

NOTES ON THE CHINESE MODEL OF ECONOMIC DEVELOPMENT

— Its Impact on and Influence from Foreign
Economic Systems —

KATSUJI NAKAGANE

INTRODUCTION

IT SEEMS THAT the Chinese economy and its development have aroused attention from different angles. The People's Republic of China's (PRC) big and promising market is attractive to business enterprises. For marxists and radicals, as well as China scholars, the PRC has been the stage on which an interesting experiment in socialist economic construction is being performed. Finally, many developing countries have been paying attention, though not seemingly vigilant and widespread, to the development pattern of the Chinese economy in expectation that it may provide implications for economic planning. Whether the Chinese economy is a market, an example of socialist economic system, or a development model, it cannot be ignored in the world today. It is also undeniable that it is confusing in its peculiarity and ambiguity due to the lack of data.

In this article we aim to explore the characteristics of the Chinese economy and its development qualitatively, defining the terms to be used in our discussion in order to make the discussion as logical as possible. In Section I we define basic concepts such as economic system, development, and model. In Section II we discuss main characteristics of the Chinese model. In Section III we define economic impact from abroad, then discuss the Chinese model's impact absorptiveness. In the last section we talk about China's trade- and model-effects for developing countries in Asia and for Japan.

I. DEFINITION OF CONCEPTS: ECONOMIC SYSTEM, MODEL, AND DEVELOPMENT

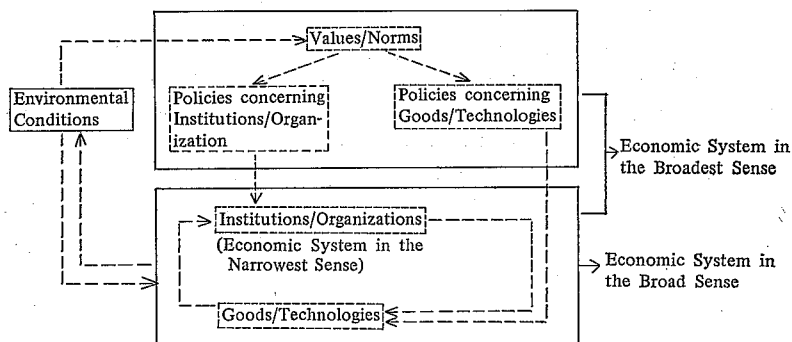
IA. Economic development is "a process whereby a new economic system is formed adaptively with environmental changes."¹ It should be noticed that this definition is more comprehensive than the conventional one, i.e., "a process whereby an economy's real national income increases over a long period of time" [24]. It is evident that the latter definition of economic development is not only insufficient but also logically misleading. Is it meaningful to call countries like Kuwait "economically developed" which can more than double their national income by intentionally raised export prices of oil?

¹ An increase of the system's elements, aggregated or not, e.g., the gross national product, is implied in this definition.

IB. In order to clarify our definition of economic development and to define a “model,” we must, first and foremost, specify what “economic system” is. We can define economic system on the following three levels. First, economic system in the narrowest sense: a system of institutions and organizations which control and/or design economic activity and information. For convenience we may call this the “institution/organization system.”² Second, economic system in the broad sense: it is a system consisting of the institution/organization system plus a “goods/technology system” with goods, service, informations (prices and orders), and technologies as its elements. Kornai gave full definition of economic system on this level, but decomposed it into two functional spheres, real and control [21]. Third, the broadest and rather ambiguous definition of the system: it consists of the system in the broad sense defined above; plus the “policy system,” a system on planned economic activities/informations (goods/technologies) and institutions/organizations both of which are designed by the institution/organization system; plus the “value/norm system,” usually treated as given but basically controlling the entire economic system.³ Unifying the policy system with the value/norm system, may be convenient in designating the “value/policy system.”

IC. Figure 1 shows the relationships at each level of an economic system as defined above. A few comments on such a conceptual framework may be in order.

Fig. 1.



First, it may fit the socialist economic systems rather than the capitalist type, since it is much more difficult to specify the value/policy system in the latter, except for the government sector.

Second, in contrast to the definition by Parsons and Smelser, boundaries between the economic system and the other social subsystems are very ambiguous [26]. The value system is, either totally or partially, shared by other systems, whether political or cultural, in our framework.

Third, in regard to environmental conditions in the economic system. Koopmans

² Here we mean by institution a well-established and structured pattern of behavior or of relationships that are closely related to economic activities.

³ A similar classification is made by Kimihiro Masamura [23], independently of ours. He analyzed the Japanese social system from three different angles: social system in a narrower sense (equivalent to the institution system in our own term), technological system (the goods/technology system), and value system.

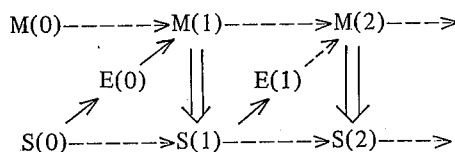
and Montias considered six conditions: (i) resources, (ii) initial technologies, (iii) external factors (including technology available from other economies), (iv) random events, (v) initial preferences, and (vi) incomplete interactions [20]. For our analysis it is sufficient only to take up the following four: (i) resources, (ii) initial state of the system, (iii) present state of other social subsystems, and (iv) foreign economic systems.

Fourth, it should be stressed that "human-beings" do not explicitly figure in our framework.⁴ "Labor force" is included as a productive element in the goods/technology system, while a "decision-maker" is treated as the minimal element in the institution/organization system.

Fifth, since the policy system is a desired or planned form which not only controls but reflects the reality of the economic system in the broad sense, it is often referred to as a "model." However, our definition of a "model" is much broader. The value/norm system, if defined as a complex of long-term objectives and ideologies working in the economic system, is inseparably close to a certain part of the policy system, so that it may be better to roughly define a "model" as the equivalent of the value/policy system itself.

