

SOCIAL DEVELOPMENT AND ECONOMIC GROWTH: A CASE STUDY
OF MALAYSIA AND SINGAPORE

by

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Thesis

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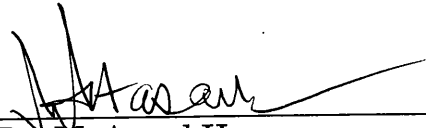
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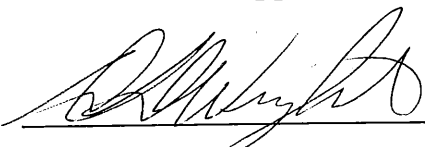
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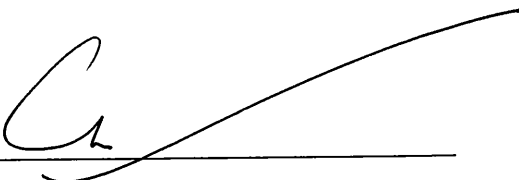
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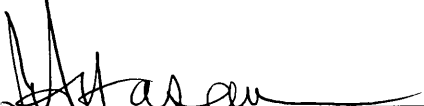


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ABSTRACT

This thesis explores the contribution of the social sector to the development and growth of a nation. To illustrate this, the social sectors of Malaysia and Singapore are studied to give a concrete demonstration of the importance of social investments and their effects on the rate of growth. This is analyzed using a sequence of deductive reasoning reinforced by an empirical investigation of the relationship between social sector investments and growth.

The empirical research conducted suggests that the long-term economic success of Malaysia and Singapore can be attributed to continuous and sustained investments placed in the social sectors. Particularly important have been investments in housing which have been used as instruments to redistribute wealth and provide political stability. The primary objective of achieving such political stability has been to create an environment conducive to long-term economic growth and development. Additionally, investments in the social sector were found to contribute strongly to high rates of economic growth by improving the quality and productivity of labor - the principal resource of both nations.

CHAPTER 1

INTRODUCTION

The British Empire had, at one stage, stretched her influence to the four corners of the world. Today, Prime Minister John Major is struggling to keep the pound sterling afloat along with massive unemployment and large deficits. At the same time, Commonwealth member countries such as Malaysia and Singapore have recently emerged as mini-economic powerhouses.¹ This dramatic turn of events exemplifies the volatile nature of global economies today. The globalization of world trade has led to increased dependencies amongst nations. The eighteenth and early nineteenth centuries were a time when trade was a symbiosis of natural products from countries rich in natural resources and manufactured products from those nations that had experienced the industrial revolution. With advances in communications and transportation, and the increasing flexibility of capital movements, the need for a country to achieve greater economic strength has become virtually a necessity for economic survival. Because of this, the ability of a nation to attract investments, to increase productivity and competitiveness, and ultimately to increase the quality of life has become a major challenge for the policy-makers of every nation.

1.1 Impetus for the Study

Adam Smith, the father of modern economics, was concerned with the welfare of a nation. Indeed his book, which was to launch economics as a distinctive

¹The majority of Commonwealth member countries are previous colonies of Great Britain.

discipline, was entitled "An Inquiry into the Nature and Causes of the Wealth of Nations." Following this precedent, economists have shared the responsibility of improving the welfare of nations. To this effect, respected international organizations such as the World Bank, IMF, and United Nations have become instrumental in the reconstruction of nations from Mexico to the Philippines. Unfortunately, there is no sure answer or formula to guarantee growth and development. Why should a country like Bengaldesh, despite efforts by World Bank authorities, be languishing in the unfortunate position of depending on the generosity of aid donors - year after year? Similarly, the Republic of the Philippines was once the rising star of Asia, yet within a decade it has become the poorest member of the ASEAN community.¹ Paradoxically, Singapore, a nation devoid of resources, ravaged by Japanese occupation, and living in the shadows of Indonesia and Malaysia, is now aspiring to match the quality of life enjoyed in the Netherlands by the year 2020.

The primary motivation of this thesis is to identify and analyze the qualities embedded in the successful economic policies pursued by Third World nations in the last three decades. The ability to recognize certain conditions necessary for continuous, long term sustainable growth and development is invaluable as a means to improve the welfare of a nation. In this context, two South Asian countries, namely Malaysia and Singapore, have been selected due to their identical historic and socio-economic origin. For the past two decades, Malaysia has achieved consistent economic growth while Singapore has graduated to the ranks of developed nation status. Less

¹The association of Southeast Asian Nations (ASEAN) is a joint economic and security organization. Its present members consists of Malaysia, Singapore, Indonesia, Thailand, Brunei and Philippines.

than a generation ago, these nations were classified as Third World countries. The lessons learned from their successes in economic policies could be implanted in other less developed nations. The logic of selecting Malaysia and Singapore is evident in their recent significant achievements, and the fact that both countries were saddled with the same initial limitations found in many Third World nations today.

The objective of this thesis is based on the proposition that social improvements in the areas of housing, health and education are an integral part to any long term economic planning. Too little emphasis has been placed on social indicators, thus limiting the inclusion of important social variables in different economic models. The importance of human resource enhancement in terms of social improvements will directly and indirectly contribute to the accelerated growth in an economy. While growth may take place without heavy investments in the social sector, it is argued that the potential for faster growth will nevertheless be restricted by the lack of capable human resources. This hypothesis was empirically tested to determine the impact of social variables on the growth performance of Malaysia and Singapore. The method used for this empirical research was based on simple regression analysis.

1.3 General Structure

Chapter 2 compares the difference between economic growth and economic development. Once this issue has been critically analyzed, we then examine the popular theories of economic development that have, at one time or another, taken center stage in economic policy-making. The core of the thesis lies in Chapter 3. This chapter attempts, by way of deductive logic, to argue that Malaysia and Singapore have progressively invested heavily in the social

sectors. Such an effort will be backed by available historical data. Chapter 3 will also highlight the importance of the historical and socio-economic orientations that have left their marks on the direction of economic policies in Malaysia and Singapore. Chapter 4 is designed to be complementary to the arguments put forth in Chapter 3. The approach, however, is based on an empirical exercise that strives to determine the importance of social contributions in terms of output to the economy. A basic exploratory model will be used to simulate contributions from selected variables representing the social sectors. The conclusion of the thesis is presented in Chapter 5.

This thesis is not intended to reduce the importance or significance of the neoclassical approach to economic development. Rather it is an exercise that will highlight the importance of social variables in the pursuit of economic development. Investments in the social sector should be integral to any economic policy designed for the long term growth and development of a nation. The importance of the social sector should not be relegated to the back-seat in favour of short term fiscal or monetary policies. Social sector development enhances the potential for increased rates of growth. The growth of a nation provides the potential for a better quality of life in a world scarred by poverty and hunger.

CHAPTER 2

THEORIES OF ECONOMIC DEVELOPMENT REVISITED

2.1 Introduction

Over the years, the common understanding of economic well-being has undergone significant changes, and, as a consequence, terms like *economic development* and *economic growth* have taken prominence in welfare and development economics. It is important that the meaning and subtle differences between these two terms be clarified at this stage of the thesis. Having done that, we can then proceed towards a discussion of those theories of development economics that have influenced policy-makers and governments in different parts of world.

In this chapter, we also argue that social sector development is not only an important and integral part of economic growth but, more importantly, that it should be incorporated explicitly as a policy variable into the traditional neoclassical growth-models. These models may then be able to explain the new concept of economic growth and development that has emerged in the Asian countries in recent years.

This chapter first examines the conventional philosophy of the mercantilist theories regarding trade and power in Section 2.2. A discussion on the definition of economic growth and development is presented in Section 2.3. Development theories based on radical, Marxian, structuralist and neoclassical points of view are provided in Section 2.4. Section 2.5 introduces the social aspects in economic development while a summary of this chapter is given in Section 2.6.

2.2 Economic Growth and International Trade

The concept and perception of what is considered to be economic growth and development has evolved through time from the nationalistic philosophy of the mercantilists to the neoclassical definition of economic well-being. Even before the publication of *The Wealth of Nations* by Adam Smith in 1776, essays and pamphlets by mercantilists were already theorizing that economic growth or wealth could be attained by way of trade.¹ Trade has been an age old economic function that is closely linked to the attainment of goods and, in the process, the attainment of wealth. According to the mercantilists, in order for a nation to become rich and powerful, it has to export more than it imported. Writing on this issue, Thomas Munn (1928, p.23) noted:

The ordinary means to increase our wealth and treasure is by Foreign Trade, wherein we must ever observe this rule; to sell more to strangers yearly than we consume of theirs in value. For... that part of our stock [exports] which is not returned to us in wares [imports] must necessarily be brought home in treasure [bullion]....

The export surplus from foreign trade would allow an inflow of bullion, primarily gold and silver. More gold and silver meant that the nation could be strong and afford to pay its army or navy for campaigns and be able to maintain peace. More gold also meant more circulation of money and, therefore, an increase in business activities. Since imports would drain the stock of precious metals, the role of the government was to restrict excessive consumption of unnecessary importations. As one nation could only gain

¹Mercantilists were ordinary men such as merchant, bankers, government officials and even philosophers.

at another's expense, trade was strictly regulated. Typical of such regulation were parliamentary acts such as the *Corn Laws* of 1660 enacted by England to reduce the volatility of prices and, in the process, to curb imports of cheaper feeds.¹ This, according to the mercantilists, would allow a nation to achieve growth; by stifling imports and maximizing exports through trade.

Mercantilistic philosophy lasted for more than two hundred and fifty years, from 1600 to the 1850s. And even today, policies of import substitution are deemed important in conserving precious foreign exchange reserves. However, economic growth and development has evolved into a sophisticated concept that not only involves nationalistic aspirations but a socialistic and egalitarian viewpoint. Countries not only look towards creating wealth but also to ensuring that its inhabitants enjoy a relatively comfortable standard of living. Between the philosophy of mercantilism and that of development theorists, the basic premise is still the same - the search for the mechanics that ensure an elevated standard of living for the masses.

2.3 Definition of Growth and Development

Before elaborating on developmental theories, we will first define the concepts of growth and development. This is because growth and development are two terms that have created much confusion regarding their meanings and applications. Although these two terms are closely related, they are not identical. In brief, economic growth is a sustained increase in the real output of an economy. A clearer exposition on growth

¹In fact the Corn Laws were a series of parliamentary Acts beginning in the 1660s and finally repealed in 1846.

is given by Simon Kuznets (1961, p.13) wherein he defines economic growth as:

Economic activity (which) is concerned with the provision of goods needed to satisfy human wants, individual and collective. Hence, economic growth ... means a sustained increase in the output of such goods.... the increase must be sustained over a period long enough to reflect more than a cyclical expansion, an unusually large harvest, a post- calamity recovery, or some other transient rise.

With sustained growth, the economy will undergo a series of structural changes. Generally, growth results in changes towards technological application, an increased sophistication in the financial system and, more importantly, an improvement in the quality of labour and production. Growth, defined in this perspective, is strictly a quantitative measure. Sustained economic growth allows a change in lifestyle, but it does not necessarily imply a *better or improved* quality of life. A striking example would be that of Mexico and Canada. At present, Mexico has an impressive growth record (over 4.4% per annum) that is hard to rival. Unfortunately, poor and squalid living conditions in huge metropolitan cities choked with pollutants begs the question of quality of life. Rural poor who flock to these industrial centers only exchange their identities to become urban poor. Economic growth measures only material output - it does not deal with the general well-being of the society. Economic development, on the other hand, is concerned with the improvement of both quality and quantity aspects of life for a society. It is the qualitative measure which is important and relevant for the the welfare of society. Development involves both structural as well as functional changes. In Economic Development (1977, p.1), Kindleberger and Herrick define economic development as:

... improvements in material welfare, especially for persons with the lowest incomes; the eradication of mass poverty with its correlates of illiteracy, disease, and early death ... the organization of the economy in such a way that productive employment is general among the working-age population rather than the situation of a privileged minority; and the correspondingly greater participation of broadly based groups in making decisions about the directions, economic and otherwise, in which they should move to improve their welfare.

From the above definition, in relative terms, one can argue that the standard of living in Canada is far better than that of Mexico. Canada has achieved a high level of economic development despite poor economic growth (less than 3% per annum) in the last three years. The welfare of the Canadian society is insured with an admirable health care system, social awareness, and a declining income group below the poverty line.¹ Thus, from the preceding discussion we may conclude that growth and development are two different aspects that are closely intertwined. A society can achieve growth without attaining development, however, economic growth provides the potential for a society to either directly or indirectly improve access to basic needs which are the foundation of economic development.

The discussion of growth and development would be incomplete without stating that while measurements of economic growth are clearly outlined in traditional terms such as Gross National Product (GNP) of a nation, the measurement of economic development remains vague. Economic development is multifaceted in its goals. Since the multiplicity of development goals requires a variety of development measures, there is

¹The issue of poverty is of course extremely controversial depending on the definition of poverty and the interest group involved.

often no established patterns by which to evaluate them. Often, measurements of social indicators are variables not easily quantifiable. In this context, the concepts of social progress, the individual's personal welfare and his/her relation to society, vary according to ideological and philosophical beliefs. Also, there are difficulties in measuring physical quantities or conducting statistical tests, especially in nations of less developed status that suffer from inaccurate and/or insufficient data on social indicators.

At this stage, we have outlined the differences between growth and development. It is not surprising, therefore, to find a rich pool of theories of economic growth as well as theories of economic development. Since the theme of this thesis is based on the *development strategies* that contribute to growth patterns in Singapore and Malaysia, we shall concentrate on development theories especially those of the radical and Marxist, structuralist and neoclassical schools.¹ Once we have introduced contemporary thoughts to these developmental theories, it is then the aim of this thesis to argue that the neoclassical concept can be improved by incorporating social variables, such as enhancement of *human capital* by means of increased educational opportunities or improved health and public health facilities into the existing growth theories. Although economic growth does not ensure economic development, it is a necessary precondition for sustained economic development. At this juncture, it is hypothesized that an increase in economic development by means of enhancing the quality and deployment of human resources will lead to a

¹The above concept of three principal variants i.e. radical Marxist, structuralist and neoclassical) are terms borrowed from Kindleberger and Herrick in Economic Development. For an overview of theories of economic development see p. 179-189.

sustained and accelerated economic growth, which, in turn, provides the potential for development to take place.

2.4 Development Theories

In the proceeding discussion on development theories, we shall first approach the radical and Marxist paradigms before exploring the structuralist and neoclassical theories. The rationale for this approach is that the radical and Marxist theorists are currently at the sidelines of contemporary economic thought, while the structuralist theories are identified with the popular neoclassical approach. Once we have established the neoclassical approach to economic development, we shall then introduce contemporary works based on empirical foundations that have arrived at the conclusion that *development strategies involving the enhancement of social variables are complementary to economic growth.*

2.4.1 Radical and Marxian Theories

Radical theories examine history and trace a theory of stages of development. According to Marxian philosophy, at the most advanced stage of capitalism internal contradictions in the form of imperialism will harbor the seeds of self-destruction. In the capitalist system, a class struggle occurs between the owners and the workers. Carried further to the international arena, exploitation takes place in the form of colonial dependence. Dependency theorists postulate that fundamental change is impossible in underdeveloped countries that remain under the influence of western capitalism. Dependence or the absence of independence is viewed as undesirable. International specialization leads to dependency on international markets that are controlled by the developed nations. Self-

reliance becomes impossible as the unequal powers of industrialized nations force the poorer nations to be the suppliers of primary products and consumers of goods and services imported from these industrialized nations. The existence of an indigenous elite that serves special interest groups such as multinational corporations or donor organizations funded by wealthy capitalists, can only inhibit genuine reform efforts that may benefit the wider population. Solutions to economic development, according to radical and Marxist theories lies in:

... revolution, possibly violent, even if favoured only by the minority; subsequent egalitarian redistribution, to alleviate the distress manifested by the class struggle; strictly limited private property holdings, and a correspondingly greater role for those who control the state, as a counterpoise to the efforts of the formerly powerful capitalists ... replacing to a large extent the discipline imposed by economic motivations of an earlier era.¹

The above extract from Kindleberger and Herrick (1977) states that, in order for economic development to take place in the poorer nations, a social and economic restructuring has to take place *within* the society itself. The world has witnessed this radical approach, by countries such as Cambodia and Vietnam. The economies of the now defunct Soviet Union are in shambles with the quality of living degenerating to a level unseen before. The Marxian ideology of economic development has been abandoned by the supporters of communism with China now propagating a capitalist outlook to achieve economic development for her people. Cambodia and Vietnam devastated by political struggles, have reconciled to allow a flood of

¹Charles Kindleberger and Bruce Herrick, Economic Development, p.185

investments to come in from Japan and Singapore. The twenty-first century, therefore, marks the retreat of radical Marxist theories of economic development.

