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Its Institutional Framework and Function**

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Abstract

In this paper we will make clear the institutional framework and function of the foreign exchange allocation system in 1950's Japan. Until trade liberalization progressed in the first half of 1960's, MITI executed *de facto* import quota by means of this system, which generated substantial amount of rent. In order to restrain rent-seeking activities, MITI made clear and objective criteria for foreign exchange allocation by firm, which were in many cases based on export performance and production capacity of each firm, and announced them publicly. This method caused competition to acquire rent thorough foreign exchange allocation among private enterprises, and promoted export and investment. We will quantify the criteria and their function of export and investment promotion using firm-level data of foreign exchange allocation.

1. Introduction

The Japanese foreign trade regime was substantially different from the present one until beginning of 1960's. Before 1949 foreign trade was controlled directly by the government, and still more there was not a single exchange rate. Although direct control was abolished and a single exchange rate was set as a part of the wide range of policies for transition to a market economy in 1949, a new system to control foreign trade, that is, foreign exchange control system was introduced. The Japanese government could execute *de facto* import quota through this system. This regime continued to work until trade liberalization progressed by the pressure from overseas in early 1960's.

It is widely admitted that this indirect trade control through the foreign exchange control (foreign exchange allocation system) was operated as a measure of the sectoral industrial policy as well as of the macro-economic policy to keep balance of payments. For instance, official history of the Ministry of International Trade and Industry (MITI et al [1994]) states as follows.

It (import control) aimed at effective use of the limited foreign currency to the economic development, and it enabled to secure necessary import goods preventing the rush of import. Through foreign exchange allocation and approval of import, the MITI could monitor the industries under jurisdiction and carried out administrative guidance necessary for their development.

Kosai [1989] also counted the foreign exchange control as a sectoral policy measure first of all. The foreign exchange allocation system generated rent through making difference between domestic and foreign prices, and exerted substantial economic and political influences. The rent generated by the government intervention has been criticized on the ground that it causes rent-seeking activities of the private sector on one hand, and on the other hand, recently it has been focused that it can be an effective industrial policy measure, if appropriate institutional arrangements are provided (Aoki, Murdock, and Okuno-Fujiwara [1996]). Taking into account that not a few developing and transforming countries have not liberalized foreign trade, and they are faced with serious rent-seeking problem, we can say that the Japanese experience of foreign exchange control has large relevance.

However, researches investigating the function of the foreign exchange allocation from economic standpoint are few, except official histories of the MITI (MITI et al [1990]) and Ministry of Finance (MOF[1976]) and Inuta[1981] by the author of MOF[1976] describe the details of the institution¹. Kosai[1989] only mentions the import restriction of the dynamo and the passenger cars by several lines. Fukao et al[1993] and Nakakita [1993] also appropriate only one page to the description of the foreign exchange allotment system respectively. Recently Takagi[1996] explained the foreign exchange allocation system in detail, and also analysed its function from macro-economic standpoint.

Therefore in this paper we will analyze the institution and the function of the foreign

exchange allocation in 1950's Japan focusing on the sectoral and micro aspects. In section 2 outline of the foreign exchange allotment system will be explained briefly. In section 3 we will analyze its operation and function concerning the macro-economic aspect and allocation by goods. In section 4, we will analyze its operation and function concerning allocation by firm using firm-level data. Section 5 concludes the paper.

2. Foreign Exchange Budget and Foreign Exchange Allocation System

The Foreign Exchange and Foreign Trade Administration Law (*Gaikoku Kawase and Gaikoku Boeki Kanri Ho*), which was enacted in December 1949, provided a new institutional framework of foreign trade taking the place of direct government control. The article 1 of the Law prescribed that its purpose was developing normal foreign trade, and administrating foreign exchange and foreign trade in order to securing balance of payments, stabilization of the currency value, and effective utilization of foreign currency (MOF[1976], p.616). It shows that such a micro-economic item as effective use of the foreign currency was originally included in the purposes of the Law.

For these purposes the Law prescribed concentration of the foreign exchange and the foreign exchange budget system (*gaika yosan seido*). All the foreign currency, precious metals, claimable assets in foreign currency, and foreign currency securities should be concentrated on the government, Bank of Japan, or the foreign exchange bank. The government should make the foreign exchange budget to efficient use the concentrated foreign currency (Bank of Tokyo[1960], p.2).

The foreign exchange budget system is explained in Bank of Tokyo[1960], Shimada [1960], MOF[1976], Inuta[1981], MITI et al[1990] and Takagi[1996]. We are going to summarize the outline of the system mainly by Bank of Tokyo[1960]. The foreign exchange budget was made from January, 1950, at first quarterly and after that every half a year. It consisted basically of three parts, that is (a) summary table, (b) the foreign exchange budget of the import goods, and (c) the foreign exchange budget of the services, though details of the forms differed by term². In (a), summary tables of (b) and (c), the foreign exchange rates, and a prospect of the balance of payments were shown.

