

91-F-2

KEIRETSU TRADES AND PRODUCT IMPORTS

by

Yoshiro Miwa
The University of Tokyo

February 1991

This paper is a slightly revised version of the paper presented at the 8th International Symposium held by Economic Research Institute of Economic Planning Agency of Japan on "TRADE IMBALANCE, INTRA-INDUSTRY TRADE, and KEIRETSU", on Jan. 22 and 23 in 1991 in Tokyo. Comments, suggestions and advices of any kind are very welcome.

CONTENTS

- [1]. Introduction
- [2]. Imbalances in Equilibrium
- [3]. Underlying Scinario and Preoccupations
- [4]. Keiretsu and Trade Imbalances
- [5]. Keiretsu and Product Import Ratio
- [6]. Preliminary Discussion of Keiretsu
- [7]. Keiretsu of Category 1
- [8]. Keiretsu of Category 2
- [9]. Keiretsu of Category 3
- [10].Brief Comments on the Preceding Researches
- [11].A Curicature
- [12].Concluding Remarks

[1]. Introduction

Although the title of this paper is "Keiretsu trades and product imports", the content is far away from what most readers may expect from this title. What I will try to do here is not to discuss straightly the relations between keiretsu or keiretsu trades and product imports, along with the line most readers expect. I cannot accept the underlying scinario of these expectations as right and appropriate. Therefore, when I was asked to join this conference and to read a paper of this title, I wondered whether I should reject it immediately or not. In a week I decided to join, but with cool and somewhat cynical eyes and rather as an outsider. In my understanding, now so many active economists keep silence and watch the debates on trade conflicts and trade imbalance with such eyes.

This paper is written for the following 2 purposes.

(1) To explain what is the underlying scinario of the now fashionable line of discussion and why I do not think it right and appropriate.

(2) In my view, there is a prevalent misunderstanding and overvaluation about the roles and functionings of "keiretsu". The second purpose is to discuss what keiretsus are in detail and show the size of the existing huge discrepancies between prevailing image and actual figures.

[2] to [5] is for the first purpose, and [6] to [9] for the second. [10] and [11] for additional discussions and [12] for brief concluding remarks.

[2]. Imbalances in Equilibrium

Some decades ago, an economist, maybe Fritz Machlup, said, "the problems of trade surpluses emerge because we have Tables of International Balance of Payments", and this statement is the starting point of this paper.

There are various kinds of statistics in the Table, and which statistic we should choose is worth attention. In the Table we always can find 0 at the bottom and, when we choose another statistic, we implicitly assume that this should be 0 and call this 0-situation "balanced". As this Tables are published annually(some of them monthly), we think it desirable to balance annually, or even monthly.

However, the fact that these Tables are made depending on the assumption that the fundamental units are countries is much more worth attention. To analyze many kinds of economic phenomena, the national borders which lie between countries and divide economic agents into groups named countries, are not relevant.

Actually, countries exist and national borders lie between them. However, economic agents, for example, households and firms, decide their buying and consumption patterns almost always without taking the national borders into consideration. In my case, for example, every day I carry a luggage made in USA bought via mail order, wear sweaters most of them made in Japan, but some of them are from Italy, England and Korea. Why in analyzing the consumption behavior should we depend on the statistics in the Tables, which are made taking countries as fundamental units?

Suppose we draw a North-South line through Hakone and call the west side "W-Japan" and the east side "E-Japan", and make Tables of inter-regional balance of payments. Even if there is huge amount of trade imbalance, nobody recognize it as very important. Why trade imbalance is thought to be important when the line is the national border?

Let's see actual statistics. Japan is divided into 47 prefectures. We find some degree of regional-patriotism and sense of rivalry between them, some diagnoses of which we can find in the baseball games in Summer of high school teams representing their prefectures. We have Tables of inter-prefecture balance of payments. In 1987, the ratio of trade surplus to GDP for Aichi is +32%, and -13% and -15% for Hokkaido and Okinawa for each. Also Tokyo +10%, and Osaka +4%(See, Shinkai[1990]). Although these ratios are very high values almost nobody think them important. Nobody imagine the situation that the local Government of Hokkaido or Okinawa ask the

Government of Aichi to have meetings for Structural Impediments Initiatives. In Aichi locate most of manufacturing sectors of Toyota Motors and neither can we imagine some requirements from some of the local Governments to decrease their "exports". If Hokkaido Government ask them to decrease the exports, the consumers of Hokkaido will get angry.

We can draw another kind of dividing lines, for example, between groups of products. Taking manufactured goods for example, we can draw a line between manufactured goods and the other goods, also automobiles and the others, consumer electronics apparatus and the others. Suppose Tables of inter-prefecture Balance of Payments include the statistics for manufactured goods, the ratio of Aichi of their trade surplus to the their consumption expenditure (or production value) of manufactured goods is much higher than 32%. If we can see the statistics only for automobile trades, the ratio is much higher, maybe more than 95%. However high these values are, nobody pay attention to them, try to explain the causes of them and ask governmental meetings and some kinds of political actions. In my understanding, also in US, the same kind of affaires will happen when we can see the statistics of automobile trade for Michigan State, or semiconductors trade for California, and nobody recognize their high values as important and no governments will take political actions.

Further we can draw the other kind of dividing lines. Suppose we draw a line just around a firm, which divide areas and economic activities into inside and outside the firm. Taking Toyota again for example, let's make tables of inter-firm balance of payments. The ratio of trade surplus will go up almost to 100%! In place of Toyota any firm will do and almost always 100%. Nobody think it important. On the contrary, we see this results as the sound outcomes of division of labor, which has been the engines of economic developments of modern societies.

The important point I should like to emphasize is that these phenomena, including many kinds of "imbalances", can be recognized as equilibrium results, that is, they can be explained as the results of rational choices of relevant economic agents. Relevant agents include households, firms and governments, of all countries. Each agents make their optimal decisions, taking also the distant future into consideration. Here national borders do not play central roles.

By limiting our attention to some parts of the world, various kinds of "surpluses" and "deficits" emerge. Even though it is natural to call the situations unbalanced, with this expression implicitly assumed that it is

desirable to balance this leads us to confusions and agitated sentiments(*). For each economic agent, the present state is optimal, and if government take an action or agents are forced to behave to balance some deficit-surplus values, they must abandon their optimal choice and their welfare level will inevitably become lower.

(*)Unfortunately, both disequilibrium and imbalance are translated into the same Japanese word "fukinnkou". So always in confusions in Japan.

