

Comment

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Since its reform and opening to the outside from the end of the 1970s, the Chinese economy made a remarkable development. At the same time, she developed close interdependence with the world economy, particularly with her neighboring Asian countries. In other words, the Chinese economy developed through expanding economic ties with neighboring countries, and this development, in turn, has brought about impacts, which are by no means small, on economies of these countries. Both the Sano and Liang papers focus on this point and try to analyze the international economic interdependence and its change of these two regions from various angles. However, the analytical methodology of the authors is very different.

(1) The Liang paper statistically features the structural changes of the Chinese economy in the 1980s as well as the development of economic interrelationship between the Asia-Pacific region and China as seen from trade and investment. It also points out the outlook for future East Asian economic cooperation as well as the economic policies that China should take. There are many enlightening points in terms of how past trends and future prospects could be captured. But for the aim of this conference, I feel that a more in depth analysis could have been made. With great hopes and expectations to the author who is an expert on China's input-output analysis, let me make several comments on some points which I took notice of.

(a) Though Mr. Liang optimistically writes that China's regional interdependency developed "healthily" (p. 220), the economic difference between the coastal area and the interior area has widened over this decade and is gradually becoming focused as an important issue. It is not an easy task to try to quantitatively capture how the development of the coastal region through an open-door policy spreads to the inland region, but it would have been better if even an introduction or start of such analysis could have been presented.

For example, regarding foreign investment and trade which have concentrated on the coastal region such as Guangdong and Fujian, through what kind of routes these have spread to the inland region and what kind of impacts there have been on it are issues which China specialists in Japan are especially interested in. However, it seems that these issues have not yet been fully tackled with in China. Have regional input-output tables which grasp the linkages among regions been compiled in China? Or are there plans to do so? Mr. Liang has pointed out that the complementarity of the particular advantages of each region has accelerated economic development nationwide (p. 220), but how have the comparative advantages of each region changed over this last decade?

(b) One of the major issues which the Chinese economy is confronted with is the imbalance of performance between the systems, that is the stagnant state enterprise sector and the vigorous non-state sector. According to the traditional input-output analysis, the focus is on the mutual relationship between industrial sectors, but as far as China is concerned, the interrelationship between the systems is as important as that among industrial sectors. In other words, it is necessary to grasp the Chinese economy as a compound relationship between the two different systems. For example, how would the impact by foreign and non-state-run sectors (a typical example would be township and village industries) have repercussions on the state-run sectors? As far as we know, there might have been no research inside of China on the interindustrial linkage between the two different systems. Thus, this would be a major issue for future research.

(c) The author discusses the complementarity and competition between China and the East Asian nations (p. 228). This point includes the very important issue of whether this region will lead more toward economic integrity or deepen economic confrontation in the future. How should these complementarity and competition be grasped in terms of economics? What do you think about intra-regional division of labor as seen from value; the change in degree of division of labor; relation between relative prices of the same goods (Chinese domestic prices vs. international prices or relative prices between the respective individual countries); and comparative advantage? Has the development of China's foreign trade been in line with the theory of comparative advantage? With regard to the region-wide trade specialization ratio, what would be the relationship between China and the other East Asian countries? In this connection, Mr. Liang has pointed out the complementarity of natural resources as one of the economic complement between China and the East Asian countries. China may offer large land space and rich resources as an advantageous condition. But the history of East Asian economic development has shown that such natural (physical) advantage has not contributed much to development. The "Dutch disease" argument of development theory implicitly shows that it is difficult for countries with large land space and rich resources to develop.

(2) The Sano paper presents an overview of changes in foreign trade and industrial structure of China since 1978 but the focus is not on those aspects. Rather, the most specific feature of this paper is that it looks into the degree of technological sufficiency and overseas dependence of China, international division of labor on production of intermediate goods of China, and economic interdependence between China and East Asian region at one point in time in quantitative terms, using 1985 Asian International Input-Output Table compiled

by the Institute of Developing Economies. Several interesting fact-findings are conducted. Thus, in contrast to the Liang paper, the Sano paper is extremely analytical and its perspective is considered restrictive. As to the facts that were formed, I do not base much to comment on. Just as in the case of the Liang paper, with great hopes and expectations in the future, I would like to make a few comments on some conceptual points or on the methodology of analysis.

(a) Mr. Sano defined "overseas dependence or self-sufficiency of technology" by the dependency of intermediate inputs abroad. Although it is difficult to define technology quantitatively, this conceptual framework is rather misleading since technology is not in direct proportion to the input ratio of goods. I will take up this issue of technology later on.