(b) was a core of the foreign exchange budget, and it consisted of the budget of the foreign exchange allocation system (*gaika wariate sei*) goods (FA goods), the budget of the automatic approval system (*jido shonin sei*) goods (AA goods), and reserve budget³. The division between the FA goods and the AA goods was crucial. The budget of AA goods was allocated in the lump to the AA group of the goods. Therefore import of the AA goods was automatically approved, as long as the budget of AA goods was left. In other words, as to AA goods import was *de facto* free within the total limit. Accordingly, the liberalization rate of foreign trade was usually defined as the ratio of the budget of the AA goods to the total budget.

On the other hand, in order to import the FA goods, one should apply to the Minister of

International Trade and Industry at each dealings *ex ante*, and should receive allotment of foreign exchange. Moreover, the foreign exchange budget of the FA goods was allocated not in the lump but to each goods, and Minister of International Trade and Industry should allocate foreign exchange to the importers within the limit determined as to each FA goods. Therefore, as to FA goods quantity of import was basically determined by the foreign exchange budget. This means that the government had the power of wide-ranging quantity restriction of import.

The foreign exchange budget was decided by the Cabinet Ministers Council (*Kakuryo Shingikai*), which consisted of the Prime Minister, Ministries of Foreign Affairs, Finance, Agriculture and Forestry, International Trade and Industry, Transportation, and Secretary of Economic Planning Agency⁴. The draft of the budget of import and services incidental to import was made by MITI, and the budget of other services was made by MOF⁵.

Making the budget of import, MITI used the estimated amount of foreign exchange which could be spent in each term. That amount was calculated on prospects of export, special procurements by the US Army, balance of services trade, and targeted balance of payments. MITI allocated this amount to the AA goods and each FA goods. The import procedure after the foreign exchange budget was decided continued with (a) import proclamation (*yunyu kohyo*) by MITI, (b) import announcement (*yunyu happyo*) by MITI, (c) foreign exchange allocation by MITI, (d) import approval (*yunyu shonin*) by foreign exchange banks, (e) letter of credit establishment by foreign exchange banks, and (f) import bill settlement by foreign exchange banks. (b) and (c) relates only to the FA goods.

By import proclamation, a list of the AA and FA goods, currency for settlement, and the areas where certain goods to be shipped was announced. Because the import approval by foreign exchange banks was done directly on import proclamation about the AA goods, import proclamation was especially important concerning the AA goods⁶. On the other hand, concerning the FA goods, import announcement was separately done for each goods based on the import proclamation. The contents of the import announcement were the place where applications for foreign exchange allotment should be handed, time limit of application, applicant's qualification, and the foreign exchange allocation criteria (*gaika shikin wariate kijun*), etc. The foreign exchange allocation criteria showed the rule of the foreign exchange allocation by firm, which will be discussed in section 4.

According to the import announcement, each firm which wanted to import the FA goods handed an application for the foreign exchange allocation (*gaika shikin wariate shinseisho*) to MITI. MITI decided allocation of the foreign exchange to each application referring to the budget, and the foreign exchange allocation criteria. Then the foreign exchange allocation certificate (*gaika shikin wariate shomeisho*), which was valid for four months, was delivered to the applicant, in case the Minister of International Trade and Industry had decided to allocate the foreign exchange. An substantial procedure of the import administration ended by foreign exchange allocation

(Shimada[1960], p.170).

3. Movement of the Foreign Exchange Budget and Its Allocation by Goods

(1) Macro-economy and the Foreign Exchange Budget

The exchange rate of the yen and the trend of the balance of payments in 1950's to 1960's are summarized in Figure 1. Japan, which had shifted from a regime of plural exchange rates to a regime of single exchange rate in April, 1949, maintained the fixed exchange rate of 360 yen per dollar until August, 1971. Change of the real exchange rate measured by export goods in this period longer than 20 years should be paid attention. The real exchange rate appreciated rapidly in early 1950's, and it continued to be higher than 360 yen per dollar until the end of 1950's. After it stayed around the level a little lower than 360 yen per dollar for several years, it depreciated rapidly since the latter half of 1960's. Even in 1949, when the fixed rate was set, it was said to be overvalued, the inflation during the Korean War increased the degree of overvaluation. Until the first half of 1960's the Japanese economy was frequently faced with great current balance deficit (Figure 1), while there remained large latent unemployment. These facts suggest that the rate of 360 yen per dollar was higher than equilibrium level until the first half of 1960's. Also, we found data on black market rate of the yen in 1950's surveyed by the Bank of Japan, though they are rather fragmentary (Figure 2). The black market rate was over 400 yen per dollar. Overvaluation of the yen was a macro-economic background of the adoption of the foreign exchange budget system.

Figure 3 denotes the total amount of the foreign exchange budget, the current payments and the receipts at each half year. The foreign exchange budget was tightened from 1954 to the first half of 1955, and was expanded rapidly from the latter half of 1955. Then it was tightened again from the first half of 1957 to 1958, and the long expansion started in 1959. The background of these changes in the foreign exchange budget scale was as follows.

The purpose of tightening in 1954 was to cope with current balance deficit from 1953 (Figure 1,3). In the foreign exchange budget of 1954, the budget for "nonessential" goods was reduced, and the policy of substituting domestic raw materials for imported one was pursued, while the budget for raw materials of processing trade and for the raw materials whose prices were rising rapidly was expanded (Bank of Tokyo [1960], pp.215-217). The current balance was recovered in 1954, and the surplus was expected to continue for the time being. Taking this situation into account, the government took the policy to make a large-scale foreign exchange budget in order to support the expansion of the export and production from 1955 to 1956 (Bank of Tokyo[1960], pp.218-223).

