic growth, they have also emerged as source countries for FDI. Table 22 shows outward FDI from these selected Asian economies since 1990.

**Table 22 Outward Foreign Direct Investment from Select Asian Developing Economies 1990-2012 (In S\$ Million)**

Year	Country								
	China, Hong Kong	China, Taiwan	Indonesia	Malaysia	Philippines	Singapore	South Korea	Thailand	Singapore's Share (%)
1990	2,448	5,243	-11	129	22	2,034	1,052	154	18.37%
1991	2,825	2,055	13	175	27	526	1,489	183	7.21%
1992	8,254	1,967	714	115	101	1,317	1,162	146	9.56%
1993	17,713	2,611	481	1,063	374	2,152	1,340	234	8.29%
1994	21,437	2,640	3,283	2,329	302	4,577	2,461	494	12.20%
1995	25,000	2,983	1,319	2,488	98	7,283	3,552	887	16.70%
1996	26,531	3,843	600	3,768	182	9,196	4,670	932	18.49%
1997	24,407	5,243	178	2,675	136	12,252	4,449	584	24.54%
1998	16,626	3,836	44	863	160	3,544	4,230	132	12.04%
1999	22,191	4,420	72	1,422	133	8,111	3,796	342	20.03%

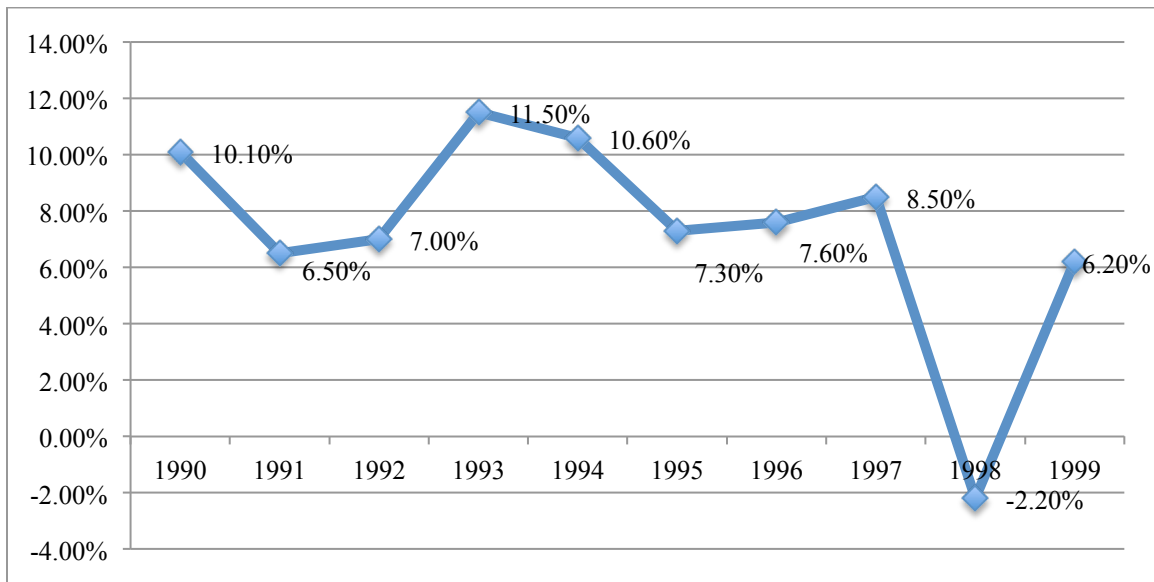
Year	Country								
	China, Hong Kong	China, Taiwan	Indonesia	Malaysia	Philippines	Singapore	South Korea	Thailand	Singapore's Share (%)
2000	70,005	6,701	150	2,026	125	6,650	4,482	-20	7.38%
2001	20,286	5,480	125	267	-140	20,027	2,196	427	41.15%
2002	16,249	4,886	182	1,905	65	-250	3,024	171	-0.95%
2003	12,828	5,682	213	1,369	303	3,114	4,135	615	11.02%
2004	36,699	7,145	3,408	2,061	579	10,961	5,651	72	16.46%
2005	33,905	6,028	3,065	3,076	189	11,589	6,366	529	17.90%
2006	47,576	7,399	2,726	6,021	103	18,637	12,514	968	19.42%
2007	67,872	11,107	4,675	11,314	3,536	36,897	21,607	3,003	23.06%
2008	57,099	10,287	5,900	14,965	259	6,812	20,289	4,057	5.69%
2009	57,940	5,877	2,249	7,784	359	24,051	17,392	4,172	20.07%
2010	98,414	11,574	2,664	13,399	616	25,341	28,357	4,467	13.71%
2011	95,885	12,766	7,713	15,249	539	26,249	28,999	8,217	13.42%
2012	83,985	13,031	5,423	17,115	1,845	23,080	32,978	11,911	12.19%

