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Measuring the Effect of Asian Financial Crisis on the Comparative Advantage of the Food Processing Industry

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ABSTRACT

This paper investigates the effect of the 1997 Asian financial crisis on the levels of competition for various productions of food products. The study is undertaken using the concept of comparative advantage. In the context of competitiveness of the Malaysian food processing industry the evaluation of comparative advantage has been undertaken with special reference to the prior implementation of the scheduled liberalization of trade preferences under the WTO and AFTA in 2010. In order to penetrate a wider range of foreign markets, Malaysian food processors have to identify food sectors that are internationally competitive and could withstand internal and external shocks. The Malaysian competitiveness level was determined using the Domestic Resource Cost (DRC) and Social Cost Benefit (SCB) indicators. Twenty food sectors were assessed using the Malaysian food production and trade data from 2000 to 2005. The results indicate that in the post crisis period, Malaysia enjoys an above average level of comparative advantage in the production of edible oil and fat from vegetables and animals, fish and, glucose and maltose. As expected, Malaysia has a comparative disadvantage in the production of paddy.

Keywords: Comparative advantage, Asian financial crisis, food processing industry, Domestic Resource Cost (DRC), Social Cost Benefit (SCB)

INTRODUCTION

Malaysia has experienced persistent food trade deficits. With inflation reaching almost 11% (CPI Food Component) in November 2008 (MIER Malaysia Economic Outlook 2008), the imported food bills have increased to RM27.8 billion in

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2008 from RM23 billion in 2007 (Department of Statistics, 2009). If local food production cannot cope with increasing demand, the food trade deficit in 2009 would be even greater. In order to narrow the food trade deficits, the government gives priority to increase domestic food production and at the same time educates the public on the advantage of reducing the consumption of imported food products. In the 9th Malaysia Plan, the new agricultural strategy is expected to increase food exports to about RM15.5 billion and to reduce food imports to about RM14.2 billion by the year 2010 (Government of Malaysia, 2006). The strategy to reduce food trade deficit can only be achieved by reducing imports and increasing exports of food products. In order to penetrate a wider range of export markets, Malaysian food processors have to identify food sectors that are internationally competitive. These sectors should not only withstand the internal shocks, but also the external shocks such as, the Asian financial crisis. Hence, the purpose of this paper is to examine the level of comparative advantage for various productions of processed food products in the context of Asian financial crisis.

If the results indicate that local food manufacturers can produce relatively cheaper food products that are capable of competing with imported products, the country could then save a substantial amount of foreign exchange through import substitution. Similarly, if more products are exported, Malaysia could earn additional foreign exchange that can be used for development purposes. By substituting imports and promoting exports, it is possible for the country to reduce its food deficit. In this paper, we examine the issue of comparative advantage in the food processing industry. A comprehensive plan, for example, was introduced in 2000 by the Ministry of Agriculture and Agro-based Industry (MOA) with the objective of increasing exports and reducing imports (Fatimah, 2008).The paper covers the assessment of the comparative advantage of the food manufacturing industry in Malaysia at the production level, for 20 food processing sectors. To capture the dynamic process in the competitiveness indicators, we employ time series and cross-sectional data on selected food processing sectors over the period 2000 to 2005.

DIVISION OF FOOD PROCESSING INDUSTRY

The food processing industry covers a wide range of products. These products are classified under three categories: import substitutes, traditional exports, and emerging exports. Import substitution is an important strategy for reducing the outflow of foreign exchange. The objective of this strategy is to develop close substitutes for foreign products, so as to reduce their importations. Not all imported food products can be substituted by local products. Some products require imported raw materials as they are not available in Malaysia. For instance, fruits, vegetables, and grains from temperate countries cannot grow in Malaysia because of the climate and some other agro-biodiversity constraints. Sugar, beef and dairy products are

also produced in Malaysia but in limited quantities. As these raw materials are both consumed in an unprocessed form and used as input in various food-processing industries, their continuing availability is important to the growth of the domestic food-processing industry. However, among all food products under this category, those with competitive edge are the ones that are potentially most capable of replacing their foreign rivals.

On the other hand, export products can be divided into two groups, namely traditional exports and emerging exports. The traditional exports are products derived from major commodities produced in Malaysia: fish, palm oil and poultry. Pineapples are sliced and canned for export while cocoa beans are processed into cocoa butter, cocoa fat and chocolate. Palm oil is the main ingredient for cooking oil, vanaspati or margarine and as an additive in the production of condensed milk.