ID. On the basis of the definitions in IC it is easy to reinterpret economic development as follows. If we denote the actual economic system (in the broad sense) by $S(t)$, the policy system or model by $M(t)$, and environmental conditions by $E(t)$, then S , M , and E follow the process schematically as depicted in Figure 2.⁵ The

Fig. 2.



initial state of the economic system $S(0) \in E(0)$ (see our definition of E in IC) is reflected in the policy system, $E(0) \rightarrow M(1)$, which modifies itself $M(0) \rightarrow M(1)$, then forms or controls the actual economic system, $M(1) \rightarrow S(1)$. Economic development defined in IA is nothing but this sort of dynamic process.

IE. Each of the systems defined in IB, needless to say, consists of innumerable elements interdependent in most cases. Experience tells us that when there are two interrelated elements, an ordering exists between them, such that one is "superior" to the other, or both are "equivalent," depending on the nature of the relationship between these two elements. For instance, there is a functionally determined ordering among the elements in the institution/organization system, e.g., ministry-director of a firm-managerial staffs-workers.⁶ Even the elements in the

⁴ We owe much to Prof. Mark Selden's suggestion on this point.

⁵ We received useful suggestions from Masayuki Iwata's brilliant work on the "transition theory" [15].

⁶ Kornai gave a full definition of "vertical ordering" within an organization [21, p. 80].

goods/technology system can be ordered, to some extent, according to the repercussion effect that one has on the other, e.g., coefficients of Leontief's inverse matrix. In the case of the policy system, too, we know that every policy (i.e., element) is interrelated by means (inferior element) and ends (superior element) relations, and that two policies can be equivalent if no order of preference is given by the value/norm system.

IF. If there are n elements in a system, theoretically as many interrelationships can exist among them as $\sum_{i=2}^n C_n$. It suffices here to mention only that we can draw an inference from ID and IE that the more inferior the element, the more easily it varies, so far as the value/norm system and environmental conditions do not change considerably. Conversely, a change in the more superior element tends to require more fundamental change either in the value/norm system or in environmental conditions of the whole system. What is usually referred to as a change of a model or formation of a new model, takes place when there is some radical change in basic superior elements in the value/policy system.

II. CHARACTERISTICS OF THE CHINESE MODEL OF ECONOMIC DEVELOPMENT

IIA. When the first five-year plan was carried out in China, 1953–57 is called the period of the Soviet model. We mean by the Chinese model, in contrast to the Soviet type, the value/policy system which first appeared during the period of the Great Leap Forward (1958) and then crystalized into certain consistent forms through many changes. It is not, therefore, a model at a particular section in time but a trend over fifteen years after the Great Leap.

IIB. Following the framework of economic system presented in Section I, characteristics of the Chinese model can be summarized as follows. First, in the policies concerning goods and technologies, the Chinese model lays stress on agriculture and local industry related to it, while the Soviet model emphasizes industry, particularly the producer goods industry, managed by central organizations. The former model attaches relative importance to native and/or intermediate technology,⁷ while the Soviet type emphasizes only modern advanced technology. The Chinese type model tries to encourage establishment of economically self-sufficient regions throughout the country, while the Soviet type emphasizes development of particular regions especially those with industrial complexes. In sum, it seems that a main characteristic of the Chinese model is that it is a policy to establish regionally self-sufficient units based on agriculture.⁸

IIC. The necessity to develop agriculture as the foundation of the entire economic system is formally stated:

Only when agriculture develops can it provide the labour force, grain and industrial

⁷ We borrowed the term "intermediate technology" from Shigeru Ishikawa [14].

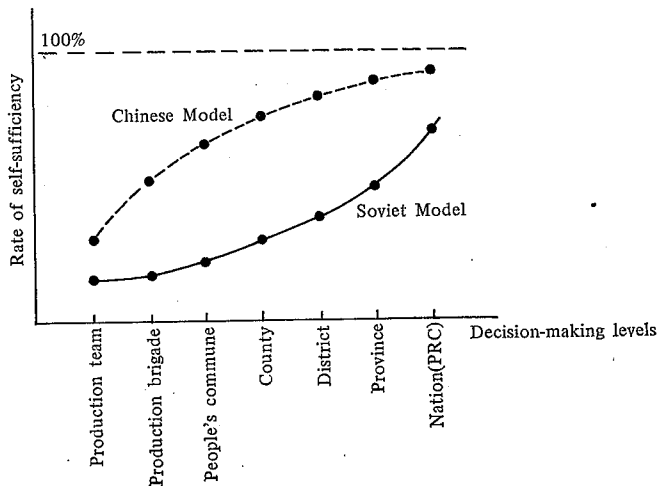
⁸ A positivistic and detailed analysis in this area is given by Reetsu Kojima [19].

raw materials needed in industrial development, expand the market for industrial products, accumulate more funds for industry and promote the development of industry at a faster rate. [27, 1973, No. 20]

This statement shows that agriculture is judged by China's value/norm system as the superior element in the goods/technology system, constrained by environmental conditions.

A policy to establish regionally self-sufficient units maintains various degrees of self-sufficiency at all jurisdictional levels, from the national to the production team in the commune. Self-sufficiency curves, as a function of the decision-making level, can be theoretically drawn as in Figure 3. As inferred from the discussion in IIC

Fig. 3.



above, the Chinese model curve is concave to the abscissa, while that of the Soviet model is convex.⁹

IID. The second point concerns policies of institution and organization. There is no essential difference between the two models as far as ownership of capital including land is concerned, since private ownership was basically abolished in 1956. The two models are substantially the same for productive organizations, except for the points explained in IIE and IIF. Although new agricultural productive organizations were created in 1958, the people's communes, there seems to be no fundamental change between the two models in the light of the fact that the basic accounting unit still is the production team, equivalent to agricultural co-operative during the Soviet model age. Of course it is a fact that productive organizations especially at the people's commune level became more complex and diversified in the Chinese model as they became more self-sufficient.