**Source: (UNCTADstat, 2012)**

As these countries have witnessed high economic growth, they have sought to capitalize on investments not only in their own countries, but abroad as well. Hong Kong is the largest source country of FDI among the countries depicted in Table 22, with Singapore and South Korea representing similar, but still much smaller, amounts of outward FDI. Malaysia, especially from 2006, and Taiwan, from the mid-1990s, also represent growing source countries of FDI. Interestingly, Hong Kong, Taiwan, Malaysia, and South Korea all have greater amounts of outward FDI currently than the amount of their inward foreign investment. From Table 22 it is also apparent that Singapore's outward FDI does not follow any pattern. The size of this FDI has fluctuated annually only to become (somewhat) stable since 2009 to this day.

As a rebuttal to those economists who argued that Singaporean economic growth would slow because of its supposed growth based on factor inputs (which would lead to diminishing returns), the 1990s and the beginning of the new millennium would see Singapore continue its phenomenal economic growth, as Chart 5 below shows.

**Chart 5** Singapore GDP growth rates 1990-1999

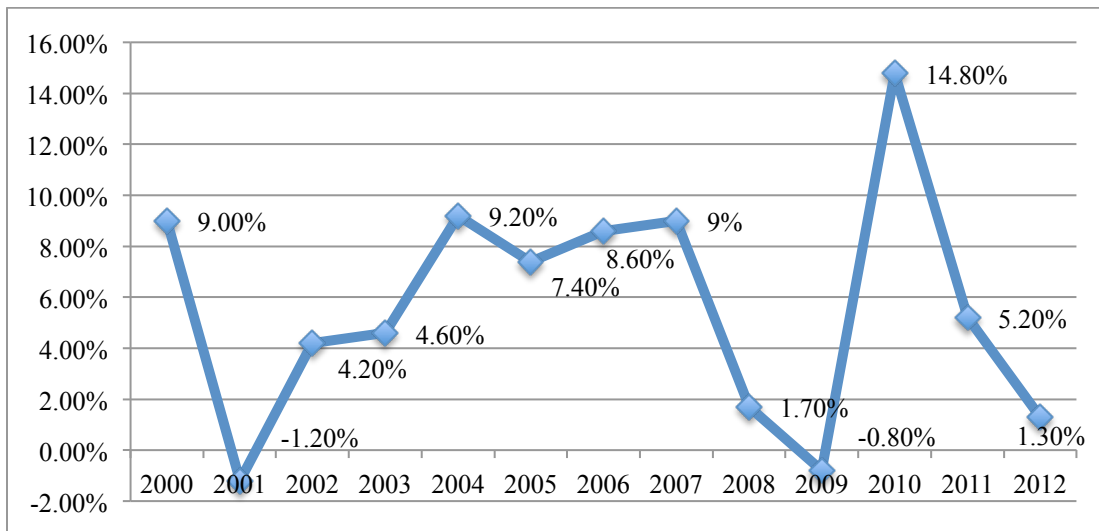


**Source:** (UNdata, 2013)

Chart 5 reveals also that the average growth in GDP for Singapore in the 1990s was 7.31 percent, just slightly less than the figure from the 1980s. In 1998, the effects of the Asian Financial Crisis caused a negative GDP growth for the country. However, Singapore was quickly on track again in 1999 with a growth rate of 6.2 percent.

