



## Globalization of the Malaysian Manufacturing Sector: An Agenda for Social Protection Enhancement

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### Abstract

Globalization offers opportunities for workers to achieve higher levels of economic prosperity. Unfortunately, it also causes job insecurity for specific groups in certain sectors. This is particularly so in the Malaysian manufacturing sector which is actively fragmenting its production structure. There are prior concerns that some workers in certain labour-intensive segments of the production process will be displaced. The issue is whether the country's current social protection systems are adequate to protect the disadvantaged. The paper first addresses the effects of one perspective of fragmentation on relative labour demand in Malaysian manufacturing. Subsequently, the relevant legislations and schemes enacted and implemented to protect workers are examined. The key conclusions of the study are first, unskilled workers are more likely to lose out from the international fragmentation of imports; and second, the existing social protection systems are inadequate to meet the needs of the unskilled workers.

**Keywords:** International production fragmentation, Imports of parts and components, Labour demand, Social protection

### 1. Introduction

Trade developments in the East Asian region in particular, point to a rapid expansion in international production fragmentation (Note 1) (Ng and Yeats, 2003; Athukorala and Yamashita, 2005) throughout the 1990s (Kimura and Ando, 2003). This translates into the rising importance of trade in parts and components. In fact, trade in *parts and components* ('middle products,' 'intermediates' or 'fragments of final products') has grown at a faster pace than trade in final manufactured goods (Athukorala and Yamashita, 2005; Jones and *et al.*, 2005).

Imports of parts and components are essential to Malaysia as she is considered largely as an assembler. In 2003, parts and components accounted for 56 per cent of total Malaysian imports. Component trade is found to be heavily concentrated in electronics and electrical industries, whereby semiconductors and other electronic components (SITC 776) accounted for 68 per cent of parts and component imports (Athukorala and Yamashita, 2005). Figure 1 caricatures the development in fragmentation for selected industries in Malaysia. The share of parts and components in total imports had declined marginally from 37 per cent in 1983 to 34 per cent in 2000. However, parts and components recorded a higher average annual growth rate of 22 per cent as opposed to 19 per cent for total imports for the entire period. The higher import growth of parts and components vis-à-vis that for total imports signify the importance of fragmented imports in the Malaysian manufacturing sector.

The international procurement of parts and components is believed to have a greater impact on the labour market (Note 2) than trade in final goods (see Sakurai and Moriizumi 2000; Egger and Egger 2003). Most countries experienced a shift in demand towards skilled labour. The Malaysian manufacturing sector is no exception in this respect. Figure 2 presents skill differentials (the ratio of skilled to unskilled labour, S/U) and skill intensity (the ratio of skilled labour to total employment, SIE) for selected industries.

The 1980s saw a marginal decline in skill differentials (from 17 per cent in 1983 to 16 per cent in 1990) in manufacturing. The 1990s however was characterized by a reversal in the relative quantity decline of the 1980s.

Explanations based on the increases in the relative supplies of unskilled labour are compatible with the skill differential trends observed in the 1980s since unskilled labour increased by 9 per cent per annum while skilled labour increased merely by 8 per cent per annum. In the 1990s, the reverse occurred with a higher growth rate of 10 per cent per annum for skilled labour vis-à-vis 6 per cent per annum for unskilled labour. The rise in skill intensity in the 1990s was thus considered demand-driven relative to that of the 1980s.

Malaysia is thus an interesting case to analyze given the increase in relative labour demand (share of skilled to unskilled labour) and the evidence of greater component trade. The study combines both features of the manufacturing sector, fragmented imports and labour demand, to examine the impact of the former on the latter. The study approaches one perspective of fragmentation (focusing on the import side) by estimating the effects on relative demand for labour. Further, given that there will always be winners and losers as a result of globalization of the manufacturing sector, it is important to ensure that there are policies in place to minimize the negative impact on those who are most badly affected. This may include adequate social safety nets. The crucial questions are: What safety nets exist to support workers who are displaced or retrenched? Are the existing legislations and schemes adequate?

This paper is structured in the following manner. Section 2 discusses the data employed for the study. Section 3 provides the background for the empirical work, details the econometric analysis and presents the results. Section 4 examines the relevant safety nets pertaining to retrenchment and termination benefits and discusses the adequacy of these systems. Finally, Section 5 concludes with some recommendations to enhance social protection in Malaysia.

## 2. Data

The labour data is drawn from manufacturing surveys conducted annually by the Department of Statistics (DOS) Malaysia. The study only considers full-time paid employees (N), which excludes working proprietors, active business partners, unpaid family workers and part-time paid employees. Similarly, only the wages and salaries of full-time employees are considered for the study. The wage variable (W) refers to the average yearly earnings per full-time employee in each industry. All wage variables are deflated by the Malaysian consumer price index (at constant 1980 prices).