The emerging exports are products that utilise mostly imported raw materials. They consist of finished products that are ready to be consumed. These products are promoted throughout the world to increase their market shares. The promotions are carried out by the private sectors with special assistance from the government. The joint effort between government and private sectors has resulted in many trade missions organised to promote Malaysian food products overseas. The new exports comprise ice cream, milk, glucose and maltose, food additive sauce, pet food, chocolate, coffee and tea.

The analysis of comparative advantage aims to determine whether the resources employed in the food processing industry could be put to more profitable use elsewhere in the economy. For instance, if there is no comparative advantage in producing cocoa products then the labour employed should be reallocated to production of products like palm oil where Malaysia may seem to have high comparative advantage. In the context of Asian financial crisis the increasing cost of tradable inputs and the depreciation of the ringgit might shift the comparative advantage from highly dependent on tradable inputs to the production process that depends on domestic inputs. There are several approaches one could take to empirically examine the comparative advantage of the Malaysian food sub-sectors. One approach, which is adopted in this paper, is to examine the levels of benefit-cost ratios in the Malaysian food industry for various productions of food products in different time periods.

CONCEPT OF COMPARATIVE ADVANTAGE

The concept of comparative advantage stemmed from the dissimilarity of productive efficiency between producers. It is a situation in which a producer is relatively superior at producing some products because of lower opportunity costs. Certain producers can produce at a relatively lower cost than others because they can allocate limited resources to producing the goods and services more efficiently. The opportunity cost of producing a particular product is equal to the income that the

producer could have earned in the production of the next best alternative, and its variations determine the level of comparative advantage among producers. Thus, efficient producers with lower opportunity costs of production have high levels of comparative advantage.

If all producers in a particular nation have a comparative advantage in the production of a particular product, then this would imply that the nation itself has a comparative advantage in the production of that particular product. As a result, the nation is internationally efficient in producing the product and this means that the sector is able to convert domestic resources into foreign exchange at a lower opportunity cost than other sectors. The concept of comparative advantage is the basis of trade among nations. It follows that a country will be export-competitive if it has a relative cost advantage in producing a product. If countries export those goods and services for which they have a comparative advantage and import goods for which they have a comparative disadvantage, trade is then mutually beneficial to all nations.

The principle of comparative advantage that leads to lowest relative cost producers through specialisation increases the competitiveness of a country in producing and marketing a particular product. For example, Malaysia might have comparative advantage in producing palm oil, if it were able to produce palm oil at a lower relative cost than other competing countries. Through specialisation, it is possible for Malaysia to acquire new technologies in palm oil processing and this may further increase its comparative advantage. Lower comparative cost makes Malaysian palm oil more competitive in the international market. In fact, the differences in comparative cost (comparative advantage) between producers and eventually between nations has been widely applied as an indicator of relative international competitiveness (Van Duren *et al.*, 1994; and Sinner J., 2002).

METHODOLOGY

In this study we apply two commonly used methods for evaluating comparative advantage: Domestic Resource Costs (DRC) and Social Cost-Benefit (SCB) analysis. The DRC ratio is one of the criteria for investment decision making at the proposal and implementation levels. The ex ante analysis of comparative advantage for the purpose of future investment allocation is commonly used by governments of developing countries in selecting socially viable projects. DRC can also be used as an ex post measure of the opportunity costs incurred by the economy in sustaining its existing import substitutes or exports. The SCB analysis, described by Masters and Winter-Nelson (1995), offers another alternative for measuring comparative advantage. It is argued that the computed SCB ratio provides a better ranking of comparative advantage because SCB ratio produces activity rankings that are consistent with maximising social profitability. However, Masters and Winter-Nelson's (1995) application was limited to agricultural data, where the

bias in the DRC is said to derive from the high percentage of non-tradable inputs such as land and labour. Since we are using data from manufacturing industry, it is interesting to observe whether similarities exist.

In this study we investigate the *ex post* social profitability of the food processing industry in Malaysia. For this purpose, data on the food manufacturing industry were collected and the Domestic Resource Costs ratios and the Social Cost-Benefit ratios were calculated for each sector so that food sectors could be ranked according to their level of comparative advantage. The sectors with a high level of comparative advantage would be classified as high competitive potential sub-sectors.