"Surpluses", "deficits" take the following forms, for example.

- (1) By limiting the time span. For example, within 1990.
- (2) By limiting to the trades only across some country. For example, across the national border of Japan.
- (3) By limiting to the trades between two countries. For example, between Japan and US.
- (4) By limiting to the trades of some peculiar groups of goods. For example, manufactured goods, or agricultural products.
- (5) By limiting to the trades of some peculiar product. For example, automobiles, semiconductors, corns.

As everybody knows, the way of thinking and the mental attitudes lying beneath to limit the attention to some part of equilibrium state, and insist that trade should be balanced within the part is the sources of protectionism.

[3]. Underlying Scenario and Preoccupations

Someone may say, "as actually countries and their governments exist, national borders are more important than inter-prefecture and inter-state borders, international balance of payments than inter-prefecture and inter-state balance of payments". However, this is on the extension of Machlup's statement, that is, the problem of trade surpluses emerges because we have tables of balance of payments, which exist because there are countries, each of which has its own government.

The choices of the basic units for economic analysis should depend on the characters of the phenomena. When we attack questions concerning with the volume of Japanese trade, its components, or the low ratio of product imports, countries may be the relevant basic units for some questions, however, for other questions households and firms are relevant. Choice

should be made case by case.

When we treat problems concerning with, say, tariffs, quotas, anti-dumping policies, monetary policies, the amount of budget deficits, countries and governments are the relevant basic units. This is because the decision makers are national governments, and/or because it is appropriate to treat the groups of economic agents as one unit called country. On the contrary, when we treat phenomena which we can see only as the aggregates of decisions made descentrally, it is not appropriate to choose countries as the basic units for analysis, and it tends to lead us to wrong conclusions. This choice sometimes implicitly assumes the collusive actions of economic agents such as households and firms, and/or centrally controlled economy led by the Government. For example, when we analyze the reasons of "Why Japanese consumers do not buy automobiles made in xxxx?", "Why world famous companies such as xxxx,xx do not succeed in entering Japanese market?", "Why the amount of trade surplus of Japan persists for a long time?", we should choose counties as basic analytical units so long as we pay attention to the effects of import quotas, monetary policies. As our attention moves to the effects of such factors as relative prices, incomes, qualities of products, size of roads and houses, we should change our basic analytical units to individual agents such as households and firms. When you adopt in these cases countries as the basic units, especially in analyzing Japanese Economy, at the same time you adopt The Traditional View of Japanese Economy, namely, Japan Inc. Nobody, I think, accepts the corresponding view, U.S.A. Inc., when he finds the fact that the amount of US imports of beef from Japan is nearly zero. As for Japan, so many economists and political scientists, and of course journalists, accept countries as the basic units, implicitly judging the traditional view as right one.

Somebody may say that trade theories are for trades between countries. But this is not correct. For example, the theory of comparative advantage can be applied to explain the division of labor among family members, as was done in Mundell[1968], and in this case the basic analytical units were individual family members, not countries. Also another may say, "as analytical tools available for us are so limited, we must compromise". I can not agree with him. His logic is the same as the following one, "as we have only ICBMs as tools to use for attack, we must use them even when we attack tiny mosquitoes".

To analyze appropriately, and to search for appropriate government policy, the choice of the framework of thinking, and the basic units for

analysis accordingly, should be appropriate. Today, too much attention centers on trade issues, which are treated too politically. So, in my view, the choice of the framework has been deeply influenced by this atmosphere.

In this conference, I am requested to present a paper, whose title is "keiretsu-trade and product imports". However, in my view, the underlying scenario, which I think is the subject I am requested to discuss, should be discussed in a different manner, not in relation to "Trade Imbalances", which is the title of this conference.

When we try to explain some economic phenomena as the results of rational choice of agents, we must choose, consciously or unconsciously, a peculiar framework of analysis from the set of possible alternatives, and this choice is almost always deeply influenced by the circumstances and atmosphere surrounding researchers.

In my view, just the same cases happen in the fields of trade problems as what Coase[1988] said in his critical review of the past researches in the field of Industrial Organization. He states as follows (originally in 1972).

" ... with the development of antitrust policy in the United States, interest in the antitrust aspects of industrial organization came to dominate the subject.

.....

One important result of this preoccupation with the monopoly problem is that if an economist finds something - a business practice of one sort or other - that he does not understand, he looks for a monopoly explanation. And as we are very ignorant in this field, the number of ununderstandable practices tends to be rather large, and the reliance on a monopoly explanation is frequent" (pp.66-7).

[4]. Keiretsu and Trade Imbalances

There is widely accepted agreement among economists that the trade imbalance of a specific country(ex. Japan) in some specific period(ex. in 1990) can and should be explained via macro-economic factors, especially via I-S balance. Also there is wide agreement that these kinds of imbalances are parts of the equilibrium state, that is, these are the results of rational choices of relevant agents in all countries concerned.

Trade imbalance between two specific countries(ex. Japan-US) in 1990 is also a part of the equilibrium state. Also, trade imbalance in some specific product field(ex. automobiles) between Japan-US in 1990 is a part of the

equirilibrium.

The last imbalance mentioned above can be explained as the results of rational choices, by analyzing the behaviors of the following two types of players.

(1) What kinds of or whose automobiles do buyers, that is, households and firms, of both countries choose? -----buyers' choices

(2) Where are the suppliers' manufacturing plants are located?

----suppliers' choices of location

When we analyze how some factor, say, factor α (α can be "keiretsu"), affect the amount of trade imbalance, firstly we should analyze how the variation of α affects buyers' and suppliers' choices respectively and thereafter by summing up the two types of effects we can reach the conclusion.

However, even if we succeed in reaching the conclusion that the high value of α (ex, the existence of "keiretsu") strongly affects the amount of automobiles trade imbalance, it's effect on Japan-US overall trade imbalance should be much weakened. That is because macro-economic factors such as exchange rates, interest rates, the amount of investment, etc. will change and therefore induce compensating changes of all relevant variables. The effects on Japan's overall trade imbalance should be more remote.

Consequently, even if we succeed in finding the true causes of trade imbalance in many industries respectively, by summing up all the information derived from these analyses we can not draw useful informations to explain the causes of the huge amount of persistent overall trade surplus. The standard way to explain it is to pay attention to I-S balance as I mentioned above.