⁹ Theoretically, self-sufficiency can be considered on four levels: (i) input materials, (ii) capitals, (iii) technologies, and (iv) consumption and labor force. The curves drawn in the figure are based on the first level. Then, so long as a country imports a certain amount of input materials from abroad, the rate of self-sufficiency at the national level must be below 100 per cent.

IIE. What really characterizes the Chinese model in the institution/organization system seems to lie in the following two aspects. First, decentralization of decision-making (see Donnithorne [3, Chap. 6] and Schurmann [29]). On the one hand, in 1958 China changed a centralized planning mechanism in the industrial sector into a decentralized form. Decision-making power of most of the industries directly managed by the central government was transferred to local governments.¹⁰ Some information indicates that industries still under the central control today are limited to military, mining, metallurgical, transportation, and industries in the experimental stage.¹¹ On the other hand, decision-making power was decentralized within every industrial enterprise. The "one-man management system" with full authority in the director of an enterprise was changed in 1957 to a system of "responsibility of the factory manager under the leadership of the Party committee." After the Cultural Revolution this evolved into a system of "responsibility of the revolutionary committee under the leadership of the Party." Under these management systems, introduced after 1957, the party could extend and strengthen its power, and the masses could participate in the decision-making process at all levels. The so-called three-in-one combination is an example of party (cadres) and mass (workers) participation in the technical choice or development decision-making process.

IIF. Second, the work incentive system.¹² Some authors have stressed the role of moral incentives in the Chinese model in contrast to material incentives in the Soviet type of model. It would be a mistake, however, to maintain that the incentive structure can be bisected between the two models; i.e., that the Chinese model depends only on moral incentives and the Soviet only on material drives. Galbraith delineated the incentive structure of capitalist firms into four types; compulsion, pecuniary compensation, identification, and adaptation [8, Chap. 11]. Etzioni, on the other hand, classified compliance in organizations into compulsory, utilitarian, and normative types [6, Chap. 3]. Moral incentives, if they are an inducement to the ends of an organization by other than compulsory and pecuniary means, are indispensable to every type of economic system.

When we discuss the work incentive structure in the Chinese model, we should bear in mind that: (i) since incentives are placed in "continuous order" as explicitly stated by Etzioni (implicitly by Galbraith), a relatively high priority is given to moral incentives in the Chinese model as compared to the Soviet type [31]; (ii) stressed among moral incentives are a "purely normative" element (see Etzioni [6]) (i.e., internalization of norms and identification with authority—loyalty to

¹⁰ Schurmann classifies two types of decentralization. According to his definition: decentralization I: decision-making power is transferred all the way down to the production units themselves; decentralization II: decision-making power is only transferred down to some lower level of regional administration. In the Chinese case, therefore, decentralization II is employed substantially.

¹¹ Audrey Donnithorne says that "even the huge Anshan Iron and Steel Company now appears to be controlled by its province [Liaoning]" [4]. However, an article in *Peking Review* [27, 1973, No. 2] affirms our view implying that the Anshan Company is still directly under the central control.

¹² China's work incentive system is explained and analyzed in detail by Christopher Howe [11], Carl Riskin [28], and Charles Hoffmann [10].

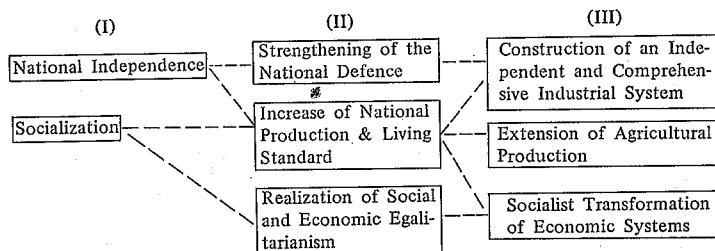
Chairman Mao, for instance) and a “social” element (i.e., sensitiveness to other people on the horizontal level of human relationships—“serve the people”); and (iii) morale is usually raised through various mass movements, sometimes violent like the Cultural Revolution, but a method which characterizes the Chinese political system.

IIG. Finally we should consider the characteristics of the Chinese model in its value/norm system. “Values” in the sense of long-term goals of economic development, e.g., maintenance of national independence and realization of the communist nation, have not varied as fixed elements of the value/norm system. They may be a fixed part of environmental conditions since 1949, although it cannot be denied that the ways to realize these values have been the matter of incessant dispute.¹³

The essentials of the Chinese model in this area seem to lie in norms (criteria) and ideologies of economic activity rather than in highly abstract values as above. What types of norms are dominant in the Chinese model? Economic rationality, at least in the usual sense, cannot be an essential criterion in assessing the results of economic activity. It puts greater stress on productive relations than on productive forces, as illustrated by the disputes over agricultural collectivization. In our terms, higher priority is given to the institution/organization system than to the good/technology system. Furthermore they try to realize, both socially and economically, equal relationships among the members within a unit rather than between units. According to this norm differentials among members in the same unit are to be reduced or ironed out, even though gaps between units remain or widen.¹⁴ It is true that the policy to reduce income differentials between agricultural and industrial sectors through the price mechanism has been employed by the economic planners.¹⁵ In our view, however, this is only a supplementary means to give more material incentive to peasants.

IIH. Ideologies included in the model’s value/norm system. The PRC is, of course, a country with an ideology-oriented nature, where ideologies, as “group ideas, beliefs, and modes of thinking” [17, Chap. 2], play an extremely important role in economic activity. Ideology of “self-reliance” and/or “subjective initiatives”

¹³ It seems that China’s value/policy system is (or has been) stratified as follows:



Level I is superior to level II, in turn, superior to level III, as explained in IE. The more superior elements, i.e., level I, are of the most abstract nature, so they do not change easily.