Domestic Resource Cost Ratio (DRC)

There are several approaches available to empirically examine comparative advantage. One approach, which is adopted in this paper, is the Domestic Resource Cost Ratio (DRC) that is used to examine the levels of benefit-cost ratios for various productions of food products during different time periods. The implicit formula for the DRC is written as

$$\text{DRC} = \frac{\text{Value-added Domestically in terms of Opportunity Cost}}{\text{Value-added in Border Price}} \tag{1}$$

The numerator is the opportunity cost of non-traded domestic resources while the denominator is the value-added to tradable resources used in a particular activity valued at border prices. The explicit formula given by Tsakok (1990) is as follows;

$$DRC_i = \frac{\sum_{j=k+1}^{n} a_{ij} V_j}{P_i - \sum_{j=1}^{k} a_{ij} P_j} \tag{2}$$

where, a_{ij} are the coefficients for traded inputs j needed per unit of output i, for $j = (1,... k)$, a_{ij} are the coefficients for domestic resources and non-traded intermediary inputs, for $j = (k+1,...n)$, V_j are the shadow prices of domestic resource and non-traded inputs, P_j are the border price of traded inputs, and P_i are the border price of traded output.

Greenaway and Milner (1990 and 1994) employ the above formula with slight modifications for analysing manufacturing data. The numerator is the social opportunity cost of domestic resources employed directly and indirectly in a unit of commodity j, whilst the denominator is an international value added at border prices in activity j adjusted for returns to foreign owned factors of production. Thus, where migrant labour is employed, there is repatriated earning, and where foreign owned capital is used, repatriated profit should be deducted from the value added.

Greenaway equation's differs from that of Tsakok's in two respects. First, the social opportunity cost of factors employed in the production of non-traded inputs into j, are excluded in 2; second, the income repatriated by foreign-owned factors of production is also excluded in 2. However, due to data limitations on the amount of foreign repatriation and the quantity of inputs in non-traded inputs, the actual estimating equation becomes;

$$DRC_j = \frac{\sum_i v_{ij} s_i}{P_j - P_j \sum_i m_{ij}} \tag{3}$$

where, v_{ij} is the amount of primary factor i used in producing a unit of commodity j, s_i is social opportunity cost or shadow price of factor i, P_j is world price of commodity j, and m_{ij} are shares of imported inputs in the final value of j at world prices.

Due to these limitations, dependency on only one analysis will inevitably distort the true comparative advantage. For this reason, a study by Masters and Winter-Nelson (1995), for example, clarified the advantage and disadvantage of using several indicators in measuring comparative advantage. Following their argument, we re-evaluate the comparative advantage using an SCB indicator.

Social Cost-Benefit (SCB)

Masters and Winter-Nelson (1995) employed Domestic Resource Costs and the Social Cost-Benefit (SCB) ratios to measure the comparative advantage of agricultural activities in Kenya. They showed that the DRC results could be improved by applying the Social Cost-Benefit (SCB) ratio to the same data set. Because of data limitations, they argued, DRC ignored substitution and cross-price effects. They obtained the DRC formula from net social profit (NSP) derived from a general production function. By doing so, the "relative DRC" could be used to rank activities in terms of local currency costs per unit of foreign exchange earned or saved but it could not distinguish efficient from inefficient activities without reference to the shadow exchange rate. Further, they compared all costs (tradable and non-tradable) with all benefits in a generalised social-cost benefit (SCB) ratio after converting all prices into a common currency. Finally, they obtained the following expression for DRC and SCB.

$$\text{DRC} = \frac{P_d Q_d}{P_o Q_o - P_t Q_t} = 1 - \frac{\text{NSP}(Q_o)}{P_o Q_o - P_t Q_t} \tag{4}$$

$$\text{SCB} = \frac{P_d Q_d + P_t Q_t}{P_o Q_o} = 1 - \frac{\text{NSP}(Q_o)}{P_o Q_o} \tag{5}$$

where, Q_o, Q_d, and Q_t are output, domestic factors, and tradable goods, P_o, P_d, and P_t are social opportunity costs of output, domestic factors, and tradable goods, and NSP is net social profits.

The equations imply that if NSP is zero then the SCB = DRC = 1. The advantages of SCB are as follows. First, it cannot be negative and second, it is not affected by the classification of costs as tradable or non-tradable which has been an empirically difficult aspect of DRC work. As with the DRC, SCB ranks profitable activities between zero and one and unprofitable activities greater than one. Perhaps the most significant advantage of SCB over DRC is that the SCB formula avoids classification errors. Because SCB ranking is consistent with the maximization of social profits, they conclude that the SCB ratio is a superior measure of social profitability.