The definition of skills used for the study is solely based on occupational groupings governed by the availability of data from the manufacturing surveys. Skilled workers (S) refer to the number of employees in the managerial, professional, technical and supervisory categories. Unskilled workers (U) comprise production/operative workers. The real average wages for skilled and unskilled workers (SW and USW respectively) are constructed based on their average yearly earnings. Other industry measures employed comprise real value-added (Q), the share of foreign direct investment in total capital investment (FDI/CI) and the share of foreign workers in total employment (FW/N).

The data on exports (X) and imports (M) are derived from the *Malaysia: External Trade Statistics* publications. The data is compiled for industries at the 3-digit Standard International Trade Classification (SITC) level. Exports are valued f.o.b. while imports c.i.f. Total manufacturing exports and imports are deflated with the export price and import price index (1980 = 100) for the entire economy respectively.

Since imports (Note 3) based on the SITC scheme do not separate fragmentation trade from final goods, the study adopts Ng and Yeats (1999) classification of intermediate goods inferred from trade statistics for a total of six industries (furniture and fixtures, machinery manufacturing, electrical and electronic products, transport equipment, scientific and measuring equipment and miscellaneous goods) in sections SITC 7 and 8 (industries in which fragmentation is relevant). For the study, only items termed as “parts and accessories” at the 4-5 digit level SITC are counted as fragmented products while others are treated as final goods. Thus the fragmentation intensity variable (F) in this study is defined as the share of component imports in total imports.

Integrating trade, labour market and industrial statistics, the empirical analysis involves a small panel data set of 6 major industrial groups, spanning the period 1983 to 2000. The data is a balanced panel of 108 observations.

## 3. Methodology and Results

### 3.1 The Theory

The issue of trade in goods that belongs to the same sector, intra-industry trade or IIT (Grubel and Lloyd, 1975), has recently received much attention. The assumptions of the models explaining IIT are that consumers love variety and there are increasing returns to scale in the production of the differentiated good. The original impression seemed to be that IIT does not affect the relative demand for skilled labour. However recent contributions to trade literature have showed that this type of trade can lead to increased differentials within sectors. Assuming skilled workers determine the quality of final goods produced and that the opportunities for greater trade rests with industries that are basically producing high quality products (differentiated in a vertical and horizontal way), the demand for high skilled labour would increase much faster (see Manasse and Turrini, 1999).

Duranton (1999) however explains labour demand effects based on trade in *intermediate goods* (fragmentation) instead of final goods. Final good producers who desire for advanced production technology will resort to trade to acquire the *high quality intermediates* abroad due to the scarcity of skilled labour locally. Based on this argument, the attraction of fragmentation at an international level may be reflected in different requirements for labour skills thereby causing a new international division of labour. One country may contain labour skills more appropriate to one fragment and another labour-abundant country may be relatively more productive in the other fragment.

Theoretically it is conceived that unskilled labour intensive stages of production are shifted to unskilled labour abundant countries while more technologically advanced stages remain in skilled abundant countries. The argument is that fragmentation will lower the demand for unskilled labour in developed countries (see Hijzen *et al.* 2004), leading to a fall in the employment of unskilled. However Feenstra (1998) points out that the reduction in demand for unskilled labour is also possible for developing countries if the fragmented activity received is relatively more skilled intensive than the home country. Thus skill differentials may increase in both developed and developing countries.

However, Geishecker and Gorg (2005) point out that the consequences of fragmentation for local labour markets are not clear-cut, particularly when there is labour mobility between industries. Fragmentation in one industry may affect labour in other industries as workers move from the affected industries. Thus the effects of fragmentation may not just be confined to changing demand between industries but relative demand within industries (see also Feenstra, 1998 and Hijzen *et al.*, 2004). Geishecker and Gorg (2005) also point out that even without labour mobility, fragmentation effects on labour depend, among other things, on whether it complements or substitutes which type of labour.

A few recent papers that examined the impact of fragmentation on relative demand for skilled labour find significant results attesting to the importance of trade of such a nature for the latter. Most of these studies are based on European countries, such as the United Kingdom (Anderton and Brenton, 1999; Hijzen *et al.*, 2004), Austria (Egger and Egger 2001; 2003), Italy (Helg and Tajoli, 2004) and Germany (Geishecker and Gorg, 2005).

The above discussion ultimately rests on the fact that industries that depend on imported parts and components are likely to incur some adjustments in the relative labour demand *within* industries. Such a relationship is put to test for the Malaysian case.