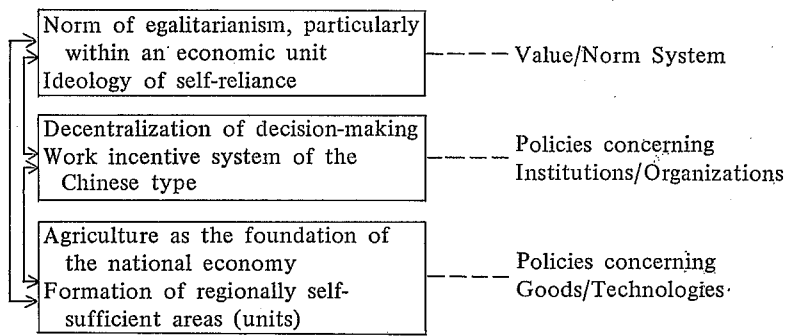
¹⁴ We share the same view in this respect with Carl Riskin [28] and Audrey Donnithorne [4].

¹⁵ The recent price system in the PRC is described with much data in *Jinmin Chūgoku* [16]. It is said that price differential between industrial and agricultural products in 1972 was reduced by about 45 per cent compared to that in 1950.

require emphasis in this area, in particular. According to this ideology, as the national economy must be self-reliant in the international economy, so to must the local sector be self-reliant in the national economic system. Capital formation and technological development should be pushed forward or accelerated even when material means are lacking, as exemplified by the model village in Tachai.

III. In summary, when the main characteristics of the Chinese model are put in order in Figure 4 below, we find out that they are interrelated and logically consistent.

Fig. 4. Characteristics of the Chinese Model



The problem of whether the broad economic system is actually workable or not is a different thing.¹⁶ However, space does not permit us to discuss this problem in detail, except for the point that it is natural to expect that a new model will be created, if either pressure of environmental conditions increases much more, or if some potentially unworkable elements within the value/policy system function to break out of certain "minimum levels" required to maintain the present model.

III. What factors led to the formation of this model? Through what process was the model shaped? Keeping in mind the process of economic development described schematically in ID, two factors need to be emphasized. First, the gap between the Soviet model used during the first five-year plan and the actual economic system in the broad sense defined in IIB. It is directly related to environmental conditions (i) and (ii) pointed out in IC. The gap was observed first in the agricultural production area.

In 1956, agricultural collectivization was virtually completed, a key objective of this collectivization was that the state secure a necessary share of marketed agricultural products to foster development, and what troubled the planning authorities was, again, ironically, the agricultural problem caused by an unexpected crop failure in 1956. Since 1957 special emphasis was placed upon the role of agriculture, not only as a supplier of foodgrain for consumption and input for industry, but as a main source of export and public revenue. Nineteen fifty-six was also the year that

¹⁶ Galbraith concluded from his impressions on a short visit to China that she created a very effective economic system [8]. Although the quantitative data is too insufficient to reach a final conclusion, our view is that the Chinese economy is working fairly effectively, taking consideration of its scale and underdeveloped level.

the PRC began to pay off loans from the Soviet Union with large exports of agricultural products.

About 80 per cent of the materials required by our country's light industry rely on agriculture, while light industry shares about half of the total industrial production. About 80 per cent of goods demanded by our people for consumption are agricultural and their processed products. About 75 per cent of the goods for export are also agricultural and its processed products. [7]

Even more, they came to understand from experience the economic law that growth rate of industrial production as well as the whole range of economic activity is directly and deeply conditioned by agricultural output during the previous year.

Nineteen fifty-two and 1955 were bumper years and the national economy developed relatively fast in 1953 and 1956. On the contrary, 1954 and 1956 were years of crop failure and the national economy developed relatively slowly in 1955 and 1957. [7]

Thus agriculture became the superior element in the value/policy system, or model, in China. The emergence of the theory of "simultaneous development of industry and agriculture," a main component in the "general line of socialist construction" launched at the outset of the Great Leap, and the theory of "agriculture is the foundation" which appeared formally in 1962 after the natural calamities during 1959-61 cannot be understood outside this context.

III. Second, the cleavage which developed between the PRC and the Soviet Union. This factor relates to the environmental conditions (iii) and (iv) in IC. As is well known, ideological controversies came to a head in 1960, followed by the Soviet's decision to withdraw their technical experts from China and to nullify the technical contracts, causing a serious split between the two powers. It should be pointed out that the PRC seemed to have purified or strengthened her own value/norm conception, in proportion to the severity of her criticism of the Soviet Union. Further, as relation became worse finally reaching a stage of armed clashes along the borders, China was forced to change some elements in the goods/technology system in rivalry with the Soviet Union, e.g., large-scale construction of shelters or technological development of atomic energy. The very idea of establishing regionally self-sufficient areas, in our view, is primarily a product of military strategy, rather than simply a kind of economic efficiency (see, for example, [32] [1]).

III. THE CHINESE MODEL AND FOREIGN ECONOMIC SYSTEMS

IIIA. The scope of our analysis can be extended to explicitly include foreign economic systems, i.e., as one of the environmental conditions, to consider the problem of interrelationships between various economic systems in an international perspective. Our analysis here is confined to the problem of how economic development in one country influences the economic system of another. We shall provide first a conceptual framework for the following discussion, then apply it to the economic interrelationships of the PRC and the Soviet Union. The problem of economic relationship of China with foreign economic systems will be taken up in the next section, with special reference to her influence on Japan and other Asian countries.

IIIB. It is convenient to begin the analysis by defining "economic impact." We define that economic impact is one received by one economic system A from another B, when a change in A (or its elements) from its (their) normal state is caused by a change in B (its elements). On the contrary, B system is said to have given economic impact on A. This definition implies that when two economic systems, or elements belonging to different systems, are connected with certain kinds of input-output relationships, an impact is being exchanged, unless the two are in a steady state.¹⁷ In the case of above example, A receives an input from B. An impact is called "effective," either when there are a great number of elements which receive the impact, or when an element varies in great degree as a result of the impact. On the other hand, a system is called "impact absorptive" when the impact effect leads to the creation of a new equilibrium state with a lapse of time.