(b) A static input-output analysis, in many cases, uses input coefficients and Leontief's inverse matrix based on them as a base to conduct various analyses, such as repercussion of productions among industrial sectors. However one country's industrial linkage at one point in time does not allow for a 3-dimensional view of the dynamic changes in the external relationship of that country's economy, especially for a country which is dynamically changing. As in China 24 sectors input-output table for 1981 was compiled as a trial table and recently a more detailed table for 1987 has been compiled, there is a base upon which we can statistically capture the inter-temporal changes of external interindustrial linkages. In the past, Dr. Urata estimated China input-output tables for some points in time based on 1956 China input-output table estimated by Niwa. And using them and the framework developed by Chenery and World Bank group, he decomposed China's economic growth into following four sources of the growth; domestic demand expansion, import substitution, export growth and input coefficient changes. And then, he compared these results with those of other countries (Note 1). In a similar way, it may be very meaningful to investigate changing in international repercussion effects and international interdependence of China for 1981, 85 and 87 with the use of some method which could be more simplified or fundamental. Although this point might be too much to ask for, I wish long forward to the development of the analysis by Mr. Sano.

(c) It is useful to look at interdependence between China and overseas nations through ratios of China's value added induced by other countries' final demand to the total value added, and other countries' value added induced by China's final demand as Mr. Sano examined. But what is more meaningful would be to decompose Leontief's inverse matrix of the international input-output table into two or three sectors and to grasp the interrelations which are more complex both between and within these sectors (Note 2).

(3) Lastly, being related to the discussions of both papers, three broader issue areas will be mentioned. First, whether one utilizes the international input-output table or whether one uses only simpler statistical and quantitative analysis, a consideration of system or institutional aspect which cannot be expressed by quantitative relationships must be made in trying to discuss the external interdependence of one country. The recent experience of the remarkable economic development of the East Asian countries can be attributed to their active approach to the international market; the introduction of technology and capital from abroad; the policy guidance of the government in guiding the economies in that

manner. But apart from these factors, the existence of dynamic entrepreneurs and the institutional framework of a dynamic market in which the entrepreneurs could be active also must be mentioned. China has been able to make a rapid development after adoption of the open door policy due to the existence of private sector, joint ventures with foreign firms, township and village industries, non-state-run companies, and the existence of a field (=market) in which these entrepreneurs could be very active.

Next, the regional repercussion of the economic development of East Asian region which started with Japan has shown that the dynamism of industrialism has spread to the four dragons (NIEs), next to ASEAN, then to China. During this time, export/import and production structures of each region changed and from the long term perspective, we might say that the product cycle theory of Vernon and the "flying geese pattern" theory of Akamatsu have been verified. Among these countries, only China adopts a socialist system and also it is a large country in terms of population with a high degree of self-sufficiency from the past to the present. Thus, China's industrialism and development pattern may be different from the traditional ones. For example, in the case of a small capitalist country, for industries or products whose comparative advantage have fallen, there will be a withdrawal from the production and switch to import of that product. But, in China's case, she may not necessarily adopt this kind of strategy. Thus, it is important to look at actual and possible differences between China and other advanced developing countries in terms of development policies or development process as well as the institutional aspect.

Thirdly, I would like to talk about the interdependence of technology. Although both papers investigate the increasing interdependence between China and East Asian countries in terms of trade or investment, the interdependence of technology itself has been scarcely taken up. But discussing trade relations between Japan and Asian NIEs, especially Korea and Taiwan, the issue of frictions generated between technologically advanced Japan and lagging Asian countries always arises. These countries have pressed Japan to transfer high-technology to them. Undoubtedly, the same problem will arise between Korea or Taiwan and China. Issues related to international technological linkages such as how and what kind of technology Japan has provided to China, how such transfer matched with the factor endowment of China, and what characteristics will be seen in such a transfer compared with technological interdependence between Japan and Korea or Taiwan in the past or between Japan and Malaysia today need to be much more addressed.

Notes

- (1) Regarding 1956 China Input-Output Table estimated by Niwa, refer to H. Niwa, *Outline of Estimation of 1956 China Input-Output Table*, Tokyo, Institute of Developing Economies, 1970 (written in Japanese). Regarding the analysis on sources of Chinese economic growth with the use of input-output tables by World Bank Group, refer to S. Urata, "Sources of Economic Growth and Structural Change: An International Comparison," in J.G. Williamson and V.R. Panchamukhi (eds.), *The Balance between Industry and Agriculture in Economic Development*, Vol. 2, Macmillan, 1989. For Chenery and other's framework, refer to H. Chenery et al. (eds.), *Industrialization and Growth: A Comparative Study*, Oxford University Press, 1986.

- (2) Regarding decomposition analysis of Leontief's inverse matrix, refer to K. Miyazawa, *Linkage Analysis of Economic Structure*, Toyo Keizai Shimpo Co., 1963 (written in Japanese), which analyzes interdependency using the concepts centering on "inner multiplier", "outer multiplier" and "mutual inducement" of two sectors. For our study, we can replace the "two sectors" mentioned above by "two regions." For extension of the concept to three sectors (or regions), refer to K. Nakagane, "Industrial Structure of Taiwan — Analysis by 1964 Taiwan Input-Output Table —," *Ajia Keizai*, January, 1971 (written in Japanese).