CHAPTER 6

SUGGESTIONS

In order to understand the importance of TFPG to economic growth, let's consider the cases illustrating this linkage (Figure 5).

Case 1, where both TFPG and economic growth are high, is the ideal situation. This means that the economy with this performance is sound and stable. This could either be maintained or sustained by continually improving TFP.

In Case 2, the economy has high growth in spite of low TFP performance. It would seem, in this case, that the economy need not have to bother to improve its TFP because growth will still be high. However, in the long run, this high growth rate could not be sustained. Therefore, it is time that the economy should start considering improvement of its TFP.

Case 3, is the opposite of Case 2, where the economy's performance is characterized by low growth in spite of high TFP performance. This occurs when external factors, such as war and political instability, affect the operations of the economy. Very soon, the economy may be operating at a loss. Therefore, growth must be improved by improving political stability and strengthening market strategy.

Lastly, Case 4 illustrates the least desired situation – low growth and low TFP. At this point, a bankruptcy is inevitable. Therefore, TFP must be improved and at the same time, strengthening the market strategy.

From thus research, Malaysia is in Case 2 (high growth but low TFPG) where high growth may not be sustained on a long-term basis. Hence, a better option, as a long-term strategy for Malaysia, is to strive for a productivity-driven economic growth

Figure 5
TFP - Growth Cases

Cases	IF		THEN	
	TFPG	Economic Growth	What Would Happen	What Should Be Done
1	HIGH	HIGH	Economic condition is sound and stable	Maintain or further improve TFP
2	LOW	HIGH	High growth may not be sustained on a long-term basis	Improve TFP
3	HIGH	LOW	The economy may soon be operating at a loss	Improve growth by strengthening political stability and market strategy
4	LOW	LOW	Bankruptcy	Improve TFP and develop market strategy

involving accumulation of labor and capital inputs and their qualitative improvements. Of these, the qualitative aspects of capital and labor improvements are the most important (APO Productivity Journal, 1996).

Malaysia government had realized the importance of TFP and had started a policy drive to increase TFPG since 1996. The importance of TFP is reflected in the government initiatives in Seventh Malaysia Plan (7MP) and emphasis in Second Industrial Master Plan (IMP2). Prior to the 7MP(1996-2000), the national development strategy was input-driven encompassing increases in capital investments and labor supply as the main factor for driving its economic growth. However, as growth which is mainly input-driven may not be sustainable in the long-term, the 7MP shifted the development planning strategy from one that used to be input-driven to one that is productivity-driven through the enhancement of TFP. This strategy is further emphasized in the 2IMP(1996-2005).

Although Malaysia has been registering TFPG even since 1970, it remained a small portion of GDP. The results of TFPG model show that openness to foreign companies and world economy have a more direct bearing on TFPG. The rapid growth of export as a result of the export-push policies of the Malaysia, combined with the superior performance of Malaysia in allowing more extensive foreign-ownership explained the largest part of the TFPG during 1980 to 1999. These provided the means by which Malaysia can attained high rates of TFPG. Thus, the policy implication is obvious. If the hypothesis is valid, the government should promote the acquisition of technology through openness to foreign companies and world economy for TFPG to improve further. Therefore, it should using policy instruments such as direct subsidies or preferential allocation of credit to promote these activities.

6.1 Acquisition of Technology – Through Openness to Foreign Companies

Malaysia has actively sought foreign technology through a variety of mechanisms. All welcomed technology transfers in the form of licenses, capital goods imports and foreign training. Openness to foreign direct investment (FDI) has speeded technology acquisition in Malaysia. The government has eased restrictions on foreign investment to permit 100% foreign equity ownership[8], extended new duty and tax privileges to attract FDI from Japan, Taiwan and South Korea. The deepening MNC presence has effected profound structural change in the Malaysia economy.

To build on the advantages of the presence of Multinational Corporations (MNCs), efforts are initiated to develop Malaysia as an attractive location that has the potential of becoming a center of excellence in research and development. With increasing globalization, many MNCs have sited their R&D facilities in many different new locations outside their home base. In this regard, relevant MNCs will be encouraged to locate their R&D facilities in Malaysia.

Suggestions:

1. Create the necessary environment which will include building an education system that emphasizes science and technology (S&T), strengthening technical and scientific institutions and fostering cultural values that are amendable to innovation.

[8] After the financial crisis 1997, the government allowed 100% foreign equity ownership in manufacturing companies beginning from 31 July 1998 to 28 February 2000, regardless of the export weighting. Recently, the government decided to extend this privilege for another 3 years, i.e. from January 2001 to December 2003.

2. The government will provide the necessary support to attract foreign and local experts, scientists and technologists. The government should also continue to implement trade and economic policies that encourage competition among domestic firms so as to expedite the process of catching up technologically and become internationally competitive.