### 3.2 Econometric Specification

The translog function is commonly used in the literature and is considered appealing in that it provides a second order approximation to any cost function and it does not impose any restrictions on the substitutability of imports. The variable cost function in translog form that assumes capital to be a fixed factor of production is as follows:

$$\ln C_i = \alpha_0 + \alpha_q \ln Q_i + \frac{1}{2} \alpha_{qq} (\ln Q_i)^2 + \beta_k \ln K_i + \frac{1}{2} \beta_{kk} (\ln K_i)^2 + \sum_j \gamma_j \ln W_{ij} + \frac{1}{2} \sum_j \sum_k \gamma_{jk} \ln W_{ij} \ln W_{ik} + \sum_j \delta_{Qj} \ln Q_i \ln W_{ij} + \sum_j \delta_{qj} K_j \ln K_i \ln W_{ij} + \sum_j \delta_{Kj} \ln K_i \ln W_{ij} + \rho \ln Q_i \ln K_i + \lambda_T T_i + \frac{1}{2} \lambda_{TT} (T_i)^2 + \lambda_{QT} T_i \ln Q_i + \lambda_{KT} T_i \ln K_i + \sum_j \phi_{iWj} T_i \ln W_{ij}$$

where

$C_i$  = variable costs in industry  $i$

$Q_i$  = output in industry  $i$

$K_i$  = capital stock in industry  $i$

$W_{ij}$  = price of variable factor  $j$

$T_i$  = technology in industry  $i$

Cost minimization of the above generates the following linear equations for the factor shares (L):

$$L_{ij} = \alpha_j + \delta_{Qj} \ln Q_i + \delta_{Kj} \ln K_i + \sum_k \gamma_{jk} \ln W_{ik} + \phi_{iWj} T_i \quad (1)$$

Differencing the above generates:

$$\delta L_{ij} = \phi_{iWj} dT_i + \delta_{Qj} d \ln Q_i + \delta_{Kj} d \ln K_i + \sum_k \gamma_{jk} \ln W_{ik} \quad (2)$$

Assuming homogeneity of degree one in prices imposes:

$$\sum_k \gamma_{ik} = \sum_j \gamma_{ik} = \sum_j \delta_{iK} = \sum_j \delta_{Qj} = 0 \quad (3)$$

this generates

$$dL_{ij} = \phi_{iWj} dT_i + \delta_{Qj} d \ln Q_i + \delta_{Kj} d \ln K_i + \gamma d \ln (W_j / W_k) \quad (4)$$

with two variable factors  $j$  and  $k$ .

Machin *et al.* (1996) and Anderton *et al.* (2001) define the two variable factors of production as skilled (S) and unskilled (U). The relative labour demand equation is examined with the inclusion of trade variables, which are exports (X) and imports (M). The study adopts the more conventional factor demand equation of estimating "relative" labour demand as the share of skilled to unskilled (hereafter referred to as skill differentials or S/U), since Machin *et al.* (1996) do acknowledge that the theoretical foundation for estimating relative labour demand regression using the share of

skilled to total employment as a dependent variable is weak. Following the earlier discussion on fragmentation, total imports (M) are disaggregated into imports of parts and components (Mpc) and other final imports (Mo). Mpc is also used interchangeably with the fragmentation intensity variable (F).

In addition to trade variables, foreign labour (FW) and foreign direct investment (FDI) are also introduced in the equation, due to the importance of foreign presence and foreign participation in the Malaysian manufacturing respectively. Foreign labour is distinguished by skills to capture the differential impact on inequality. Thus foreign migrant components are entered into equations as the share of skilled foreign workers in total employment (FWs/N) and the share of unskilled foreign workers in total employment (FWu/N), while FDI is entered into the inequality equations as the share in total capital investment (FDI/CI).

The relative labour demand (skill differential) equations that are estimated are as follows:

$$\ln(S/U)_{it} = \Omega + \varphi_1 \ln(SW/USW)_{it} + \varphi_2 \ln Q_{it} + \lambda K_{it} + \mu_1 \ln X_{it} + \mu_2 \ln M_{it} + \mu_3 (FDI/CI)_{it} + \mu_4 (FWs/N)_{it} + \mu_5 (FWu/N)_{it} + v_{it} \quad (5a)$$

$$\ln(S/U)_{it} = \Omega + \varphi_1 \ln(SW/USW)_{it} + \varphi_2 \ln Q_{it} + \lambda K_{it} + \mu_1 \ln X_{it} + \mu_2 \ln Mo_{it} + \mu_3 \ln Mpc_{it} + \mu_4 (FDI/CI)_{it} + \mu_5 (FWs/N)_{it} + \mu_6 (FWu/N)_{it} + v_{it} \quad (5b)$$

$$\ln(S/U)_{it} = \Omega + \varphi_1 \ln(SW/USW)_{it} + \varphi_2 \ln Q_{it} + \lambda K_{it} + \mu_1 \ln X_{it} + \mu_2 F_{it} + \mu_3 (FDI/CI)_{it} + \mu_4 (FWs/N)_{it} + \mu_5 (FWu/N)_{it} + v_{it} \quad (5c)$$

where

$\Omega$  = constant

S/U = ratio of skilled to unskilled labour

SW/USW = real relative wages (average skilled wages relative to average unskilled wages)

Q = output measured as real value-added

K = capital intensity measured as total fixed assets per unit of output (in per cent)

X = real exports

M = real imports

Mo = other imports, in real terms (final imports, excluding parts and components)

Mpc = real imports of parts and components

F = fragmentation intensity measured as share of imports of parts and components in total imports

FDI/CI = share of foreign direct investment in capital investment is a proxy for technology (in per cent)

FWs/N = share of skilled foreign workers in total employment (in per cent)

FWu/N = share of unskilled foreign workers in total employment (in per cent)

v represent error terms that pick up random measurement errors in skill differential and the effects of labour demand shocks on skill differential, which are not picked up by the included independent variables.