2.4.2 Structuralist and Neoclassical Theories

While nations with communist ideologies looked towards an evolution within their society to achieve an egalitarian form of economic development, structuralist and neoclassical theories dominated the economic policies of non-communist governments. The thinking of the 1950s and 1960s was dominated by the structuralists' "stages of economic growth". This was a process in which development was viewed as a series of successive stages through which all countries must pass. It was primarily focused on the premise that the right quantity and mixture of savings, investment and foreign aid would enable Third World nations to proceed along an economic growth path which historically had been followed by more developed countries. The most influential of structuralist thinking has been propagated by W.W. Rostow (1969) whose doctrine states that the transition from underdevelopment to development can be described in a series of steps or stages which all countries will undergo. In his opening remarks from a book on "Stages of Economic Growth", Rostow (1969) noted:

*It is possible to identify all societies, in their economic dimension, as lying within one of the five categories: the traditional society, the pre-conditions for take-off into self-sustaining growth, the drive to maturity, and the age of high mass consumption they constitute a theory about economic growth*¹

¹W.W. Rostow, The States of Economic Growth, A Non-Communist Manifesto, (London: Cambridge University Press., 1960.) p.1, 3, 4 and 12. As cited from

In the structuralist analysis, the 'take-off' stage can only develop if a certain level of savings could be achieved. Surpluses from agricultural products could be transformed into capital for further growth and investments. The main constraint to development was the relatively low level of capital formation that is common to most less developed nations. The stages of the growth model are often complementary to the neoclassical school of thought. While the structuralist model has been guilty of oversimplification in explaining economic development, often the eclectic nature of the structuralist paradigm incorporates the neoclassical model in order to present a plausible theory of development. There is, therefore, a considerable overlap between these theories, the fundamental differences being the empirical foundation of the neoclassicals.

The contributions to economic development by the neoclassical theories have been considerable, particularly in the areas of price-oriented adjustment mechanisms, diminishing marginal returns to any given factor of production, and the exogenous nature of productivity improvements through technological changes. The perception of the neoclassical models is formulated on the intuitive appeal that individuals base their decisions on choosing among alternatives that maximize benefits while constrained by costs associated with the given actions. An economic environment, in which alternatives exist, would imply that substitution is possible. The possibility of substitution implies high elasticities in which changes in prices will affect the quantities of goods supplied and demanded, as well as the proportions in which the factors of production are combined.

This price mechanism allows the allocation of goods to gravitate towards a potentially self-equilibrating condition. Because of the laws of demand and supply, principles that explain economic behavior in one sector (or nation) should also apply to other sectors as well. Fund managers direct investments to nations offering the most attractive rates; workers are drawn to Singapore from Malaysia where remunerations and working conditions are more attractive; industrial lots command phenomenal prices in rent because of land scarcity in Singapore; and so forth. In terms of trade, neoclassical contributions originate from David Ricardo and the exposition on the laws of comparative advantage. These hypotheses were further refined by the twentieth-century work of Heckscher and Ohlin which basically states that "gains from trade to the trading partners, while theoretically indeterminate in amount, would leave both better off than they were before trade began."¹ The theories of neoclassicists had universal appeal because of their intuitive logic.

With the assumed possibilities of substitution among activities, 'natural' differences are often ignored. These 'natural' differences are in the realm of social indicators such as socio-political conditions, cultural variance, quality of education, human capital investments and others. The fundamental weakness that is apparent in the neoclassical mode of analysis is the historical and correspondingly mechanistic posture that it adopts. It is the contention of this thesis that weighted social variables should be complementary to the analysis of growth and development. Human capital and education are two areas that, once improved upon, will allow economic growth to accelerate. Cultural variance, although

¹Charles Kindleberger and Bruce Herrick, Economic Development . p.181

controversial in nature, could have economic implications. This is especially true for early economic migrants to Malaysia and Singapore who were predominantly from the lower class of the society in their country of origin. Because of the nature of their origin, it is not surprising to find that aggressive work ethics allowed economic wealth for the Chinese and Indians to be attained within a short period of time.¹

2.5 Social Dimension to Economic Development

Although social progress may appear to be simply an objective or end result of development, it has recently been viewed as an indispensable part of the process of economic growth by which living conditions will be improved particularly in less developed countries (LDCs). It is increasingly evident that the allocation of resources to welfare - education, housing, changes in the system of land tenure, health, social security, better social relations - must be considered an economic investment that raises a country's capacity to develop and accelerate its achievement of social goals. Social and economic investments are, today, theoretically and materially inseparable.²

V.L. Urquidi (1971) argues that social progress or economic development is a necessary condition for economic growth. He cautions that social goals should be tailored according to economic needs and economic capacity. Economic capacity refers to the available resources that

¹In the case of Malaysia, dominance in the economic sector by the Chinese and Indians soon led to unrest and violence by the indigenous Malays. The New Economic Policy was later formulated to address the issue on distribution of wealth by means of compromise which allowed a stable environment for economic growth and development to take place.

²V.L. Urquidi, *The so-called Social Aspects of Economic Development*, edited by Alan B. Mountjoy, Developing the Underdeveloped Countries. (Great Britain: The Macmillan Press Ltd., 1971). p.76-86.

could be channeled to social goals at the appropriate time while economic needs are the required inputs at the present stage of the country's development. While economic capacity can be dealt with in terms of demographic projections and financial needs, it is the more pervasive economic needs that hamper development. As an example, the economic growth of Malaysia is attributed to a large labour force that has a lower educational level suitable for easy mobility between industries. In the case of Singapore, the government has presently announced that S\$2 billion will be allocated to Research and Development (R & D). This signals the need for increased concentration on a high level of education such as economists, microbiologists and engineers. If this scenario was reversed, so Malaysia concentrates on developing a large pool of highly qualified professionals, and Singapore continues to maintain a level of education suitable for industries that require medium level technology, the policies of growth and development may be jeopardized due to this structural deficiency. Malaysia's economy has *not* reached the stage of maturity whereby a large pool of professionals are required, whereas Singapore, with a shrinking labour pool, has to move towards exporting technology and human capital in order to sustain its growth. Development strategies, therefore, have to be tailored to the required needs and capacities of the countries.

While it is commonly accepted that social goals can contribute to economic growth, there has been little assimilation of this by the neoclassical theories. One reason, as explained before, is the difficulties in defining and thus incorporating the social variables quantifiably into empirical analysis. However, research by Simon Kuznets found that the increases in conventionally measured inputs of capital and labour accounted for scarcely 10% of per capita growth. Kuznets further identified

changes in the quality of inputs, deployment of inputs, technology and organization as keys to growth.¹ In recognition of this, more emphasis has recently been placed on including social variables in any growth analysis. (Azhar [1991], Trzcinski and S. Randolph [1991].²)

2.6 Summary

Throughout the last century, a number of competing economic development theories have influenced policy-makers. Chapter 2 provides an insight into these development theories, drawing special attention to the fundamental differences between economic growth and economic development. While economic growth is the sustained increase in the output of an economy, economic development encompass a dimension that involves the improvement of both the qualitative and quantitative aspects of life for a society. The mainstream development theories have been generalized into three principal variants; radical Marxist, structuralist and neoclassicals. The 1990's have witnessed the failure of pure Marxist ideologies forcing the economies of communist nations to wasteful inefficiencies. An interesting development has taken place in which China, the last bastion of communism, has adopted a mix of neoclassical capitalism tempered with an egalitarian platform. The potential for economic growth in China is supported by providing political stability, and a firm infrastructure on health, education and housing. Unlike the now defunct Soviet Russia,

¹Simon Kuznets, Modern Economic Growth: Rate, Structure and Spread, (New Haven, Conn. : Yale University Press, 1966).

²Rauf A. Azhar. 1991. "Educational and Technical Efficiency during the Green Revolution in Pakistan," Economic Development and Cultural Change, April 1991, Volume 39, Number 3. Also, E. Trzcinski and S. Randolph. 1991. "Human Capital Investments and Relative Earnings Mobility: The Role of Education, Training, Migration, and Job Search," Economic Development and Cultural Change, October 1991, Volume 40, Number 1.

political stability is maintained because "China subjugated political reform to economic reform ... [also] they will not in any way allow the supremacy of the Communist Party to be questioned."¹ With political stability and the social infrastructure intact, China has been able to achieve a phenomenal growth rate in the last few years.

While the structuralist approach has been guilty of oversimplification, the mechanistic neoclassical theories warrant the inclusion of a social dimension. As an example, the injection of aid along with strict policy guidelines in the Philippines has proved to be ineffective in stimulating growth. The social institutions of the Philippines were not capable of responding to a policy stimulus and to capital injections because of a weak and crumbling educational and health infrastructure. Disenchanted and unskilled labour became a catalyst for an unstable political environment. Gains often accrued only to a small elite group compounding a politically unstable situation. Short-term economic growth was induced by an influx of foreign capital investment epitomized by multinational corporations and immediate infrastructure improvements (i.e. roadworks, ports, etc.), which proved to be temporary. Poor political stability and a troubled workforce can only attract poor investment confidence on the part of potential investors. In order for long term growth to take place, foreign aid and investment capital has to be channeled towards education, health and housing allowing the improvement and mobility of labour as well as stability of politics. With the security of these components, nation building and economic growth can be accomplished more effectively. To this extent nations like Malaysia and Singapore

¹Excerpt from the Globe & Mail Oct 12, p. B. 10 - David Roche, global strategist at Morgan Stanley & Co. New York.

experienced strong economic growth by adopting successfully a policy of political stability by means of enhancing social needs in the long term. At the same time a country that enhances its labour quality through education and training while relocating labour from low to high productivity activities and sectors will accelerate economic growth.¹

In the next chapter, the socio-political history of Singapore and Malaysia will be examined. The policies which these nations used to create the comprehensive social infrastructure that has allowed their phenomenal growth throughout the last 25 years will be critically evaluated. In particular investments made in the social infrastructure and the rationale of such investments, will be studied.

¹The 1980 World Development Report, (Washington, D.C. :World Bank) was devoted to the role of human capital in development. Gerald M. Meier's text, Leading Issues in Economic Development, 5th ed. (New York: Oxford University Press, 1989) is but one of the many texts acknowledging the central role played in economic growth by human capital enhancement.

CHAPTER 3

THE SOCIAL DIMENSION TO DEVELOPMENT STRATEGIES: A COMPARATIVE ANALYSIS OF MALAYSIA AND SINGAPORE

3.1 Introduction

Japan required forty years to restructure her economy to become an industrial powerhouse. In comparison only twenty-five years (1965 to 1990), was required for Singapore to achieve developed nation status. Within the same time frame Malaysia emerged as a leading member of the Third World nations. The objective of this chapter is to critically evaluate the development strategies and growth patterns that these two dynamic nations have undergone. Special emphasis will be placed on the importance of developments made in the social sphere.

Chapter 3 is divided into four major sections. Section 3.2 deals with the history and socio-political background common to these two countries. This section will begin with an introduction to the historical progression of trade, colonization and independence. This is an important section because the historical experience in social, political and economic spheres *dictates* the nature and structure of economic planning and goals that a nation perceives to be paramount.

In the aftermath of the 1965 elections, Malaysia and Singapore were torn apart by ideological differences. This sets the stage for Section 3.3 which describes the development strategies, especially those applied to human resource enhancement, and economic results for the period 1965 to

1990. This section also provides a historical and socio-economic dimension to future economic policies.

The importance of human resource enhancement which basically comprises of the housing, health and education sectors is investigated in Section 3.4. In the case of Malaysia and Singapore, there is a close identification between development strategies, political stability, and economic growth. The only difference is the degree of emphasis and focus. Malaysia utilizes policies towards housing and education as a means to eradicate poverty and achieve policies of equitable distribution of income. In the case of Singapore, the implementation of housing policies was initially to combat the dissent caused by communists threats. With the importance of human resource enhancement brought into focus, this chapter will postulate that investments in health, housing and education is a necessary condition for *long term political stability and accelerated economic growth*.¹

3.2 An Economic Heritage: Trade and British Colonization

The word *Malaya* used to represent the Malay archipelago that included all the islands of the southern half of South-east Asia. *Malaya* stretched from the north-western tip of Sumatra across to the easternmost Spice Islands. This land area, although separated by the ocean, maintained several things in common. The *lingua franca* of trade and communications was the Malay language and all the main languages indigenous to the area were related to Malay (Wang, 1964). The majority of the population shared a similar sets of customs and laws with a predominant faith in Islam which

¹For a clearer exposition of economic growth and economic development, please refer to chapter 2 section 2.3.

was brought by traders from the Indian continent.¹ Although there are traces of early Indian and Buddhist influences, the tolerant nature of these religions has allowed an assimilation of values and practices into the present Islamic society of South-east Asia.²

In the early 19th century, the Straits of Melaka and the southern part of the Malay peninsula assumed a new commercial and strategic importance when the British East India Company sought bases to protect its China trade.³ The establishment of these trading posts enabled the British East India Company to challenge the Dutch commercial monopoly in the Malay peninsula and archipelago. *Riau* and *Aceh* in Indonesia were monopolizing the lucrative spice trade and collecting taxes from merchants plying the route between the Europe continent and China. Because the Dutch were controlling these ports, much needed revenues were collected and channelled to the Dutch homeland. As British merchants could not gain access to these ports or had to pay hefty duties to use them, the British parliament sought to establish their own trading post. In the early nineteenth century, Singapura was merely an extension of the Johor Sultanate.⁴ With an agreement to purchase a piece of land from the Johor

¹ Muslims is a term for individuals who embrace the the teachings of Islam. Islam was embraced in the 15th century and today all Malays in Malaysia are Muslims.

² There is close similarity between the Malaysian and Indonesian language. Also in terms of culture and practices, the Malaysian sultanate imitates the system of rule of the Indian courts. As a note of interest, the ancestors of the present Malay race migrated from Northern China between 2500 and 1500bc. Some remained in the peninsular, mainly in the costal plains of the north, while others settled in the Indonesian islands.

³ The British East India Company was the flagship of the British Empire, leading to new discoveries, trade and conquest in order to accumulate wealth for the motherland.

⁴ Singapura is the name in Bahasa Malaysia (Malay language) -- the official language of the nation. The name Singapore is relatively more well know in the international circle. Prior to the 15th century the seaport Singapura was

Sultanate, Sir Stanford Raffles, settled upon the tiny island of Singapore as the next British trading outpost in South-east Asia.¹ The governing and jurisdiction of Singapore fell into the hands of the British in 1819. By 1824 the Straits Settlements was incorporated with the joint administration of Penang, Melaka and Singapore by the British East India Company.²

Situated at the southern end of the South China Sea, Singapore occupies a strategic location in geopolitical and commercial terms. Originally the consolidation point for the East Asian spice and silk trade - bound for the Cape of Good Hope to Britain and Europe - Singapore expanded tremendously as an entrepot after the completion of the Suez canal in 1869. While Singapore maintained its importance as a trading centre, mainland Peninsular Malaya increasingly came under the direct influence of the British. By 1942, the Straits Settlements of Singapore, the island of Penang, and Melaka were administered as Crown Colonies while the nine Malay states of Peninsula Malaya were protectorates under treaties with England between 1874 and 1914. While the British gained control of the plantations and mines, workers from mainland China and Southern India were brought in to supplement the small labour force found in Peninsular Malaya. Most of these worked in the tin mines and rubber plantations. This phenomena was tolerated by the Malay rulers and the indigenous Malays of Peninsula Malaya before the Japanese occupation of 1942 - 1945. Soon after the Japanese surrender, the return of the British to

known as Temasek. Its function as a port was insignificant prior to the British administration of the island.

¹The island of Singapore was ceded outright to the British East India Company in 1824. Other trading outpost under the direct control of the British was Penang and Melaka.

²Penang and Melaka were two of the Malayan Peninsula's established ports since the twelve century.