However, in early 1957 the balance of payments turned to deficit, and the confrontation on the policy of making the foreign exchange budget took place between the relating authorities. MITI insisted that a large scale foreign exchange budget should be continued coupled with tightening of fiscal policy, on the ground that contraction of the budget would cause speculative advances in prices

and decline of the export. On the other hand, MOF and Bank of Japan stressed that it was necessary to reduce import directly by reducing the foreign exchange budget as well as by tightening of fiscal policy, because the balance of payments deficit was quite serious. Consequently the foreign exchange budget for import of the first half of 1957 was determined with a scale slightly below that of the previous term⁷.

Making the foreign exchange budget of the latter half of 1957, MITI and MOF agreed with reducing the scale of budget as long as possible, under the circumstance of large balance of payments deficit. Although there remained disagreement about the prospect of receipts between the two ministry, the foreign exchange budget of the latter half of 1957 was determined to be substantially smaller than that of the previous term⁸.

The balance of payments turned to surplus in the latter half of 1957, which provided the condition to extend the foreign exchange budget. However, this time MITI requested the compression of the budget in order to adjust demand and supply in each industry. Although MOF and Economic Planning Agency insisted to expand the foreign exchange budget from a standpoint of the long-term economic plan, the foreign exchange budget of the first half of 1958 was decided to be still smaller than that of the previous term⁹. Also as to the foreign exchange budget of the latter half of 1958, the industrial society requested to reduce the scale, and it was not expanded substantially¹⁰. After the latter half of 1958, as the Japanese economy entered the large boom with surplus in the balance of payments, the foreign exchange budget continued to increase until 1961 (Bank of Tokyo[1960], pp.229-231).

Next, let's see the allocation of the foreign exchange budget between the AA goods and the FA goods (Table 1). The ratio of the AA budget to the total budget (import liberalization ratio) decreased to 10% level in 1953. After gradual recovery from 1956, it rose rapidly in the early 1960's. From 1953 under the tightening of the total foreign exchange budget, several goods which had been classified to the AA goods, such as raw cotton, iron ore, crude sugar were converted to the FA goods (Inuta[1981], p.181). In making the foreign exchange budget of the first half of 1957, the government took the policy to increase the number of AA goods, and not to convert the AA goods to the FA goods due to situation of the balance of payments in future (Bank of Tokyo [1960], p.221). Then the recovery of convertibility of the European currency at the end of 1958 spurred the trade liberalization in Japan. In making the foreign exchange budget of the first half of 1959, the Japanese government decided to promote trade liberalization, and in June, 1960 the Cabinet agreed with the Liberalization Plan of Trade and Foreign Exchange (*Boeki Kawase Jiyuka Keikaku Taiko*), which announced that the liberalization ratio should be raised to 80% in three years. The rapid increase of the liberalization ratio in early 1960's was based on this Plan¹¹.

(2) Allocation of the Foreign Exchange Budget by Goods and Generation of Rent

The foreign exchange budget of the FA goods was allocated to each goods as explained in section 2. Table 2 shows the composition ratios according to the classification of the large item in the foreign exchange budget. Foods, and textiles had the largest weight, but their weights were decreasing. On the other hand, the weights of petroleum, machinery, and the raw materials of steel increased. It can be said that the change in the composition of the foreign exchange budget basically reflected the change in the industrial structure. However, examining the change in detail, we can find that there existed various policy factors. Hereafter, we are going to examine allocation of the FA budget by goods from the latter half of 1956 to the first half of 1958, on which detailed information of making the foreign exchange budget is available in the materials by Bank of Japan. Raw cotton, wool, steel and its raw materials, petroleum, and the machinery, which were items with a comparatively large budget allocation, will be taken up (Table 3).

Raw cotton Allocation of the foreign exchange budget to the raw cotton was based on the cotton products demand and supply plan by MITI. Necessary production of cotton products was calculated from the estimated demand of cotton goods demand and estimated change in their stock. And the level of production determined necessary raw cotton import, which in turn determined necessary foreign exchange budget with the estimated import price of raw cotton¹². The budget of the latter half of 1956 is along the opinion of the cotton spinning industry especially of large enterprises, which requested the reduction of the raw cotton import in order to support cotton products prices¹³. Concerning the budget of the first half of 1957, the cotton spinning industry requested reduction of raw cotton import, but MITI did not agreed with this opinion and increased the foreign exchange budget allocation, because the margin of the cotton spinning industry was rather high¹⁴. However, in the first half of 1957 actual amount of foreign exchange allotment was by far below the budget, in order to reduce production of cotton products, and the import quantity in the budget of the latter half of 1957 was even smaller than that in the budget of the latter half of 1956¹⁵. Moreover allocation of the budget to raw cotton in the first half of 1958 was curtailed substantially to support the production reduction by the administrative guidance¹⁶.