6.2 Openness to World Economy

Besides that, greater trade liberalization in international markets will enhance the prospects of increased global trade for Malaysia. The liberalization of world trade will provide opportunities as well as pose challenges to Malaysian exporters. Malaysia will benefit through greater access to both developed and developing country markets as a result of reduced tariffs and subsidies, greater transparency in import regimes as well as strengthened rules and discipline in the multilateral trading system. On the other hand, Malaysia also face competition from other countries exporting similar products.

Suggestions:

1. A wide range of trade promotion measures should be implemented to intensify the promotion of Malaysian exports. This will be facilitated by the formulation of strategic alliances with foreign companies. In addition, trade and industry associations are expected to assume a more significant role in promoting exports and information dissemination. The public-private sector cooperation in the context of the Malaysia incorporated concept should also be further strengthened.

2. Globalization and the emerging of new economy have put the importance of the e-commerce into the forefront. Malaysia exporter should accelerate the using of Business to Business (B2B) strategy and adopt more flexible business management system in order to compete with more computer-intellect countries such as Singapore, Taiwan, Hong Kong and Korea.

6.3 Human Resource

As Malaysia strives to become a fully developed economy by the year 2020, Malaysia will also emphasis not only on technological development and capital resources, but also on the quality of human resources. Education and training which reflected human capital was one of the critical components in TFPG, complementing technical progress and physical capital as inputs in the production process. The links between such intellectual capital resources and industrial development are often hard to measure, but the emergence of 'Silicon Valley' type agglomerations of technologically dynamic manufacturing industries around major universities illustrates the importance of knowledge externalities.

A productivity-driven economy will require higher levels of professional and skilled manpower as well as administrative and managerial expertise. In this regard, the upgrading of skills and knowledge of the labor force, promotion of managerial competence and advancement of science and technology will be pursued.

To ensure a constant supply of skilled and knowledge intensive workforce, a comprehensive manpower development program is being outlined in the IMP2. The government will continue to play a major role in human resource development.

Educational and skills training institutions will be expanded and upgraded and restructured. The education system, in particular higher education, will be reformed Accelerated industrial development in the country will require more expertise and post-graduate training, particularly in technology engineering. Therefore, a quantum leap in enrolment in the engineering and science fields will be necessary to increase the output in these areas. In addition, emphasis will be placed on promoting IT in specific areas, computer literacy and other supporting disciplines.

Although the government has long recognized the crucial role of education and training, and had implemented various measures, such as emphasizing science and technology in the public education system and implementing the Human Resource Development Fund (HRDF) to accelerate skill upgrading in the workforce, much more need to be done. Of particular important is the availability of skilled labor to meet industries' needs.

Suggestions:

1. Such manpower needs can be created and nurtured only through close cooperation between the government and the private sector to create a human resource development system that is specially designed so that it is market-driven, future-focused and thus, able to respond to the requirements of a dynamic labor market. This might be accomplished by having public and university laboratories perform non R&D services for industry, or by using industry consultations to guide public research funding decisions.

Education institution can also play a role by inviting employers to participate actively in the formation and design of new curricula, to organize student placement in the enterprises, to arrange for personnel to be seconded to tertiary institutions and for academic staff to have industrial experience (World Bank, 1993)

2. A national manpower planning exercise could also be carried out to project manpower requirements of industry, and provide the necessary information to integrate in-employment training and pre-employment education. This will facilitate industrial development and economic restructuring by addressing skills shortfalls early. It will ensure that the supply of workforce skills matches the demand.
3. HRDF could also help more companies embrace structured on-the-job training (OJT) programs and strengthen the existing infrastructure for off-the-job training. Through the fund, national training programs will continue to be developed in partnership with industry.
4. A comprehensive national skills certification system could be developed to ensure that workers have the broad skills and foundation that allow them to move progressively to higher-value-added work. The certification system will also provide a linkage between OJT and national training courses (Woon Kin Chung & Ellen Yeo, 1996).
5. One other factor that has not been utilized well is the industry associations which can provide training. In fact, industry associations are in a better situation to identify the training needs of their members than the government is. As technology progress, generic skills are giving way t specialized industry-specific skills. Thus, it is important to involve industry associations in training, as had been done through the

setting up of skills training centers throughout Malaysia (APO Productivity Journal, 1996).

6. In order to complement government efforts in human resource development, greater private sector participation and collaboration with the public sector should be encouraged in tertiary education and skill training. The amendments to the university and University College Act 1971 and the introduction of the private Higher Educational Institutions Act 1996, will enable the private sector to play a greater role in the provision of tertiary education. Emphasis will also be placed on encouraging enterprise-based training to retrain workers in new skills required by rapidly changing technologies. In addition, a new apprenticeship scheme will be implemented to increase the supply of skilled manpower in the country.

6.4 Capital

The process of capital deepening that took place over the last few years, stimulated by the influx of foreign investment particularly in the manufacturing sector, is expected to continue. The source of this process is expected to originate from both foreign and domestic investments.