### 3.3 Findings

The unit root panel test on the levels and first differences are investigated prior to estimating the relative labour demand equation. The panel unit root test of Im, Pesaran and Shin (IPS, 1997) is performed with the following conditions: (a) constant but no trend, and (b) one lag are assumed for all cases. Table 1 presents the results of the panel unit root tests in levels and first differences. The results confirm that the null of a unit root cannot be rejected for all variables in levels. The panel unit root tests are then further investigated for the variables in first differences. All variables are found to be of I (1) process, which is stationary in first differences. Thus, the variables in equations (5a) to 5(c) are first differenced.

The fixed effects (FE) and the random effects (RE) models are both employed and the choice of the model is determined by consistency properties. The Hausman (1978) specification test is performed to check if the coefficients estimated by the fixed-effects estimator and the same coefficients estimated by the random effects estimator do not differ statistically. Given that the Hausman test reveals that the coefficients of the FE and RE models do not differ statistically for all specifications [5(a) – 5(c)] only the FE estimates are reported in Table 2. Equation (5a) of Table 2 reports the skill differential specification including total imports, while equation (5b) presents the same specification but distinguishes total imports into imports of parts and components (Mpc) and imports of final goods (Mo). Equation (5c) introduces the fragmented intensity variable. All specifications in Table 2 are corrected for AR(1) disturbances.

In terms of the individual specific variables, statistically significant and negative estimates are found between relative wages and skill differentials, as expected. Similarly, output estimates are significantly negative. The negative sign on the output variable that controls for the scale of production simply means that the employment of unskilled labour increases more rapidly than the increase in skilled labour as output increases. Conversely the significant positive estimates on capital intensity signify complementarity effects between capital and skilled labour as factors of production.

In contrast to the significance of the above variables, FDI does not significantly affect relative labour demand. The evidence seems to suggest that FDI has not brought in skilled labour using technology. Mahadevan (2002) in her study on Malaysian manufacturing between 1981 and 1996 agrees that Malaysia has obtained better technology and equipment *via* FDI, but has undoubtedly failed to learn to use it adaptively. Conversely, another study on the Malaysian manufacturing industry by Oguchi *et al.* (2002) for the period 1992 to 1996 shows that FDI did not come with more efficient technology, as domestic firms were as efficient as foreign firms. The lack of sufficient absorptive capacity (or even efficient FDI-related technology) probably explains why FDI inflows are not translated into higher demand for skills.

Though, foreign participation in the form of FDI inflows do not matter, the presence of foreign labour has contributed to growing skill differentials. The quality of migrant labour is found to be important for skill differentials. Higher presence of skilled migrants significantly increases relative labour demand while unskilled migrants have an opposite impact, albeit insignificant.

Though both trade terms are insignificant in equation (5a), exports are deemed to have employment effects in favour of unskilled labour. However, prior evidence indicates a significant shakeout of unskilled labour relative to skilled labour owing to exports due to labour rationalization. As for imports, the negative impact on skill differentials implies slower growth in skilled vis-à-vis unskilled as imports increase (prior evidence indicates that imports into Malaysia increases both skilled and unskilled labour demand).

It is important to note that the signs of the estimates on other imports differ from imports of parts and components [see equation 5(b) of Table 2]. Though both  $M_o$  and  $M_{pc}$  remain insignificant,  $M_{pc}$  is positive while  $M_o$  remains negative. Since the variable of most interest in the study is the measure of fragmentation, the  $M_{pc}$  is substituted with the fragmentation-intensity variable ( $F$ ) in equation (5c).  $F$  is found to be positive and significant in equation (5c).

Fragmentation on the import side appears to be skill-biased, thereby widening skill differentials in the Malaysian case. The views that render support to the widening impact of fragmentation on skill differentials in unskilled abundant countries center on the fact that “knife-edge comparative advantage” of fragmented trade necessitates skill upgrading of industries (Rajan, 2004). The factor bias towards skills inherent in imports of parts and components (Note 4) is of more relevance to growing skill differentials as opposed to imports of final goods. The group that is likely to be redundant is the unskilled, and this is already apparent with high retrenchments during the period 1996 to 2000 owing to the introduction of labour saving techniques (7<sup>th</sup> Malaysia Plan).

In total, though fragmented imports in manufacturing are significantly important in explaining the rise in skill differentials, it cannot explain all of the increase. The empirical results of the study should be taken as suggestive instead of conclusive. However, the plight of the unskilled can no longer be ignored with growing trade in parts and components that beckon a higher demand for skilled labour. The next section expounds the existing protection available for these workers in the event of retrenchments or job losses. This is a critical issue since the unskilled are basically lowly paid workers who encounter difficult job transitions in the labour market.