Peninsular Malaya brought changes in the political and constitutional structure. The Rulers of the Malay States (by means of coercion) agreed to a transfer of sovereignty to the British Crown whereby the Malayan Union was created.¹ Except for Singapore which remained outside of the Union, the Straits Settlements of Penang and Melaka were also incorporated into the Union. The formation of the Malayan Union marked two important precedents; that Singapore had established an independent identity free from the influence of mainland Malays and that a general resentment of foreign immigrants had taken root.

3.2.1 Independence and Social Developments - 1948 to 1965

The Malayan Union's constitution created a common citizenship that is not only restricted to Malays but open to all - Malays, Chinese, Indians and others who could claim to be citizens of a country by reason of birth or of a specified period of residence. This new constitution caused resentment and hostility by the Malays, who feared that the privileges of a common citizenship and a unitary form of government would undermine their old political status.²

The political decision taken by the British to limit the influence of the Malay Rulers and grant equal citizenship to the foreign workers was soon revised as there was immediate resistance by the Malays to the constitution of the Union. The short lived Malayan Union was replaced by the Malayan Federation of 1948 which allowed the power and jurisdiction of the Malay Rulers to be reinstated. Through a continuous policy of induced

¹The present composite of Malaysia involves the Peninsula Malaysia, Sabah and Sarawak.

²The International Bank for Reconstruction and Development, The Economic Development of Malaya, (Baltimore: The John Hopkins Press., 1955). p. 5.

emigration, Britain brought in Chinese and Indian "coolies" to extract and cultivate the rich tin mines and rubber plantations of Malaya. Malay resentment towards British interference and the influx of foreign workers was to play a major role in future policy formulation and economic directions. While Singapore continued to be under British rule until 1959, it was less exposed to racial conflicts because of the continuous British rule and the absence of any prominent Malay ruler or leader to organize any form of resistance. The fear harbored by the Malays was predominantly fuelled by three emerging phenomena; the increased economic wealth of the foreign workers; the increased population of the Chinese workers; and the influence of the Communist Party of Malaya (CPM).¹ A close examination of Table 3.1 reveals that in 1947 the foreign workers especially the Chinese has gained a strong foothold in the economy of the Federation of Malaya. In terms of rubber cultivation, the Indians had a 47.1% share as compared to 20.0% for the Malays. (Measured in terms of all gainfully occupied persons.)² The high concentration of Indian workers in the plantations indicates that the population of Indians was concentrated in the outskirts. Similarly, the Malay population was generally involved in rural activities especially that of padi cultivation. This is reflected in the fact that 48.4% of Malays were employed in this sector. The other sector in which the Malays has a strong showing is that of public administration and defense. The Chinese, due to cultural bias did not favour careers in the forces or the

¹The CPM was a catalyst towards British occupation. CPM members were initially of Malay, Indian and Chinese origin. During the Japanese occupation, the CPM played an important role, serving as the local underground resistance for the British. Upon the surrender of Japan, conflicts with the British administration forced the CPM to pursue a policy of insurgency. At the same time, the membership in CPM increasingly became Chinese dominated.

²Gainfully occupied is the term used for gainfully employed.

public services. Thus the Chinese account for 0.1 % of employment in the public administration and defense as compared to 1.8 % and 1.4% for the Malays and the Indians, respectively. In terms of economic clout and wealth the Chinese held a stronger position. The important sectors of mining and quarrying, manufacturing, commercial and financial, as well as, personal service were all dominated by the Chinese and to a lesser extent the Indians (e.g., see Table 3.1). The above analysis allows us to have an understanding of how the buildup of *social animosity* developed between the ethnic groups. The Malays had strong influences in the political scene due to their better representation in the forces and public services. Unfortunately, the majority of Malays were poorer than the other ethnic groups due to their principal occupation namely that of padi and rubber cultivators. Economic wealth was skewed towards the Chinese who were centred in larger cities and therefore had access to a better quality of living. To aggravate matters, the population of Chinese origin were increasing in the 1950's and 60's as compared to that of the Malays which remained at the same level as in the 1930's, as shown in Figure 3.1. With the increasing Chinese population and the decreasing economic wealth of the Malays, a tear in the social fabric of the Federation of Malaya took place. The Malay population was disgruntled with the eroding economic and social status that they were experiencing. This new development was the catalyst towards the formulation of the national economic policies which strongly affected Malaysia's growth patterns and developments from the 1960s to the 1990s. Social development was concentrated on elevating the Malays' status to ensure equality in income distribution, not only between the ethnic composite but to all Malaysians as well.

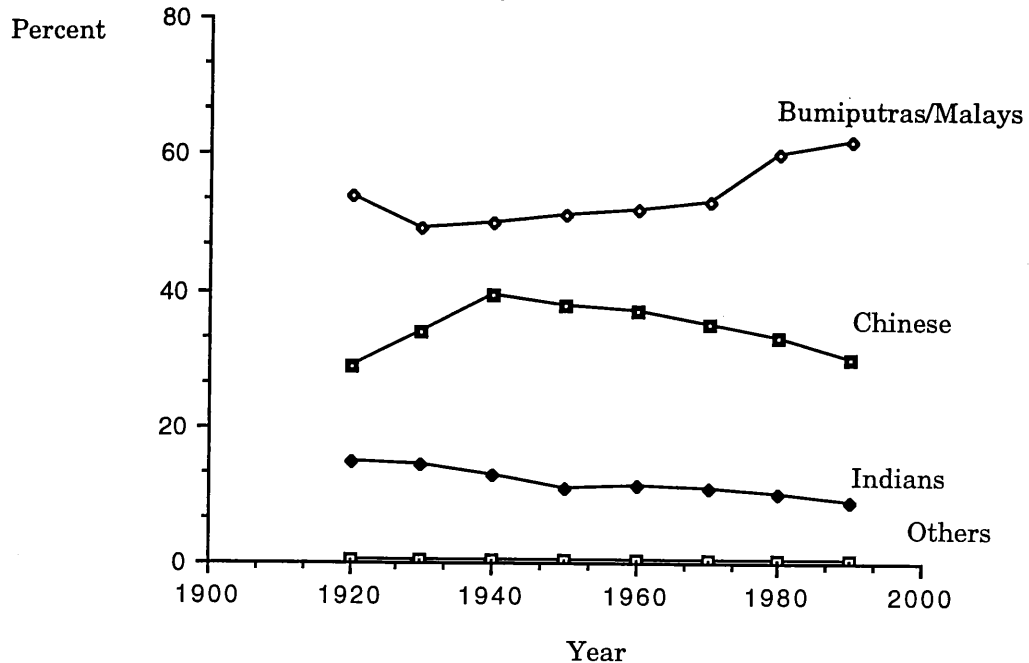
3.2.2 Independence and the Divorce of Singapore

The Federation of Malaya gained her independence from the British in 1957 followed by Singapore's independence in 1959. The new Federation of Malaysia was soon incorporated in 1963 with Peninsular Malaysia, Sabah, Sarawak and Singapore.¹ At that point in time, the Federation of Malaysia was facing continued communist threats in the forms of labour strikes and terrorist acts. The Malay population continued to feel the threat of the CPM who had by now incorporated the ideology of communism with that of eroding Chinese rights in Malaysia. The ill-fated foray into Malaysian politics by the People's Action Party (PAP), which was based in Singapore, soon led to events in 1965 when Singapore was told to leave the Federation of Malaysia.² Although it is difficult to separate the economic policies that have been carried out before and after 1965, this benchmark in time has been chosen because of the heightened Malay nationalism in Malaysia and the freedom of the PAP to pursue separate economic policies. These economic policies of the PAP were not encumbered with the obligation of the Federal Government of Malaysia to accommodate preferential treatment to one particular ethnic group. As such Malaysia and Singapore took different paths towards economic development; Malaysia with a national economic policy that has a social platform of

¹The birth of Malaysia was resisted by the Indonesians who launched the *Konfrontasi* which was basically an ambitious plan to include the Federation under the Indonesian rule. The Indonesian government feared that the establishment of Malaysia would cause a power struggle in the Malay archipelago.

²In 1959, Singapore won her independence from the British and in 1963 joined the Federation of Malaysia. The Federation was an uneasy one leading to the termination of Singapore's membership with the Federation in 1965.

Figure 3.1
Malaya / Malaysia - Ethnic Distribution



Sources: Federation of Malaya, *Federation of Malaya Official Yearbook 1962*, Vol. XI (Kuala Lumpur: Government Press, 1962), p. 40; Government of Malaysia, Department of Statistics, 'Malaysia Population Statistics, Estimated Population by Race and Sex as at 31st December 1964' (mimeo-graphed) (Kuala Lumpur: Department of Statistics, 1965) calculations from Government of Malaysia, *Fifth Malaysia Plan, 1986-1990* (Kuala Lumpur: National Printing Department, 1986), p. 129.¹

¹As cited from *Malaysian Politics the Second Generation* p. 278.

Table 3.1
Percentage Occupational Grouping of Gainfully Occupied Persons,
1947, Federation of Malaya

| | Malaysians | Chinese | Indians | All gainfully occupied persons |
|---------------------------------|------------|-------------|-------------|---|
| <u>Agriculture:</u> | | | | |
| Rubber cultivation | 20.0 | 23.4 | 47.1 | 25.9 |
| Padi cultivation | 48.4 | 6.2 | 2.7 | 24.7 |
| Other Agri. Occupation | <u>6.7</u> | <u>16.8</u> | <u>8.0</u> | <u>10.7</u> |
| | 75.1 | 46.4 | 57.8 | 61.3 |
| Fishing | 4.8 | 2.5 | .2 | 3.1 |
| Mining and quarrying | .5 | 4.3 | 1.4 | 2.1 |
| Manufacturing etc. | 5.1 | 12.9 | 4.0 | 7.8 |
| Transport, communications | 3.0 | 3.3 | 5.6 | 3.6 |
| Commercial and finance | 3.0 | 14.4 | 7.3 | 8.0 |
| Admin. and defense | 1.8 | .1 | 1.4 | 1.1 |
| Professional occupations | 1.6 | 1.8 | 2.7 | 1.8 |
| Personal service | 1.1 | 7.5 | 5.6 | 4.3 |
| Clerical, etc. occupations | .8 | 2.9 | 2.7 | 2.0 |
| Others, indeterminate ocp | <u>3.2</u> | <u>3.9</u> | <u>11.3</u> | <u>4.9</u> |
| | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Report on the 1947 Census of Population. As cited from The Economic Development of Malaysia. p. 12.

Malay interests and rights, and Singapore of economic growth regardless of ethnic background and identity.

3.3 Economic Development - 1965 to 1990

The earlier section analyzed the historical and socio-economic development of Malaysia and Singapore, leading to the formulation of separate economic policies based on ideological differences. In this section, an analysis of Malaysia and Singapore's economic policies, and of the functional importance of improved social conditions to economic growth will be undertaken. This section basically comprise of three main areas. In section 3.3.1, issues on national policies and strategies of implementation will be analyzed. These development strategies would ultimately shape the performance and the nature of Malaysia's and Singapore's economies. Subsequently, in section 3.3.2, basic growth indicators such as growth rate of GDP and GDP per capita will be provided in order to provide an overview of Malaysia's and Singapore's growth performance. Section 3.3.3, provides a closer look into changes in the composite structure of the respective economies. The ability to induce a change in composite sectors exhibits the importance of a mobile labour force that is trained and educated. Once we have recognized the necessity of human resource enhancement, the progression of this chapter will be towards the level of investments placed in the areas of health, housing and education by the Malaysian and Singaporean governments. This will be presented in Section 3.4. While the global economic environment and neoclassical philosophy of fiscal and monetary policies places an emphasis on short term economic goals, the final section of this chapter will postulate that increased concentration in social sectors is a *must* for long term economic goals.

3.3.1 Social Dimension and Development Strategies

The economic planners of Malaysia structured their short term and long term economic policies under a series of economic plans. The short term plans run for a period of five years each. They are introduced in The First Malaysia Plan (1965-1970) and have now progressed to the present Sixth Malaysian Plan (1991-1996). In implementing the Second Malaysian Plan, the long term prospects and ambitions of Malaysia were chartered in the Outline Perspective Plan (OPP) which spans from the period 1970 to 1990.¹ The First Malaysian Plan (First MP) had sought to identify the socio-economic problems the nation was faced with. In summary the plan stipulates:

- 1) A heavy dependence upon two export product, rubber whose price is steadily falling and tin, where reserves are rapidly depleting.
- 2) A high rate of population increase presenting a problem of finding productive employment as well as imposing a social cost in that 'resources which may have been used to increase levels of welfare must instead be devoted to supporting the growing population at the existing standard of living'.²
- 3) An uneven distribution of income; between rural and town dwellers and among various social groups.
- 4) A relatively low level of human resource development, which results in shortages of many skills needed out to carry development. ³

¹The present Sixth Malaysian Plan is under the umbrella of the Second Outline Perspective Plan from 1991 to 2000.

²First Malaysian Plan. p. 1

³Human resource development is broadly defined here as the enhancement of social variables such as health, housing and education.

The socio-economic problems that are listed above continue to form the guiding principles of Malaysian planning. While the FMP accurately identified the fundamental problems of the Malaysian economy, it was the racial riots of 1969 that forced the Malaysian government to focus on the socio-economic imbalances that are perceived to cause political instability in the nation. With political instability, economic growth cannot take place in the long term.

Prior to 1971, economic development focused mainly on accelerating growth through investment in agriculture, infrastructure and rural development. The May 1969 incident revealed that emphasis on economic growth alone could not adequately deal with the socio-economic imbalances that characterized the Malaysian society. The New Economic Policy (NEP) in its formulation in 1970, therefore, recognized that any developmental effort which did not deal adequately with the problems of socio-economic imbalances among ethnic group and regions would lead to growth without equity and, in turn, result in a *fragmented and less secure nation*.¹

The above statement has basically displaced economic growth as the most important economic objective. The socio-economic background inherited from the colonial days has forced Malaysian planners to recognize that political stability is an integral part of economic growth. The objective of the eradication of poverty, and the restructuring of society to eliminate the identification of race with economic function became the principal guidelines of economic policies. To this extent, the enhancement of housing, health and education was mainly directed towards the ethnic group perceived to be disadvantaged.

¹Fifth Malaysia Plan (1986-1990). p. 4.

In the case of Singapore, the separation from Malaysia in 1965 along with the loss of Indonesia as her largest trading partner painted a bleak economic future.¹ The economic lifeline of Singapore was in entrepot trade, and, the impact of Malaysia's and Indonesia's withdrawal was already felt in 1964 when Singapore's entrepot trade shrank by 24.1% and contributions to GDP dropped by 35.1% in 1964. [You and Lim, (p.28, 1971)]. As a result, the whole economy of Singapore almost grounded to a halt at a growth rate of 0.6% [You and Lim (1971)]. Singapore's economic policy was initially formulated on the basis of a participating member in the Federation of Malaysia. The loss of membership in Malaysia forced its Import-Substitution Industrialization (ISI) strategy to be abandoned.² The ruling party of Singapore, the PAP, was to execute a swift turnaround in economic strategy. The fundamental change was a concentration on Export-Oriented Industrialization (EOI). Entrepot trade was to play a secondary role in the pursuit of economic growth. Unlike Malaysia, which had to deal with the ethnic dimension of political instability, Singapore's problems lay with the influence of left-wing unions and the disruption caused by union related strikes. In terms of ethnic composition, the nature of occupation (as in services and trade) in Singapore had led to the gradual dominance of the Chinese population over other ethnic groups. In 1966, the ethnic composition comprised of 78.7% Chinese, 12.1% Malays and 11% others (You and Lim, 1971). As compared to the mainland Malays, the Malays in Singapore lacked the size as well as the effective leadership necessary to push forth the issue of preferential ethnic treatment on the platform of

¹Indonesia had earlier objected to the formation of the Federation of Malaysia that comprised of Singapore as well. As a form of protest, in 1965, there was a total withdrawal of trade with Singapore by the Indonesians.

