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Such international division of labour between the inventor and the producer is a highly organised affair. Today's global telecommunication network has almost totally replaced human voice or teletype connections with digital interfacing between computers offering a gain in accuracy and speed without the need to coordinate across different time-zones among communicating parties. During boom-times how labour is divided appears seamless across the world's political boundaries. Faceless and voiceless orders for component parts show up on remote computer screens half way around the globe, planners schedule and the work order goes out to the factory floor inevitably requiring opening up shifts around the clock to meet orders. Planes take-off and land and the value and volume of trade enter into economic statistics.

Such was largely the history of industrial growth of Penang and Malaysia during the last three decades. FDI inflows show up clearly in the current account deficit occurring in most years during this period. They were mostly boom-times interrupted only by the usual business-cycle like recessions at various intervals. The labour market was characteristically to satisfy fabrication tasks, not invention. Huge orders put a heavy strain on production resources leading not only to full employment, but beyond, creating so called heating up effects on the local economy. As a result almost all the education, the physical investments, the energy and any other resource that could be mustered were diverted to meeting orders. Sales figures were up and the economy grew, sometimes attaining double digits, while the planned development of science and technology lagged farther and farther behind.

Foreign Labour

Therein, the nation made its major policy mistake. It allowed foreign labour to be brought in, wishful that economic growth could be pushed even further by expanding capacity. The industrialists and business community wanted this and the government complied. The only problem is what happens when the next business cycle recession came around as it did. There were massive layoffs sparking off rivalry not only between foreign and domestic labour but also between different groups of domestic labour. An economic problem turns into a social issue because of the low savings rate among this segment of the labour force amidst an absence of social security.

The government predictably cut interest rate and injected extra capital to boost the local economy. But growth over the years had mostly come from overseas demand which must now quickly shift to local markets trying to stay buoyant in response to current monetary and fiscal policies. Meanwhile all efforts go into making FDIs as attractive as it can possibly be with the hope that before long overseas demand will once again pick up. But until then, there exists a serious mismatch between the country's production resource now in over capacity and the form of its domestic demand even under very loose monetary policies.

A mismatch is an issue that pertains to economic information or lack of it. The seminal theoretical work on this is attributed to George Stigler who wrote *The Economics of Information* in 1961 and *Information in the Labour Market* in 1962.¹ Recognising the uniqueness of the labour market that could be distinguished from other markets, Richard Toika (1974)² attempted to analyse critical features of labour turnover which occurs for different reasons during economic expansion as well as recessions.

Matching between workers who choose jobs and employers choosing workers is enormously complex. Workers' satisfaction depends on factors like type of duties, the pace demanded, relation with colleagues, advancement opportunities in terms of on-the-job training, wages and perks. Employers on the other hand are concerned about hiring the wrong workers if their productivity is below expectations and the high cost of recruitment and training. Such interactions between employees and employers has to be deciphered from staff turn over statistics, resulting in unemployment on the one hand and unfilled vacancies on the other.

Labour Productivity

During the boom times Malaysia's industries were caught in the frenzy of voluminous overseas orders. It was a workers' market with quick staff turnovers. Labour costs went up without a proportionate increase in productivity. Vacancies left behind were likely only to be filled by someone less skillful and less productive. Production costs gradually rise and Malaysia's comparative advantage wanes.

But more tragically when the business cycle swings the other way, industries suddenly found themselves cost heavy and low in staff productivity. Staff turnovers become staff layoffs. Employers hire only those who have the skills they can use effectively but not many among the unemployed have those skills to offer.

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How then, should labour be organised? There should have been more depth in order to produce a more diversified employee-employer relationship. Diversification is easily misunderstood. Most people take diversification to mean greater variety in the range of product types. Unfortunately this will not be very useful for a number of reasons. First, each product type is a business on its own that is very different from another product. It is better to know more about one type than to have only a passing knowledge of a great many business types. Second, worker skills in one business type do not transfer easily into another, such that a worker who loses his job from one product type will find his experience of little value to another business that have job vacancies. Third, without depth, virtually every business is incomplete. Without inventions there is no new design. Without design the latest product cannot be made and even if production goes on, without marketing there can be no sales.

Diversification along the Value Chain

Instead, diversification should occur along the value chain. Focus on a fixed set of products where there may be some immediate or long-term advantage. Then develop in-depth knowledge in the business that is connected to that set of products. Become a global player and gain the ability to lead rather than follow. Diversify by moving deeper into the different aspects of the same product: research, design, fabrication and marketing will increase the potential for influencing the market of that product. Also, staff transitioning the value chain either due to turnovers or layoffs has much to offer in the development of the product. Knowledge in sales or fabrication helps in future designs. Knowledge in design is helpful when making sales.