#### 4. Safety Nets

##### 4.1 Existing Legislations

The statutory provisions in Malaysia pertaining to the retrenchment of a worker are found in the Employment Act 1955 and its subsidiary legislation, the Employment (Termination and Lay-Off Benefits) Regulations 1980, the Labour Ordinance of Sabah, the Labour Ordinance of Sarawak and the Industrial Relations Act 1967.

The Employment Act 1955 prescribes the minimum benefits for a worker who comes within its scope, which includes a person who is employed to perform manual labour. Manual labour is defined as “duties which are purely physical in nature with very little or no mental effort” (Colgate Palmolive (M) Sdn Bhd v. Cheong Foo Weng and 12 others, [2002] 2 AMR 2107, at 2136). An unskilled worker is therefore covered by this Act and is entitled to the benefits prescribed by the Employment (Termination and Lay-Off Benefits) Regulations 1980, if he is retrenched. The entitlement of the retrenched worker depends on his tenure of service and wages. The tenure of service must be continuous for a period of at least 12 months whilst what amounts to wages (Note 5) is prescribed in the Employment Act 1955.

There are three key issues regarding the Act for the protection of the unskilled. First, it does not apply to all who are employed in Malaysia. The Employment Act 1955 applies to West Malaysia and the Federal Territory of Labuan only.

Thus, it does not protect an unskilled worker in Sabah or Sarawak. Second, a worker who was provided with housing accommodation loses not only his job and source of income, but also a roof over his head when he is retrenched. As his retrenchment benefits are calculated based on his basic wages which does not include the value of accommodation, he will not be compensated for the loss of accommodation. He may be rendered homeless upon his retrenchment. He thus suffers a double blow of being both jobless and homeless. Third, the minimum benefit which is prescribed in Regulation 6 of the Employment (Termination and Lay-Off Benefit) Regulations 1980 is as follows: (a) ten days' wages for every year of employment if he has been employed by that employer for a period between 12 months to less than two years; (b) fifteen days' wages for every year of employment if he has been employed by the employer for two years or more but less than 5 years; and (c) twenty days' wages for every year of employment if he has been employed for a period of five years or more. The amount of compensation as prescribed by the regulation is pittance particularly where the worker was in the employer's employment for less than two years. The corresponding entitlement of less than one month's wages may not be sufficient to sustain the worker even for a short period. It is unfortunate that an important social security legislation such as the Employment Act 1955 is limited in its scope of application.

As discussed in Section 3.3, the group that is likely to be made redundant due to fragmentation of the manufacturing sector is the unskilled. Unskilled workers comprise both local and foreign workers in the Malaysian case. It is noteworthy to mention here that an unskilled worker who is a Malaysian enjoys better protection under this Act when there is redundancy for the following reason. The Act provides that where there is a redundancy, the employer may terminate the employment of a local worker only after it has first terminated the employment of all foreign workers employed in a similar capacity as that of the local worker.

Currently, Sabah and Sarawak have their own respective Labour Ordinances. The Ordinances were amended in October 2005. Though the Ordinances cover unskilled workers, these persons do not enjoy the protection conferred by the Employment (Termination and Lay-Off Benefits) Regulations 1980. However, the provisions in the Ordinances confer better rights on a worker compared to that in the existing Employment Act 1955 in one aspect, namely the employer has to pay for the costs of the repatriation of the retrenched worker and his dependants to their place of origin. Neither the Employment Act 1955 nor the Employment (Termination and Lay-Off Benefits) Regulations 1980 confers this benefit on an unskilled worker in West Malaysia or the Federal Territory of Labuan.

Finally, the Industrial Relations Act 1967 plays a significant role in that it provides for the workers' trade union to negotiate a better package for the retrenched workers. Unlike the Employment Act 1955, the Industrial Relations Act 1967 applies throughout Malaysia. Under the Industrial Relations Act 1967, the trade union is prohibited from raising the issue pertaining to the terms of retrenchment benefits when the union is negotiating for a collective agreement with the employer. However, the Act does not prohibit an employer who finds retrenchment of its workers inevitable, from inviting the trade union to discuss the terms of the retrenchment scheme. Once the employer and the trade union have agreed on the terms, they may enter into a collective agreement and deposit it with the Industrial Court. The terms cannot be less favourable than those prescribed in the Employment Act 1955 and the Employment (Termination and Lay-Off Benefits) Regulations 1980.

Once the Industrial Court takes cognizance of the agreement, the agreement is binding on the employer and all workers to which the agreement relates. If the employer fails to pay the termination benefits as agreed to a retrenched worker, the worker may lodge a complaint with the Industrial Court. The Act provides that the employer shall be guilty of an offence if it fails to comply with the order.

