IV－3 COMPARATIVE STUDY OF THE STRUCTURAL CHANGES OF INTERNATIONAL TRADE AND THE ECONOMIC GROWTH OF MALAYSIA AND JAPAN

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1. INTRODUCTION

BACKGROUND AND OBJECTIVES

It is important to know the relationship between the economic and trade's structural changes in order to determined the capacity of a port or an airport. Many studies and researches in the field of the international trade model have been carried out. The previous studies involved only in analyzing the balancing of trade using the economic indices such as the gross domestic product and the total amount of trade values. On the other hand, the international dependence of trade by industrial sectors have been developed by using the international input-output table. But however, economist around the world doesn't analyzed the dynamic side of the relationship mentioned above.

The purposes of this paper are summarized as follows:

(1) To determine and confirm the international linkage of the Malaysian economy. Using the method proposed by Y. Kaneko (1985) based on Asean international input-output table for 1975.

(2) To estimate the economic structural changes of Malaysia based on the structural changes of trade between Malaysia and Japan.

The input-output table mentioned above consists of 56 industrial sectors.

2. METHODOLOGY

2.1 INTERNATIONAL DEGREE OF DEPENDENCE OF MALAYSIA

The final demand of a country, through the network of the technical structure, affects the industries' production in the whole country. In order to fulfill this demand, it has to import from other industries when the production level of the country is not enough. The final degree of dependence to other countries can be estimated using the international I-O table. The coefficient are defined as follows.

$$KjAB = \sum_{i}^{n} bijABfjB / XjA \qquad (1)$$

Where bijRS are the components of the inverse matrix $[I-(I-M)A]^{-1}$ can be calculated using Isard type of I-O table. fjR is the final demand of goods j of country R, and XjR is the total output of sector j of country R.

2.2 THE RELATIONSHIP BETWEEN STRUCTURAL CHANGES IN AN ECONOMY AND TRADE

In the case where the international I-O table are available for different years, it will be easy to grasp the relations mentioned above. But such comprehensive statistic doesn't exist anywhere in the world. In this study, the international I-O table for 1975, the national income statistic, and the international statistics are the only references available. It is, however, the opposite way to determine the economic structural changes using the available data below in order to determine the interdependence of an economy and trade. The estimation of the 1985 model procedures are shown in figure 1. From the international I-O table for 1975, the following are determined.

Technical coefficients : aij= xij/Xj (2)

Value added ratio : vj = Vj/Xj (3)

Import coefficient : mj = Mj/Xj (4)

Using the above data, the technical coefficients for 1985 are estimated. By applying RAS method, introduced by Professor R. stone and his colleagues, the changes in the economic structure of Malaysia can be determined.

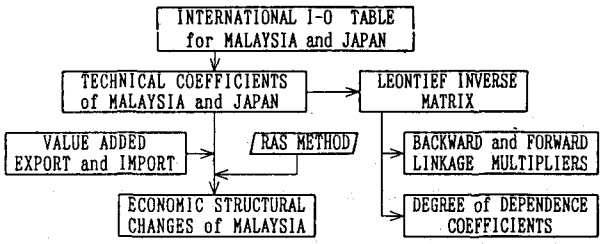

Figure 1. Flowchart of the Study

3. CASE STUDY AND CONCLUSIONS

The degree of dependence coefficients of any sector in Malaysia and Japan towards the final demand of the other country is shown in Table 1. From this table, we can say that the impact of the final demand of Malaysia has little effect to the Japanese economy. Whereas the occurrence of the final demand by Japanese industries had some effect on the economy of Malaysia. The changes in the value added and the technical coefficients will be presented during the presentation of this paper. From the above we can conclude that there is little impact caused by the economic growth of Malaysia towards Japan in 1975. But however, in this study the main focus will be the changes in the economic activity between 1975 and 1985.

Table 1. Degree of Dependence by Japanese and Malaysian Industries.

International degree of dependence by industries towards the Final Demand by Country of Origin (1975)			
Malaysia←Japan	%	Japan←Malaysia	%
Fishery	2.27	Fiber Crops	0.71
Metallic Ore Mining	0.21	Vegetables Oil	0.07
Foods and Beverage	0.34	Textiles Goods	0.06
Textiles Fabrics	0.27	Knitting	0.07
Knitting	0.42	Carpets	0.07
Tyre and Tubes	1.55	Machinery	0.13
Electrical Appliance	7.01	Telecomunication	0.13
Motor Vehicles	0.81	Motor Vechicles	0.17
Optical and Plastic	0.26	Transport Equipment	0.04
Unclassify	1.69	Photographic goods	0.11

4. FURTHER STUDIES

The changes in production structure, economic structure and the trade trend in Malaysia are clarified in this paper. However, their mutual relation was not examined. Therefore further studies are required in this relation.

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