Wool Allocation of the foreign exchange budget to the wool was based on the wool products demand and supply plan by MITI. Necessary production of wool products was calculated from estimated demand of wool products and estimated change in stock. And the level of production determined necessary wool import, which in turn determined necessary foreign exchange budget with the estimated import price of wool¹⁷. Allocation of the foreign exchange budget to wool was expanded from the latter half of 1956 to cope with the increase of domestic demand of the wool products. The government aimed at reducing domestic price of wool products and rent generated by the difference between domestic and import prices of wool¹⁸. Also in the first half of 1957 large amount of budget was allocated to wool¹⁹, but actual amount of foreign exchange allocation was cut in order to reduce production of wool products²⁰. Allocation of the foreign exchange budget to wool in

the latter half of 1957 and the first half of 1958 was compressed to support the production reduction of wool products.

Steel and Its Raw Materials Allocation of the foreign exchange budget to steel and its raw materials (iron ore, scrap iron, and pig iron) was based on the demand and supply plan of the steel by MITI. To cope with the rapid increase of the steel demand due to the expansion of investment, allocation of the foreign exchange budget to steel and its raw materials was increased in the latter half of 1956 and the first half of 1957²¹. Because there was a bottleneck in the capacity of blast furnace, large amount of the budget was allocated to scrap, pig iron, steel ingot and steel products²². In the latter half of 1957, allocation of the budget was substantially reduced because of decrease in steel demand²³. As decline of the steel price came to be serious, production reduction of crude steel and some kinds of steel products was started in accordance with the administrative guidance by MITI in March, 1958. Corresponding to this measure, MITI curtailed production plan of steel of the first half of 1958, and reduced allocation of the foreign exchange budget to steel and its raw materials²⁴.

Petroleum Allocation of the foreign exchange budget to the petroleum was based on the demand and supply plans of petroleum products by MITI. Demand of the heavy oil, volatile oil, kerosene, and light oil was estimated respectively, and from this necessary import of the crude oil and the petroleum products were calculated. MITI gave priority to the import of crude oil from the standpoint of the domestic refinement principle. However, as demand of heavy oil was unbalancedly large in Japan, substantial amount of foreign exchange budget was allocated to heavy oil²⁵. In the first half of 1957, the budget for crude oil and heavy oil was increased, because of the serious shortage of water and coal for generating electricity²⁶. Moreover, MITI guided the petroleum companies to make long-term contracts of chartering tankers to cope with the shortage of tankers because of the Suez Crisis. As for the latter half of 1957, allocation of the foreign exchange budget to the petroleum was suppressed based on the prospect of slow down of the demand increase, which in turn caused the excessive chartering problem²⁷. Then in the first half of 1958, large amount of the foreign exchange budget was allocated to the petroleum as a countermeasure to the excessive chartering problem²⁸.

Machinery As to the machinery, foreign exchange allocation according to the demand and supply plan was impossible, because the machinery had very large variety. The Bureau of International Trade (*Tsusho-kyoku*), MITI adjusted the claims for the budget from each bureau of MITI and each Ministry, based on survey on machinery demand of each industry under jurisdiction²⁹. The claims from the bureaus of MITI and other Ministries were shown in Table 4. In the latter half of 1956, large amount of machinery import was applied from such sectors as steel, machinery, transportation and electricity etc. because of rapid investment increase. MITI took the policy to keep the foreign exchange budget for machinery at the almost same level as the previous term, and cut off

about 10 % of the demand (Table 4)³⁰. Concerning allocation of the foreign exchange budget to machinery, the machinery users were inclined to prefer imported machinery on the ground of high quality, availability of low interest rate loan and quick delivery. On the other hand, domestic machinery producers insisted that domestic machinery should be used as much as possible. MITI should keep balance between the rationalization of user industries and fostering the machinery industry³¹.

In the first half of 1957, although demand of the machinery was still large, MITI curtailed 34% of the application, expecting that investment would be postponed due to the constraint of fund raising. In making the foreign exchange budget, the Bureau of Heavy Industry, MITI insisted to reduce it, while the Bureau of International Trade, MITI had the opinion that there were large possibility to allocate additional budget in the course of the term³². This confrontation of both bureau reflected the above-mentioned problem of balance.

In the latter half of 1957, MITI curtailed 22% of the application (Table 4), on the ground that the effect of the tight monetary policy should gradually come out, and investment for rationalization of the industries reached the peak because of the rapid increase of the machine import in the past 2-3 years³³. Moreover in the first half of 1958, the foreign exchange budget for machinery was reduced to the lowest level since the latter half of 1955. Protection of the domestic producers was one of the reasons³⁴.

Above explanation shows that in the cases of raw materials, the demand and supply plan of each good was used as a base. Also it was shown that there was often a case where allocation of the foreign exchange budget was restrained for the purpose of industrial policy. Because restraint of the foreign exchange budget for the FA goods was *de facto* import quota as stressed in section 2, it is probable that as to many of the FA goods rent was generated. We can roughly measure the scale of rent by subtracting the tariff from the difference between domestic and import prices of each goods. We estimated the scale of rent as to 27 goods, whose weight were relatively high in the wholesale price statistics by Bank of Japan and whose cif. import prices are available in the customs clearance statistic by MOF. The result is shown in Table 5. As to 15 goods of 27 goods, rent was generated, and the rent was especially large regarding automobile, volatile oil, refined wheat, wool, and flour³⁵.