²ISI follows closely the concept of a self sustaining economy.

socio-economic unrest. To this end, Singapore's political instability was initially suppressed by the gradual infusion of PAP's ideology and influence on the local trade unions [e.g., see Rodan (p.86, 1989)]. The EOI strategy called for short term concentration in developing *labour-intensive* industries in order to export to other nations as well as to alleviate the unemployment problems.¹ In the long term the PAP concluded that 'fiscal policies and pump-priming would constitute a partial and temporary solution. The real hope lies with the plan to attract international capital to use Singapore as an [value added] export base for manufacturing [Rodan (p.88, 1989)]. In the long term, the EOI strategy was also expected to provide the economic returns that would ensure political stability. Singapore, therefore, had to upgrade and enhance its human resources in order to provide a pool of workers capable of meeting the challenges defined in the EOI strategy.

Malaysia and Singapore are two nations that had prospered under British rule. Independence from British rule brought along economic responsibilities to the respective governments of Malaysia and Singapore. Although the formulation of short and long term economic policies was influenced by different national aspirations, the agreed prerequisite was the *enhancement of human resources* for long term growth and political stability. Total enhancement of human resources can only be achieved by development strategies that focused on increasing access to housing, health and education. The next section will highlight the extent and success of these development strategies over the last two decades. From the basic

¹Unemployment in Singapore stood at 14% in 1960 while the population was growing at an average of 3.2% in 1966. (You and Lim, p.44). Population growth was perceived by the Singapore planners to further compound the unemployment problem.

growth patterns that are identified, we will expand towards the examination of change in composite sectors. This is because the increasing importance of human resource enhancement is mirrored in the change of composite sectors that Malaysia and Singapore had successfully undergone over the last two decades.

3.3.2 Growth Patterns of Malaysia and Singapore

Malaysia and Singapore are two nations that are highly involved in international trade. Given the very open nature of these countries' economies, any weakening of demand by their respective trading partners will have a rippling effect on their economies. Figure 3.2 provides a historical movement of the growth rates of real Gross Domestic Product (GDP) from the period 1970 to 1990 for both countries. The fluctuations in the rate of growth are consistent with the volatility of the global economy. The oil shock of 1973 and the depression of 1985 is severely felt in these two nations as well. While Figure 3.2 reflects the openness of Malaysia and Singapore's economies, Figure 3.3 provides an insight into the basic strength of these two economies. A majority of nations suffered poor or negative growth during the global recessions of 1974 and 1984. Malaysia and Singapore were able to weather the global slowdown as they were exposed to negative growth only once in the period of 1965 to 1990. The weakening of the United States and Japanese economies caused a tremendous global slowdown in 1984 which in turn caused negative growth in Malaysia and Singapore in the following year. Figure 3.3 shows that Malaysia was to suffer a real negative growth of 1.0%, while Singapore experienced real negative growth of 1.64% in 1985 as shown in Figure 3.3. However, the resilience of these two countries was evidenced by the strength

of recoveries in the following years culminating in real GDP growth rates of 9% and 8% in 1990 for Malaysia and Singapore respectively.¹

With the growth in real GDP, the income per capita for both these nations has also seen tremendous increases. In the period 1969 to 1989, Singapore experienced an increase of 1144% in current GNP per capita (US\$840 to US\$10,450), while Malaysia experienced an increase of 384% in current GNP per capita (US\$380 to US\$2,160).² The difference in growth of GNP per capita between Malaysia and Singapore can be partially explained by the growth of population size. While Malaysia's population increased 64% between the period 1969 to 1989 (10.580 million to 17.340 million), Singapore experienced a smaller growth of 32% in population (2.043 million to 2.684 million). The relative difference in the growth rate of population should be discounted to provide a more balanced picture in terms of GNP per capita of these two nations. In essence, if the population growth of Malaysia had been proportionate to that of Singapore, then its increase in GNP per capita would have been greater. Figure 3.4 exhibits an increasing gap in the real GNP per capita in US dollars between Malaysia and Singapore. This increase in per capita income has propelled Singapore to the ranks of developed nation status and Malaysia to the verge of achieving Newly Industrialized Nation (NIC) status. In terms of world performance these two nations have been able to achieve an improvement in the quality of life that is far greater than that of neighboring countries.

As a result of strong development strategies, Malaysia and Singapore have been able to raise their quality of living. There are, however,

¹The real growth rate of GDP of both these countries are in the region of 6% to 8% for 1992.

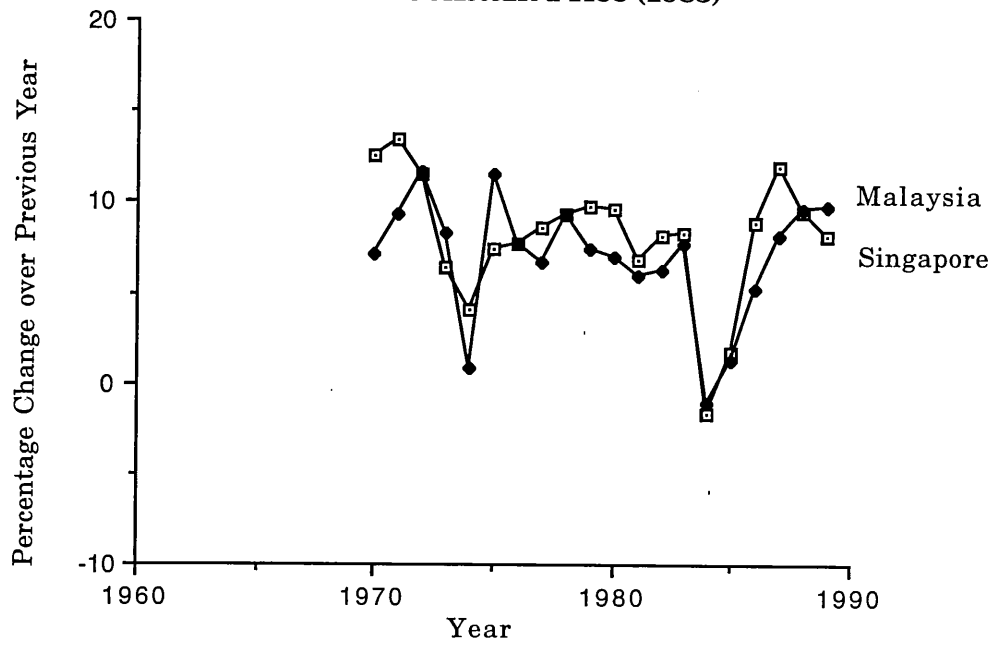
²Figures derived from World Tables 1991, p. 385 and p. 506

constraints imposed on the rate of growth within each nation. The overriding issue of political unity, population size and more importantly, the lack of suitable labour imposes a serious threat to economic growth. In fact, the issue of enhanced human resources is paramount to a nation's future. For Malaysia and Singapore, the ability to induce changes in their composite sectors, reflects the importance of a trained and educated labour force. The following section will reflect on the success of each nation in changing its composite sectors.

3.3.3 The Change in Composite Sectors

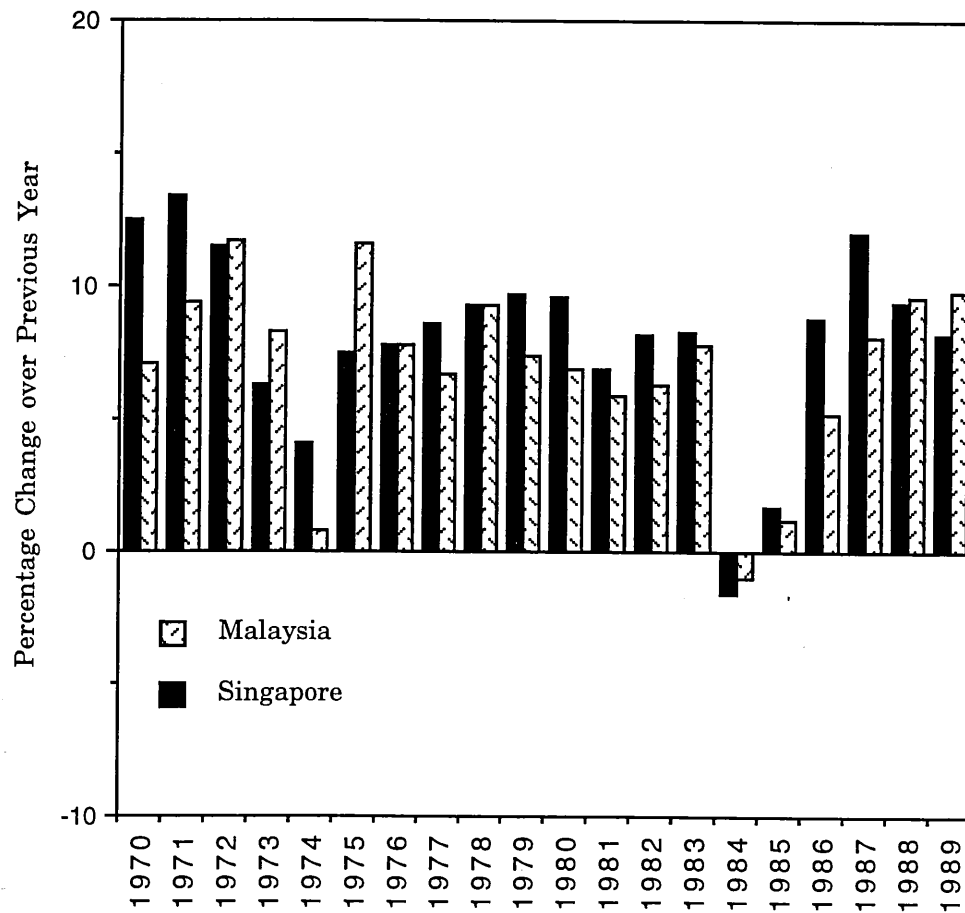
Over the last 20 years, the economies of Malaysia and Singapore have undergone a change in their composite sectors. These composite sectors are made up of agriculture, industry, manufacturing and services. The definitions of these sectors are as provided by "World Tables 1991" published by the World Bank. In brief, the agriculture sector comprises agriculture and livestock production, fishing, hunting, logging and forestry. The components for industry are made up of mining and quarrying, electricity, gas and water. The services sector includes all service activities; transport, storage and communications; wholesale and retail trade; banking, insurance and real estate as well as public administration and defence. Figures 3.5 and 3.6 are pie charts that demonstrate the change in sectoral composite for Malaysia from 1970 to 1989. The most evident of these changes are in the manufacturing and agriculture sectors. In the period 1970 to 1989, manufacturing activities in Malaysia increased from 14.65% to 26.24% of GDP at factor cost. Correspondingly, there has been a significant decrease in agriculture activities from 29.54% to 19.47% of GDP at factor cost during the same period.

Figure 3.2
GDP at Constant Price (1985)



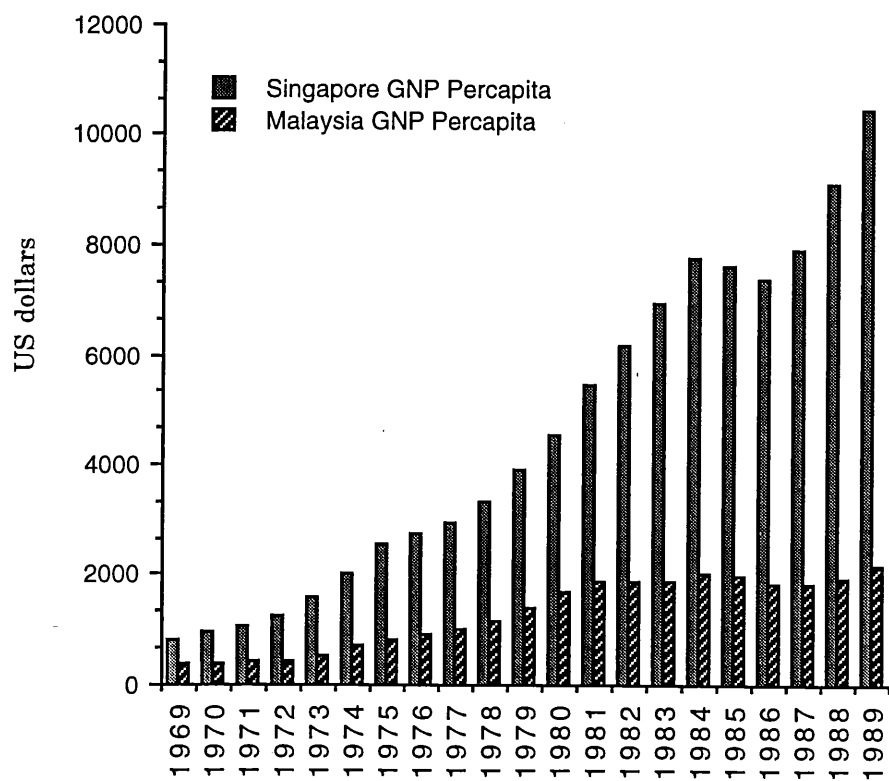
Source: IMF Yearbook 1989, International Financial Statistics

Figure 3.3
GDP at Constant Price (1985) - Bar Chart



Source: IMF Yearbook 1989, International Financial Statistics

Figure 3.4
GNP Percapita in US dollars



Source: IMF Yearbook 1989, International Financial Statistics

In terms of industrial output, for the same period, there has been a decline of 20.05% to 16.35% of GDP at factor cost. The change in the sectorial composite reflects the relative success of the Malaysian policy of diversifying her output. The First Malaysia Plan (FMP) highlighted the deficiency of the economy by bringing to attention the heavy dependency on rubber and tin industries. In terms of sectoral representation, rubber and tin are reflected in the shares of agriculture and industry. In 1965, Malaysia was the "world's largest producer of natural rubber and tin, which together accounted for 55% of the nation's export and about 30% of GNP in 1965." (FMP, p.4). The development strategy of the Sixth Malaysian Plan (SMP) which charts a plan for the period 1991 to 1995 expects the share of GNP in agriculture and industry to be in the region of 15.5% and 10% respectively in 1995.¹ The significance of the change in sectoral composite from agriculture and industry to manufacturing (and to a lesser extent services) is seen in the *availability and ability* of the Malaysian labour force to participate in these policy changes. While the First Malaysian Plan (FMP) had clearly identified a deficiency of trained labour to be the major obstacle to development and growth, the Sixth Malaysian Plan (SMP) continues to focus on the importance of human resource enhancement. In the Sixth MP projection of growth for 1991 to 1995:

... employment in the manufacturing sector will grow at 5.7% per annum to reach 1.7 million by 1995. The sector is expected to generate about 408,900 jobs or about *one-third of the new employment in the economy*. With the increasingly advanced technologies, which will be utilized in industry, about 4,200 engineers and 10,600 technicians are expected to be required by selected manufacturing subsectors.... In addition, specialized

¹Sixth Malaysian Plan, Table 1.2 p. 20.

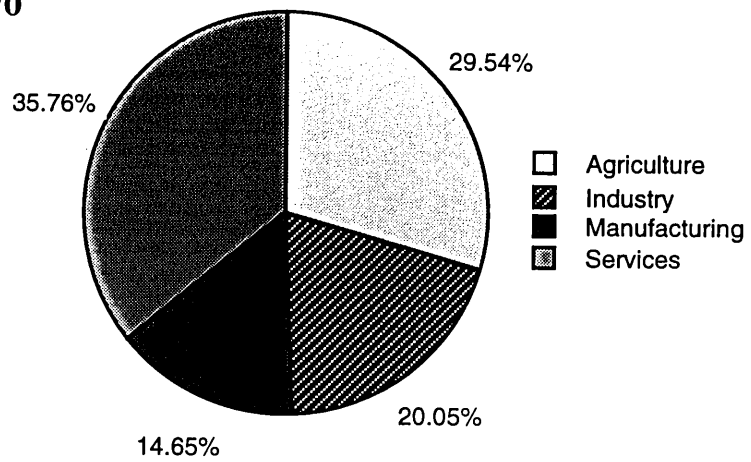
skilled labour will also be required by the various industries that utilize electro-mechanical industrial machineries.¹

In line with Malaysia's future economic policies, human resource enhancement was seen as a continuous process that is a requirement of economic growth. While Malaysia could fall back on her natural resources, Singapore had only human capital to ensure her survival. Not only did Singapore lack any natural resource, the island's main source of income (entrepot trade) was ailing due to political disagreements with her neighbors in the mid-sixties. In response to this, Singapore planners turned towards higher value added manufacturing activities as well as an export oriented economy. The main impetus to this growth strategy was to be from the government as well as foreign multi-national corporations (MNCs). From 1970 to 1989, manufacturing activities increased from 26.17% to 30.33% of GDP at factor cost. The value added contributions of manufacturing activities to GDP were significant, growing from S\$142.1 million in 1960 to S\$21,280.1 million in 1990 [The Next Lap (1992)]. Although Singapore's manufacturing base was relatively more sophisticated than Malaysia's in 1965, it was concentrated on low valued production such as woodworking, textiles and consumer electronics. The EOI strategy had placed Singapore into the field of computers, semiconductors, biotechnology, oil rig construction and ship building. The transformation into these areas had required heavy investments in education and training. Today, manufacturing represents more than 50% of Singapore's foreign exchange earnings [The Next Lap (1992)].