The more important aspect of worker diversification across the value chain is it makes the labour market more resilient to business cycle ups and downs. Among high technology products, it could be observed from past cyclical fluctuations that the rise from each trough after the last downturn is a set of new generation version of the same product. When consumer demand wanes in response to deteriorating conditions, a diversified labour force switches to innovation and design. This is a strategy in preparation for the next upswing in the market, at which time, the new generation products will be the most attractive for capturing the market.

Product life cycles moving in tempo with business cycles help the labour force weather ever changing economic conditions. This means the ability to effectively mobilise the labour force, keeping capacities fairly inelastic rather than adding labour when there is demand and laying off workers when market retreats. Skills, not numbers, is the key. Put into the context of *Wawasan 2020*, current demographic rates imply a national population of about 33 million or a labour force of 12 million under expected labour participation rates. To achieve per capita income levels that commensurate with a developed nation status, each of the 12 million workers has to achieve labour productivity levels well above current standards. Achieving this is unmistakably a question of whether the labour can develop the skills needed. **§ Chan Huan Chiang**

Endnotes

1. *Journal of Political Economy* 69, 213-25, 1961 and *Journal of Political Economy* 70 (part 2 supplement) 94-105, 1962, respectively.
2. *The Economics of Information: Labour Market Aspects*. Report 172-350-61 The Urban Institute, Washington DC, 1974.



Global Economic Slowdown and Its Impact on the Malaysian Economy

There has been much talk about the weakening US economy, and its effects on Malaysia. Indeed, there is no question whether or not the US would go into recession. Many now are no longer asking if the US recession will be hard or soft, but are rather asking how hard, and how long. With Japan seemingly ever-mired in its own problems, and cracks beginning to show in "Fortress Europe," many are also wondering if the impending US recession could lead to a greater global recession.

Strong exports were a major contributing factor in Malaysia's "V-shaped" recovery from the 1997-98 crisis. At that time, people were touting the arrival of the "New Economy" where profits and sound business models only played a secondary role to hype and hyperbole. In this setting, US consumers spent beyond their means, treating stock market equities like savings. US companies, following the lead of the consumers, and went on an IT-led hiring and capital spending binge. This in turn led to a strong demand for technology-related exports, which, coupled with the stability offered by the Ringgit peg, benefited Malaysia's electronics exports, which makes up a substantial portion of Malaysia's exports.

But, as Stephen Roach, Chief Economist of Morgan Stanley Dean Witter puts it, "something unexpected happened along the way." He notes that as the "high-growth US economy transitioned to low growth, ... a severe earnings recession ensued." He continues on to note that this earnings recession set off a wave of cost cutting, aimed at trimming the excesses built up by excessive hiring and IT spending.

This raises some concerns, as the full effects of such cost cutting will take some time to take effect before they can be felt by the rest of the economy. Indeed, such multiplier effects are of particular concern to Malaysia, if we wish to gauge the full impact of the US slowdown on the Malaysian economy. Already, there are reports of several major companies cutting down work hours, announcing layoffs and retrenchments, and, in some cases, even plant closures. As these take place, the local supporting industries will start to receive fewer and fewer orders, which would then lead to more reductions in work hours and layoffs, this time among the local companies.

Figures released by the Department of Statistics show the industrial production index (IPI) for January growing by only 12.5 per cent from the same month a year ago. This shows a slowdown from the 13.8 year-on-year growth registered for the previous month. Although the drop was not as sharp as anticipated, a breakdown of the figures shows that domestic sectors are slowing ahead of export-oriented sectors. While export-oriented industries maintained production growth rates of 20-25 per cent, just slightly below the average of 30 per cent registered for the past few months, domestic industries fell to 7-8 per cent from the 20 per cent recorded in the middle of 2000.

This raises two important concerns. First, will our domestic industry be able to fill the void left by the multinationals? Second, what will be the effects of shortening work hours and retrenchments on an already weak consumer confidence, which has never really taken off since the '97-'98 crisis?

Several factors may make it easier for Malaysia to ride out the slowdown. First, Malaysia is generally expected to maintain a trade surplus, as many of our exports have a high import content. Thus, as our exports slow, so will many of our imports. Second, the recent decision of OPEC to cut the supply of oil will help counter softening oil prices. This will bolster Malaysia's earnings from oil and gas exports and add to our trade surplus.