4. Allocation of the Foreign Exchange Budget by Firm and Its Function

(1) The Criteria of Foreign Exchange Allocation and the Methods of Allocation by Firm

Allocation of the foreign exchange to firms meant allocation of the rent generated by restriction of import. Therefore, there was a substantial possibility that allocation of the foreign exchange to firms caused rent-seeking activities of the private sector and corruption of the bureaucracy and political circle. And at the same time it might be an effective measure of the industrial policy. Concerning the first possibility, some then bureaucrats of MITI talked in retrospect

that MITI was faced with a strong political pressure about the foreign exchange allocation. One of them, who served as a chief of the Budget Section (Yosan-ka) of the International Trade Bureau in 1950's said that he daily received petitions and pressure by the Diet members, and that to repulse it was a main role of the chief of the Budget Section. Moreover, another then bureaucrat who was a vice-chief of the International Trade Bureau in 1950's said that the several Diet members always came to the Vice-minister's office to petition about the foreign exchange allocation³⁶.

Certain mechanism to evade such a political pressure was prepared in the foreign exchange allocation system, the outline of which was explained in section 2. MITI took the policy to reduce the range of its discretion as much as possible concerning the allocation of the foreign exchange to each firm as is discussed in Okazaki and Ishii [1996]. The manual of the foreign exchange allocation system which was written by the authorities of MITI in 1960 states as follows (Shimada[1960], p.158).

Although the foreign exchange allocation is prescribed to be Minister of International Trade and Industry's discretion in the Foreign Exchange and International Trade Administration Law, it does not imply that the Minister determines the allotment case by case arbitrarily. MITI determines a certain criterion concerning each goods referring to the purpose of classifying it as FA goods, and allots the foreign exchange mechanically or screens the applications according to the criterion.

It can be said that MITI intended to restrain rent-seeking by reducing the room of the discretion thorough making clear allocation criteria and announcing them beforehand. "A certain criterion" in the quotation above is the foreign exchange allocation criterion announced by the import announcement (See section 2). The foreign exchange allocation criteria concerning the main goods of the latter half of 1956 are arranged in Table 6. There were four kinds of allocation methods, that is the allocation to trading company (*shosha wariate*, AT), allocation to consuming company (*juyosha wariate*, AC), allocation to trading company on order (*hacchusho hosiki shosha wariate*, ATO) and allocation to trading company on notification(*naijisho hoshiki shosha wariate*, ATN).

AT was a method to allocate the foreign exchange based only on the conditions of trading companies, past import records in many cases, which was used concerning a part of sugar, lumber, a part of beef fallow etc. (Table 6). This was according to the view that the past import results showed the ability to achieve the import and this method would contribute to the long-term import trade relationship (Shimada 1960, p.178). By this method the rent was acquired by the trading companies.

By AC, the foreign exchange was directly allocated to the companies which used each import goods. ATO was a method based on the purchase order put out to the trading companies by user companies, and ATN was a kind of ATO in which MITI notified the order limit to each user company beforehand. In AC, ATN and ATO conditions of each user company, such as export

records, production capacity and production, were used as the criteria (Table 6)³⁷. Specifically, the criteria based on export records like those of raw cotton, wool, and pulp for chemical fiber were called export link system (*yushutsu rinku-sei*). By AC, ATN and ATO, rent was acquired by the user companies.

It is notable that in many cases the criteria were based on clear and objective conditions. This is a fact which proves the point of above-mentioned Shimada[1960]³⁸. Also, this fact supports the view of "creating contests" of World Bank[1993]. The main point of this view is that the another type of competition that is contest based competition with clear rewards, rules, and the referees in the east Asian countries including Japan. In the foreign exchange allocation system, rent obtained by receiving the allocation was attractive rewards for the private companies. To obtain more rewards, the companies had to win the competitions to achieve performance, the rules of which were above-mentioned criteria. And, MITI played the role of the referee who mechanically or strictly apply the criteria that is the rules.

In addition, it is notable that the criteria are thought to have led the corporate behaviors in specific directions. The cases of the export or production capacity based criteria have especially large significance. In the former case, the rent by the foreign exchange allotment is thought to have played the role of the export subsidy. And in the latter case, it is thought that investment was promoted by the rent functioning as a investment subsidy.

These effects were clearly recognized by the persons concerned in those days. MITI intentionally used the export link system to promote export. For instance, Shimada[1960] states, "It is an effective export promotion measure" (pp.179-180). Nishimura[1955] by a bureaucrat of MOF states that the background of the introduction of the export link system to the textiles in early 1950's was decrease in the export by rise of domestic prices, and that the rapid increase of textile export in 1953-54 was mainly due to the effect of the export link system. All of the export link systems shown in Table 6 are the methods to allocate the foreign exchange for the raw materials based on the export performance of the products made by those raw materials. This method was specifically called raw materials link system (*genzairyo rinku-sei*). Besides this, there was a method to allot the foreign exchange for the raw materials based on the export performance of the products which had no input-output relation to those raw materials, which was called deficit-covering link system (*shukketsu hoshu rinku-sei*) (Nishimura[1955]).