There is a scinario, maybe widely accepted as persuasive, that the amount of Japan's trade surplus is large and persistent, because the amount of final products imports are so small, and "keiretsu" is one of the main causes of this import pattern. Accepting this scinario, I guess, the organizer of this conference requested me to analyze the actual functionings of "keiretsu". However, even if there ia a strong relations between keiretsu and the low ratio of product imports, the relation between keiretsu and overall trade imbalance is so indirect, as we have seen above, that we cannot accept the scinario.

So, the description and analysis of keiretsu in the following part of this paper is not for the search of the criminals or the suspects of trade imbalance. Discussions go on the assumption that keiretsu can be neither

criminal nor suspect.

Let me present an simple example for exposition.

There are so many anti-dumping cases. They happen in only a small number of countries and areas, which suggests that the number of cases depend not on the behaviors of selling firms but on the attitudes of the Governments who accept the complaints. According to Amagai[1984], in 1979-82, 819 cases(more than 99% of 824 cases happened in the world) occurred in only four countries and areas, that is, US, EC, Australia and Canada(in Japan 0, and in 1983 1 case). In essence, active anti-dumping policy discriminates foreign firms from domestic ones. As actually there are so many cases in these countries, at least potentially pricing behaviors of foreign firms in these countries have been strongly influenced, and we can guess that the exports from other countries have been decreased by this policy in many industries. However, not so many economists at least accept the view that trade imbalance of these countries have been much influenced by this, because there is an agreement that the dominant factors are macro-economic ones, especially I-S balance.

So the same kind of relation exists between keiretsu and trade imbalance. Also, for other industry-specific factors such as non-tariff barriers, ex. product standards, trade customs, which are sometimes called "anecdotal evidences". Of course for "cultural factors".

[5]. Keiretsu and Product Imports Ratio

Now let me stop a long introduction or preface, and go to the discussion of "keiretsu-trades and product imports".

The focus of the discussion is on the actual figures and functions of keiretsu, however, I must point out an underlying image, a group of preoccupations widely held, before we attack the main target.

"Keiretsu" is not a well-defined word, and even among Japanese this word is used with various meanings. It is my impression that when it is used in the trade-conflict debates, so many and various meanings and images are represented by this word. When someone asserts something using this word, listeners must interpret what he really want to say. So we can pick up and make a tremendously long menu of the images of keiretsu, and I will come back to this point in [7]. The image I should mention here, which lies as common among various types of keiretsu image, is that a number of firms form a closed circle or group and discriminate firms outside of the circle

and the number of keiretsus is not so large that they can collude or coordinate to act as if there is only one keiretsu which dominates Japanese Economy. Sometimes called Japan Inc.

As will be explained later, there are so many groups and the size of each is so small that we can not imagine the situation where tight collusion is maintained and dominates the whole economy. So, even if we can find a clear border surrounding a group, it does not coincide with the national border. There is no reason to use Tables of international balance of payments when we analyze the behaviors and their effects on the whole economy.

If the low value of the product import ratio in the tables of international balance of payments is the source of conflicts or dissatisfaction, we can draw a new south-north line through Hakane and have much higher values. If someone insists that the values in the Tables of International Balance of Payments are important, he accepts as self-evident the standards of judgement discussed above. If others compare the product imports ratio of each country with the international average value and criticize the low ratio-value country as they imports too little, they accept some package of extreme assumptions.

Before proceeding to the discussion of keiretsu, I must mention two more points.

(1) Even if keiretsu functions effectively, it does not always make lower the product imports ratio, more accurately there is no direct link between them. For example, suppose firm A and B belong to the same group, and A gives priority to B in buying electronic components. When B has a plant beyond the national border, or B is the importing agent of foreign suppliers, this priority increases product imports in case B's rival is Japanese firm C. There is an implicit assumption that the borders surrounding keiretsu close within the national border, however, it is not correct and now becoming far away from the truth. Long-term relationships, especially the cases in which buying firms ask the suppliers to commit in building a manufacturing plant near from the buyer's plant and assure stable amount of orders, are also sometimes called keiretsu, and they decrease product imports in case foreign suppliers newly build plants in Japan.

(2) Even if keiretsu functions discriminatory, their discriminating principle does not depend on the nationalities and they discriminate not foreign firms from domestic firms. So, if it is difficult for foreign firms to enter some markets, so is for Japanese firms. If it is difficult for foreign

firms to enter Japanese markets in general, so for Japanese firms. So today to study the actual figures and functionings of keiretsu is very important, even if there is no direct link between keiretsu trades and product imports.

I think it futile to ask, "is there any relationship between keiretsu and the low value of Japanese product import ratio?", "what is the degree of contribution of keiretsu in lowering the product imports ratio?". Even if someone succeeds in making some index of keiretsu or finding some keiretsu factors which reveal high correlation value, we can not draw a conclusion that keiretsu is the criminal or the suspect.

[6]. Preliminary Discussion of Keiretsu

This is a preliminary section and I will present here some critical review or assessment of widely accepted image of keiretsu.

In my view, on the whole, the actual roles played by keiretsu are too much exaggerated. Recently the number of economists who have the same opinion is increasing rapidly, and I am on the front or at the extreme position(*).

(*) See, Miwa[1990].

If this new types of opinions are more persuasive and accepted, keiretsu is functionally non-existent, and its strong and vital image is only an illusion or a mirage, and we can not explain by it the low value of product imports ratio(*) and the large trade imbalance.

(*)Whether this ratio of Japan is really very low or not is another question. According to MITI[1990], this ratio of Japan has risen very rapidly and in 1989 more than 50%(50.3%, p.104).

In Japan there has been a long tradition to use "keiretsu" as one of the key-words for the debates on Japanese economy, which reflects the dominant view of Japanese Economy and the functionings of the economic system. This tradition has a long history and clearly occupied the dominant position in 1950s when the influence of Marxian Economics was at the peak in Japan. This influence has much weakened by now, but the process has been only very gradual one and even now not yet finished. We can easily find the influence of the tradition when we see carefully the opinions and analyses of Marxian

economists, many non-marxian economists, political scientists and journalists. This is quite natural and almost inescapable as the key-words used in discussions were the products of this tradition and reflect it, and these words, like a deep-rooted lullaby, form the frame of reference of most Japanese.

In my view, this view maintains strong influence among Kasumigaseki bureaucrats, as the education they received in high schools and universities still unconsciously dominates their minds. In 1972 US Department of Commerce published a report "JAPAN", and we saw strong resonance among Japanese, especially journalists, this was because, in my understanding, the view expressed in the report was the reproduction of the traditional view, that is, the import of the exported product. Almost the same kind of phenomena could be found in these several years in the trade conflict debates, especially Japan-US SII.