A third factor is that not all firms will be similarly affected by the downturn. In addition to scaling down their operations, OBM manufacturers (original brand manufacturers) also cut costs by sub-contracting portions of their operations out to other firms that specialize in sub-contracting. Examples of these specialized contractors are Jabil, Solectron, EngTek, and Globetronics. Although such companies will not be able to completely avoid the effects of a global slowdown; they should, nevertheless, be less affected by the increase in demand for their services. As there are quite a few such companies in Malaysia, they should help mitigate some of the effects of a slowdown.

We may currently be on the verge of a global recession. Malaysia can no longer be overly dependant on exports to be the engine economic growth. The outlook in the US continues to be bleak, and Japan continues to be mired in stagnation. Europe too, is not immune, as it is now just awakening to the extent of its links to the US economy—links that are pulling it down along with the US economy. Factors such as strengthening oil prices, a continuing trade surplus, and the relative strength of sub-contractors may help mitigate some of the effects of a slowdown. However, until the domestic sector strengthens and consumer confidence picks up, it is unlikely that those factors will help us much in the long run. **§ Terence Too**



Human Resource: Issues & Challenges, Prospects For Growth (Part Two)

Prospects

The future of the manufacturing sector in Penang will not be confined to manufacturing, assembling and testing but will encompass more value-added activities. More companies are planning to localise their design activities and to improve on their facilities and services to better serve the regional market. To move towards a higher value-added plane, the labour force needs to be upgraded in various skills and expertise, including software design and development, logistics as well as computer sciences and hardware. More companies will also require people with post-graduate qualifications, particularly MBA and PhD. The short survey conducted by SERI confirms that all of the respondents will increase their demand for skilled labour, while only 9 per cent of them will increase demand for unskilled labour in the near future. The categories of skilled labour that will be most required by the respondents in this survey are shown in Table 3.

Table 3: Most Required Categories Of Skilled Labour

Industry	Category of Skilled Labour
Electronics	Software engineers, Experts in optical components and communication technology, Experts in IT applications, Experts in direct sale & marketing, Technical experts, Experts in supply chain & online business model, RF engineers, Process engineers, Equipment maintenance experts, Test experts, Package development experts, Material management staff, Design engineers and Technicians
Apparel	Sewers, Ironers, Folders
Food	Technical experts

Some basic skills will also be required to help prepare the existing labour force to move towards a higher skill base and a list of hard skills and soft skills have been identified for this purpose (Table 4). The Penang Skills Development Centre (PSDC) has been very pro-active in offering such courses for Penang's industrial workforce. In addition to the PSDC, there are many other training institutes in Penang that provide skills training, particularly for hard skills. However, very few training institutes provide training on soft skills, especially training in sales and marketing as well as banking, accounting and finance.

Table 4: Basic Skills Requirement

Types of Skill	Training
Hard Skills	Hardware, plastic technology including injection moulding, CAD, CAM, CAE, material science, hydraulics, EM, maintenance, failure analysis, process control, automation, Internet design, supply chain
Soft Skills	Communication & articulation, project management, team working & building, coaching, leadership, facilitation, housekeeping, sales & marketing, customer service, problem solving, banking, accounting and finance

Findings from another independent survey conducted by SERI recently outline ten top areas that need training to enhance management and technical skills as well as to improve quality and productivity (Table 5).

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Table 5: Top Ten Training Needs (in descending order)

Training Needs
1. Supervisory & Motivation Skills
2. Quality System Assurance
3. Production & Operation
4. Industrial Safety
5. Information Technology
6. Management & Performance Development
7. Purchasing, Supply Management & Shipping
8. Human Resource Management & Industrial Management
9. Customer Service & Sales
10. Training Development

The training needs that have been identified, if implemented appropriately, would be able to prepare Penang's labour force to meet the new challenges in global technological developments. For instance, the emerging new products and technologies in the global markets like photonics and wireless application protocol and soon, general packet radio service, which will require skills enhancement in areas such as physics, optoelectronics, fourier optics, optical modulation, electromagnetics, optical communication network, microwave, wireless and radio frequency.

Unfortunately, many people are still unaware of the importance of these new technologies, and thus, provision of training on such skill areas is limited. To compete for FDIs in these areas, Penang will need to upgrade the technical knowledge and capabilities of its engineers and technical labour force in these emerging skill areas. Failing thus, Penang's competitors, particularly China, would entice a high proportion of the investments in these areas.

On a more positive note, Malaysians are capable of handling these new developments. If the Malaysians, who were assigned overseas by their MNC employers, were to return, there would be greater opportunities for human resource and technological development in Penang. Findings from SERI's recent short survey indicate that 75 per cent of the respondents do assign their Malaysian staff overseas. Majority of these companies (89 per cent) assign their staff to the US, while some of them also assign their staff to other parts of Southeast Asia (44 per cent), other parts of Asia (44 per cent), Europe (33 per cent) and South America (11 per cent). The Malaysians who were assigned overseas comprise those holding the positions as shown in Table 6 and their academic qualifications are as shown in Table 7. The reasons given by the respondents for sending their Malaysian staff overseas are as shown in Table 8.