In a similar study on social profitability, Fatimah and Mad Nasir (1993) concluded that Malaysia possessed a comparative advantage in six out of eight different types of vegetables. DRC indices were computed for each crop using input and output data from the Malaysia Agriculture Research and Development Institute (MARDI) and import and export figures from the Department of Statistics (DOS). The allocation of costs into non-tradable and tradable components in this paper was based on the study done by Zainalabidin *et al*. (2003). They used Costs Insurance Freight (CIF) prices as border prices and the conversion ratios from market price to shadow price were based on a research made by Veitch (1986)[1]. Only secondary data were used in the analysis. The secondary data were published data and were obtained from various sources. Basically, data from the Department of Agriculture, the Department of Statistics, Bank Negara, The Ministry of Finance and Food and Agricultural Organisation (FAO, 2007) were used in this study.

RESULTS AND DISCUSSION

Domestic Resource Cost Ratios

Tables 1, 2, and 3 present the results of the DRC analysis for the import substitutes, traditional exports, and emerging exports industries, respectively. The Tables show the average DRC indices for each commodity in the Malaysian Industrial Code and then ranked each product according to the levels of comparative advantage.

In Table 1, the sector of "edible oil and fat from vegetables and animals" was found to have the highest level of comparative advantage in this industrial group for the period 2000-2005 as revealed by its lowest DRC ratio which is 0.02. The "flour products" and "sugar" sectors also revealed high comparative advantage level. The other three sectors (meat, wheat flour and paddy) showed comparative disadvantage where the highest is "paddy".

[1] The conversion ratios used in this study were also based on studies made by Zainalabidin *et al.* (2003) and Veitch (1986).

Table 1 DRC ratios of the import substitutes, 2000-2005

Malaysian Industrial Code	Food Sectors	DRC (Average) 2000 – 2005	Rank
15149	Edible oil and fat from vegetables and animals	0.02	1
15319	Flour products	0.28	2
15420	Sugar	0.41	3
15119	Meat	1.13	4
15312	Wheat Flour	1.70	5
15311	Paddy	1.87	6
	Average	**0.91**	

Following the financial crisis, agriculture policies after 1997 were aimed towards increasing the agriculture production through increased productivity. At production level, the NAP 3 clearly specified this objective and in 2000 a comprehensive plan to reduce the balance of trade was developed and executed (Government of Malaysia, 1996 and Fatimah *et al*., 2008). Meat, wheat flour and paddy were some of the main contributors to the balance of trade deficits. Since we do not have the comparative advantage in the production of these commodities, better strategy to increase the comparative advantage of meat and paddy must be introduced if we are serious to reduce the imports of these items. High impact projects such as beef valley for higher beef production and new granary areas for increase paddy production are already in planned. For wheat, the increased world price has deteriorated the comparative advantage of flour production.

Table 2 DRC ratios of the traditional exports, 2000-2005

Malaysian Industrial Code	Food Sectors	DRC (Average) 2000-2005	Rank
15120	Fish	0.16	1
15131	Pineapple	0.22	2
15142	Palm Oil	0.35	3
15139	Canned Fruits & Vegetables	0.53	4
15111	Poultry	0.69	5
15431	Cocoa	1.28	6
	Average	**0.54**	

Table 2 shows that all sectors in the traditional exports industry are comparatively advantageous except for the "cocoa" industry. The most competitive production was found to be the fish industry while the pineapple industry recorded second in DRC score. Fish industry can be considered a new category in the traditional exports. This is an example where technology plays an important

role in comparative advantage. With new technology, many foreign firms set up production plants in Malaysia to capitalize on cheap raw materials available locally in the fish industry.

Similarly, pineapple industry has shown the same potential and penetrated many new markets abroad. With 16,000 ha of pineapple plantations mainly in Johor, Malaysia is ready to increase its world market share (Fatimah *et al*., 2008). Integrated farming, where bees are reared in pineapple plantations could raise farm income and this has great potential to increase comparative advantage of pineapple plantation industry in the future. Palm oil is still competitive to produce in Malaysia but the comparative advantage is deteriorating due to high production cost due to the increased in prices of tradable inputs such as fertilizer and pesticide. Cocoa has lost its comparative advantage since cocoa producers have to import cocoa beans from neighboring countries to support the local downstream production. The world price of cocoa beans has increased following agriculture commodities price surged and this has increased the cost of producing cocoa-based products.