IIIC. In analyzing how China's economic development was able to influence neighboring countries, A. Eckstein classified three types of influences: (i) power effect, (ii) trade effect, and (iii) model effect [5, Chap. 1]. Relying on the definitions given in IIIB above, we can redefine Eckstein's effects (i) and (ii) as follows:

Trade effect—the impact effect which the goods/technology system of one country gives to that of another.

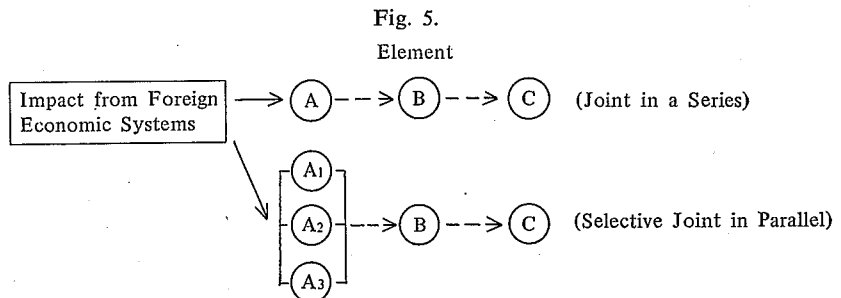
Model effect—the impact effect which the value/policy system of one country gives to that of another.

Then, it must be clear what factors determine the economic impact in the above. Lange suggested the following two propositions on the system's "reliability" [22, Chap. 5].

- (a) Reliability decreases when the elements joined in a series increase.
- (b) It increases when the number of elements selectively joined in parallel increases.

Analogous to these propositions, we can suggest, first, the following two propositions on the impact effect.

- (i) The impact effect increases when the number of elements joined in a series increases.
- (ii) It decreases when the number of elements selectively joined in parallel increase. (See Figure 5.)



¹⁷ By steady state, we mean the state that every element grows at the same rate. Of course it is difficult to specify a steady state of the value/policy system.

We can add two more propositions, keeping in mind possible forms of connection between the system's elements.

- (iii) It decreases when the number of nonconnected or independent elements increases.
- (iv) Even if joined in a series, it decreases when the connections between elements are weak, or when the element closer to the impact (e.g., element A in the figure above) is inferior to the element directly connected with it (e.g., element B).¹⁸

The proposition (iii) is so self-evident that we need not prove its reality. The proposition (iv) seems to be relevant to the real world, at least partially. It is logically consistent with our definition of element "superiority" (see IE).

IIID. On the basis of the conceptual framework in IIIB and IIIC, we can now analyze the impact which the PRC has received from foreign economic systems to date.

First, that on the trade effect. Needless to say, it was from the Soviet Union that the PRC received the most effective impact during the 1950s, when her economic relationships with the Soviet bloc were so intimate that trade with the socialist countries amounted to about 70 per cent of the total of China's foreign trade. Furthermore, she depended heavily on Soviet Union export of machinery and plant, to support her industrial policy of developing producer goods industries. In 1959 about 60 per cent of the PRC's import from the Soviet Union was machinery and industrial equipment, about 40 per cent of which was complete plant.

As far as economic impact of the Soviet Union on the PRC's goods/technology system in this period is concerned, the following statements are relevant.

Eckstein says:

The significance of the imports [from the Soviet Union] is heightened by the fact that China could not have obtained much in the way of machinery, equipment, and complete plant installations from any other source because of U.S. and allied trade embargoes. The same applies with possibly even greater force to Soviet technical assistance. Even without the embargoes and with a more favorable international climate, it is doubtful that China could have received, or indeed would have invited, technical assistance on such a scale and for such highly strategic capital projects as the development of electric power, atomic energy, and similar undertakings. [5, p. 168]

On the basis of the input-output analyses of effect which the trade severance had on the PRC and the Soviet Union respectively, Niwa concludes:

Although the rate of influences caused by a change of trade between 1959 and 1965 [from the PRC to the Soviet Union] on the China's gross national output is totally 2.8 per cent, the influences on sectors "petroleum and its products," "iron ore," "steel," "processed metal products," "machinery," and "other producer goods" are indicated [by his analysis] to be considerably great, so that we can estimate that the Chinese economy would have been dealt a fairly hard blow by the China-Soviet split. Particularly,

¹⁸ Political actions sometimes prove this proposition. For instance, former Premier Satō discharged many ministers (i.e., inferior elements) in his cabinets in order to prolong his political life. President Nixon's strategy, today, is another example.

the rate of influences on "petroleum and its products" was as great as 343 per cent, thus it was proved that increased production of petroleum was of vital importance [to the PRC] in this period. . . . [On the contrary] to the Soviet economy, it is clear that the influences of a marked decline in her trade with the PRC and of the changes in its commodity composition between 1959 and 1965 were very slight. [25, pp. 157, 159]

Niwa's conclusion seems to suggest applicability of the proposition (iv) to China-Soviet trade relations, that is to say, such elements as petroleum in China's goods/technology system were relatively superior to others.

IIIE. Since 1960 the PRC has changed her trade partners from the Soviet bloc to the capitalist world, with, generally, advanced countries as her import market and developing countries, particularly Southeast Asian, as her export market (see Table I). At the same time she began to vary her trade partners much more than before. It was a policy of "risk-aversion," or one means of decreasing impact effects which the PRC could potentially receive from foreign economic systems. Proposition (ii) is supported by this fact, too.