However, as once dominating view that Industrial Policy has been the main engines and accelerators of the Post War Economic Growth of Japan has already lost strong supports, especially among economists, this traditional view is losing the supports rapidly.

It is my advice to those who have keen interests in keiretsu, supposing it as one of the main criminal of the low value of product imports ratio of Japan, to rethink once more of the possibility that they swallowed as evident the decaying traditional view of Japanese Economy. Investigations of keiretsu should be done, out of the influence of these kinds of preoccupations.

[7]. Keiretsu of Category 1

As I mentioned before, the word "keiretsu" is used with so diverse meanings, and we need clarify and classify meanings of "keiretsu" for the following discussion.

It is useful to classify into the following 3 categories.

[Category 1] Industrial Groups (usually in Japanese, Kigyousyudann). Type I: For example, Mitsubishi Group, Mitsui Group, Sumitomo Group, Fuji Group, etc.

[Category 2] Industrial Groups (usually in Japanese, Kigyogru-pu). Type II: For example, Toyota Group, Nissan Group, Hitachi Group, Toshiba Group, NEC Group, etc.

[Category 3] Exclusive distribution Channels (usually in Japanese,

Ryuutsuukeiretsu or Ryuutsuukeiretsuka)

We can see the examples in such industries as automobiles, consumer electronics, cosmetics, etc.

In each categories there are marked discrepancies between the widely prevailing image and their actual roles and functionings. The size of discrepancies is most glaring in Category 1.

In the following 3 sections we will see them one by one, and Category 1 in this section.

The representing figures in this Category are "6 Biggest Industrial Groups (in Japanese, rokudaikigyousyuudann)", that is, Mitsubishi, Mitsui, Sumitomo, Fuji, Sanwa, Daiichikanngyouginnkou(DKB). Other groups of the same type are identified and listed up by those who emphasize the importance of industrial groups of this category.

In Japan, a word "keiretsu" is usually used in a verb form such as "keiretsukaniosameru" or "keiretsukasuru", which mean "put somebody under the control of keiretsu or of the head of keiretsu" or "put somebody into keiretsu". So, many researchers studying Industrial Organization of Japan do not feel at home when they see papers discussing the functionings of this Categories with a word "keiretsu". This word implicitly presupposes that some specific firm occupies the position at the center of the group and put the others under his control. Let us take Mitsubishi as an example.(Of course, whether such a centralized decision making unit as Mitsubishi xx exists or not is by itself a fundamental question. But let us assume its existence here.) Just think, "who is at the center?", "who controls the others?", and "is there some kind of Superpower who dominates all the member firms, such as Mitsubishi Bank, Mitsubishi Corporation, Nihon Yusenn, Tokyo Marine and Fire, Asahi Glass, etc.?" Those who support Marxian Economics, especially Finanzkapital theory, may say that Mitsubishi Bank is at the center. However, as the money and capital markets in Japan are so well developed and Japanese firms are allowed access to the international capital market, nobody in this conference, I believe, does not share this view. And so, this is a minor point here.

In my view, those who judge keiretsu of Category 1 so important connect keiretsu with at least either of the following 2 images.

[Image 1] Keiretsu is a miniature of Japan Inc. This image corresponds to their image of the size and the number of keiretsus. That is, the size of each keiretsu is so large and the number of the representing keiretsus is so small that only a small number of keiretsus actually cover nearly all the

core parts of Japanese Economy. Someone may say, "that is the actual figure of Japan Inc."

[Image 2] Firms in each Keiretsu form a closed circle, and tied each other with the knot of reciprocal buying. Someone may have more extreme image of strong tendency towards self-contained autarky(*).

(*) As is well known, Japan in Edo Era was divided into many Hans, and each Han was independent and nearly self-contained. This image 2 suggests that the present Japan is fundamentally the same as was in Edo Era, except for the absolute number of the units.

Let us start with [image 1].

Although there are so many books and papers which study Keiretsu of Category 1, only a few supply basic materials for research and Keiretsu no Kenkyu(Studies on Keiretsu) published every year is one of them. In this study 16 keiretsu of Category 1, at the center of whom is a big bank, are identified, and a large number of firms are classified as members of keiretsu. 16 is a number so large that it is not easy to collude and maintain a tight cartel as if Japan Inc. really exists. We should not forget the behaviors of outsiders, as the classification into 16 keiretsus is not exhaustive.

For those who insist the importance of Category 1 keiretsu, how to define and identify keiretsu or keiretsu border has been of great concern. Many or most studies choose "Syacyoukai(presidents meeting)" as the most important criterion. For some of Category 1 keiretsus have presidents meeting held once a month(*). Taking this as the criterion, a large part of big firms in Japan are classified to belong to Keiretsus. However, in this case, as all of 16 keiretsus do not have "syacyoukai", the number of identified keiretsus decreases to 6(that is, 6 Biggest Industrial Groups), and the coverage ratio declines further.

(*) As for the importance of the meeting there are diverse opinions and I have an extreme one. About 30 busy presidents of big companies gather only once a month for only 2 hours, eating lunch and sometimes listen to lectures of special guests. What can be happen in such a short time?

The 6 Biggest Industrial Groups sometimes divided into two sections. The one section is called Kyuu-Zaibatsu-Kei, that is, Zaibatsu Origin Type(ZOT),

and includes Mitsubishi, Sumitomo and Mitsui. The other is called Ginkou-Kei, that is, Bank Organizing Type(BOT), and includes Fuji, Sanwa and DKB. BOTs' syacyoukais were organized only in 1960s, and today the number of scholars are increasing rapidly who judge that they have not been such active organizations as to decide something for the common interests of groups(*). When we see the facts that Hitachi belongs to all 3 BOTs and other 3 firms belong to 2 of them, it is not easy to accept the traditional image at least for these 3 BOTs.

(*)See, for example, Imai[1989] and Miwa[1990] ch.7.

Let us proceed to [Image 2].

In my understanding, the essence of this image is, "Japanese firms give priorities to buying from firms in the same keiretsu, even when they have chance to save their costs by buying from firms outside of their keiretsu."

When we hear these kinds of opinions, complaints and critics, we are deeply puzzled in understanding the essence of these opinions.

Are they insisting just that Japanese firms are irrational?

Why Japanese Firms sacrifice their profit opportunities?

Who, in their image, are the decision makers?