The deficit-covering link system was applied to the export of ship, the production plant, whale oil, raw silk, and canned foods etc. in 1953-54. The companies which exported those goods were allotted the foreign exchange to import crude sugar. They acquired *de facto* export subsidy through selling the crude sugar to the sugar refining companies at the higher domestic price. The shipbuilding industry especially enjoyed the merit of this system. They cut down the export prices by this system and consequently first export boom of ships took place in 1953-54³⁹. The deficit-

covering link system was strongly criticized by the IMF research mission in 1954, and it was abolished in 1955. The criticism from overseas suggests that this system had large export promotion effect.

On the other hand, the criteria based on production capacity was not the one that the investment promotion was intended but the one aiming at the leveling of the capacity utilization ratio. However, it was recognized that it had the effect of investment promotion. A bureaucrat of MITI wrote "The companies invested aiming at an increase in the amount of the import quota, because the method of foreign exchange allocation is based on the amount of equipment," in the article of 1956 (Hiramatsu[1956]). Moreover, *Oriental Economist* commented, "The over-investment in such as textile, sugar refining, and milling industries is mainly due to the raw materials allotment policy of the government based on equipment capacity",⁴⁰.

(2)A Quantitative Analysis of the Foreign Exchange Allocation by Firm: A Case of the Wool Spinning Industry

The wool spinning industry was contracted substantially during the World War II. Although equipment was reconstructed according to the equipment restoration plan approved by the occupation authority (GHQ) in 1948, import of raw material was a crucial constraint for the reconstruction of the wool spinning industry (Textile Society of Japan[1958], pp.310-313). For a few years after the war, import of wool was very little, because import of the raw materials was limited strictly in general and among the textile materials raw cotton was given priority. It was after 1949 when the trade agreement had been concluded between sterling area nations (Wool Spinning Association of Japan[1987a], p.92) that wool import got on the right track.

On the other hand, the wool import shifted to the private trade from the beginning of 1950. Then, MITI announced "Detailed Criteria of Allotment of the Foreign Exchange for Wool Import from January to March, 1950" (*Showa 25-nen 1-3-gatsu Yomo Yunyu Shikin Wariate Saimoku*). The substance was that a total amount of the foreign exchange budget for wool (9613 thousands dollars) was divided into a part for domestic demand(70%) and a part for export(30%), and that the former part was allocated according to production capacity of each firm, while the latter part was allocated according to export records of each firm (Wool Spinning Association of Japan[1987a], p.94, appendix, pp.24-25). The export records and production capacity were already used as the criteria, but there was an important change in the method of allocation in July, 1950. Although in the method decided in January, 1950, the total amount of foreign exchange for the export and the domestic demand was set respectively beforehand, after July, 1950, the foreign exchange was preferentially allocated according to export records, the residual of which was allocated according to the production capacity for the domestic demand⁴¹. The method from July, 1950 is usually called export link system of wool (Textile Society of Japan[1958], p.321).

Although the method of allocation was frequently revised after that, especially important revisions were those in August, 1953 and April, 1955. Until August, 1953 the foreign exchange was allocated *ex post* according to the past export records. On the other hand, after August, 1953, the foreign exchange was allocated according to the export plan of each firm beforehand and was adjusted afterwards on the actual export. At the same time another system relating to the above revision that is "achievement rewards" (*suiko hoshō*) to increase incentive to export was introduced⁴². Additional foreign exchange was allocated to each firm according to the achievement ratio of the export plan. The revision in April, 1955 was to cope with the problems which the revision in 1953 caused. The method introduced in 1953 strongly stimulated export, which was criticized by the foreign countries, and caused shortage of the wool for domestic demand. Therefore in April 1955, export incentives were reduced by abolishing the achievement rewards and decreasing the ratio of the foreign exchange allocation to the export of each firm (Textile Society of Japan[1958], pp.325-326).

These methods and actual allocation were determined by the Hemp and Wool Section of the Bureau of Textile (*Mamo-ka*), MITI. We have found almost complete collection of the materials on the foreign exchange allotment by firm drawn by the Hemp and Wool Section. And still fortunately the records of export and production capacity by firm are also available in those materials. Hereafter, we will quantify the foreign exchange allocation methods by firm, and then analyze the effects of these method.

First, we regress the amount of foreign exchange (measured by yen) allocated to each firm to the amount of actual export (measured by yen) of the previous term of each firm and equipment capacity (measured by physical unit) using cross-section data, in order to examine how foreign exchange allocation was linked to these variables (Table 7). The sample firms are the ones on which data concerning foreign exchange allotment, export and production capacity are available in the materials by the Hemp and Wool Section.

The coefficient of the export (α) and that of the equipment capacity (β) show how much foreign exchange was allocated additionally according to an increase of the export and increase of equipment capacity. As is shown in high $ad-R^2$, the foreign exchange allocation to each firm was explained almost completely by export performance and equipment capacity. This means that, the foreign exchange was allocated to each firm according to the clear and objective rule, as is discussed in the first half of this section. Moreover, it is notable that the movement of the of the coefficient α reflects the above-mentioned revision of the allocation method. That is, the rise of α from the first half of 1953 to the first half of 1955 roughly corresponded to the distribution method introduced in August, 1953 (Table 7). That method had the effect to increase the allocation of the foreign exchange per yen of the export, as was intended.