Singapore's GDP growth rates from the 2000 to 2012 are shown below in Chart 6.

**Chart 6** Singapore GDP growth rates 2000-2012



**Source:** (UNdata, 2013)



The GDP growth rates of Singapore from 2000 to 2012 are very volatile, demonstrating the interconnectedness of Singapore's economy with the global economy. The country experienced negative GDP growth in 2001, coinciding with the economic aftermath of 9/11, and also in 2009, due to the global financial crisis. In 2010, the country experienced record GDP growth at 14.80 percent; the highest GDP growth of Singapore since its independence, breaking the previous mark of 13.80 percent set in 1970. The strong economic growth of Singapore in 2010 was largely on account of the growth in the still ever-important manufacturing sector (MTI, 2011). Overall, Singapore's GDP growth from 2000 to 2012 averaged 5.62 percent, less than other periods in Singapore's recent economic history that were covered in the paper.

#### **4.4 Foreign Labor in Singapore: Cost/Benefit Analysis**

It is definitely important in a paper reviewing the impact of foreign labor on the growth of Singapore, to discuss, in general terms, the costs and benefits of foreign labor, as well as to determine these in specific reference to Singapore. To what effect and impact, both positive and negative, have foreign laborers had on Singapore's economic development? The points touched on will be discussed in a brief manner, and both foreign skilled and unskilled labor will be analyzed.

##### **Benefits of Foreign Labor in Singapore**

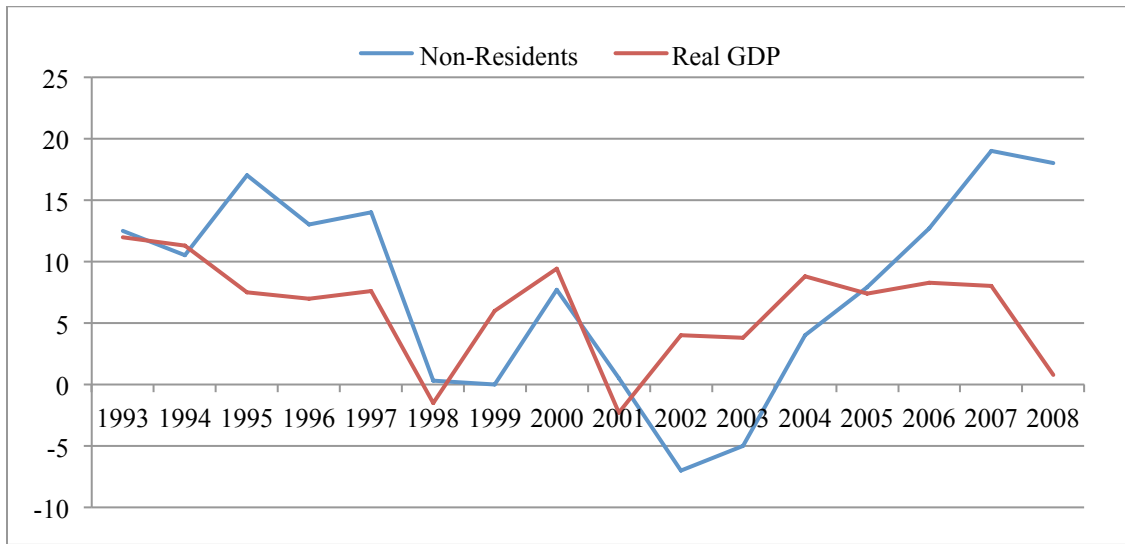
###### *Increased Competitiveness and Improved Profitability*

With regard to the recruitment of foreign skilled labor, Singapore has been able to position itself as an advanced and industrialized global city with high-skilled talent ready to serve the needs of the several thousand foreign MNCs in the country. This foreign talent has augmented Singapore's workforce, while the human capital costs of the labor, such as education and training, were paid for elsewhere (Stahl, 1984). This has been especially important in recent decades with the widening skill gap – the demand for skills has been rising faster than Singapore's domestic supply. Singapore has also tried to become more innovative, especially in the past decade, funding more R&D and entrepreneurial programs. Foreign talent could serve as a catalyst for boosting innovation,

as these workers perhaps are not as risk-averse and do not feel as stifled by the authoritarian government. A relevant study conducted by Hunt and Gauthier-Loiselle in 2008 revealed that skilled immigrants exerted a positive effect on innovation during the 1950-2000 period in the United States (Thangavelu, 2013).