Is it a natural and foreseeable consequence of this image that firms in a keiretsu altogether will be put out of the market as competition losers, as they collude just in order to raise their own cost potitions? If all Japanese firms behave in the same manner, the relative positions in the international market because of their productivity decline. Is this foreseeable consequence consistent with our actual experiences?

When firms in a keiretsu form a closed circle, they stand in a handicapped position in the business with firms outside of keiretsu, as outside firms think that they are given less priorities and can move to more advantageous position by choosing business with neutral firms, that is, firms who do not belong to closed circles. Is it really a rational choice to belong to a closed circle? Isn't it more advantageous to appeal his business attitudes as neutral? Market in his keiretsu is much smaller than the market outside of keiretsu in Japan, and by far smaller when we consider the world market. For large firms classified as members of ZOTs, such as Mitsubishi Heavy Industries, Asahi Glass, NEC, Sumitomo Metal Industries, Toyota, Toshiba, Mitsukoshi, Toray, etc., the ratio of sales to member firms is so low that it is not rational to behave as if they were members of closed circlces.

So, as for 3 ZOTs, which are thought to be tightly connected within each and are always talked and studied by many scholars and journalists, the degree and tightness has been too much exaggerated, and in my view, syacyoukais have not been such active organizations as to make decisions for their common interests(*).

(*) To my regret, even today, the number of scholars who support this view is still not so large. For the detailed discussion, see Miwa[1990b] ch.7.

I will repeat the conclusion here.

The actual roles and functionings of Category 1 keiretsu whose representing figures are 6 Biggest Industrial Groups have been too much exaggerated. Those who think them important and have keen attention to them should check at least once the origin of their interests. I guess, they will be surprised at the poorness of the evidences and vagueness of the assertions.

[8]. Keiretsu of Category 2

Let us go to the discussion to Category 2 keiretsu.

There is a prevailing view that large manufacturing firms in Japan, ex. Toyota, Nissan, Matsushita, Hitachi, Toshiba, NEC and etc., in such industries as automobiles, electronics and etc. form their own closed circle with firms surrounding them. In this case, a Japanese word "keiretsukasuru(put someone under the control of the firm at the center)" is often used.

The world wide interests on these keiretsus, in my view a bundle of long-term contract relationships, have emerged as these are considered to be one of the main causes of the high productivity of Japanese firms in these industries(*). Here we will limit the attention to their relationships to product imports.

(*) See, for example, Miwa[1990] ch.4, whose shortened version is ch.7 of Imai and Komiya eds.[1989].

The first point we should mention here is that, comparing with Category 1 keiretsu, the size of each keiretsu in this Category is by far smaller, and the number is so large that it is almost unimaginable to find these all keiretsus collude and act as if there were Japan Inc. As Toyota and Toshiba,

for example, are both classified as members of Mitsui, there is no need for explanations. So, even if firms in Category 2 keiretsu form a closed circle, we can not directly conclude from this that Japanese Economy is closed.

The second difference from Category 1 keiretsu is that, as the main role played by the firm at the center is a buyer, the tying knot is not reciprocal buyings in Category 2 keiretsu. So, here can not be the tendency to self-containment or autarky.

When we pay attention to the relation between Category 2 keiretsu and product imports, the focus should be on the questions such as "how the competition in the fields of each components is affected by them?", "how much do they decrease the import of components from abroad?" My answer to these questions is "almost none", and the reasons, which are essentially the same as explained in the previous section for Category 1 keiretsu, are as follows.

(1) If the center firm in keiretsu give priorities to buying from firms in the same keiretsu even when he has chances to save costs by buying from outside, both in and out of Japan, the firm itself and firms in keiretsu altogether shall be the losers in the competition in the product markets. If almost all the representing Japanese firms in these industries such as automobiles and electronics act in this manner, they have become the losers in the competition in the world market. In my understanding, this is contrary to the standard view. Therefore, when some firms can not succeed in acquiring business with those Japanese firms, the main reasons should not be the existence of Category 2 keiretsu, but the other factors such as price, quality, delivery time and some other ancillary services. In my view, because of these reasons, the buying firm rationally chooses not to change the suppliers.

(2) As for the degree of closedness, the prevailing evaluation seems to be too high. In Category 1 keiretsu their central image is a closed circle, and each firm with a few exceptions has only one "syacyoukai" membership. In this Category, the situation is completely different. Let us see the cases of Toyota and Nissan, which organize their suppliers associations for each called "kyouryokukai(suppliers' association?)". Toyota is one of the symbol firm which is said to have the tightest keiretsu, and rivalry with Nissan is said to be so keen that even if firms in Toyota keiretsu supply to other automobile assemblers, Nissan do not buy from them. However, when we compare the members' lists of the suppliers' associations of both firms, we can find many firms in both of them(*). Both managers of the firms and

researchers of this industry well recognize that it is dangerous and not advantageous to depend the supply of core components to only one firm, and that it is not profitable to assure stable positions to suppliers by putting them perfectly into a closed circle. The late comers'(for example, Mazda, Honda, Mitsubishi) success in entering this market can be explained at least partly by the openness of keiretsu in this industry.

(*) See, for example, Miwa[1990] ch.4, especially p.76, fn.32.

If you still support the view that the character of Category 2 keiretsu is very closed and this is the cause of Japan's low product import ratio, you must answer many questions mentioned in the previous section, for example, "why do you think Japanese firm sacrifice their profit opportunities?". Today there is a widely supported view, now becoming the standard, that even if Category 2 keiretsu may seem to be closed, essentially it is a bundle of long-term contractual relationships which are suitable for developments and stables supplies of high quality components at low prices.

In sum, there is an overvaluation and misunderstanding about the actual characters and functionings of Category 2 keiretsu, whose representing figure is Toyota Group. Even if this judgement is not accepted, Category 2 keiretsu can not be one of the causes of Japan's low product imports ratio, because of their size and number.

[9]. Keiretsu of Category 3

Now let us proceed to the discussion of Category 3 keiretsu.

There is a prevailing view as follows. In many industries in Japan, major firms have established well organized ditribution channels, which are in many cases quite exclusive in character(*). As the major firms dominate the markets, new entrants, including foreign firms, can not easily find their outlets, and that is one of the reasons why foreign firms can not enter Japanese markets and the product imports ratio is so low.

(*) From the standpoint of consumers' welfare and anti-monopoly policy, much attention has been paid to these phenomena, in Japan under the title of "Ryuutsuukeiretsuka". But here the attention is limited to the relation to product imports.