Besides the coefficient α , difference between domestic and foreign prices of wool influenced the size of the incentive for export and investment by the foreign exchange allotment

system. We take domestic price of wool (P^w_d) from the wholesale price statistics by Bank of Japan, and its import price (P^w_i) from the customs clearance statistic by MOF. The difference between them is shown in Figure 4, and this price difference ($P^w_d - P^w_i$) denotes the size of rent per pound of wool import. When the export price of wool products is assumed to be P^y_e , allocation of the rent per pound of wool yarn export becomes $\alpha \cdot P^y_e \cdot (P^w_d - P^w_i) / P^w_i (=R_1)$. On the other hand, allocation of the rent per unit of spinning equipment becomes $\beta \cdot (P^w_d - P^w_i) / P^w_i (=R_2)$.

Figure 5 and Figure 6 respectively show R_1 and the growth rate of the wool yarn export, and R_2 and the wool spinning equipment increase. Rise of the growth rate of export in 1952-1953 and rise of equipment increases in 1956 suggest the relation between the size of rent and export, and the relation between the size of rent and investment. To test the former relation, we estimate a simple export function of the wool yarn. The independent variables are the relative export price of wool yarn (P^y_d / P^y_e) and R_1 . A domestic price of wool (P^y_d) is taken from the wholesale price statistics by Bank of Japan and the export price (P^y_e) was taken from customs clearance statistic by MOF. The coefficient of R_1 is positive and statistically significant as is expected, while the coefficient of the relative price is insignificant (Table 8). This result implies that the movement of the wool export was basically determined by the size of allotted rent, not by the usual variable.

The effect of the allocation method based on production capacity to investment cannot be tested by a simple method of adding R_2 to usual independent variables of the investment function, the profit rate and the rate of interest, because the size of rent influenced on the profit rate itself. Therefore, first we decompose the profit rate by regress it to R_1 and R_2 , and then we regress the investment to the decomposed profit rates and interest rate. We use the business profit over the total asset of the wool spinning industry in Bank of Japan's *Financial Statements of Principal Enterprises (Shuyo Kigyo Keiei Bunseki)* as the profit rate (π), and the financial costs over the total liability with interests. In the equation of π , both R_1 and R_2 is positive and statistically significant, and π is decomposed as shown in Figure 7. The rent which the foreign exchange allocation system generated substantially influenced on the profit rate of the wool spinning industry. Next, we regress investment to the components of π and interest rate (Table 8). π_1 and π_2 denote the parts of π which are explained by R_1 and R_2 respectively, while π_3 denotes the residual profit. The point notable here is that the coefficient of π_2 is the largest among π_1 , π_2 and π_3 . This suggests that the effect of the investment promotion became larger because the allotment of the rent was linked to the equipment capacity.

5. Concluding Remarks

The foreign exchange allocation system functioned as one of the basic frameworks of the Japanese economy until trade liberalization progressed in the first half of 1960's. Main part of the import was under the *de facto* control by the government through this system, and MITI used this

system as an measure of industrial policy. Consequently as to many important goods, substantial amount of rent was generated. It is notable that the existence of rent, its danger and utility were clearly recognized by the persons concerned. Therefore, MITI made clear and objective allocation criteria, and committed to them by announcing them publicly in order to restrain rent-seeking activities. This method caused competition to acquire allocation of rent among private enterprises. As the criteria, export performance and production capacity were often adopted. The former was a method intentionally adopted as an export promotion measure, and its effect was quantitatively confirmed as to the case of the wool spinning industry. The latter method had the effect to promote investment not only through pushing up the profit rate, but also by the fact that allocation of rent was linked with the equipment capacity. In short, in postwar Japan the foreign exchange allocation system played the role of promoting export and investment through stimulating competition to acquire rent.

To the above conclusions of this paper, certain qualifications should be added. First, the fact that the Japanese foreign exchange allocation system promoted export and investment restraining rent-seeking activities does not directly imply the Japanese policy selection was the best and should be transmitted to the present developing and transforming countries. The Japanese policy selection was under the historical conditions such that devaluation of nominal exchange rate was difficult, that there existed effective bureaucracy and supporting private trade associations (Okazaki [1996]) and so forth. Also we cannot deny there were problems in the Japanese system. Literal rent-seeking activities did exist even in Japan, and as mentioned above additional incentive to invest caused excess capacity. Moreover, the export link system had effect to increase welfare of export companies and overseas consumers at the expense of domestic consumers⁴³.

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¹ Mr. Inuta is a person who took charge of the foreign exchange budget from 1952 to 1959 at the Ministry of Finance and his paper includes rich information about the system and the operation of the foreign exchange allocation system.

² The table of the budget of services receipts was also included before the first half of 1953 (MOF[1976], pp.278-279).

³ The automatic approval system goods did not exist at first, and there was the first-come-first-served system (*senchakujun sei*) instead (MITI *et al.* [1990] ,p.121).