TABLE I
CHINA'S TRADE BY AREA AND COUNTRY, 1965-70
(Millions of U.S. dollars)

Area and Country	1965			1970		
	Total	Imports	Exports	Total	Imports	Exports
Total (all countries)	3,880	1,845	2,035	4,220	2,170	2,050
Non-communist countries	2,715	1,330	1,385	3,395	1,825	1,570
Developed countries	1,495	920	575	2,230	1,555	675
Of which:						
Japan	478	257	221	855	600	255
Western Europe	650	350	300	1,015	660	355
Less developed countries	860	405	455	790	265	525
Hong Kong and Macao	360	5	355	375	5	370
Communist countries	1,165	515	650	825	345	480

Source: A.H. Usack, and R.E. Batsavage, "The International Trade of the People's Republic of China," in *People's Republic of China: An Economic Assessment, A Compendium of Papers submitted to the Joint Economic Committee, Congress of the United States* (Washington: U.S. Government Printing Office, 1972).

IIIF. The second point regards the model effect. Since the PRC employed the Soviet model during the first five-year plan period, a certain part of her value/policy system must have been influenced by the Soviet Union at that time. There had never been any doubt in the minds of Chinese economic planners, at least before 1956, that the Soviet model should be applied to the Chinese mainland. This is symbolized by such slogans as "lean to the Soviet Union," or "the Soviet Union is our elder brother."¹⁹ After the PRC began to stand on her own feet, she

¹⁹ Schurmann said, "The details of the responsibility system as outlined by the directive are so similar to Soviet methods that there can be little doubt that the directive was drafted on the advice of Soviet experts." However, he added, "In 1956, when one-man management was officially revoked, it became clear that many factories had never put the Soviet methods into operation. These factories were mostly light industries and industries distant from North China" [29, pp. 252-53].

recognized that she could not refer to any foreign model of economic development, and that a model should be provided to other developing countries. Model effect from abroad disappeared after the Chinese model was employed.

IIIG. What is more important is that China's goods/technology system substantially decreased any economic impact effect from abroad. This implies that the trade effect, too, has disappeared since the time when the Chinese model started. It further implies that the Chinese model has an inherent impact absorbing capacity. Following the conceptual frameworks presented in Sections I and III, we should like to explain why.

(i) Policies on goods and technology. We pointed out in Section II that the main characteristic of the Chinese model in this area was to establish regionally self-sufficient areas (units) with agriculture as the basis. Since self-sufficient areas are "independent elements," they can decrease the impact effect from abroad (see proposition [iii]). Furthermore, since agricultural production is performed in the ecological system, the impact effect in the Chinese model is relatively slight compared to the Soviet type, which basically relies on industrial production working in the physical system.²⁰

(ii) Policies concerning institutions and organizations. We mentioned that one of the characteristics of the model in this area was decentralized decision-making power. We find that in this system the nature of joints in parallel is strengthened much more than in the purely centralized decision process. The reason is: whereas impacts from abroad is at first joined to the "center" in both models, since foreign trade is monopolized by the central organization in any socialist system, even the units at lower levels can make decisions on not only orders (or impacts) from upper units (e.g., the center) but also on environmental conditions particular to their units in the decentralized process. For instance, cadres at the people's commune or county level can decide to produce more fertilizers, utilizing local materials, even if imports of fertilizer from abroad stopped. Thus propositions (i) and (ii) seem to apply to the centralized and decentralized models respectively.

(iii) Value/norm system. The Chinese model is impact absorptive in the sense that a self-reliance ideology induces people to modify or reconstruct the elements which receive impacts from foreign systems. It should be kept in mind that the Chinese people were able to substantially absorb, although with difficulty, impact effects from the Soviet Union, by designing industrial plant and machinery by themselves. Our view is that these undertakings could not be accomplished unless they were indoctrinated by ideology.

The statement (iii), although it cannot be supported by any of the propositions in IIIC, seems to be most important in understanding the impact absorbing capacity inherent within the Chinese model, since the value/norms are the superior elements

²⁰ Compare agricultural and steel production, both of which rely on, to the same extent, imports of materials (e.g., chemical fertilizer for agriculture and iron ore for steel), and assume that no inventory exists in both sectors and prices do not change. If the imports stop one day, steel cannot be produced at all the next day, whereas agricultural production can continue by utilizing, say, organic fertilizers or manure. In other words, elasticities of substitution are generally higher in agriculture than in modern large-scaled industry.

in the entire economic system, as implied in Figure 1. In other words, so far as an economic system involves the same value/norm system as in the Chinese model, it can be potentially impact absorptive.

IV. CHINA'S ECONOMIC DEVELOPMENT AND ITS RELATION TO ASIA

IVA. As pointed out in the previous section, China's economic development can give certain impact on Asian countries, so long as she maintains economic relations with them. If she develops faster, her economic impact, *ceteris paribus*, can be more effective. We have said in IIF that there are two areas in Asia for the PRC to keep close but different kinds of contact with. One is Japan, an indispensable import market in which to introduce producer goods. Another is the vast area of developing countries, including Hong Kong and Singapore, for China can gain foreign exchange here.

The problem to be discussed in this section is which type of economic impact the PRC will be able to have on these two different areas. Since Japan will not accept the Chinese model, at least either totally or in the near future, the problem is further confined to both trade and model effects from China on developing areas in Asia, and her trade effect on Japan. Two assumptions should be made here: (i) that the Chinese model will be, at least substantially, sustained in the future for which our prospects are valid, and (ii) the bitter Sino-Soviet rivalry continues in all areas, from political to ideological.²¹

IVB. First, China's trade effect on Asia's developing area. Our conclusions can be summarized as follows.