The first point we should mention here is, that, if this view does not contain an element of discrimination against foreign firms, it means that it is difficult to enter into these markets in Japan and foreseeable results should be the small number of firms and high market concentration ratios, which, as most people will agree, are quite contrary to the facts.

If this view does contain an element of discrimination against foreign firms as in anti-dumping cases, we should ask, "what are the evidences?", "how it can be possible?", "who want and decide?" Of course, as in the preceding 2 Categories, it is almost unimaginable for relevant firms to collude for discrimination.

Here, for simplicity and in order to proceed further, let us assume that there exists clear discrimination against foreign firms and that this discrimination exists in every market in Japan. Then we can easily forecast the effects of these discrimination, and it is also easy to see that these effects are equivalent to the effects of import tariffs. In turn the effects of overall import tariffs are mostly absorbed by the compensating variations of exchange rates. So, there can not be strong relations between keiretsu of this Category and the amount of Trade Imbalance.

If tariffs are levied only to final products, product imports will decrease, non-final-product imports will increase and exchange rate adjustment will stop on the way. The question to be discussed is the degree of the decreases.

Here we reach the possibility of the decreases of product imports caused by Category 3 keiretsu, depending on the two assumptions that there is effective discrimination against foreign firms and that keiretsus work as effective entry barriers in almost all the product markets. The plausibility of the first assumption is quite dubious as mentioned above, and that of the second one can not be justified as we will see below.

In the long history of debates on how to regulate Category 3 keiretsu with Anti-Monopoly Law, quite a limited number of industries have appeared repeatedly, which suggests that, even if we find several industries where Category 3 keiretsu work well as entry barriers, their impacts on the overall trade imbalance or the overall product imports ratio are in quite a limited order.

Famous examples are automobiles, consumer electronics apparatus, cosmetics, daily products such as cleansers. In the following let us carefully see them one by one.

First of all, automobiles. When someone asserts that the distribution

system in Japan is exclusive and closed, almost always he is talking about the distribution system of automobiles, implicitly assuming that systems in other fields are the same and this is the representative. However, distribution system of automobiles is an outlier and the above implicit assumption leads us to overvaluation of the effects of Category 3 keiretsu.

Almost all dealers who sell the automobiles of Japanese manufactures sell the products of only one firm, typically only a subset of them(*). For example, Toyota divides his dealer networks into 5, and assigns his products for each(**).

(*) As is well known, we can not find any clause prohibiting to sell cars of rival firms in the contract signed by the dealer and the manufacture.

(**) Someone explained that they started this multiple distribution system, after studying the system of GM.

The question to be answered is, "how much the new entry has become difficult by these distribution strategies of the incumbents?" As I mentioned before, several late coming Japanese firms succeeded in entering, Mazda, Honda and Mitsubishi are the examples. Here I will introduce the case of BMW Japan, maybe recognized as a success story. For these 10 years, especially these 5 years, sales of high-priced cars, say more than \$20,000, have increased quite rapidly, and along with Japanese firms such as Toyota, Nissan and Honda, sales of German cars such as BMW, Benz, Volkswagen and Audi have increased explosively. Many well-informed persons comment that the success story of BMW is the product not only of the charms of cars and the market trend in Japan but also of their decision to establish their subsidiary(BMW Japan) in 1981 and begin their efforts to sell by themselves. They sold 3,600 cars in 1979 and 28,000 in 1988, larger than the total number of imports from US(See Table 1). The important facts are that they have established in such a short time their own exclusive distribution network(70 dealers, 110 sales points) which covers all Japan, they could find franchise dealers mainly from outside of the industry and a few of them were dealers of some other Japanese firms. BMW sells 500,000 cars in the world every year and their target share in Japan is said to be 1% of the market, already 70% level of their target in 1988, when only 7 years have passed since their change of strategy(For the detailed discussion, see Kishi[1989] pp.69-92).

The BMW case suggests that the rate of return on the investments in establishing own distribution network in this industry can be higher than

the normal rate, that in some cases new entrants can deprive dealers of the rival firms when their products are promising, and that entry is not so difficult as is usually recognized. Of course many other foreign cars have also penetrated rapidly into Japanese market mainly via sole agent system, so only the BMW type strategy is not the source of success.

However, although in the process of dollar depreciation since Plaza Agreement in 1985 prices of American cars have become relatively much lower, consumers in Japan have not chosen them and the share of American made cars among imports into Japan have not risen remarkably(See Table 1).

Let us go to consumer electronics apparatus. There is a widely prevalent view that as major consumer electronics manufactures have keiretsu distribution network and these are exclusive and dominant, new entrants, especially foreign firms, face great difficulties in finding their retail outlets. This view is far away from the facts.

(1) Keiretsu retail stores(in Japan called chain-stores) in this market are not exclusive, and sell products of the other firms.

(2) The ratio of sales through keiretsu stores to total sales of consumer electronics was once about 80%, but today only 40%. The ratio of sales through non-keiretsu big stores have risen rapidly.

(3) We should pay attention also to many powerful consumer electronics firms, such as SONY, Pioneer and Kenwood, which have not such keiretsu retail stores.

In addition, let me introduce two episodes.

When I asked to managers of a major Japanese consumer electronics firm this November, "there is a widely supported opinion that American consumer electronics products do not sell in Japan because of keiretsu stores, what is your comment about this?", the answer was as follows. "As the ratio is only 40% now, it can not be a barrier. In my view, the reason is so simple. They are not supplying what the Japanese consumers want. As for us, from the start, we tried to supply what American consumers wanted, and they were different from the products we sold in Japan. Consumers are different in each country. Consumers in Europe are also different from Americans. Of course among European consumers there are great differences."

One more episode. One of the major Japanese consumer electronics firm tried to import and sell big size color TV sets made in their own US factory, but this trial turned to be a failure. According to the explanation of well-informed person, as what consumers want and expect are different, Japanese consumers judged them to be defective. This consequence suggests

a simple and useful message that powerful brand-images and well organized keiretsu distribution network do not work at all if the products do not meet at the tastes of consumers.

In my view, it is not easy to pick up keiretsu retail stores as the powerful cause of entry barriers for foreign products in this industry.

Next, let us go to cosmetics. In Japan, by the differences of types of using distribution systems, cosmetics manufactures are classified into 3 groups. The first type is "Seido-hinn-makers(Chain Stores system)", such as Shiseido, Kanebo, Max Factor. The secon type is "Ippann-hinn makers(traditional open distribution system)",such as Yanagiya, Kiss-me, Mandom, Kao. The last type is "Houmonn-hannbai-makers(Visit and Sales system)", such as Pola, Menard, Johnson, Avon. The first one is the type we should see when we discuss the effects of Category 3 keiretsu, however, their effects are, if any, of very limited order.