This benefit is also, and perhaps even moreso, derived from the foreign unskilled laborers that have come to work in the country. Since the 1970s, high levels of economic growth led to rising wages that would have reduced foreign investment into Singapore in favor of lower cost countries in Asia and other parts of the world. The high number of low-skilled foreign workers in Singapore helped with the “hollowing out” effect from the MNCs, and were able to keep the country more competitive with lower labor costs (Thangavelu, 2013). Singapore has a small population, and thus also a small workforce. According to Stahl (1984, p. 39), “Labor immigration can reduce shortages in particular occupations, ensuring a more complete use of industrial capacity, and hence improve profitability. It can prevent wage inflation in those sectors suffering from labor shortages. It can postpone and ease the costly structural transformation toward more capital intensive production which the emergence of a labor shortage can necessitate”.

As Singapore has been able to manage the size of its foreign unskilled labor force relatively successfully through legislative and administrative measures, it has ensured that it can adjust the supply of low-skilled foreign laborers to the country's business cycles (Stahl, 1984). As such, during periods of economic growth more foreign workers can be brought in, and during economic downturns, they can be repatriated or their importation curtailed. Chart 7 demonstrates that Singapore has been able to do just that, as the growth and decline in non-residents has correlated with changes in Singapore's real GDP.

**Chart 7** Growth in Real GDP, Local Employment (Residents) and Non-Residents from 1992 to 2008

**Source:** Ministry of Manpower, Singapore, adapted from Thangavelu (2013: Slide 11)

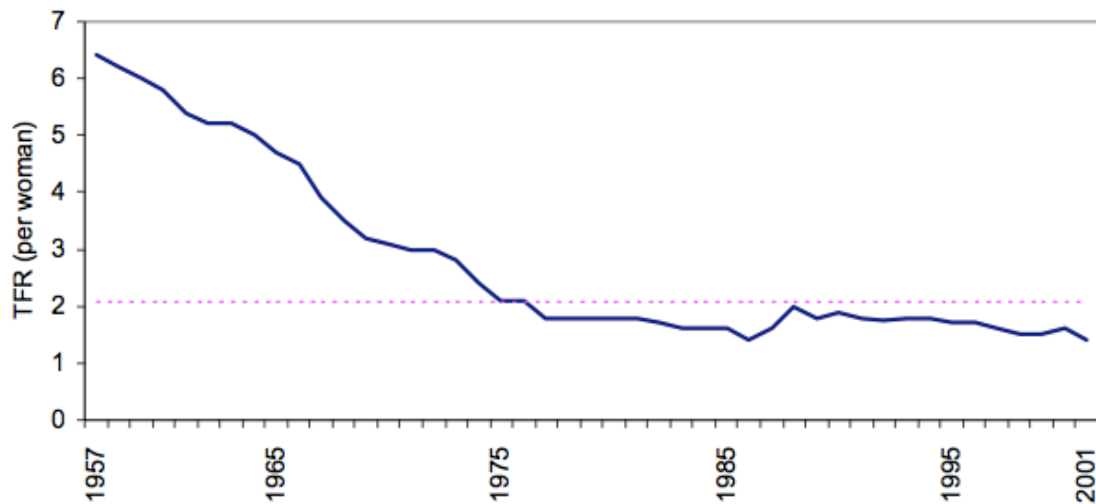
### *More and Better Jobs for Singaporeans*