(a) If, as is predicted by others (see Ishikawa [13]), China's exports and imports will grow at a rate of from 5 to 8 per cent annually, which is plausible,²² then the relative place of the PRC in Asian trade markets will not significantly change.²³ This prospect is supported by others. Kawata, for instance, argues:

The expansion of China-Southeast Asian trade seems to be limited both with respect to exports and imports, especially the latter. Further, judging from the aspect of China's financial resources at present, it is unlikely that China will go far ahead to assist with large-scale projects which might have great influence on her trade balance with the Southeast Asian countries. Thus, even if normalized trade relations may bring some trade growth, still the rate will be hardly appreciable. [18]

However, some countries, e.g., Thailand or Malaysia, will possibly be influenced by the China trade to a greater extent than at present, when political relations are resumed, even though the rate of growth might "be hardly appreciable" in the short run.

(b) It is more difficult to predict what China's future aid to this area will be,

²¹ These assumptions are vital in the sense that we cannot make predictions of the Chinese economy without them.

²² It seems to be supported by assumption (i) above in that China's possible growth rate implied by the Chinese model will not be higher, at least in the short run, than the Soviet type.

²³ Of course, how Asian trade markets expand, or how each country economically grows, remains to be seen.

since economic aid, whether grants or technical cooperation, are usually connected to the aid-donor's political considerations. For instance, if the Soviet Union decided to give 100 million dollars in grants to India, the PRC might provide the same amount of aid to Pakistan to counterbalance Soviet influence on India. But it seems reasonable to suppose that her aids as a whole will not be large in volume, nor will they increase at a higher rate of growth than her trade with the area. One of the grounds for this conjecture is that China would use foreign currencies for domestic capital formation to the amount that she earns from trade markets. In addition, this is in keeping with her aid ideology:

The reliable way to develop national industry and realize industrialization is to rely mainly on one's own efforts while taking international aid as an auxiliary on the principles of equality and mutual benefit. [27, 1973, No. 15]

(c) Moreover, China's moves to penetrate those countries as a promising market for her exports of agricultural and light industrial products can be checked to some extent by her foreign economic policy (or ideology), whether of trade or of aid. Leaving aside the "equality and mutual benefit" principle quoted above, China has said:

We hold that countries giving truly internationalist aid must strictly respect the sovereignty and equality of the recipient countries, attach no conditions and ask for no privileges. If one thinks that by giving another something he is entitled to dictate everything to the recipient, or arbitrarily tears up agreements, withdraws experts and sabotages the recipient's industrial effort when the latter refuses to be ordered about, this is out-and-out hegemonism and neo-colonialism. [27, 1973, No. 15]

It is evident that the criticism of "out-and-out hegemonism and neo-colonialism" is directed towards the Soviet Union. More important, it implies that as long as assumption (ii) holds, China's policy (or ideology) will be maintained by the Chinese themselves, because, in our view, they will try to prove their ideological superiority to the Soviet Union in this aspect, too.

IVC. Second, China's model effect on this area. Some authors have recently stressed the Chinese model's "exportability" to developing countries, pointing out the remark made in ECAFE's 1973 report:

It should be emphasized that China's experience in the social and economic field is of extreme importance. The impressive effectiveness of certain pragmatic and logically simple steps provides an important lead for similar action in other countries. [30, p. 223]

Ishikawa, too, concludes in a different context:

The Chinese model of economic development will gradually disseminate among these developing countries. This dissemination will be facilitated by an extension of China's economic aid, which will play the role of missionaries of the Chinese model. [13]

Our view is quite different. As far as ECAFE's remark on China's experience in economic development is concerned, it should be mentioned that it was given as a message greeting Chinese representatives participating for the first time in an ECAFE meeting. Moreover, as our discussion indicates in Section I, a model created and developed in one country cannot be directly applied to the conditions of another. It should be remembered that the pure Soviet model could not be applied success-

fully to the Chinese situation (see IJJ). It does not seem to work well with different institutions/organizations or values/norms.

In our view, the Chinese model's effect, if any, is related to its value/norm system alone, particularly the norms and ideologies for economic development, which might have more exportability than the policy system, since they are more abstract, they are more applicable to other systems. We cannot deny the possibility that China's ideology, of self-reliance for instance, might become influential among the young generation of these areas, once they recognize that economic development pushed forward by foreign capital and technology usually brought corruption of political leaders and widened income inequality among the people of their own country.

IVD. Third and finally, several comments on China's trade effect on Japan are in order. Since the two countries normalized diplomatic relations in 1972, imports and exports have risen sharply, although the relative position of Japan's China trade is still low.²⁴ The total amount of imports and exports was approximately 2 billion dollars in 1973.

Recent trends in Sino-Japanese trade may be characterized as below:

(a) A tendency to balance trade: while China's exports to Japan more than doubled between 1968 and 1972, from U.S.\$224 million to \$491 million, her imports increased at a slower pace from \$325 million to \$609 million.

(b) Chinese petroleum exports: the PRC started to export petroleum to Japan in 1973, although volume was limited to 1 million tons. Significant changes are possible in the commodity composition of China's exports in the future.

(c) Plant exports to China: as China's industrialization geared up after the Cultural Revolution, she imported complete plant from advanced capitalist countries, including Japan and the United States. Particularly large quantities of chemical and steel making plants were imported from Japan (see, for example, [33, Chap. 8] [12]). This may mean that a new economic policy of industrialization, differing from the pure Chinese model of Section II, is being introduced.²⁵

IVE. On the basis of observations above and assumption in IVA, we can project possible trends in future Sino-Japanese trade. China's exports: resource exports will grow more. Petroleum, iron ore, anthracite coal, and other mineral products will be the main exports. Japan, then, will have to make a careful decision between the two big exporters of mineral resources, the PRC and the Soviet Union, as to which one can provide Japan with more natural resources, considering not only

²⁴ Japan's China trade/her total foreign trade is as below:

	1968	1969	1970	1971	1972
Exports to China	2.5	2.4	2.9	2.4	2.1
Imports from China	1.7	1.6	1.3	1.6	2.1

²⁵ See K.I. Chen [2]. He argues that growth-oriented policies will be introduced to the PRC in the near future.

economic benefits and costs but also a political impact the decision will have on the international relations. Although the so-called development export method, aimed at developing export goods by funds and techniques of the importing countries, has been rejected by Chinese officials, a similar method might be introduced excluding mineral resources. For example, the PRC might start to export to Japan, on contract, the goods whose comparative advantage Japan has or will have lost in the international market, and agricultural products and items of industrial consumer goods, if today's inflation continues.