Table 3 DRC ratios of the emerging exports, 2000-2005

Malaysian Industrial Code	Food Sectors	DRC (Average) 2000-2005	Rank
15322	Glucose and Maltose	0.06	1
15492	Coffee	0.66	2
15330	Pet Food	0.65	3
15496	Food Additive Sauce	0.69	4
15202	Milk Products	0.76	5
15432	Chocolate	0.85	6
15201	Ice Cream	1.05	7
15493	Tea	1.84	8
	Average	**0.82**	

Table 3 shows that "Glucose and Maltose" production was found to have the highest comparative advantage index in the emerging export sectors. Even tough the price of other commodities has increased, the price of raw sugar did not increased as much making the production of down stream commodities still at competitive level. Meanwhile, among the comparative disadvantage industries (ice cream and tea), the price of imported raw materials may be higher in the crisis period.

Social Cost-Benefit Ratios

In order to utilise the alternative comparative advantage indicator, we apply the SCB ratios on the same data. The results in Tables 4, 5 and 6 are used to compare the ranking of various food sectors.

Table 4 SCB ratios of the Import Substitutes, 2000- 2005

Malaysian Industrial Code	Food Sectors	SCB (Average) 2000-2005	Rank
15149	Edible oil and fat from vegetables and animals	0.09	1
15319	Flour products	0.49	2
15420	Sugar	0.67	3
15119	Meat	1.02	4
15311	Paddy	1.19	5
15312	Wheat Flour	1.22	6
	Average	**0.78**	

The result of social cost-benefit (SCB) ratios for import substitutes is reported in Table 4. According to this, 3 products face comparative disadvantage (meat, paddy and wheat-flour) - its SCB coefficients are greater than one. This suggests that its level of production represents an uneconomic use of factors of production. As presented in equation 2, if fewer domestic resources were used, the comparative advantage would improve. However, in this case the increased in raw material (commodity) prices contributed to the lowering of comparative advantage indices like in cocoa and wheat products. The increased in the price of wheat, for instance, had increased the numerator of the SCB equation and hence increased the value of the indices. Edible oil and fat from vegetables and animals represents the category with the lowest SCB coefficient and is the most competitive in the group, followed by flour products and sugar. However, paddy and wheat-flour production have SCB ratios above one through out the years.

Table 5 SCB ratios of the traditional exports, 2000-2005

Malaysian Industrial Code	Food Sectors	SCB (Average) 2000- 2005	Rank
15120	Fish	0.37	1
15131	Pineapple	0.37	2
15142	Palm Oil	0.45	3
15139	Canned Fruits & Vegetables	0.74	4
15111	Poultry	0.81	5
15431	Cocoa	1.02	6
	Average	0.63	

The result in Table 5 indicates that based on the SCB analysis, Malaysia has high comparative advantage in the production of fish, pineapple and palm oil as the price of these commodities increased gradually throughout the post crisis period. On the other hand, the production of canned fruits and vegetables and

poultry also has comparative advantage throughout the years but lower compared to the top three. The only production with competitive disadvantage is cocoa with average SCB of 1.02. As mentioned earlier the increased in cocoa beans price might contribute to the problem of comparative disadvantage in the production of downstream cocoa products.

Table 6 SCB ratios of the emerging exports, 2000-2005

Malaysian Industrial Code	Food Sectors	SCB (Average) 2000- 2005	Rank
15322	Glucose and Maltose	0.15	1
15496	Food Additive Sauce	0.79	2
15492	Coffee	0.81	3
15202	Milk Products	0.81	4
15330	Pet Food	0.87	5
15432	Chocolate	0.89	6
15201	Ice Cream	1.01	7
15493	Tea	1.43	8
	Average	0.845	

In the emerging export sectors, the preferred output is glucose and maltose while ice cream and tea productions have comparative disadvantage. The improvement in comparative advantage of chocolate production compared to the cocoa production resulted from to the increased in food prices which increase the denominator of the SCB equation. The study period was actually in the pre period of rising food prices that peaked in July 2008 at which the price of crude oil stood at US147 per barrel.

Comparative Advantage Ranking

Tables 7 to 9 present the DRC and SCB coefficients in ranked order for each product category. According to Masters and Winter-Nelson (1995), the ranking of production process by DRC and SCB will provide different results. Their study in Kenya shows that DRC index underestimates production with higher usage of domestic inputs. Thus, production system with bigger track of land area as one of the non-tradable resources appears not to have comparative advantage. However, when the same production system was evaluated using SCB indicator, it showed comparative advantage. In addition, they prefer SCB to DRC because the former is consistent with profit maximization.