In terms of services, the change from 1970 to 1989 was from 59.86% to 61.86% in GDP factor cost. While the early sixties saw a heavy dependency

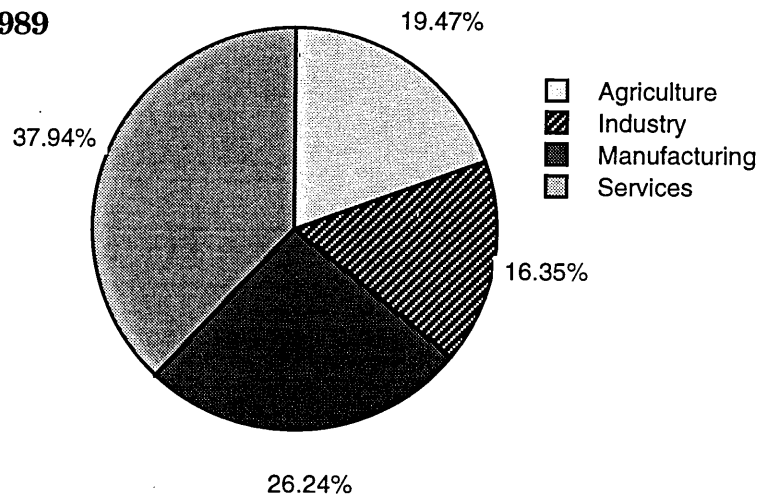
¹Ibid. p. 146.

Figure 3.5
Malaysia - 1970



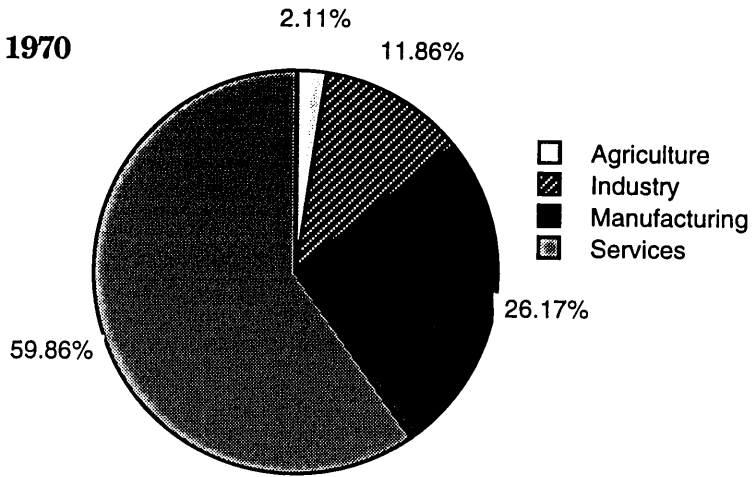
1970-GDP at 1980 factor cost. Malaysian Ringgit \$24,984 million.

Figure 3.6
Malaysia - 1989



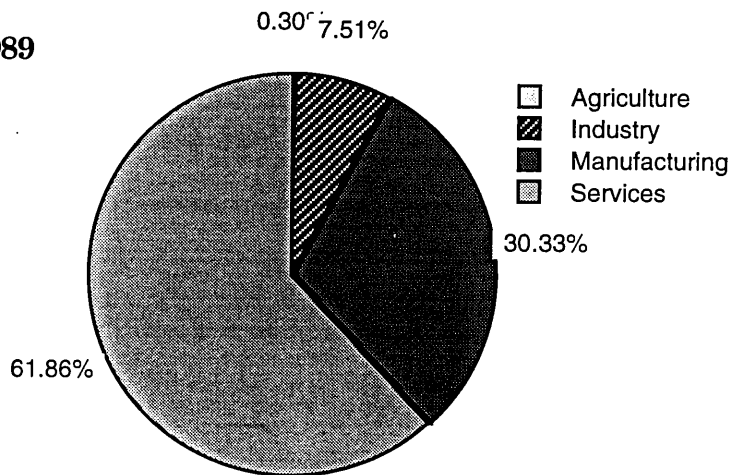
1989-GDP at 1980 factor cost. Malaysian Ringgit \$86,756 million

Figure 3.7
Singapore - 1970



1970-GDP at 1987 factor cost. Singapore Dollars \$11,955 million.

Figure 3.8
Singapore - 1989



1989-GDP at 1987 factor cost. Singapore Dollars \$51,749 million.

on entrepot trade and British military activities, a significant shift in the basic composite of services was to take place.¹ In 1967, the British spent S\$450 million through their military bases, amounting to 12% of total GNP. A further 11% of GNP was attributed to the indirect effects [Rodan (p. 87, 1989)]. The political conflict of 1965 and the subsequent withdrawal of the British in the late sixties, exposed the vulnerability of the services sector. With this bitter experience, Singapore planners proceeded to diversify her services sector. In the next two decades, the services sector was to adopt a higher level of sophistication as witnessed by the growth of international trade, banking and finance, tourism, transportation and communications. In terms of infrastructure services, government enterprises such as the Port Authorities of Singapore (PSA) trains employees in the handling of state-of-the-art Information Technology and the use of artificial intelligence systems for the loading and unloading of cargo.² The launching of the Asian Bond market along with the importance of oil refining capabilities has shifted Singapore to the forefront of sophistication in services.

The above changes in composite sectors reflected the economic policies that Malaysia and Singapore were pursuing. Particularly important in this respect were investments in the social infrastructure of housing, health and education. Such investments resulted in an able and capable labour force and a stable political system which together provided an environment conducive to growth and sustainable development.

As discussed earlier, human resource enhancement, involving the areas of health, housing and education, contributes to political stability as

¹Entrepot trade and British military activities are components of the services sector.

²The PSA has been ranked among the top three ports of the world in terms of efficiency and cargo volume.

well as economic growth. All three components are equally important and integral to any nation building plan. Implementation of development strategies can differ in terms of constitutional and national aspirations. However, the ultimate aim is still the same; political stability and economic growth. While Malaysia sought a policy of income equality between ethnic groups as a means to achieve political stability and economic growth, Singapore was preoccupied in defining a new role for her overtly trade - dependent economy. Both these nations required a labour force that was disciplined and educated while change was enacted. To this end, a basic infrastructure of housing, health and education was continuously developed.

3.4 Housing and Political Stability

The importance of using housing not only to improve the quality of life but as a political tool to achieve national unity and stability is reflected in 'The Legacy of Lee Kuan Yew, 1990' by Milne and Mauzy (1990). In their book, the authors noted that:

The housing program [in Singapore] has been successful in achieving its physical targets and in contributing to social and political stability by giving shelter and often a sense of ownership to the poor, *thereby lessening a potential source of discontent*. The housing program has been a symbol of PAP effectiveness.

In making the above statement, Mr Lee Kuan Yew reasoned that if the public was given a share of the pie, then they would have more to lose if the nation crumbled under political instability.¹ The Singapore government

¹Mr. Lee Kuan Yew was the first Prime Minister of Singapore.

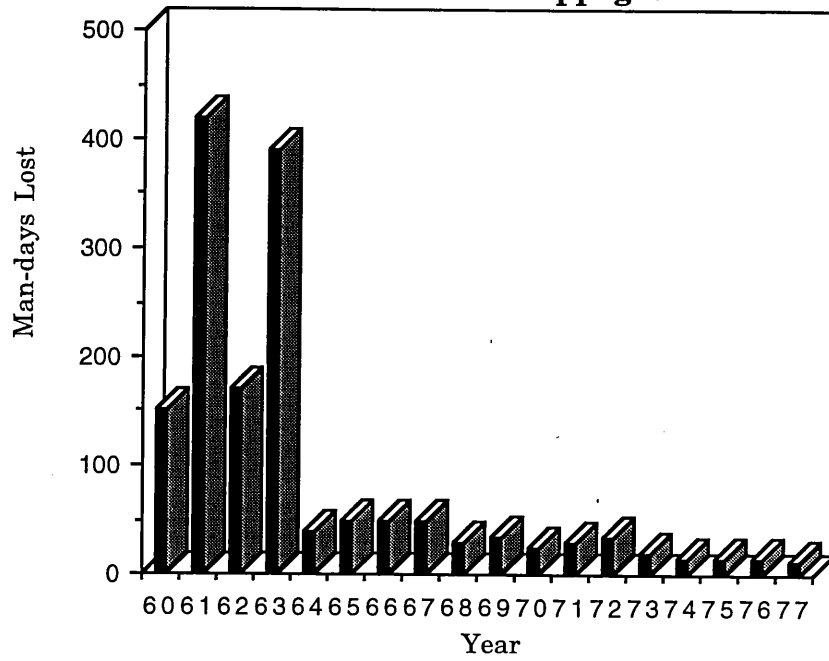
recognized this impediment to economic growth and set to correct the situation by a focused effort on increasing housing equity.

In the sixties, Singapore faced numerous strikes by the communist influenced labour movements. Figure 3.9 shows that industrial stoppages in Singapore were at a peak in 1961, when a total of 415,000 man-days was lost due to strikes. By 1977, the threat due to strikes was effectively curbed by a number of policies, one of which was the successful concentration on housing development. To ensure a stable environment, the PAP government provided housing facilities and access to house ownership unmatched by any other nation. The Singapore government created the Housing Development Board (HDB) in 1967 to spearhead the construction of housing. The intention then was to create stability by increasing citizen equity in order to combat communism. Because communism feeds on the dissent of the people, greater equity will ensure less demonstrations and riots as the people will have more to lose individually. By 1979, the HDB had overseen the construction of 353,961 units of flats. These flats accommodated no less than 71% of the total population of Singapore. Moreover, the percentage which was owned by the occupants was 39%. By 1989, 610,955 units of flats were available, and these accommodated 88% of the population. The percentage of owner occupied flats had increased to 79% [e.g., see Yearbook of Statistics (1989)]. Figure 3.10, indicates that by 1991, no less than 84% of the Singaporean population now own the homes in which they live as compared to 50% to 60% in many other neighboring countries. In a short span of ten years, the Singapore government has been able to extend home ownership to the majority of the population. By creating a stable political environment conducive to greater economic

growth, this will help ensure that Singapore is able to attract the much needed local and foreign manpower that the country seeks for the future.

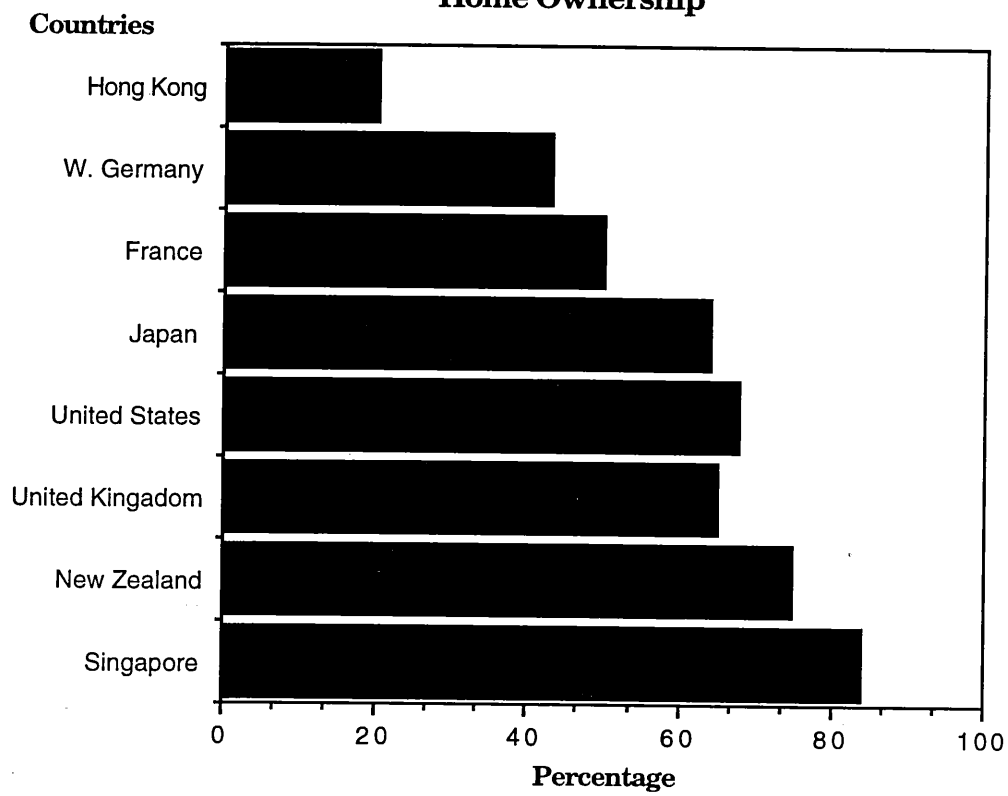
While Singapore directly related the issue of political stability and economic growth to the availability of housing needs for her population, the economic planners of Malaysia viewed housing construction as a means of improving the population's general quality of life and as a means of pursuing the New Economic Policy (NEP) of eradicating poverty and improving the positions of the Malays. This policy was seen ultimately as a long term strategy of ensuring the stability of the nation. The issue of political stability was reinforced in the Sixth MP, where 'the objective of housing policy was to provide the low-income group accessibility to adequate and affordable housing (with the aim of promoting) social integration for the community in the long term' (Sixth MP, p.386). In 1965, the public expenditure for low-cost housing and housing for public employees amounted to about M\$65 million. This was used to create a total of 8,400 low-cost housing units ranging from detached timber house to multi-storey flats (First MP, 1965). Initially housing efforts were targeted towards squatter areas and to relieve congestion in large urban areas. In an excerpt from the International Bank for Reconstruction and Development (IBRD), the report of 1955 stated that housing problems in the Federation (Malaysia) were urban and that 'overcrowding and slum living have gone to such extremes that they impede the orderly development of commerce and industry' [e.g., see, *The Economic Development of Malaysia*, (1955)]. Malaysia has continuously placed housing development especially in the low-cost sector as of primary importance. Under the Fifth Malaysia Plan, 300,930 units were constructed. Of the number completed, about

Figure 3.9
Industrial Stoppages



Source: Singapore, The Next Lap. 1991.

Figure 3.10
Home Ownership



164,400 were low-cost units (Fifth MP, 1990). The low-cost housing development was carried out by the public and private sectors. Since private participation in low-cost schemes was insignificant, the government launched the Special Low-Cost Housing Program (SLCHP) in the eighties to encourage the development of low-cost housing by the private sector. In line with the NEP, easy access for approval and financing was allocated primarily to potential *Bumiputras* applicants.¹ The construction of houses was often licensed to developers that had majority *Bumiputra* equity in the company as well. This policy was seen as another instrument in promoting the equity growth of the *Bumiputras* in the hope that a higher quality of life will allow better participation in the reconstruction of Malaysia's economy.

In order to address the 'hard-core poor', the Traditional Village Regrouping Program (TVRP) and the Village Rehabilitation Program (VRP) were initiated to uplift the quality of life in the rural community. Under the TVRP scattered villages in flood-prone areas, in coastal areas affected by erosion, and in remote areas were redesignated. A total of 198 villages were regrouped into socio-economic clusters. These economic-clusters were equipped with infrastructural facilities as well as social amenities. The VRP provided financial and material assistance to rehabilitate dilapidated houses. By 1990, a total of 15,720 houses were rehabilitated. (Sixth MP, 1991). The government's active participation in the eradication of poverty and the realigning of income are especially reflected in housing programmes developed on new land schemes.² By 1986, a total of

¹The term *Bumiputra* here is referred primarily to the ethnic race of Malays and a number of small ethnic groups in East Malaysia i.e. Ibanese and Dayaks.

²These land schemes basically involved plantations of cocoa and palm oil which were aimed at diversifying agricultural output and at the same time providing free land to the ethnic Malays as a means to redistribute income.