An aspect of Japan's exports to China will be that plant export is accelerated for a while, but when the Chinese are almost self-sufficient in technology, further increase of this type of export cannot be expected. On the whole, our conclusion is that Sino-Japanese trade cannot expand as much as is imagined from the 1973 trend, so long as assumption (i) holds.

What is more important, the future of China-Japan trade seems to depend on Japan's decision as to which policy should be chosen, growth or stability. If Japan chooses the former, China trade will be interwoven in the Japanese economic system causing a greater trade effect from China than if she chooses the stability policy.

(March 1974)

REFERENCES

1. Peijingshi-geming-weiyuan-hui, Xiezuo-xiaozu. "Zhongguo shehuizhuyi gongyehua-de daolu" [The road to China's socialist industrialization], *Hongqi*, 1969, No. 10.
2. CHEN, K. I. "The Outlook for China's Economy," *Current History*, September 1972.
3. DONNITHORNE, A. *China's Economic System* (London: George Allen and Unwin, 1967).
4. ———. "China's Cellular Economy: Some Economic Trends since the Cultural Revolution," *China Quarterly*, No. 52 (October–December 1972).
5. ECKSTEIN, A. *Communist China's Economic Growth and Foreign Trade: Implications for U.S. Policy* (New York: McGraw-Hill, 1966).
6. ETZIONI, A. *A Comparative Analysis of Complex Organizations* (New York: Free Press, 1961).
7. "Fazhan gongye bixu he fazhan nongye tongshi bingju" [Develop simultaneously industry and agriculture], editorial, *Jihua jingji*, October 1957.
8. GALBRAITH, J. K. *The New Industrial State*, 2nd ed. (Boston: Houghton Mifflin, 1971).
9. ———. *A China Passage* (Boston: Houghton Mifflin, 1973).
10. HOFFMANN, C. *Work Incentive Practices and Policies in the People's Republic of China, 1953–1965* (Albany, N.Y.: State University of New York Press, 1967).
11. HOWE, C. *Wage Patterns and Wage Policy in Modern China, 1919–1972* (Cambridge: At the University Press, 1973).
12. ISHIBASHI, K. "Chūgoku keizai kensetsu no shinhōkō" [New direction of China's economic construction], *Ajia*, February 1974.
13. ISHIKAWA, S. "Impact of the Emergence of China on Asian-Pacific Trade," Paper presented at the Fifth Pacific Trade and Development Conference, January 1973.
14. ISHIKAWA, S., ed. *Chūgoku keizai no genjō to tembō* [The present conditions and prospects of the Chinese economy] (Tokyo: Chūgoku-Ajia-bōeki-kōzō-kenkyū-sentā, 1972).
15. IWATA, M. *Hikaku shakaishugi taisei-ron* [Comparative analysis of socialist systems] (Tokyo: Nihon-hyōron-sha, 1971).
16. *Jinmin Chūgoku*, 1974, No. 1.

17. KAST, F. E., and ROSENZWEIG, J. E. *Organization and Management: A Systems Approach* (New York: McGraw-Hill, 1970).
18. KAWATA, T. "Tōnan-Ajia o meguru keizai kankei to Nihon" [Economic relations in Southeast Asia and the position of Japan], *Keizai hyōron*, June 1973.
19. KOJIMA, R. "Tsuchi ni nezuku Chūgoku keizai" [The Chinese economy rooted in the earth], *Sekai*, November 1972.
20. KOOPMANS, T., and MONTIAS, J. "On the Description and Comparison of Economic Systems," in *Comparison of Economic Systems*, ed. A. Eckstein (Berkeley: University of California Press, 1971).
21. KORNAI, J. *Anti-Equilibrium* (Amsterdam: North-Holland, 1971).
22. LANGE, O. *Introduction to Economic Cybernetics* (Warsaw: PWN, 1965).
23. MASAMURA, K. "Sengo Nihon no keizaishi-teki sōkatsu" [A summary of economic history of postwar Japan], *Chūō kōron*, August 1973.
24. MEIER, G., and BALDWIN, R. *Economic Development: Theory, History, Policy* (New York: John Wiley and Sons, 1957).
25. NIWA, H. *1956-nen Chūgoku sangyō-renkan-hyō suikei no gaiyō* [Outline of estimated input-output table of China, 1956] (Tokyo: Institute of Developing Economies, 1970).
26. PARSONS, T., and SMELSER, N. *Economy and Society* (London: Routledge and Kegan Paul, 1956).
27. *Peking Review*.
28. RISKIN, C. "Maoism and Motivation: Work Incentives in China," *Bulletin of Concerned Asia Scholars*, Vol. 5, No. 1 (July 1973).
29. SCHURMANN, F. *Ideology and Organization in Communist China*, 2nd ed. (Berkeley: University of California Press, 1968).
30. United Nations, Economic Commission for Asia and the Far East (ECAFE). "Economic Survey of Asia and the Far East 1972," preliminary draft.
31. WHEELWRIGHT, E. L., and MCFARLANE, B. *The Chinese Road to Socialism: Economies of the Cultural Revolution* (New York: Monthly Review Press, 1970).
32. Writers' Group of the National Construction Committee. "Develop Simultaneously Large-Scaled and Medium and Small-Scaled Enterprises," *Peking Review*, 1970, No. 50.
33. YAMANOUCHI, K. *Chūgoku keizai o dō miruka* [What is happening in the Chinese economy] (Tokyo: Nihon-keizai-shimbunsha, 1973).