Table 7 DRC and SCB ranking for import substitutes, 2000-2005

Food Sectors	DRC (Average) 2000- 2005	Rank	Food Sectors	SCB (Average) 2000- 2005	Rank
Edible oil and fat from vegetables and animals	0.02	1	Edible oil and fat from vegetables and animals	0.09	1
Flour products	0.28	2	Flour products	0.49	2
Sugar	0.41	3	Sugar	0.67	3
Meat	1.13	4	Meat	1.02	4
Wheat Flour	1.70	5	Paddy	1.19	5
Paddy	1.87	6	Wheat Flour	1.22	6
Average	**0.91**		**Average**	**0.78**	

In the import substitute category, only paddy and wheat flour show conflicting ranking but the top 4 sectors follow the same order ranking. This may be the case similar to Kenya where the DRC ratios understated the comparative advantage for both productions. On the contrary, the top 3 sectors overstated the true comparative advantage measured by SCB ratios. The results also indicate that meat, paddy and wheat-flour are experiencing comparative disadvantage over the period.

Table 8 DRC and SCB ranking for traditional exports, 2000-2005

Food Sectors	DRC (Average) 2000-2005	Rank	Food Sectors	SCB (Average) 2000- 2005	Rank
Fish	0.16	1	Fish	0.37	1
Pineapple	0.22	2	Pineapple	0.37	2
Palm Oil	0.35	3	Palm Oil	0.45	3
Canned Fruits & Veg.	0.53	4	Canned Fruits & Veg.	0.74	4
Poultry	0.69	5	Poultry	0.81	5
Cocoa	1.28	6	Cocoa	1.02	6
Average	**0.54**		**Average**	**0.63**	

The traditional exports like fish, pineapple and palm oil appear to have comparative advantage at existing levels of output (Table 8). These products may be experiencing improvement in comparative advantage over the years because of increasing food prices. However, products that depended on imported commodities for raw materials like cocoa were experiencing comparative disadvantage throughout the post crisis period. The Table 8 also shows that the DRC ratio overstates the level of comparative advantage in cocoa processing.

In the emerging exports category, four production processes show conflicting ranking but the top sector and the bottom two sectors follow the same ranking. However, the DRC ratios do not overstate the comparative advantage for these production processes (Table 9).

Table 9 DRC and SCB Ranking for emerging exports, 2000-2005

Food Sectors	DRC (Average) 2000-2005	Rank	Food Sectors	SCB (Average) 2000-2005	Rank
Glucose and Maltose	0.06	1	Glucose and Maltose	0.15	1
Coffee	0.66	2	Food Additive Sauce	0.79	2
Pet Food	0.65	3	Coffee	0.81	3
Food Additive Sauce	0.69	4	Milk Products	0.81	4
Milk Products	0.76	5	Pet Food	0.87	5
Chocolate	0.85	6	Chocolate	0.89	6
Ice Cream	1.05	7	Ice Cream	1.01	7
Tea	1.84	8	Tea	1.43	8
Average	**0.82**		**Average**	**0.84**	

CONCLUSIONS

In this paper, we have attempted to evaluate the effect of an external shock on the comparative advantage of the Malaysian food processing industry using Domestic Resource Costs (DRC) and the Social Cost-Benefit (SCB) indicators. The inputs and/or outputs are shadow priced, in order to reflect more closely social opportunity costs. We completed the calculations for 20 different food processing sectors during six different years. In the post Asian Financial Crisis period, the level of comparative advantage could be improved if the industry is to use fewer traded inputs and domestic resources per tonne of output. This is because when the Malaysian Ringgit depreciates, the price of imported raw materials would be more expensive and thus increase the cost of production locally. That is why those productions that rely heavily on foreign raw materials would have adverse effect on its comparative advantage.

The DRC and SCB estimates suggest a number of conclusions regarding comparative advantage within the food processing industry in the period 2000-2005. Firstly, the range of estimates is relatively wide, ranging in values of 0.02 to 1.87 for DRC and 0.09 to 1.43 for SCB. This implies that there may be considerable resource misallocation in the industry after the crisis period and this also suggests that greater allocative efficiency could be achieved by encouraging resources to shift from sectors with relatively low comparative advantage to sectors with relatively high comparative advantage. Secondly, the indicators suggest that in the post crisis period Malaysia enjoys an above average level of comparative advantage in the production of Edible oil and fat from vegetables and animals, flour products and sugar for import substitutes, all sectors except poultry and cocoa in traditional exports, and ice cream and tea in emerging exports. As expected, Malaysia has a comparative disadvantage in the production of paddy.

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