#### *4.2 Social Security and Statutory Training Schemes*

The current statutory retrenchment schemes discussed above are lacking in many aspects. In view thereof, it is important to study the relevance of the social security schemes that are available to the unskilled. The schemes include the compulsory savings scheme under the Employees Provident Fund Act 1991 and the statutory training scheme implemented by the Ministry of Human Resources, namely, the Human Resources Development Fund (HRDF).

Apart from relying on his retrenchment benefits, an unskilled worker may also have to rely on his savings to sustain him during the period of his unemployment. In this connection, it may be pertinent to review the compulsory savings scheme established under the Employees Provident Fund Act 1991, the Employees Provident Fund (EPF). It must be emphasized however that this scheme is not available to all persons who are employed. Under the EPF scheme, at least 11 per cent of a worker's wages will be deducted and paid into his account with the EPF, whereas his employer is required to contribute at least a sum which is not less than 12 per cent of the worker's wages into the worker's account with the EPF. It is to be noted that the definition of the term "wages" (Note 6) under the Employees Provident Fund Act 1991 is different from that given in the Employment Act 1955. It is wider and encompasses even the worker's bonus, commission and allowance.

It is noteworthy that the Employees Provident Fund Act 1991 has a few safeguards to protect a worker. For example, the employer is prohibited from deducting or otherwise recovering its contribution from the worker. Further, where the

employer is a company, its directors will be jointly and severally liable with the employer for any unpaid contribution. Furthermore, the worker cannot assign or transfer the amount in his EPF account. In addition, the amount cannot be subject to any attachment or levies. And in the event the worker becomes a bankrupt, the Official Assignee is not entitled to nor have any claim on the moneys in the worker's account with the EPF. All these are to uphold the spirit and purpose of the EPF scheme which is best reflected in the EPF's tagline "Savings for Old Age".

There are also several issues that prevail regarding the EPF scheme. First, the multipurpose withdrawals that are allowed for housing, education and medical purposes may render the retirement benefits insufficient. Second, the current withdrawal scheme does not allow a worker to make any withdrawal in the event he is retrenched. Third, the retrenched unskilled worker who becomes a self-paid employee (private worker) will not be covered by any social security retirement programme. His account with the EPF remains but there will be no further contributions with his new status as a self-paid employee.

The second issue is crucial as many of the unskilled workers may face difficulties to be re-employed in the formal sector. This is despite the existing training schemes that are offered to them such as the HRDF established pursuant to the Pembangunan Sumber Manusia Berhad Act 2001. One of the many purposes of the Fund is to undertake activities or projects to train those retrenched. As the termination benefits, if any, may not be able to sustain the worker for the period of training, it is important to review the withdrawal scheme under the EPF scheme. Further, the retrenched worker, armed with new skills but without a permanent job, may need funds to start a small business. The EPF scheme should support his needs to earn a honest living.

## 5. Conclusion

The results produce important implications concerning the increase in fragmented imports for the domestic labour market. First, the concerns that imports displace skilled labour for an unskilled abundant country like Malaysia may be misplaced, given the role of imports of parts and components. Instead, the study points out that unskilled labour stands to lose out from increasing fragmentation in imports. With increasing trade in parts and components following further globalization of the Malaysian manufacturing sector, the unskilled may witness more job losses. Second, the retrenched unskilled workers may end up in dire straits given the inadequacies in the current protection schemes. The plight of these workers becomes even more critical as there is no welfare programme for the unemployed in Malaysia.

The focus therefore should be on the coverage and adequacy of the current support mechanisms. The existing social protections systems need to be progressively reviewed to ensure that its provisions are relevant to the prevailing needs of the labour market. First, some reforms are needed to the current statutory provisions and social security schemes to enhance the protection for the unskilled, whose contract of employment is terminated prematurely due to no fault of his. The application of the Employment (Termination and Lay-Off Benefits) Regulations 1980 should not exclude anyone who is gainfully employed. It is proposed that the Minister makes comprehensive regulations pertaining to the termination benefits of a redundant worker. Further, the formula on the termination benefits should be reviewed. The legislature should take cognizance of one of the purposes of the termination benefits, which is to compensate the retrenched worker for his hardship due to the loss of employment and possibly, the loss of his home.

Second, the EPF should cover all Malaysians who are gainfully employed. The scheme should not discriminate against ex-workers who become self-paid employees. As for training needs, there should be a different scheme for retrenched workers. In order not to overburden an employer who is currently contributing a percentage of his employees' monthly wages to the HRDF with an additional levy, it is proposed that a part of the current levy be channeled towards the training of retrenched workers. More effort should be given to retrain a retrenched worker. The new scheme should adopt the maxim "if you give a man a fish, he will eat for a day. If you teach a man *how* to fish, he will eat for the rest of his life".

Third, the Ministry of Human Resources should consider the proposal made by the Malaysian Trade Union Congress (MTUC) to establish a special fund, with a joint contribution from employer and workers, for the latter to receive a certain amount of monies for certain duration upon retrenchment. In this respect, the recent proposal to set up a National Retrenchment Fund to tide over workers during their period of unemployment is considered a positive step to enhance social protection in Malaysia. The proposal is currently under a 6-month review by the Malaysian government.