In general, more foreign labor can create jobs because a larger population typically means more business and more jobs. In a 2004, Chia, Thangavelu and Toh (cited in Chia, 2011) contended that foreign labor complements Singapore's labor by facilitating industrial progress beyond Singaporean capabilities. They found that a one percent change in foreign unskilled/work permit holders contributes to employment for 2.6 percent Singaporean skilled workers and 1.4 percent Singaporean unskilled workers, while a one percent change in foreign skilled workers/employment pass holders contributes to employment for 1.9 percent Singaporean skilled workers and 0.2 percent Singaporean unskilled workers (Chia, 2011). Their data includes direct job creation, opportunity cost of Singaporean jobs that would have been lost if not for foreign labor as well as spillover employment benefits from foreign labor (Chia, 2011). The increasing availability of foreign domestic workers in Singapore has also led to rising female labor force population (and vice versa, as female labor force population has increased it has also led to more opportunities for foreign domestic work). Recent statistics reported by the Senior Parliamentary Secretary of the Ministry of Manpower showed that there were 196,000 foreign domestic workers in 2010, which came to one for every five households (Daipi, 2010).

*Demographics*

Singapore has a small population, and thus significant immigration is likely to play a large role in the country's demographics. A paper by Hui and Hashmi in 2004 (cited in Thangavelu, 2013). argued that immigration was a primary source to augment Singapore's population and workforce. The need to increase Singapore's population and workforce has been apparent for many years because of Singapore's declining fertility rate. The country had a post-World War II baby boom that led to a fertility rate of more than six children per woman at its height in 1957, spurning several programs in the late 1960s and early 1970s aimed at reducing fertility (Mason, 2001). These programs, together with other factors, led to one of the lowest fertility rates in the world. In the past few decades Singapore has tried to reverse course and increase fertility among Singaporeans. In 1987, Goh Chok Tang announced a replacement for the two-child policy, with the "three, or more if you can afford it" policy along with several procreation initiatives (Goh cited in Yap, 2002). Chart 8 shows the total fertility rate for Singapore from 1957 to 2001.

**Chart 8** Total Fertility Rate 1957-2001



**Source:** As presented in Yap (2002)

As Chart 8 shows, Singapore has been below the replacement fertility rate since the mid-1970s. The country has one of the lowest fertility rates in the world, hovering around 1.2 to 1.3 in 2011 and 2012 (The Straits Times, 2013). Foreign workers and foreign

immigration can most definitely serve as a way to increase Singapore's population as well as, at least legally in the case of foreign talent, to increase the number of births in Singapore. Lee Kuan Yew has stated many times the importance of immigration in the face of falling fertility rates. "Like it or not, unless we have more babies, we need to accept immigrants" (Yahoo! Newsroom, 2012). In another interview, he said, "If we do not take in migrants, we will become an old, diminishing society with no vitality and no drive" (Lee cited in Loh, 2011).

### *Help Singapore Reach its Economic Goals*

Foreign skilled labor has helped to facilitate structural changes towards a knowledge-based and highly technological economy by augmenting skills in Singapore which have been in short supply. Chia, Thangavelu and Toh's studies (cited in Chia, 2011) showed that Singaporean and foreign labor were complementary. They found that Singapore's GDP growth rate from 1992 to 1997 (9.7 percent annually) was above its long-term potential growth rate and that foreign labor constituted 29.3 percent of that growth. When GDP growth decreased to 3.1 percent from 1997 to 2002, the foreign labor contribution was only 0.1 percent (Chia, 2011). A study by Tan in 2011, showed that skilled and semi-skilled foreign workers have a positive impact on Singapore's economy (Thangavelu, 2013). The *dynamic sectoral allocation* of industries has been aided by the flexibility of foreign labor into the country.