35,000 units of settler houses was constructed in 10 development schemes. The majority of these constructions were carried out by the Federal Land Development Authority (FELDA) and the Federal Land Consolidation and Rehabilitation Authority (FELCRA). The targeted settlers were *bumiputras* who were given land as well as settler houses in order to promote self sufficiency by means of agricultural activities. As a measure to eradicate poverty, land resettlements and access to low-cost housing has proven to be a success. The incidence of poverty in terms of percentage of poor households has decreased tremendously in the past twenty years.¹ In 1970, 58.7% of the rural population and 21.3% of the urban population was classified as poor. By 1990, the rural figure decreased to 21.8% while the urban figure fell to 7.5%.² The ability of the Malaysian government to satisfy the needs of the *Bumiputras* in terms of their constitutional rights helped provide the right environment for Malaysia's growth. The provision of housing provided a higher quality of life along with the means of eradicating poverty. This directly contributed to political stability and to the enhancement of the workforce necessary for the change in sectorial composite that the Malaysian economy was experiencing.

3.4.1 Health Services

Health programmes cover promotive, preventive, curative and rehabilitative services. While the promotion of health is seen as a basic need, its importance is often underated. Health services are an investment by a nation 'with the ultimate aim of of improving the wellbeing of the people

¹The incidence for poverty is based on the per capita poverty line income. For a clearer exposition of the definition of incidence of poverty, see Fifth MP, p. 84-87.

²Data is obtained from Fifth MP, p. 86 and Sixth MP, p. 32.

and raising their productivity.' (Fifth MP, p.507). Higher productivity would allow economic growth that is closely linked to an increased standard of living. As such health services are an integral part of nation building. While there are many ways to exhibit the importance placed on public health programs by Singapore and Malaysia, a basic comparison between services existing in the seventies and eighties will suffice.

Good basic indicators of public health are found in figures for infant mortality rate and life expectancy at birth.¹ Figure 3.11 shows that the infant mortality rate has been steadily on the decline since the 1970s. Concurrently in Figure 3.12, the life expectancy at birth has been improving at a consistent rate. Both of these indicators point towards improved health care systems in Malaysia and Singapore. By the early seventies epidemic diseases and serious malnutrition were generally not a problem. In fact, a study conducted by the International Bank for Reconstruction and Development, pointed out that both nations had conquered the tropical diseases that pose a challenge for most developing countries. (The Economic Development of Malaya, 1955). Malaysia, however was faced with a structural problem of uneven development in health services. Malaria and other endemic diseases were under control in cities and towns but varied from controlled to rampant in rural areas. In order to surmount these problems, a network of hospitals, fixed and mobile clinics and dispensaries provided health, dental and child health services. Public expenditure on health care increased from M\$150.5 million in 1969 to M\$931

¹ Infant mortality rate is defined as the number of infants per thousand live births, in a given year, who die before reaching one year of age. Life expectancy at birth is defined as the number of years a newborn would live if prevailing patterns of mortality for all people at the time of his or her birth were to stay the same through out his or her life.

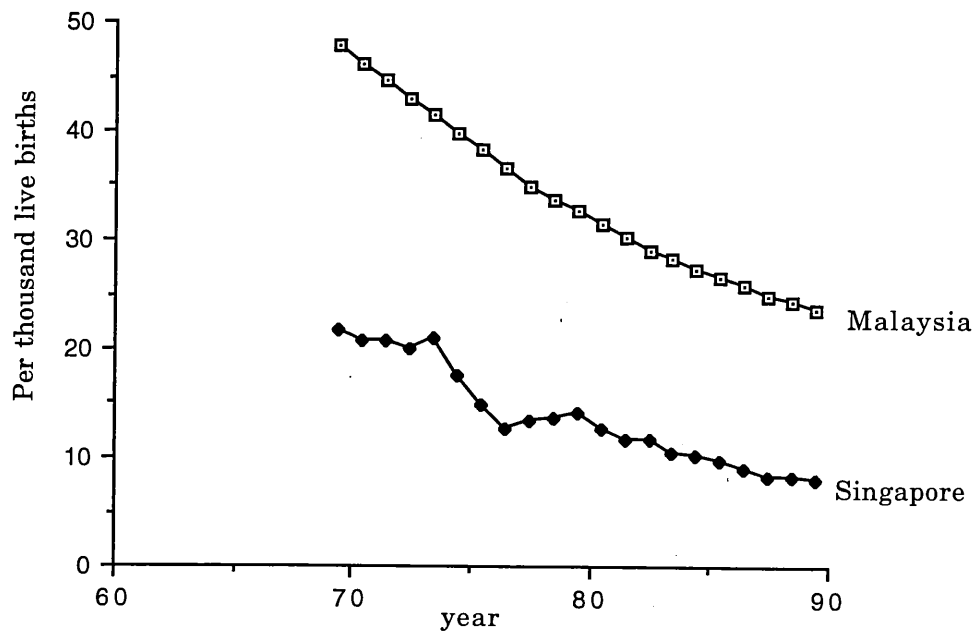
million in 1990 - from M\$14 per capita to M\$53 per capita.¹ In terms of number of doctors per 10,000 population, in 1965 the ratio was 0.91 per 10,000. In 1980, the figure was 2.6 per 10,000 and by 1990 the figure improved to 3.76 per 10,000. The extent to which this increased emphasis on health care has benefited the population of Malaysia is seen in Figures 3.11 and Figure 3.12.

In the case of Singapore the concentration on improved health care was even more apparent. Singapore's health progress was achieved by developing not only an effective program of public health services but also an extensive system of public medical care. In addition, since the geographical and population size continued to be relatively small, the implementation of health programs such as inoculations against tuberculosis and typhoid could be carried out more effectively. In 1955 the Singapore government allocated S\$39 million of public expenditure to health services while in 1989 this figure escalated to S\$505 million. In terms of per capita expenditure, S\$33 was spent in 1955 compared to S\$188 in 1989. The heavy investment on health was crucial as Singapore was dependent on her human resources for future growth. In terms of the number of doctors per 10,000 population, the ratio in 1979 was at 7.7 per 10,000 and by 1989 the ratio was at 12.66 per 10,000. This figure highlights the impressive growth of accessibility to health care within a span of ten years.

The provision of heavily subsidized health care in Malaysia and Singapore was seen as necessary for the accelerated growth of the economy. In recent years, the Singapore government has introduced fee based health services, though the foundation of the health system continues to be heavily

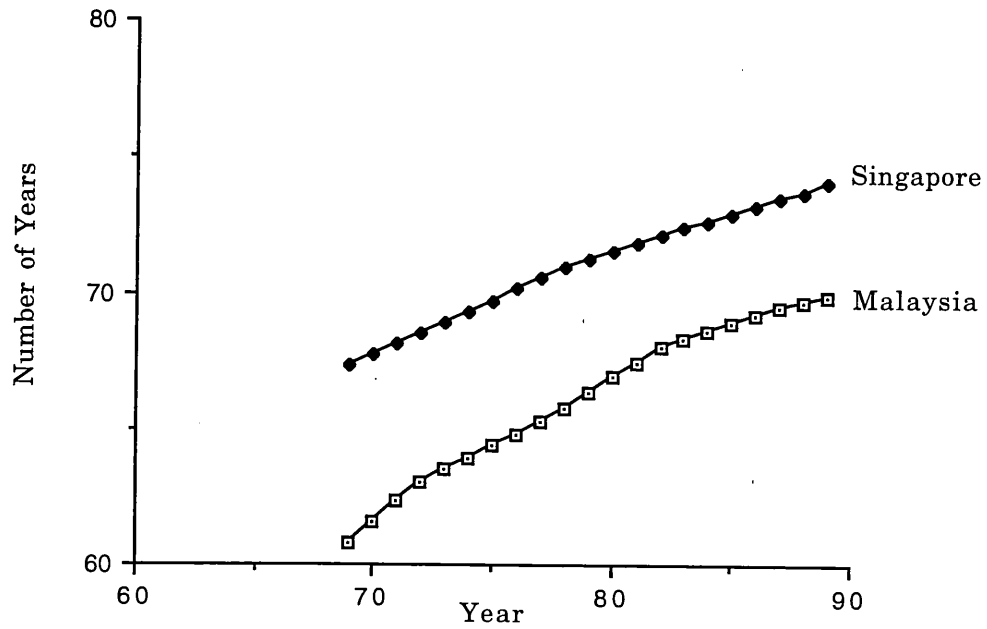
¹ Data extracted from First and Sixth Malaysian Plan.

Figure 3.11
Infant Mortality Rate



Source: World Tables 1991, The World Bank.

Figure 3.12
Life Expectancy at Birth



Source: World Tables, 1991. The World Bank.

subsidized. In Malaysia, the focus is the continued increase of trained manpower in the health services. In the Sixth MP, it has targeted health care accessibility for all her population by the year 2000. The Malaysian government has set a target of doctor per population ratio of 6.6 per 10,000 by the year 2000. It is anticipated that government training programs will produce 2,000 doctors and 5,300 nurses by 1995. The shortage of doctors and nurses is expected to be reduced by recruiting foreign workers. From the above analysis, it is clear that both nations will continue to place heavy investments in the health care system. Besides fulfilling the basic need of their population, a healthy labour force would ensure a higher level of productivity.

3.4.2 Education and Training

Unless the education system is geared to meet the development needs of the country, there will be a misallocation of an important economic resource, which will slow down the rate of economic and social advance. While widespread basic education is necessary, a modern society requires people of varied educational attainments and skills. As the economy develops, the quality and experience of the labour force assume an increasing importance. For this reason, the rate at which trained manpower is produced constitutes an important determinant of the rate of advance which a country can achieve over time.¹

The above excerpt which is from the First MP applies equally well to Singapore which has continuously placed education as a priority investment for the future.² The statement basically recognizes that manpower training

¹Excerpt from First MP, p. 163.

²In fact the education budget of Singapore is the most important budget after defence.

and education is important in determining the rate of advance that a country will experience over time.

From the onset, the Malaysian government has also viewed the implementation of education programmes as an integral part of national unity. The National Education Policy which is spelt out in the Education Act of 1961, emphasized greater access to education and the implementation in stages of Bahasa Malaysia as the main medium of instruction.¹ The use of education to increase the nation's potential for growth while correcting the imbalance of equity was seen as a natural progression towards political stability as well. In the Sixth MP:

Human resource development will be a major thrust in the Sixth MP as the achievement of socio-economic objectives *depends* on the availability of educated, skilled and trainable labour force. Towards this end, education and training programmes will be further expended and improved... as it contributes significantly to the objectives of the National Development Policy in particular to poverty eradication and restructuring of society....[The provision of] greater access to education and training to those of in the low-income group will also increase their income and employment opportunities and contribute further to improvements in income distribution.²

While education was seen as an instrument of growth, the Malaysian planners utilized this policy to ensure greater access for *Bumiputra* participation especially in higher education. With higher *Bumiputra*

¹Bahasa Malaysia is Malaysia's national language. It is basically the ethnic Malay language. As a point of interest the national language of Singapore is Bahasa Malaysia.

²Excerpt from the Sixth MP, p. 157. The National Development Policy (NDP) officially replaces the New Economic Policy (NEP from 1970 to 1990) which was the guiding principal of economic policies. For further elaboration on the NDP see p.4 of the Sixth MP.

participation rates, in the long term it is anticipated the gap in inequality of income will narrow substantially. The breakdown in the level of education consists of primary, lower secondary, upper secondary, post secondary, teacher education, certificate, diploma and degree. In the development of education, the abolishment of primary school fees followed by the raising of the school leaving age to 15 in 1965 was seen as a progressive step to change the form and content of second-level education. Various measures were undertaken to improve the quality of education and the delivery system. Among them was the implementation of the New Primary School Curriculum (KBSR) in 1983 which culminated in the Integrated Secondary School Curriculum (KBSM) in 1989. Government expenditure for education escalated in the past twenty years. In 1970, M\$440.8 million was spent on education and training. By 1990 this figure increased to M\$5,700 million. The importance placed on education by the government resulted in increases across the board in enrollment at all levels of education. As an example, the enrollment at primary level in government and government aided school increased by 22% from about 2 million in 1985 to about 2.45 million in 1990. More importantly, the participation rate at this level had reached 99% of the relevant school-going population during the period, indicating that *education was accessible to all*. The percentage of students who managed to complete their primary schooling was about 96%.¹ In terms of the total number of students enrolled at all level of education in local institutes, this increased from about 3.2 million in 1980 to over 4 million in 1990 - an enrollment increase of 33% over a period of 10 years. This achievement is extremely important for a country that is striving to develop

¹Data from the Sixth MP p. 159.

and restructure an economy that was initially based on agricultural activities and resource extractions.

Ideally, the number of students completing education at different levels should correspond to the demand for manpower at those level. As such a Manpower Planning Section was established under the Economic Planning Unit to assess and keep under constant review the manpower requirements of the nation.¹ Considerable emphasis was also placed on skill training programs. In the period 1985 to 1990 there was a total of 111,000 trainees completing programmes at the skilled and semi-skilled levels. With the completion of 31 new schools, a total of 68 vocational schools existed in 1990. These vocational schools was seen as the core of manpower training for the emerging manufacturing sector. Training in vocational schools was streamlined into vocational and skill. Course specialization was in the field of electrical, mechanical trade, construction, furniture making, automotive, agriculture and commerce. Enrollment in these vocational schools increased by 120%, from 13,700 in 1985 to 30,200 in 1990. The Malaysian government has also consistently encouraged the setting up of private sector institutions to provide facilities for pre-university as well as certificate and diploma level, particularly in technical subjects. The overall objective of providing greater opportunities for students to pursue higher education locally will not only enhance the pool of able manpower but also decrease the outflow of foreign exchange which was estimated at M\$1,200 million per year.² In the near future, Malaysia will continue to emphasize education as a tool of economic growth as well as the means for future economic

¹The Economic Planning Unit is the Malaysian think-tank that has been responsible for the monitoring of Malaysia's economic performances.

²Data from Fifth MP, p. 489.

development. It is projected that by 1995 a total of M\$8,501 will be spent under the Sixth MP.

Singapore's literacy rate is one of the highest in the world.¹ In 1977 the literacy rate was at 80.5% of total population. By 1992 the literacy rate has achieved 91.1% of the total population. This impressive achievement resulted from the heavy investment placed on education and training by the Singaporean government. In an excerpt from Prime Minister Goh Chok Tong:

... we must invest even more in our people and give them a stake in the common prosperity. Education will receive the highest emphasis as it is resourcefulness, not resources, that will increasingly determine winners and losers in the future. We will increase variety in education, widen parental choice and help equalize opportunities for every generation. Every Singaporean should have at least 10 years of education.²

The approach taken by the Singapore government is reflected in an average expenditure of 4% to 5% of GDP on education in 1979 to 1989.³ The government recurrent expenditure per student has doubled or tripled in some cases within the same time period. In 1979, S\$640, S\$1028 and S\$4228 was spent on the primary, secondary and tertiary education of each student, respectively. By 1989, the respective figures increased to S\$1,886, S\$2,681 and S\$9292. The heavy emphasis placed on education has allowed the student enrollment ratio to gradually increase from 78.9% to 93.6% in the period 1979

¹Literacy rate refers to resident population aged 10 years and over.

²Opening address by Prime Minister Goh Chok Tong in the government publication of *The Next Lap*, 1991.

³Reigner, P., Singapore: City-State in South-East Asia (Honolulu: University of Honolulu Press, 1991) p. 250.

to 1989.¹ These impressive results allowed the educational attainment of Singapore's resident population aged 15 years and over to improve significantly. The proportion with secondary qualification doubled from 13% to 27% from 1980 to 1992. The number of upper secondary and university qualifications more than doubled from 7.8% to 18% from 1980 to 1992. The level of education in Singapore has continued to be impressive because the island nation is highly aware that its small population and correspondingly small labour force will not allow it to be to be competitive in the global market unless the workforce is continually upgraded. New entrants into the education system are provided with a strong infrastructure of schools and teachers. As for the older generation, Singapore has continued to provide retraining and upgrading programs suitable to the nation's industrial needs. In the eighties, programs such as Modular Skills Training Program (MOST) and the Worker Improvement through Secondary Education (WISE) sought to improve productivity through quality skills training. Often these programs are targeted at the labour force that has little or no education. As an example, since its inception in 1983, the BEST program trained a total of 116,300 workers without a primary education. Along with greater access for upgrading and retraining, the launching of the Skills Development Fund (SDF) was to compliment and provide the financial assistance for individuals undergoing these programs.