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## Notes

Note 1. Alternative terms have been given to reflect the same concept, such as segmentation, integrated production, outward processing (see Lall et al., 2004), intra-product specialization, super-specialization (see Helg and Tajoli, 2004), multi-stage production (Hummels et al., 2001), de-localization, disintegration (see Hijzen et al., 2003), production sharing, vertical specialization, slicing the value chain and outsourcing (see Feenstra and Hanson, 1996; Athukorala and Yamashita, 2005), kaleidoscope comparative advantage and intra-mediate trade (Rajan, 2004). The term 'fragmentation' refers to the splitting up of production processes into separate components that can be produced in different locations.

Note 2. Fragmentation differs importantly from import penetration in final goods in the sense that it explicitly takes into account the extent to which firms move production activities abroad. Moreover labour demand is not only affected in import-competing industries but in all industries that use foreign inputs.

Note 3. Imports as pointed out by Lovely and Richardson (1998) may take the following form: (a) finished goods; (b) import of parts and components.

Note 4. Robbins (1996) also finds a positive association between the relative demand for skilled labour and imports for capital goods for Malaysia.

Note 5. The term “wages” is defined in s.2(1) of the Employment Act 1955 to mean the basic wages and all other payments in cash payable to an employee for work done in respect of this contract of service but does not include: the value of any house accommodation or the supply of any food, fuel, light or water or medical attendance, or of any approval amenity or approved service; any contribution paid by the employer on his account to any pension fund, provident fund, superannuation scheme, retrenchment, termination, lay-off or retirement scheme, thrift scheme or any other fund or scheme established for the benefit or welfare of the employee; any traveling allowance or the value of any traveling concession; any sum payable to the employee to defray special expenses entailed on him by the nature of his employment; any gratuity payable on discharge or retirement; or any annual bonus or any part of any annual bonus.

Note 6. The definition is given in s.2 of the Employees Provident Fund Act 1991 to mean all remuneration in money, due to an employee under his contract of service or apprenticeship whether agreed to be paid monthly, weekly, daily or otherwise and includes any bonus, commission or allowance payable by the employer to the employee whether such bonus, commission or allowance is payable under his contract of service, apprenticeship or otherwise, but does not include - service charge; overtime payment; gratuity; retirement benefit; retrenchment, lay-off or termination benefits; any traveling allowance or the value of any traveling concession; or any other remuneration or payment as may be exempted by the Minister.

Table 1. Unit Root Panel Tests (Levels and First Differences)

Variable	IPS Test			
	Levels		First Differences	
	t-bar	Psi(t-bar)	t-bar	Psi(t-bar)
S/U	-1.474	0.107	-3.310	-4.595
SW/USW	-1.661	-0.389	-3.880	-6.054
Q	-1.903	-1.026	-3.961	-6.260
K (%)	-1.903	-1.026	-3.706	-5.608
FDI/CI (%)	-2.241**	-1.920**	-4.075	-6.554
FWs/N (%)	-2.853**	-3.533**	-4.449	-7.511
FWu/N (%)	-0.245	3.349	-2.707	-3.049
X	-1.681	-0.441	-3.347	-4.688
M	-1.554	-0.104	-3.505	-5.094
Mo	-1.566	-0.138	-3.836	-5.942
Mpc	-1.362	0.401	-3.574	-5.271
F (%)	-1.805	-0.739	-5.085	-9.140

Note:

1. The above tests assume a constant but without trend. One lag is assumed for all cases.
2. The values marked with an \*\* signify that the variables are stationary in levels.
3. All variables in levels are in logarithmic values except for those in (%).

Table 2. Relative Labour Demand Equations Across Manufacturing Industries, by Fixed Effects (with AR1 disturbances)

Variables	(5a)	(5b)	(5c)
dln(SW/USW)	-0.018** 0.006	-0.018** 0.006	-0.017** 0.006
dln(Q)	-2.044** 0.622	-1.963** 0.619	-2.028** 0.608
dK	0.104** 0.031	0.103** 0.031	0.103** 0.031
d(FDI/CI)	-0.0002 0.006	0.001 0.006	0.001 0.006
d(FWs/N)	0.799** 0.409	0.861** 0.397	0.829** 0.39
d(FWu/N)	-0.130 0.101	-0.140 0.102	-0.144 0.101
dln(X)	-0.009 0.847	-0.228 0.845	-0.335 0.846
dln(M)	-0.499 0.973	-	-
dln(Mo)	-	-0.874 0.745	-
dln(Mpc)	-	0.303 0.464	-
dF	-	-	<b>0.028*</b> 0.016
cons	0.778** 0.258	0.827** 0.257	0.783** 0.236
Hausman test	$\chi^2(8) = 5.44$ (Prob > $\chi^2 = 0.710$ )	$\chi^2(8) = 2.79$ (Prob > $\chi^2 = 0.972$ )	$\chi^2(8) = 3.66$ (Prob > $\chi^2 = 0.889$ )
R-sq	0.411	0.415	0.415
DW	1.736	1.689	1.648

Note: 1. The dependent variable is dln(S/U).