(1) The total sales of Seido-hinn makers occupy only 40% of total cosmetics market.

(2) For example, Shiseido, the biggest manufacture, has 25,000 chain stores, and this number is very impressive. But, at the same time, we should pay attention to the fact that almost all these Shiseido Chain Stores also sign the same kind of contracts with other cosmetics manufacturers. This fact suggests that the exclusiveness of these chain store system is weaker than that in consumer electronics market.

(3) Actually, these three types are close substitutes each other, and the choice of the distribution system depends on strategic choice of each manufacture. Therefore, even if it is difficult to enter as a Seido-hinn maker, entry into cosmetics market is not necessarily difficult.

The last case is cleansers. In this market, Kao, the biggest firm, began their efforts about 20 years ago to reorganize distribution system, that is, to integrate their trading wholesalers(to advise their trading wholesalers to detach their division for newly built joint venture only for sales of Kao products), which made Kao one of the stars of "Ryuutsuu-keiretsu(keiretsu of Category 3)" debates. There is a widely held view that Category 3 keiretsu in this market make new entry quite difficult. In my view, this view also overvalue the effects.

(1) There are about 300,000 retail stores who sell cleansers, and they are not exclusive at all. As cleansers are sold as one of daily products in general retail stores, such as supermarkets, convenience stores, drugstores and etc., new entrant can easily find wholesalers who treat their products,

however well the established firms have organized their wholesalers.

(2) The world famous P&G could not make success in Japan for quite a long time, and there is a wide agreement among the well informed persons that the reasons are mainly failures of their market strategies, including distribution channel policies. The newly appointed manager changed their strategy, and their sales and profits have become much better. There is also a wide agreement that if someone in that firm once reported that the main cause of their poor results is the market closedness born from keiretsu, it is a typical action of a person who seeks something uncontrollable as the cause of failures.

Now it is the time to close the whole discussion of Keiretsu(*).

(*) For more detailed analysis and discussions of the distribution systems in Japan, see the papers in Miwa and Nishimura eds.[1991].

We reached the following conclusions.

(1) The actual roles played by keiretsus and their functionings have been by far overvalued.

(2) Their contributions to the low import ratio in individual product market have been also so overvalued that they can not be the criminals or suspects of these alleged "unusual" low ratios, especially in the markets of manufactured goods.

Of course, as we saw before, keiretsu cannot be the main or major cause of persistent trade surplus of Japan.

[10]. Brief Comments on the Preceding Researches

The preceding discussions may induce someone ask, "then, how do you explain the unusual low ratio of product imports, especially manufactured goods imports, of Japan", and he may refer to a series of papers such as Lawrence[1987]. In fact, not a few advised me to write a paper for this conference along this line.

I cannot agree with these advices and here give a few comments.

Economic analysis is a product of a collection of assumptions, and the first action we should take, when we face huge residuals unexplained, is to check the plausibility of assumptions. In this process we should seek for missing variables. In my view, we should pay much more attention to the differences of consumers'(or buyers') preferences both between countries

and within each country.

When we divide Japan into W-Japan and E-Japan by the North-South line via Hakone, we can find many kinds of differences of preferences between consumers of both regions, one of the symbolic examples is the fact that people in W-Japan are fond of "Udon" and in E-Japan "Soba", which are both traditional kinds of noodle. Also when you compare the atmospheres and selling attitudes of department stores in Osaka(the center city of W-Japan) with ones in Tokyo(the center city of E-Japan). Again let us see 47 prefectures as units for analysis, and we can see marked differences of market shares of beer companies between prefectures. In Hokkaido Sapporo has much higher share than his average, in Tokyo Suntory also has higher share and in Hiroshima Kirin occupies about 80% of the market.

As I emphasized before, there is no logical and rationalizing foundations to choose countries as the basic units of analysis, when we pay attention to the actions and factors of independent individual agents. Preference of a consumer is under his own control, and when treated as a member of a group, for example a country, the analysis adopts a implicit assumption that there exists some kind of collective action or some important factor, called "culture?", affecting all the members.

Between to find large unexplained residuals and to suggest that they are due to "unofficial practices based on unusual buyer preferences and monopolies in the distribution system"(Lawrence[1987]p.525) lies a wide discrepancy. As Krugman[1987] writes in the discussion, "the question the paper fails to answer is why Japan imports less than it should"(p.551), and this finding is only one of the possible starting points.

In discussing why we should remember again the possible biases Coase pointed out and I mentioned before, and in my view, Krugman[1987] is influenced by these biases when he writes as follows. "My reading of the anecdotal evidence is that industrial structure is unfortunately very important in the closure of Japan's markets"(p.551).

A start is a start. It is my advice to check again, before starting, the following points as the preparation. Who take such actions? Is it possible to happen as the results of rational behaviors of relevant agents? What are the conditions to be satisfied to reach the alleged conclusions? These checks should be done logically and rigorously and hopefully the results and factual evidences should be opened for discussion(*).

(*)For example, see Komiya and Irie[1990] and Goto[1990].

[11]. A Curicature

Here let me write for exposition curicature made of my imagination, which may be for some a dessert.

Hennpinn(Return system) is said today to be one of the symbolic "customs" of complicated Japanese distribution system. Complaints about Hennpinn began in the trades between department stores and apparel-makers(vertically integrated manufacture-wholesaler firms, sometimes integrating even retailers, in the fields of fashionable wears). Depending what is happening in this fields, I will make the following curicature(*).

(*) This is from Miwa[1991].

In most cases, the trades between department stores and apparel-makers are in essence consignment sales. In department stores apparel-makers occupy their own spaces exclusively called "corners", dispatch their own sales forces and sell their own products. (In the case of one of the biggest apparel-maker, among 9,000 all members, 4,500 are dispatched to such corners.)

Suppose here comes a foreign firm with products of the same quality(in their opinion) and ask department stores to buy them. What will happen? In this case merchandising functions are in the hands of apparel-makers, not in department stores, and therefore department sotres have not the abilities or personnels for merchandising.

Suppose department stores ask the new comer the same kind of roles as Japanese apparel-makers. His straight complaints will take the following form.