The investment in education and training by Malaysia and Singapore has been consistently high for the past two decades. As a result, an increasing pool of skilled and qualified labour has joined the labour force. This has allowed the two nations to increase their rate of economic growth,

¹Students aged 6-17 years divided by population of same age group.

unhindered by lack of suitably qualified workers. A number of policies were implemented to provide greater access to, as well as a better quality of, education. Quality education is introduced from the lowest level to the highest. In Malaysia and Singapore, the aim of providing single-session schools will allow more flexible timetables and increase the opportunities for a broader range of activities. At the highest level, both nations have invested heavily in vocational schools, politechnics as well as government funded universities. The long term investment in education has allowed the smooth transformation of the economies of Malaysia and Singapore from agriculture and entrepot origins into modern structures that are more dependent on manufacturing and services.

3.5 Conclusion

The primary objective of this chapter, and indeed the thesis, is to argue that human resource enhancement in the form of improved *housing, health and education* will directly and indirectly contribute to the accelerated growth of an economy. While the importance of labour and capital should continue to be central to any economic analysis, the projection of potential growth in any nation should incorporate the variables of housing, health and education. It is undeniable that growth may take place without heavy investments in the proposed variables. However, it is postulated that growth rate will tend to be minimal and the momentum of growth itself will dissipate in the long term. While a host of other variables may influence the direction of economic growth, the components of housing, health and education have been selected in this thesis because, we feel, they encompass the overall social sector itself. Along with this, the availability of data in these areas allows a closer examination by way of empirical testing.

Chapter 3 has been based on the proposition that development strategies, political stability and economic growth are intertwined. In order to understand the development strategies adopted, the reader has to be oriented with the historical, political and socio-economic background of our chosen nations. Given the background influences, Malaysia and Singapore achieved a level of economic growth that is admired by many nations. The growth patterns of these two nations was reflected in changes in the sectoral composite. To ensure the success of this change, Malaysia and Singapore faced two challenges; that of political stability and human resource enhancement. To this end, political stability was achieved by development strategies tailored to the nations' aspirations and enacted through the housing, health and education policies.

CHAPTER 4

AN EMPIRICAL ANALYSIS OF GROWTH AND DEVELOPMENT IN MALAYSIA AND SINGAPORE

4.1 Introduction

In Southeast Asia, Malaysia and Singapore have recently emerged as successful, self-sustaining models of economic growth. Since 1965, these economies have grown at a tremendous rate, with an average annual growth rate well over 8%. The transition of these two nations into rapidly industrializing and growing economies has been attributed to a number of factors that have complemented and sustained the momentum of growth.

The purpose of this chapter is to construct and estimate a simple, single equation, exploratory model that will help explain the growth performance of Malaysia and Singapore. In this context, our growth model is based not only on traditional economic factors (eg., labour and capital) but, more importantly, on broad social indicators, namely, education and health, as explained earlier in Chapter 3. It should, however, be noted that the analysis of this exercise is limited in scope, due to restricted availability of data particularly for the social variables of these countries.¹ Thus, the results reported in this chapter should not be interpreted literally. Rather the focus should be on the qualitative directions and the broad aspects of the estimated model.

¹Data used in this analysis will be Malaysia and Singapore data, the primary sources being a combination from the International Financial Statistics and The World Bank records. Sources of data will be provided in detail under the discussion of limitations and sources of data (Section 4.2).

The remainder of this chapter is structured as follows. Section 4.2 is a discussion on the rationale of selecting the set of representative variables. In section 4.3, the limitations and sources of data will be highlighted. Also, the methods for extrapolating the data will be presented. Section 4.4 will analyze and discuss the estimated results. Section 4.5 will then draw on difficulties encountered in presenting this exploratory model and conclude by discussing the significance of social variables and observations that could be made from this empirical exercise.

4.2 Rationale for Selection of Variables

In its most basic form, a production function can be represented by:

$$Y = F(L, K), \quad (1)$$

where Y is output, L is labour, and K is capital. This follows from the basic neoclassical arguments which postulate that output depends on labour and capital. In Chapter 2, however, it was argued that social variables are important complementary components to economic growth. In the reconstruction of our exploratory model, then, the social variables that are complementary to the factors of production (K, L), will also explicitly be included in the production model as given below:

$$Y = F(L, K) + \text{social variables} \quad (2)$$

There are four major components to the above equation. They are the endogenous factors (such as per capita income), economic variables, health

Table 4.1 Definitions of Variables

| | |
|---------------------------------------|--|
| <u>Endogenous Factor</u> ¹ | |
| PCGNP | Per Capita Gross National Product. (Quoted in 1987, US\$) |
| <u>Economic Variables</u> | |
| TLPR | Total labour force participation rate. |
| DFI | Direct foreign investments -net. (Quoted in 1987, US\$) |
| <u>Health Variables</u> | |
| PPNP | Population per nurse. ² |
| PPHP | Population per hospital - bed. ³ |
| <u>Education Variables</u> | |
| GPRERP | Total gross primary enrollment ratio. ⁴ |
| GSCERP | Total gross secondary enrollment ratio. ⁵ |
| PTRP | Pupil to teacher ratio, primary school. ⁶ |

¹All variables used are expressed in real terms. The letters M and S will be added in front of the abbreviations to denote data for Malaysia (M) and Singapore (S). For example, MPCGNP - Malaysia's per capita gross national product.

² Predicted values using growth rate approach.

³ Predicted values using growth rate approach.

⁴% of school age group. Predicted values using regression approach.

⁵% of school age group. Predicted values using regression approach.

⁶% of school age group. Predicted values using regression approach.

variables, and education variables.¹ The abbreviations and definitions of these variables are as listed in Table 1.

4.2.1 Endogenous Variable

In the simple growth equation, the endogenous factor is represented by the percapita income calculated from gross national product of each country (PCGNP). This is a conventional variable that is used to reflect on the economic growth of a nation as well as the quality of life that each individual experiences. From Equation (2), output (Y) will represent growth. The accuracy and availability of this data have allowed PCGNP to be the best choice in representing output of a nation.

4.2.2 Economic Variables

In terms of economic variables, we have selected two physical input components that will represent labour and capital. Total labour force participation rates (TLPR) have been used because they are an accurate representation of male and female labour participation. The uses of crude labour force figures have been discounted because they do not reflect the actual growth rate of labour participation in the economy. Crude labour force figures are further distorted by demographics such as population growth, and, therefore, are a weak representation of labour contribution to the output of an economy. The use of TLPR is further substantiated by the fact that Malaysia and Singapore are heavily dependent on cheap labour. In Singapore, the only asset of the nation is its labour. There are no natural

¹The term income will be used interchangeably with output of a nation. The main objective to to indicate an improvement in quality of life.

resources to increase its growth potential. In the exploratory model, it is expected that TLPR has a positive relation to the output (growth) of a nation.

The use of direct foreign investments (DFI) is motivated by the fact that both nations are small open economies fueled by continuous investments caused by multinational corporations. In the history of Malaysia and Singapore, investments have been contributed first by the British and Americans in the 1940s up to the 1970s, while the influx of Japanese capital began in earnest in the late seventies and has been substantial ever since. While the initial selection of variables for capital was represented by fixed investments and direct foreign investment (DFI), the latter was chosen because of the substantive role of foreign multinational corporations and their contributions towards the growth of these two nations. The DFI component is also expected to have a positive relation to the economic growth of a nation. An increase in foreign investments will cause the capital inflow required for economic activities. This increase in capital, in turn, allows for a multiplier effect that will have a positive rippling effect on the economy.

4.2.3 Education Variables

In terms of the education component, three variables were selected. These are gross primary enrollment ratio (GPERP), gross secondary enrollment ratio (GSCERP), and pupil to teacher ratio for primary schools (PTRP).

It is recognized that improvements in access to education will directly contribute to the growth of a nation. GSCERP and GPERP is an arbitrary representation for education opportunities available to Malaysians and Singaporeans. Since both nations have a high primary enrollment ratio, the secondary enrollment ratio was a natural choice in

capturing the importance of additional schooling years (or a higher level of education). The secondary enrollment ratio is also a crude reflection of the net continuation ratio for primary and secondary levels. In general, the importance of GSCERP is that it reflects on the maturity of growth in Malaysia and Singapore. The population in most Third-World nations is still lacking in access to primary education. Malaysia and Singapore, as evident by their high GPERP, have superseded this stage of development. A natural progression beyond a high primary enrollment ratio is an improvement in the quality of that primary education. As such, we have selected pupil to teacher ratio for primary schools to reflect the important contribution that quality of education can make to growth.¹ In terms of the expected impact on output, there should be a negative relation between PTRP and output. Increase in students to teacher ratio will reduce the quality of primary education. This would result in a weaker system of education. GPERP and GSCERP are expected to have positive influence on output. In essence, increased enrollment in primary and secondary education will provide a larger educated labour force that is capable of higher productive activities.

4.2.4 Health Variables

Good health is a crucial part of well-being, but spending on health can also be justified on purely economic grounds. Most importantly, improved health facilities free resources for alternative uses instead of being spent on

¹The pupil to teacher ratio for secondary school was not considered because the enrollment in secondary school for Malaysia and Singapore is relatively low compared to developed nations. In this case, it is logical that concentration or improving access to secondary education takes precedence to that in improving quality in secondary education.

treating illnesses. Also, an indirect effect on health is the increase in enrollment of children in school and improved capacity to learn. Due to limitations of statistical data, the selection of population per nurse (PPNP) and population per hospital bed (PPHP) have been used as indicators to represent the contribution of health to growth. PPNP reflects on the *quality* of health care whereas PPHP may represent *access* to health care. Since PPNP is calculated in terms of population per nurse and PPHP is calculated in terms of population per hospital bed, an increase in these ratios would create a strain on the health system. The impact of these two variables are therefore, expected to be negative when the ratio increases. There is a negative relationship for the variables PPHP and PPNP against output (Y).

4.2.5 Housing Variable

In Chapter 3, the social variables perceived to be important in economic growth also included the housing component. The exploratory model constructed in this chapter, however, does not consider the housing component mainly because of two overriding factors, namely, the unavailability or insufficiency of the data and the constant expenditure on this component over the years. In the case of Malaysia, expenditure on housing as a percentage of Gross Domestic Product (GDP) expenditure share has been a constant 5%. For Singapore, expenditure share averages 6% of GDP. As the GDP of both nations grows, the share of expenditure on housing actually increases (as the size of the GDP pie has increased). Since the data of these two nations have been constant in the past twenty years, the flat series does not display any variation or significance in our exploratory model.

Besides the logical appeal of the selected variables and the availability of secondary data, the consistency of data between these two nations was of important significance in the selection process. It is noted that the selected variables do not represent an exhaustive list of alternatives. Economic limitations such as the degrees of freedom also places restrictions on the simple exploratory model. Alternative techniques using factor analysis or principal component analysis have not been considered because they are beyond the scope of this thesis.

4.3 Data Formation

In selecting data for the required variables, many difficulties were encountered. These included:

- 1) Availability of similar consistent data for *both* countries for all required variables.
- 2) Difference in units of measurement (nominal and real terms, and different currencies involved).
- 3) Missing data - some time series were longer while others were shorter.

Most of the data in this thesis have been collected from the *World Development Report* (WDR) and *World Development Indicators* (WDI) published by the World Bank.¹ Some complementary or missing data are also taken from the International Monetary Fund's (IMF) *Financial Statistics Yearbook*. The data was collected from the above sources in order

¹In fact, the bulk of the data used in the exploratory model were series obtained from the STARS database package.

to ensure the consistency, reliability and standardization across the two countries.

The problem of unit of measurement was resolved by standardizing real monetary values to US currencies. The variable involved in the conversion method was that of direct foreign investments (NDFI)¹. Data for NDFI is quoted in billions of local dollars - nominal terms. The basic conversion method could be summarized as:

$$\begin{aligned} \text{DFI in real terms quoted in US\$ billions of dollars} = \\ [\{ \text{NDFI} / 1,000,000,000 \} * \text{deflator in 1987 local currency prices}] / \\ \text{exchange rate}^2] \end{aligned}$$

In the case of missing or incomplete data, two methods were used to extrapolate the predicted values. For the education variables, a regression approach was adopted. This was performed using the TSP statistical package program. Different orders of polynomials (up to the 5th order) were attempted on the variables GPRERP, GSCERP and PTRP to capture the non-linear behaviour of these series. Once a close fit was achieved, the predicted values were then extrapolated based on the estimated regression equation.

The second method used to generate data for the missing variables was the growth rate technique. This is basically an approach that provides a constant compounded growth of the chosen variables. This method was used on the PPNP and PPHP variables.³ The following standard compound growth rate equations were used to compute PPNP and PPHP:

¹Conversion was conducted for Malaysia (MDFI) and Singapore (SDFI) data.

²Official exchange rate reported in the IMF's International Financial Statistics, line rf.

³The growth rate approach was used for the Malaysian and Singapore data.

$$Y_n = Y_0 (1 + r)^n \quad (3)$$

$$r = (Y_n / Y_0)^{1/n} - 1 \quad (4)$$

$$Y_t = Y_0 * [(Y_n / Y_0)^{1/n}]^{(n-1)} \quad (5)$$

where

Y_n = present value (data)

Y_0 = initial value

Y_t = predicted value

r = growth rate

n = number of observations

Using available data from the earliest value (Y_0) to the latest values (Y_n) years, the growth rate (r) can be computed from Equation (4). Once the constant growth rate value of r is calculated, the predicted value (Y_t) can be estimated from Equation 5. While this method is inherently weak because it omits any fluctuations between available data, it is, nevertheless, the most practical option available.

4.4 Discussion of the Results

Based on our model presented by Equations (1) and (2), a series of exploratory tests were conducted to explain the growth performance of Malaysia and Singapore. The regression results for these two countries, based on alternative options, are reported in Tables 4.2 and 4.3 respectively. By a process of addition and disqualification (of variables), alternative models were tested with a view that the coefficients for economic variables would be fairly robust or reliable. In the case of Singapore, as many as 11 options were tested while for Malaysia, 8 options were presented.

Table 4. 2 Continued

| Variables | OPTIONS | | | | | | | |
|------------------------|---------|---------|---------|---------|---------|----------|-------------------|-------------------|
| | I | II | III | IV | V | VI | VII | VIII |
| AR(2) | | | | | | | -0.815 (3.54)* | -0.774 (3.54)* |
| Adjusted R-square | 0.994 | 0.995 | 0.995 | 0.995 | 0.995 | 0.995 | 0.978 | 0.978 |
| Durbin Watson | 1.999 | 1.693 | 1.693 | 1.692 | 1.701 | 1.621 | 1.821 | 1.821 |
| F-Statistic | 870.025 | 659.014 | 659.118 | 851.643 | 845.187 | 1079.337 | 262.461 | 257.711 |
| Number of Observations | 20 | 20 | 20 | 20 | 20 | 20 | 18 | 18 |

1 Observations for options I to VI have sample range from 1970 to 1989.
 Observations for options VII and VIII have sample range from 1972 to 1989.