The findings of this short survey indicates that Malaysians are capable and thus, with appropriate initiatives from the government, Penang and Malaysia would be able to compete in the global market as far as the emerging technologies are concerned.

Recommendations

It is imperative for Penang, through the Penang State Government to identify the types of development and industries the State desires and to be focused in its development efforts. By being focussed, it would be easier for the State to identify its training needs and the type of skills and people to target. This would also enable the establishment of a strong support foundation, which includes education and training of human resources, infrastructure development such as transportation, utilities and other facilities like R&D as well as supporting industries.

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Table 6: Positions Held By Malaysians Assigned Overseas

Positions Held	Percentages of Responding Firms
Process/Test Engineers	78 per cent
Manager/Director of Departments	67 per cent
Design and R&D Engineers/Specialists	67 per cent
Non-Technical Executives	44 per cent
Technicians & Other Technical Support Staff	33 per cent
Non-technical Support Staff	33 per cent

Table 7: Academic Qualifications of Malaysians Assigned Overseas

Academic Qualifications	Percentages of Responding Firms
PhD	11 per cent
Masters Degree	56 per cent
Bachelor Degree	100 per cent
Diploma	33 per cent
Certificates	33 per cent
High School and below	11 per cent

Table 8: Reasons For Sending Malaysian Staff Overseas

Reasons	Ranking in Terms of Importance	Percentage of Responding Firms
Possess special skills unavailable at the location	1	44 per cent
Training & exchange purposes	2	78 per cent
Hardworking & diligent, and suitable for the job at the location	3	22 per cent
Others such as Job Rotation	4	11 per cent

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Subsequent to this, a two-strategy approach is recommended, namely a short-term strategy and a medium- to long-term strategy.

Short-Term Strategy (1 to 3 years)

The short-term strategy is to allow the import of foreign experts who are required to help drive the growth of the economy, for the next three years, irrespective of their country of origin. This is to allow the local universities sufficient time to train and produce the required engineers and scientists.

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The government, through the Penang Development Corporation (PDC) and the Immigration Department will have to work closely with the industries to define and identify the experts. A one-stop department to facilitate the industries, particularly new investors would have to be set up, most probably by the PDC. The establishment of the one-stop department would allow expeditious processing of applications and approvals pertaining to the import of foreign experts. In addition, the one-stop department could also assist the investors in their recruitment exercises, either the recruitment of local workers or foreign ones.

It is also important to encourage the return of qualified Malaysians who are currently abroad. The foreign spouses of these Malaysians should be allowed to work in Malaysia, if they are professionals. Those who possess special skills could be granted the permanent residence status immediately if their skills are deemed crucial to the economic growth of the country.

The corporate sector can also play their role in attracting qualified Malaysians to return, particularly those who are still studying abroad by offering them practical training stints in their factories. This will create awareness among students who are studying overseas on the importance of these industries in generating economic growth for the country as well as to enable them to experience the working environment in Malaysia.

Medium- to Long-Term Strategy (1 to 5 years)

The medium- to long-term strategy is to produce local graduates who are equipped with the required skills. This requires close collaboration between the universities and the industries to organise and conduct courses that are considered important for further growth.

There is also a need for innovation and incubation parks to nurture new high-tech start-ups. The government could assist by providing grants to potential local high-tech industries. In addition to grants, the government could also actively promote venture capital by providing seed capital to potential and deserving local companies.

Local companies should also be encouraged to carry out joint training programmes with their joint venture partners. This would create a win-win situation where the foreign partners would benefit from the work performed by the local workers while the local workers would benefit from the transfer of technology and know-how from them.

At the formal school level, the curriculum should be adjusted to inculcate critical thinking amongst students so as to produce the innovative labour force of the future. It is also important to change the mindset of the people and to raise their awareness on the importance of blue-collar jobs. The government and the private sector would have to play important roles in disseminating this information. A means for doing so is for the government to consider emulating the German education system to stream the students, where the less academically inclined ones are put into the vocational stream. Students in the vocational stream will be trained under an apprentice scheme and companies can adopt and sponsor them for further skills upgrading. Upon completion of their training, these students will serve the companies.

A longer-term approach would also require a comprehensive database on the supply of labour force. The data should include the number of school leavers at different levels. This would enable easier planning for skills upgrading and training. **§ Anna Ong**

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