2. Total number of observations in 96.

3. DW refers to the Bhargava *et al.* (1982) Durbin-Watson statistics.

4. Figures below coefficient estimates are standard errors.

\*\*significant at 5% and \*significant at 10%

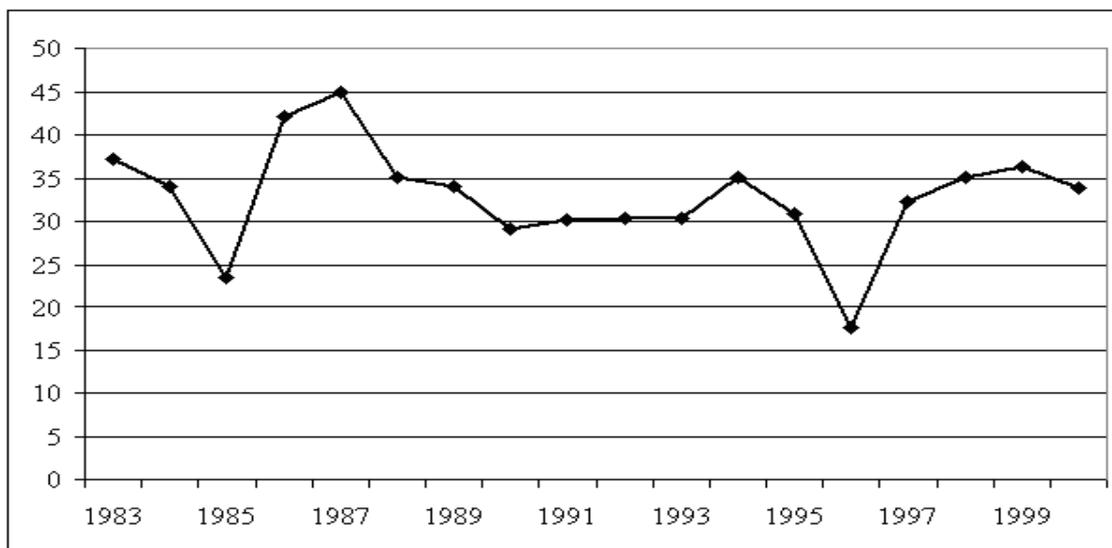


Figure 1. Share of Parts and Components in Total Imports (in per cent)

Source: Calculated from the Malaysia: External Trade Statistics, various issues.

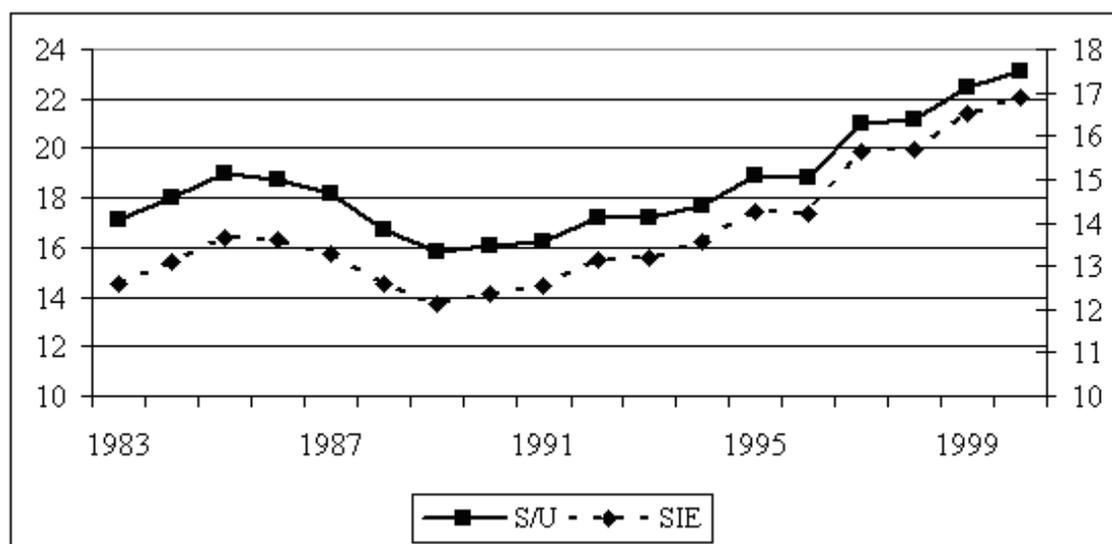


Figure 2. Skill Differentials and Skill Intensity in Manufacturing (in per cent)

Note: The left axis measures skill differentials (S/U) while the right axis measures skill intensity (SIE).

Source: Calculated from unpublished data obtained from the Department of Statistics, Malaysia.