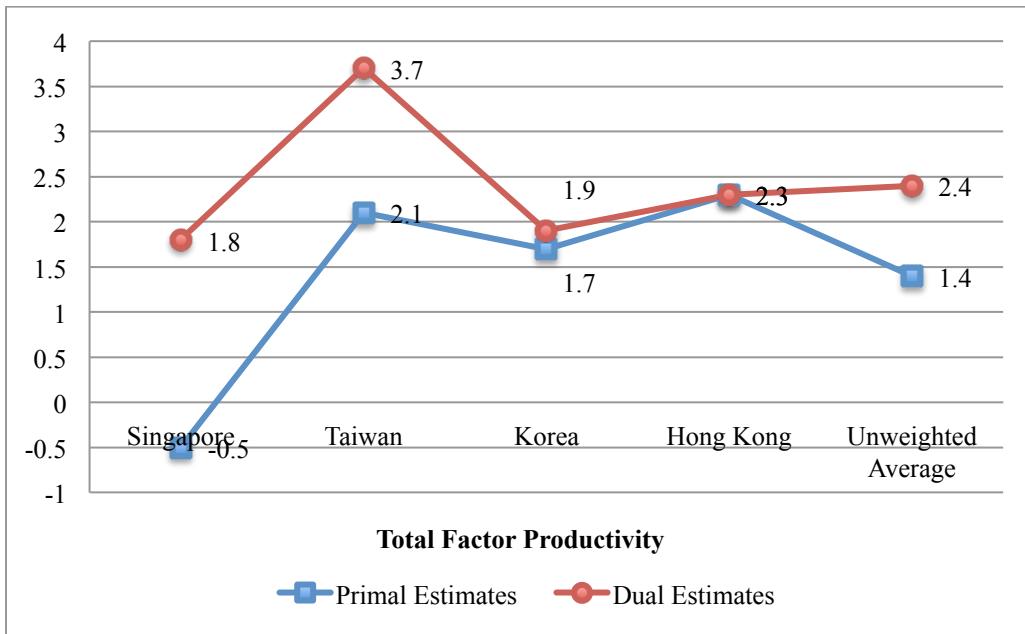
### *Arguments Against Foreign Labor in Singapore*

While there have been many benefits to Singapore from foreign immigration and foreign labor, these benefits have not been without costs. Pang and Lim (1982) wrote a paper on the benefits and costs of foreign labor to Singapore, arguing that while importation of foreign labor has undoubtedly created benefits for Singapore, these benefits have come with costs, and that these costs are likely to rise relative to benefits and with increased labor importation.

*Hindering Total Factor Productivity Growth*

GDP growth is comprised of growth of factor inputs (land, labor, capital) and total factor productivity (TFP). Foreign labor raises the potential GDP of Singapore through increasing factor inputs (labor). However, Singapore has experienced very low levels of TFP growth in recent decades. One argument against foreign labor is that their easy access has disincentivated Singaporean firms from upgrading their workers, and thus from increasing TFP (Chia, 2011). Alwyn Young (1992, 1994, 1995) showed using a primal estimate that Singapore’s TFP growth from 1970-1990 was actually negative, while Hsieh using a dual estimate found that it was moderately positive (Young and Hsieh cited in Fernald & Neiman, 2010). These numbers, along with those from the other NIEs, are shown in Chart 7.

**Chart 9 Total Factor Productivity Estimates (percent per year)**



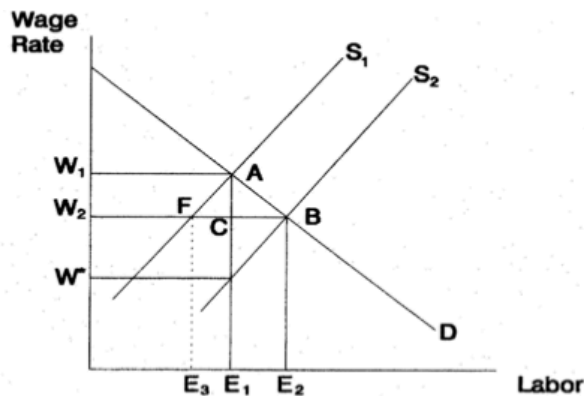
**Source: Adapted from Fernald and Neiman (2010: Table 1)**

A study by Wu and Thia from 2002 (cited in Chia, 2011) showed that Singapore’s TFP growth could have been much greater without foreign labor, because the practice of replacing foreign workers with new ones upon the expiration of their work permits has led to an inability for Singapore to accumulate work experience.