2 Numbers in parathesis are absolute values of T-Statistics.

3 2 tailed significance levels are indicated in the following manner:

* Significance at less or equal to 1%

** Significance at less or equal to 5%

*** Significance at less or equal to 10%

Table 4.3
Estimated Regression Results of the Growth Models: Singapore

| Variables | I | II | III | IV | V | VI | VII | VIII | IX | X | XI |
|----------------|---------------------|-------------------------|------------------------|-------------------------|---------------------|---------------------|------------------------|----------------------|-----------------------|-----------------------|-----------------------|
| Constant | -1915.038 (1.88) | -2434573.4 (2.08)*** | -588933.43 (2.57)** | -2177479.4 (1.91)*** | -102752.5 (0.95) | 70446.437 (2.7)* | -139899.71 (22.60)* | -5915.227 (4.03)* | -13075.766 (3.83)* | 18243.709 (12.57)* | 60450.901 (21.05)* |
| SILPR | 60.172 (2.00)*** | -84.801 (0.19) | -87.424 (0.20) | 262.449 (1.10) | -245.723 (0.52) | -108.460 (0.68) | | | 407.443 (5.71)* | | |
| SDFI | 388.473 (6.24)* | 280.169 (0.59) | 207.394 (0.59) | -41.121 (0.17) | 227.683 (0.58) | 133.983 (0.55) | | | 878.994 (3.36)* | | |
| SPPNP | | | 79.437 (1.87)*** | | | | | | | -37.570 (9.23)* | |
| SPPHP | | 2426.855 (1.86)*** | | 2301.632 (1.77)*** | -343.616 (1.10) | -250.509 (2.94)* | | | | | -223.369 (19.43)* |
| SGPRERP | | 16813.827 (2.17)** | 5234.530 (2.47)** | 14534.565 (1.97)*** | | | 1319.004 (23.35)* | | | | |
| SGSCERP | | -131.405 (0.98) | -115.988 (0.87) | | -44.490 (0.31) | | | 165.353 (7.56)* | | | |
| SPIRP | | 78.760 (0.69) | 79.369 (0.69) | 99.159 (0.88) | 38.473 (0.30) | 48.091 (0.4) | | | -36.742 (0.76) | | |
| SPCGNP (-1) | 1.358 (9.18)* | | | | | | | | | | |
| SPCGNP (-2) | -0.578 (4.31)* | | | | | | | | | | |
| AR(1) | | | | | | | 1.260 (6.44)* | 1.610 (8.81)* | 1.331 (5.97)* | 1.352 (5.45)* | 1.269 (6.06)* |
| AR(2) | | | | | | | -0.826 (4.49)* | -0.836 (4.99)* | -0.789 (3.38) | -0.686 (3.08)* | 0.791 (4.08)* |

Table 4. 3 Continued.

| Variables | OPTIONS | | | | | | | | | | |
|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | I | II | III | IV | V | VI | VII | VIII | IX | X | XI |
| Adjusted R-square | 4.995 | 0.972 | 0.972 | 0.972 | 0.965 | 0.967 | 0.991 | 0.989 | 0.981 | 0.86 | 0.990 |
| Durbin Watson | 1.947 | 1.032 | 1.033 | 0.969 | 0.725 | 0.698 | 1.486 | 1.722 | 1.320 | 1.155 | 1.360 |
| F-Statistic | 876.215 | 113.502 | 113.708 | 136.286 | 10.6741 | 141.952 | 662.374 | 516.602 | 181.078 | 421.907 | 586.509 |
| Number of Observations | 20 | 20 | 20 | 20 | 20 | 20 | 18 | 18 | 18 | 18 | 18 |

1 Observations for options I to VI have sample range from 1970 to 1989.
 Observations for options VII to XI have sample range from 1972 to 1989.

2 Numbers in parathesis are absolute values of T-Statistics.

3 2 tailed significance levels are indicated in the following manner:

* Significance at less or equal to 1%

** Significance at less or equal to 5%

*** Significance at less or equal to 10%

Table 4.4
Correlation Coefficient of Variables: Malaysia

| Variables | MPCGNP | MTLPR | MDFI | MPPNP | MPPHP | MGPRERP | MGSCERP | MPTRP |
|-----------|--------|-------|-------|--------|--------|---------|---------|--------|
| MPCGNP | 1 | 0.978 | 0.972 | -0.958 | 0.940 | 0.878 | 0.859 | -0.890 |
| MTLPR | | 1 | 0.928 | -0.987 | 0.971 | 0.914 | 0.915 | -0.902 |
| MDFI | | | 1 | -0.924 | 0.917 | 0.876 | 0.841 | -0.891 |
| MPPNP | | | | 1 | -0.995 | -0.964 | -0.938 | 0.949 |
| MPPHP | | | | | 1 | 0.983 | 0.946 | -0.970 |
| MGPRERP | | | | | | 1 | 0.944 | -0.984 |
| MGSCERP | | | | | | | 1 | -0.884 |
| MPTRP | | | | | | | | 1 |

Table 4.5
Correlation Coefficient of Variables: Singapore

| Variables | SPCGNP | SILPR | SDFI | SPPNP | SPPHP | SGPRERP | SGSCERP | SPTRP |
|-----------|--------|-------|-------|--------|--------|---------|---------|--------|
| SPCGNP | 1 | 0.929 | 0.854 | -0.977 | 0.985 | 0.986 | 0.947 | -0.863 |
| SILRP | | 1 | 0.699 | -0.975 | -0.959 | 0.953 | 0.813 | -0.720 |
| SDFI | | | 1 | -0.807 | -0.836 | 0.844 | 0.931 | -0.839 |
| SPPNP | | | | 1 | -0.995 | -0.994 | -0.918 | 0.833 |
| SPPHP | | | | | 1 | 0.999 | 0.943 | 0.862 |
| SGPRERP | | | | | | 1 | 0.949 | -0.870 |
| SGSCERP | | | | | | | 1 | -0.937 |
| SPTRP | | | | | | | | 1 |

The process of selection for options 1 to 8 were similar for both countries. However, in the case of Singapore, it was felt that the unsatisfactory results required further testings, and thus, options 9 to 11 were added. As mentioned earlier, the definitions of selected variables can be found in Table 4.1. The options pursued were as follows:

Options 1 - Malaysia and Singapore: In option 1, TLPR and DFI were selected to represent the traditional economic variables¹. Both variables displayed positive coefficients implying the positive relation of output to economic variables. The levels of statistical significance (t-values) and explanatory power (R^2) of the model were fairly substantial while the Durbin-Watson test was conclusive.

Options 2 to 5 - Malaysia and Singapore: In options 2 to 5, different combinations of social variables were tested. For the most part, the results were disappointing. TLPR and DFI dominate in terms of significance of impact. These two variables had the correct or expected signs in all instances.

From the perspective of social variables, the results can best be described as poor. In option 2, results for Malaysia displayed the correct impact for MPPHP and MPTRP. The results for two-tailed significance level were disappointing while the variables MGPRERP and MGSCERP displayed unexpected signs. In fact, the results for Malaysia and

¹The first letter of the variables are omitted to indicate that testing is conducted for both countries - that is instead of MDFI or SDFI, the variable is represented by DFI only.

Singapore, (options 2 to 5), were plagued with signs contradictory to what was expected.

So far, the tests conducted were not robust and there were indications of problems. In the case of Malaysia and Singapore, the Durbin-Watson statistics showed the presence of serial correlation. Using the correlation matrix of variables for Malaysia and Singapore, as shown in Tables 4.4 and 4.5, serious multicollinearity problems were detected. For most variables, a high correlation coefficient of about 0.85 was noted. Because of this overriding factor, the final results of the tests were distorted with contradictory signs.

Options 6 to 8 - Malaysia: Further testings of the model revealed that Option 6 was the most feasible in the case of Malaysia. The problem of high multicollinearity reduced the representation of health variables to MPPHP and the education variable to MPTRP. The combination of MPPHP, MPTRP, MTLPR, and MDFI in Option 6 projected a fairly robust result. All four variables exhibited two-tailed significance levels at less or equal to 1%. The adjusted R-square provided an excellent fit at 0.995. For the economic interpretation, an increase in economic variables in terms of labour and capital would result in greater levels of output. A negative coefficient of MPPHP would imply that there are more hospital beds available to the same existing level of population. As mentioned earlier, this indirectly shows a better health care system in terms of access to medical facilities. A healthier population translates to a more productive population.

An interesting observation can be made on MPTRP. The pupil to teacher ratio is an indicator of the quality of education. In Options 2 to 5, the enrollment ratio for primary school consistently showed a negative relation

to output. An explanation for this phenomenon is that if the enrollment ratio for primary school reached its maximum of 100%, further increases in access to primary school education represent wasted resources.¹ A rural village in Malaysia that has full access to schooling facilities requires more teachers rather than physical teaching facilities. Teachers that are well-trained and specialized in subject areas play a significant role in improving quality of education. MPTRP takes precedence over enrollment in primary schools in the case of Malaysia and Singapore. It may be noted that this argument is only applicable to countries that are at some higher stages of development.

Due to the high multicollinearity problem, we also tested the sign validity of MGPRERP and MGSCERP by considering the effects of these variables on output individually. In options 7 and 8, tests for MGPRERP and MGSCRP were conducted separately. As expected, both coefficients displayed the positive sign relation to output. Higher enrollment, especially in secondary schools, increases the potential output of a nation. This result is reinforced by the fact that enrollment in secondary schools in Malaysia is only at the level of 60%. Concentrated efforts in increasing secondary school enrollment would undoubtedly provide an impetus to growth in the long term. The two-tailed significance levels of these two variables are at less or equal to 1% with conclusive Durbin-Watson results.

Options 6 to 11 - Singapore: In the case of Singapore, serious multicollinearity problems were also detected, as shown in Table 4.5, resulting in unexpected signs for the explanatory variables. The only

¹This argument should also be inferred to the case of Singapore as well.

feasible option that incorporated economic variables with that of education was in Option 9. Both economic variables, STLPR and SDFI, displayed correct positive coefficients. The significance levels of these two variables were at less than 1%. Inclusion of SPTRP, although yielding the correct negative coefficient sign, had insignificant two-tailed readings. In Options 6 to 11, except for Option 9, the variables were tested individually to avoid the problem of multicollinearity. The results of the relevant variables displayed the correct or expected signs in all instances. In addition, the significance levels were satisfactory with conclusive Durbin-Watson tests.

4.5 Observations from the Empirical Exercise

The exploratory models constructed in this chapter have been used to explain the significance of social variables to output and growth of a nation. In some cases, distortions due to high multicollinearity have resulted in incorrect coefficient signs. Consequently, an alternative approach was adopted to examine each variable independently. As expected, the results of this study support the fact that social variables are an important and integral part in explaining the economic growth of both Malaysia and Singapore. Clearly, contributions from social variables often take time to mature in terms of visible benefits to the economy. As an example, the Singapore government estimates that the infrastructure of the economy is suffering from a shortfall of 300 engineers a year. This would seriously impede or at the very least slow down the potential growth of a dynamic economy. Investment in social variables is an ongoing process that requires huge long-term outlays. Singapore planners did not foresee this need - as a result, foreign expatriates in the engineering field had to be

brought in. The net effect is the outflow of foreign reserves plus the reduction of opportunities for the local population.

The empirical analysis in this chapter enables us to conclude three important observations unique to the conditions in Malaysia and Singapore. These observations could be summed up as:

- 1) The importance of foreign investments is highlighted by the fact that a positive relation with output has been consistent throughout the various tests conducted for Malaysia and Singapore. This confirms that both economies are highly dependent on foreign capital as part of their economic growth program.
- 2) It is the quality of primary education rather than the quantity of available facilities that should be emphasized - as such, future studies of Malaysia and Singapore should take into consideration quality indicators for the primary education sector.
- 3) The variables considered for this exploratory model have high multicollinearity problems thereby implying the importance of using weighted indices, namely, *principle component* or *factor analysis*.

The general objective in determining the qualitative directions based on expectations formalized in section 4.2 has been satisfactory. In brief, the economic variables and enrollment ratios for primary and secondary school have positive coefficients. The negative coefficients are verified in results for the health variables as well as the pupil to teacher ratio. Although the social variables have the right sign, the need to conduct independent

analysis of each variable weakens the exploratory model. An inference from this exercise is that future studies for the case of Malaysia and Singapore should involve a more sophisticated exercise such as principle component analysis to better represent and reflect the importance of social variables.

CHAPTER 5
SUMMARY AND CONCLUSIONS

5.1 Social Investments and the Determination of Success

The world is changing rapidly, but the basic problem remains the same. We have to make a living. Our most precious asset will be our people....We must have enough capable and talented people to do the job - and to do it well.¹

The above statement has been the guiding principle of Singapore's long term plan. Singapore has achieved developed nation status in less than 30 years since independence. The nation has propelled her people to the second highest standard of living in Asia and it intends to achieve the same level of per capita income to that of the United States by the year 2030.² In similar tone to that of Singapore, Malaysia has also achieved success with strong investments in the social sector. In a recent issue, *The Economist* (p. 13, Nov 1993), painted a glowing picture of Malaysia stating that, "Inflation is around 4% and falling. Taxes are coming down and revenues are rising. Exports are booming and the country is near full employment."³

The achievements of today and the aspirations of tomorrow are the culmination of a number of factors. Of these, the enhancement of human capital is paramount to any long-term success. This thesis has chosen to examine the general improvement made towards human capital via the

¹Excerpt from a speech by Prime Minister of Singapore, Goh Chok Tong in The Next Lap, p. 13.

²Singapore Investment News - October 1991 by the Economic Development Board.

³The Economists, Oct 30 to Nov 5, 1993 issue. p. 31

improvement of the social sector. The social sector is represented by housing, health and education.

The focus of this thesis is to capture the essence and importance of social development and its contributions to the dynamic growth in Malaysia and Singapore. The recent and short time span that Malaysia and Singapore required to achieve their present economic status makes the undertaking of this study pertinent to less developed countries. Countries like the Philippines and Bangladesh may have access to foreign aid and foreign expertise, but, the need for a social foundation is often ignored. The neglect of this sector has often resulted in short-term stimulus without a sustained momentum of growth. As such, this study strongly argues for social programs which should be continuously enhanced to complement the needs of a growing economy.

5.2 General Summary and Conclusions

This thesis first explores the range of economic theories that were, at one time or another, favoured by policy-makers throughout the world. The traditional structuralist, neoclassical and Marxist theorists were surveyed and it was shown that they did not take into consideration the impact of investing in social sectors. Recent research, however, has begun to indicate that the quality of factors of production - especially labor - is at least as important as their quantity in terms of achieving growth.

In Chapter 3, the historic and socio-economic background of Malaysia and Singapore were presented. This section was crucial as it provided an account of the guiding principles used by policy-makers in Malaysia and Singapore. A range of different policies were implemented - all with a focus on increasing the rate of growth and development, thus,

improving the quality of life in these two countries. In the course of this chapter, it became clear that social programs were closely linked to political stability. The selection of housing investments as a component of social development was influenced by the manner in which the implementation was politically motivated. In the case of Malaysia, housing development and allocation was an instrument to achieve racial equity and redistribution of income. For Singapore, the massive drive towards increasing home ownership was seen as an effort to combat communism and the dissent of the people. Housing access not only provided an elevated quality of life, but, more importantly, gave political stability and enhanced the confidence of local and foreign investors.

Change in the sectoral composition of these countries was also explored. The ability to undergo change - Malaysia from a 'two-commodity export' nation to that of mid-range manufacturing economy; and Singapore from heavy dependency in entrepot trade and cottage industries to being the largest producer in semiconductors and acquiring the biggest refining capacity in Asia reaffirms the role of social investments.¹ Social investments bring forth a healthy and well educated population. This allows increased productivity, and, more importantly, the easy mobilization of the workforce into sectors targeted by economic policy-makers. Increased investments in the social sector also bring forth political stability, stimulate business confidence and ultimately improves the quality of life in the long-term.

The deductive reasoning of Chapter 3 was reinforced by the empirical results of the social sector model of Chapter 4. A series of simple single

¹The two commodities that dominate exports in Malaysia during the 1960s to the 1970s are rubber and tin.

equation exploratory models were tested to confirm the qualitative directions of selected social variables. A number of variables representing the health and education components were selected, and, in general, the results of this exercise confirmed the expected qualitative directions of the social variables. Investments in social variables will enhance the potential for accelerated economic growth. Another finding was that investments in the social sector should also take into consideration the developmental stages of an economy. In the case of Malaysia and Singapore, the importance of quality enhancement in primary education takes precedence over more access because enrollment is already at optimum levels.

5.3 Concluding Remarks

The central theme of this thesis is the important contribution of the social sector to the growth of an economy. The success of Malaysia and Singapore, to a large extent, was attributed to the strong social programs and consistent investments in this sector. Economic policies that neglect this sector will only achieve short-term growth, or, at best, lower rates of growth. The findings of this thesis conclude that *social improvements create the potential for greater growth*. The importance of a social infrastructure to support changes in the economy cannot be overlooked.

The implementation of social programs will help tap into potential manpower resources that have not been fully utilized. More importantly, through education and training, increased participation in the labour force means increased capacity for output. This thesis highlights the importance of including the social sector as an integral factor in projecting the future output of a nation. And improvements in the social sector should not be seen merely as a form of egalitarian responsibility to society but as a tool to

increase output, and, therefore, as a means for achieving a better quality of life in the future.

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