- (1) The conditions for purchase are not clear at all.
- (2) The buyers who are responsible are not clear, and we cannot begin the negotiation quickly.
- (3) The evaluating and merchandising abilities of department stores are amazingly poor.

When department stores ask the firm consignment sales as patr of the conditions of trades, or ask him to accept ex post returns, the following types will appear.

- (4) The contents of the contracts are so rough and ambiguous, and

actually "unfair".

(5) There is a unfair trade custom which is discriminatory against foreign firms.

When department stores advise the firm to go to and ask Japanese wholesalers(including apparel-makers) for help, then the followings.

(6) There are so many stages in the Japanese distribution system, and they are irrational.

(7) The long-term relationships and trade customs between them work as strong constraints against the free choices of department stores, and this makes the distribution system of Japan so closed.

Also, we may find a complaint of the following kind.

(8) Major and powerful apparel-makers dominate and control the distribution channels in this fields, and make the market highly closed.

The present distribution system in this field is the products of long history and radical changes, and it is the results of rational choices of relevant agents. The vertical divisions of functions among relevant agents within a channel may be different from that of some other countries, but this reflects rational choices of agents. The complaints mentioned above are only from lack of studies and therefore knowledges about the present system, and we should notice the facts that there are so many success stories of entrants in this field.

[12]. Concluding Remarks

In his critical review of the history and development process of the researches in the field of Industrial Organization, Coase[1988] expresses a comment as follows.

".....The desire to be of service to one's fellow is, no doubt, a noble motive, but it is not possible to influence policy if you do not give an answer. It has therefore encouraged men to become economic statesmen-- men, that is, who provide answers even when there are no answers. This tendency has discouraged a critical questioning of the data and of the worth of the analysis, leading the many able scholars in this field to tolerate standards of evidence and analysis which, I believe, they would otherwise have rejected. This association with policy-- and antitrust policy in particular-- gave a direction to the study of industrial organization which prevented certain questions from being raised or, at any rate, made it more difficult for them to the study to be raised. The facts as stated in antitrust cases

were accepted as correct(or substantially so). The ways in which the problem was viewed by lawers (judges and advocates) were accepted as the ways in which we should approach the problem. The opinions of the judges often became the starting point of the analysis, and as attempt was made to make sense of what they had said"(p.66).

Recent rises of interests on Japan's imports patterns, Japan-US trade patterns, the natures and causes of Japan's persistent trade surplus are the straight reflections of debates, which are in essence political ones rather than ones for economic analysis. And it is my view that Coase's comments seems to be as if written for the researches along these debates when we change "antitrust policy" with "trade policy" .

I will end this paper with the repetition of the following statement, "the problem of the trade surpluses emerge because we have Tables of International Balance of Payments."

REFERENCES

- Amagai, Jirou ed.,[1985], Anchi-Danpingu Seido (Anti-Dumping Systems),
Tuusyou Sangyou Cyousa Kai, (in Japanese)
- Coase, R.H.,[1988],The Firm, the market, and the Law, The University of Chicago
Press
- Goto, Fumihiro,[1990], "Is the Japanese Market Really Closed? -- A Critical Review
on the Economic Studies", August, Discussion Paper Series (Research
Institute of International Trade and Industry), #90-DOJ-20, (in Japanese)
- Imai, Ken-ichi,[1989], "Kigyou Syuudan (Corporate Groups)", in Imai and Komiya
eds.[1989]
- Imai, Ken-ichi and Ryutaro Komiya eds.,[1989], Nihon no Kigyou (Firms in Japan),
The University of Tokyo Press, (in Japanese)
- Kishi, Eizo,[1989], Kensyou: Gaishi-Kei Kigyou (Facts: Foreign Owned Firms.),
Nihon Nouritsu Kyoukai,(in Japanese)
- Komiya, Ryutaro and Kazutomo Irie,[1990], "The U.S.-Japan Trade Problem: An
Economic Analysis from a Japanese View Point", May, Discussion Paper
Series(Research Institute of International Trade and Industry), #90-DF-12
- Krugman, Paul,[1987], "Comments and Discussion", Brookings Papers on Economic
Activity, 1987(2), pp.549-552
- Lawrence, Robert Z.,[1987], "Imports in Japan:Closed Markets or Minds?",
Brookings Papers on Economic Activity, 1987(2), pp.517-548
- Miwa, Yoshiro,[1990], Nihon no Kigyou to Sangyou-Soshiki(Firms and Industrial
Organization in Japan), The University of Tokyo Press,(in Japanese)
- Miwa, Yoshiro,[1991], "Henpin (Return System)", Keizaigakuronshuu(Journal
of Economics, The University of Tokyo), April,(in Japanese)
- Miwa, Yoshiro and Kiyohiko Nishimura eds.,[1991], Distribution System in Japan,
The University of Tokyo Press, (in Japanese)
- Mundell, Robert A.,[1968], Man and Economics, McGraw-Hill
- Shinkai, Yoichi,[1990], "Keijou Kuroji Yuuyou Ronn (Current Account Surplus is
Useful.)", Yasashii Keizaigaku, Nihon Keizai Shinbun (Japan Economic
Journal), Oct.16-22
- U.S. Department of Commerce,[1972], JAPAN, The Government-Business
Relationship
- Ministry of International Trade and Industry(MITI), Tsuusyou Hakusyo (White
Paper on International Trade, each year, (in Japanese)

Table 1. Japan's Passenger Cars Imports and Exporting Countries Shares
(1976-89)

Year	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
number of car imports	40,416	41,395	54,517	64,808	46,285	31,877	36,462	37,281	44,128	52,225	73,466	108,339	150,422	195,177
West Germany	54.6	50.1	58.4	51.2	58.2	69.9	79.3	78.3	80.6	83.8	79.8	79.6	73.4	69.6
US	34.2	34.8	24.4	31.9	22.6	13.1	12.6	8.9	7.2	3.8	4.3	4.4	10.3	9.4
UK	3.0	5.2	7.7	6.5	8.0	7.3	3.0	4.7	4.3	4.4	5.0	5.5	5.4	7.8
(%)	1.0	2.4	-	-	-	-	-	-	-	-	1.6	2.2	2.7	3.9
France	2.7	3.8	4.1	4.2	4.5	3.5	1.8	3.3	3.0	2.4	3.0	3.0	2.9	3.6
Italy	3.4	2.3	2.3	3.0	3.5	2.6	2.2	3.1	2.4	3.4	3.0	2.1	-	-
Sweden														

Sources: MITI's White Paper on International Trades, Each Year