*Wage Effects*

In general, as the supply of labor increases in a country with stable demand, the wage rate decreases. This is represented in Figure 5 portraying supply and demand curves, showing the effects to a country that experiences an increase in foreign-born workers with stable demand.

**Figure 5** The Effects on Native-Born Workers of an Increase in Supply of Foreign-Born Workers



Source: (Levine, 2010)

As the supply of workers increases with constant demand remaining constant, the wage rate decreases. As Chia (2011, p. 24) writes, “if foreign workers are used as substitutes by employers, then local workers may lose jobs and may get lower wages because of the increased labour supply”. Borjas (cited in Thangavelu, 2013) did indeed find that foreign workers have exerted a downward pressure on native wages, particularly for unskilled workers, and especially in the short run.

However, Figure 5 relies on constant demand, and the real-world is not static but rather dynamic – in other words, demand is never really stable. During most of Singapore's growth, foreign unskilled workers have been needed due to inefficient supply of unskilled laborers which would result in bottlenecks and shortages, and not as substitutes for Singaporean unskilled labor. Different initiatives and sector upgrading in Singapore has often increased the demand for unskilled workers. As such, assuming that the demand for unskilled workers is pushed outward at a point equal to or greater than the increased supply of foreign unskilled workers, then the wage rate would either remain constant or

even increase. Of course, matching new supply and demand curves for unskilled labor is not easy for Singapore with its often cyclical growth, but the country has been able to manage the size of its foreign unskilled workforce fairly well through administrative measures.

### *Increased Competition for Domestic Jobs*

Per Dr. Lee's interview at the beginning of the paper, educated Singaporeans see foreign talent competing away their jobs in professional, managerial, executive and technical roles. Stephen Appold (2005) wrote a paper on Singaporean university graduates, arguing that from the 1990s, the Singaporean government has relied more on foreign labor especially for jobs at the highest levels of education and intensified overseas recruitment attempts of skilled workers. Singapore placed advertisements in the *Financial Times* in London and *Time* magazine in the U.S., which were coupled with campaigns on television. However, at the same time, economic growth stalled and the unemployment of Singaporean university graduates rose; so while Singapore apparently had a surplus of university graduates struggling to find jobs, the government somehow believed that the economy was still suffering from a shortage of skills (Appold, 2005).

### *Singaporean Emigration*

As Singapore relies so heavily on skilled labor it is no surprise that the country views educated Singaporeans leaving for elsewhere to be a "brain-drain" on the economy. In 2010, around 1,000 Singaporeans a month were applying for the "Certificate of No Criminal Conviction," which is a prerequisite for receiving permanent residence abroad (Yeoh & Lin, 2012). 192,300 Singaporeans were estimated to be living abroad in June of 2011, with the primary destinations including Australia (50,000), Great Britain (40,000), the U.S. (20,000), and China (20,000) (Yeoh & Lin, 2012). There are many reasons for Singaporean emigration, and why it has been increasing in recent years.

As the country has made it more difficult for educated Singaporean to find jobs due to increasing competition both from foreign talent and from increased numbers of their own educated candidates, many educated Singaporeans have decided to leave in search of



work elsewhere. In the early 1990s the government somewhat encouraged Singaporeans to venture overseas for investment and employment to improve the country's internationalization, but this has also sparked further fears of increased emigration (Teng, 1994). Many of Singapore's civil servants and political leaders were educated in universities abroad, leading to the belief among many that global citizens are vital to Singapore's economy (Yeoh & Lin, 2012). Moreover, temporary emigration is often associated with prestige and elitism among Singaporeans (Yeoh & Lin, 2012). Finally, with the higher salaries that foreign expatriates are able to command, Singaporeans feel that exposure to foreign markets will enable them to also attain higher salaries (Yeoh & Lin, 2012).