Suggestions:

High rates of physical investments need to be combined with improvements in technology development and management. While efforts to nurture indigenous technology development will be undertaken, local industries should continue to acquire

technologies of other advanced nations. The strong presence of MNCs in Malaysia should also assist in this process.

6.5 Manufacturing sector

The double-digit manufacturing growth had, by the early 1990s, brought the country to a new stage of development. The manufacturing sector is still expected to spearhead Malaysia's growth in the future. In order to sustain the growth in the manufacturing sector, the government will introduce measures and incentives that will help to boost investor confidence, further promote reinvestment by MNCs and encourage export diversification. Among the measures that will be taken are upgrading of skills and advancement in education of workers, adopting better management techniques and systems, acquiring new technology as well as effective and efficient applications of IT in processes and systems.

For manufacturing sector, IMP2 is focusing on increasing TFP through developing strong synergy among the factor of production. The manufacturing Plus-Plus strategy in IMP2 calls for shift from assembly-intensive manufacturing to integrated industry clusters embracing product development, design, manufacture and distribution.

Suggestions:

It is also very necessary for manufacturing industry to further penetrate the export market for a bigger global share. Malaysian manufacturers should be encouraged to adopt new strategies that will enable them to target production for the global market. By going international, firms will be able to seize new and wider opportunities from more

diversified markets, while simultaneously enabling them to introduce greater capital intensity and benefit from technology utilization.

6.6 Research and Development (R&D)

It is important to emphasis on R&D because higher TFPG lies in technological progress. As the economy grew ever more depend upon foreign manufacturing investment and exports, technology came to be view as crucial to continued prosperity in the increasingly competitive and technology-driven international economy.

Comparing its R&D expenditures as a proportion of its GDP with those of more developed countries, Malaysia ranked among the lowest. Several studies shown that the rate of research productivity in Malaysia universities is relatively low (Jasbir 89, Cheong 89, Haris 85). The seeming reluctance of local academics to get involved in research is basically due to the weak research environment that prevails in Malaysia.

The National Council for Scientific Research and Development (MPKSN) was established in 1975 to provide policy advice and to co-ordinate allocation of public science and technology resources. However, the National Science Council, though inter-ministerial in composition and chaired by the chief Secretary to the Government, was also unable to impose a co-ordinated agenda on the various ministries, and concerned itself primarily with supporting basic research activities in the university and public sectors. Private-sector interest and input into the council's decision making were negligible (Jomo, 1998).

The critical role of information in investment decision making and global competition has thrust IT into the forefront of economic development. During the 7MP

period, the IT infrastructure will be further develop in order to create a strong foundation for building a knowledge-based industrial economy and an information-rich society.

Realizing the important role of IT as a catalyst for national development, the government has initiated the construction of the Multimedia Super Corridor (MSC) in 1996. The Corridor will be supported by the provision of world-class physical and information infrastructure. The government will also develop Kuala Lumpur International Airport and the new administrative center at Putrajaya and equip them with state-of-the-art communications technology and IT infrastructure. The private sector, especially world-class multimedia companies, will also be encouraged to locate in the Corridor to undertake remote manufacturing as well as introduce high value-added IT goods and services, thereby enabling Malaysia to become a regional IT hub (7MP, 1996).

To win MSC status, IT companies must indicate plans to undrtake new development activities. In turn, the Malaysian government has promised to generously invest, to the tune of more than a billion ringgit annually, in the physical infrastructure as well as other support desired by IT companies. Other special incentives for MSC investors include generous tax breaks and exemptions from various laws such as those restricting the number of foreign personnel a company can hire to number more than five. In addition, the government plans to spur new development activities by offering lucrative procurement contracts for 7 'flagship' IT applications, including telemedicine, smart schools, electronic government operations, smart cards, international manufacturing coordination, electronic marketing and R&D.

Suggestion:

1. To the extent that the private sector's reluctance to establish in-house R&D may be related to the high costs of these facilities, there is a need for public and private sector collaboration. The National Council for Scientific Research and Development (MPKSN) can serve as a technology connector and converter to help companies acquire, adapt and apply relevant technology to support the commercialization of new products and services. Through its testing and analysis services, it can play an active role in facilitating technology application and diffusion. It can also establish close linkages with the research institutions and centers and other technology generators to offer a comprehensive package of services to assist companies in the development and improvement of products.
2. As a first step in helping companies to apply technology and promote investment in technology, establishment of conduits allows industry to gain easier access to the wide range of technologies. The conduits will take the form of linkages with technology resources and partners both in Malaysia and overseas, and of collaboration and alliances between industry and technology suppliers.
3. A careful analysis to monitor the activities of firms receiving MSC status to ensure the growth of genuine innovation activity and skilled transfers is also needed. Without such careful analysis, there is a real danger that heavy public investments in IT will result in little more than a public subsidy of multinational and favored local businesses, while distracting and deterring the growth of non-MSC firms that might discover unanticipated high-growth (Jomo, 1998).