### *Social Issues*

According to a 2012 policy paper by the Singapore Democratic Party (SDP, a political party created in Singapore in 1980, but unable to make much leeway yet against the PAP), Singapore is the third most densely populated country in the world which has resulted in "escalating housing prices, diminished job opportunities, an over-extended public transport system, increased stress and a general lowering of quality of life for Singaporeans" (SDP, 2013, p. 1). Singapore it seems, has had a difficult time trying to decide its ideal population size. In 1993, the government stated that a population of four million was a comfortable figure, to which Lee Kuan Yew said in 2008 that between five and five and a half million was optimum, and current Prime Minister Lee Hsien Loong said in 2012 that the country can accommodate six million people (SDP, 2013; The Strait Times, 2012). Many of Singapore's Mass Transit System (MRT) lines were built to accommodate a population size of four million, but the growing population size has led to very crowded conditions at rush hour and the strain on the rail system is already pronounced (The Strait Times, 2012). Due to a scarcity of land, low interest rates, increased demand from immigrants, as well as speculation, housing prices in Singapore have been rising for several years leading to long waiting times and increased anxiety over housing (Loh, et al., 2013). In the near future, the externalities associated with increased foreigners, and a bloated population, may begin to offset economic benefits and cause negative feelings toward immigration.

## Conclusion

Singapore has without a doubt benefited from foreign multinational companies since the country's initial recruiting efforts in the early 1960s. MNCs have perhaps played a bigger role in Singapore than in any other country in the world, and their FDI has strongly contributed to Singapore's leap from the Third World in the 1960s to the First World today (Park, 2006). Unlike many industrialized countries, Singapore has few domestically owned multinational companies. Rather, Singapore has relied on making and sustaining itself as an attractive investment setting for foreign MNCs (Chellaraj, et al., 2009).

Foreign labor, both skilled and unskilled, have also played a significant role in Singapore's growth. The influx of foreign skilled laborers into Singapore has fit in with country's economic directives over the years, helping to change Singapore from an unindustrialized and labor-intensive economy to a highly developed and knowledge-based one. The skilled laborers have filled knowledge gaps at the MNCs in Singapore, and have served as conduits of knowledge to Singaporean workers. As economic growth surged with the foreign MNCs, importation of foreign unskilled laborers became a necessity. These unskilled laborers were needed to prevent bottlenecks and shortages in the fast growing manufacturing and construction sectors. In addition, with economic success and rising wages, foreign unskilled laborers were needed to keep labor costs, and Singapore as a whole, more globally competitive and attractive to foreign MNCs.

There are many historical parallels in Singapore's strategies with regard to foreign skilled and unskilled labor, and foreign MNCs. Since the early 1960s, Singapore has continually tried to attract foreign talent to aid in its industrialization goals. Japan had tried to recruit foreign knowledge and skilled workers for similar reasons in the late 1800s. In various periods of economic growth, Singapore has effectively utilized foreign unskilled workers from regional, lesser developed countries. The United States relied on Chinese immigrants for railroad construction in the late 1800s, and Norway currently relies on many Polish unskilled workers in its construction sector. Singapore, in the 1960s, was one of the first countries to employ a strategy of attracting foreign MNC investment; a

strategy that has become increasingly used among developing economies in the past few decades. While many countries employ one of these strategies: attracting foreign skilled workers, recruiting foreign unskilled workers, or seeking foreign MNC investment, it is difficult to find a country that has utilized all three strategies like Singapore. This three-pronged approach, or as the authors refer to it, the foreign dimension, has created enormous economic gains for Singapore.

Foreign MNCs, foreign skilled labor, and foreign unskilled labor have reinforced each other to help bring about an economic transformation in Singapore. When Singapore became independent in 1965, the country was unindustrialized, underdeveloped, and teeming with unemployment. Country's leaders decided to create the EDB and to seek out foreign MNC investment, and later to attract foreign skilled workers. As economic growth began to take off, foreign unskilled workers also came in droves to take advantage of opportunities in Singapore. Within a few decades, the country was one of the most global cities in the world, industrialized, and very wealthy. Singapore's incredible economic growth story – its “miracle” – would not have been possible without the foreign dimension.

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