⁴ The president of Bank of Japan participated in the Council as an advisory member.

⁵ The Trade Bureau of the Economic Stabilization Board (*Keizai Antei Honbu*) made the whole foreign exchange budget until the Economic Stabilization Board was abolished in July, 1951(Foreign Exchange Section, Bureau of International Trade, MITI [1952]).

⁶ The import announcement was abolished as to the FA goods in the latter half of 1959.

⁷ Bureau of Foreign Exchange, Bank of Japan, *Gaikoku Kawase Yosan no Gaiyo (Abstract of the Foreign Exchange Budget)*, the first half of 1957, pp.1-4.

⁸ *Ibid.*, the latter half of 1957, pp.1-5.

⁹ The Bureau of International Trade, MITI assumed that it was necessary to expand the foreign exchange budget prospecting recovery of the business, but the Bureaus in charge of the industries insisted to reduce the foreign exchange budget to stimulate recovery (*Ibid.*, the first half of 1958, pp.1-4).

¹⁰ *Ibid.*, pp.1-4.

¹¹ On the process of the trade liberalization, see Takagi[1996], pp.20-30.

¹² Bureau of Foreign Exchange, Bank of Japan, *Yosan Hensei Jijo (Making the Foreign Exchange Budget)*, the latter half of 1956, pp.113-120.

¹³ *Ibid.*, p.123.

¹⁴ *Ibid.*, the first half of 1957, p.80.

¹⁵ *Ibid.*, the latter half of 1957, pp.94-95.

¹⁶ *Ibid.*, the first half of 1958, pp.94-95.

¹⁷ *Ibid.*, the latter half of 1956, pp.130-134.

¹⁸ *Ibid.*, p.136.

¹⁹ *Ibid.*, the first half of 1957, pp.85-86.

²⁰ *Ibid.*, latter half of 1956, p.105.

²¹ *Ibid.*, the latter half of 1956, pp.174-175.

²² *Ibid.*, the first half of 1957, pp.135-139.

²³ *Ibid.*, the latter half of 1957, pp.159-161.

²⁴ *Ibid.*, the first half of 1958, pp.133-134.

²⁵ *Ibid.*, the latter half of 1956, pp.208-209.

²⁶ *Ibid.*, the first half of 1957, pp.171-172.

²⁷ *Ibid.*, latter half of 1957, pp.189-191.

²⁸ *Ibid.*, the first half of 1958, pp.159-160.

²⁹ *Ibid.*, the latter half of 1956, pp.220-222.

³⁰ *Ibid.*, the first half of 1957, p.179.

³¹ *Ibid.*, the latter half of 1956, pp.223-224.

³² *Ibid.*, the first half of 1957, pp.188-190.

³³ *Ibid.*, the latter half of 1957, pp.198-199.

³⁴ *Ibid.*, the first half of 1958, pp.173-175.

³⁵ It was widely recognized that the foreign exchange allocation system generated rent. For example, Amaya[1962] written by vice-chief of the Planning Section, MITI, states "The foreign exchange allocation system promoted the accumulation of capital by two reasons, that is restriction of international competition and giving premium to the firms which were allotted the foreign exchange (pp.51-52). And Toshiyuki Miyauchi, a managing director of Itochu. Co. criticized in 1959 at the

meeting of the Association of the Corporate Executive , “So far the foreign exchange allocation system was a center of the industrial policy, but the situation that import premium exist, when the European currencies recovered convertibility.” (Okazaki et al.[1996], p.127).

³⁶ Interview to the MITI OB by the Research Institute of the Industrial Policy History.

³⁷ As there was quite wide variety of machinery, it was impossible to adopt such an objective criterion. Therefore, the Council of Import Machinery Allotment (*Yunyu Kikai Wariate Shingikai*) under MITI determined allotment to each application through the screening process referring to the industrial policy, the trade policy and the social policy etc.. The Council consisted of the staffs of the Budget Section and Import Section of the Bureau of Trade, the sections in charge of machinery industry, and the sections in charge of the user industries (*Yosan Hensei Jijo, op cit.*, the latter half of 1956, p.219).

³⁸ It will be tested quantitatively in the latter part of this section.

³⁹ *Ekonomisto*, February 12, 1954.

⁴⁰ *Toyo Keizai Shinpo*, December 5, 1953.

⁴¹ The Textile Bureau of MITI “Yomo Seihin Yushutsu Rinku Seido Yoryo,” (Outline of Wool Products Export Link System), in *Yomo (Wool)*, May and June, 1957, pp.3-4. There was difference in the ratio of the amount of the foreign exchange allotment to the amount of the export according to the kinds of the products.

⁴² For details, see the Wool Spinning Association of Japan[1987], pp.104-106, appendix, pp.58-63.

⁴³ Muto[1960] by the chief of the Section of the Foreign Exchange, MOF, states that the allotment system and permission system averted the industries to petition to the government office from a true business effort, and that it spoiled the industries through protecting them from the international competition. Nishimura[1955] pointed out that the deficit-covering link system of sugar caused a national loss through reducing the export prices of the machinery, and that the loss was imposed on the domestic consumers through rise of the sugar price.

Figure / Exchange rates and balance of payments

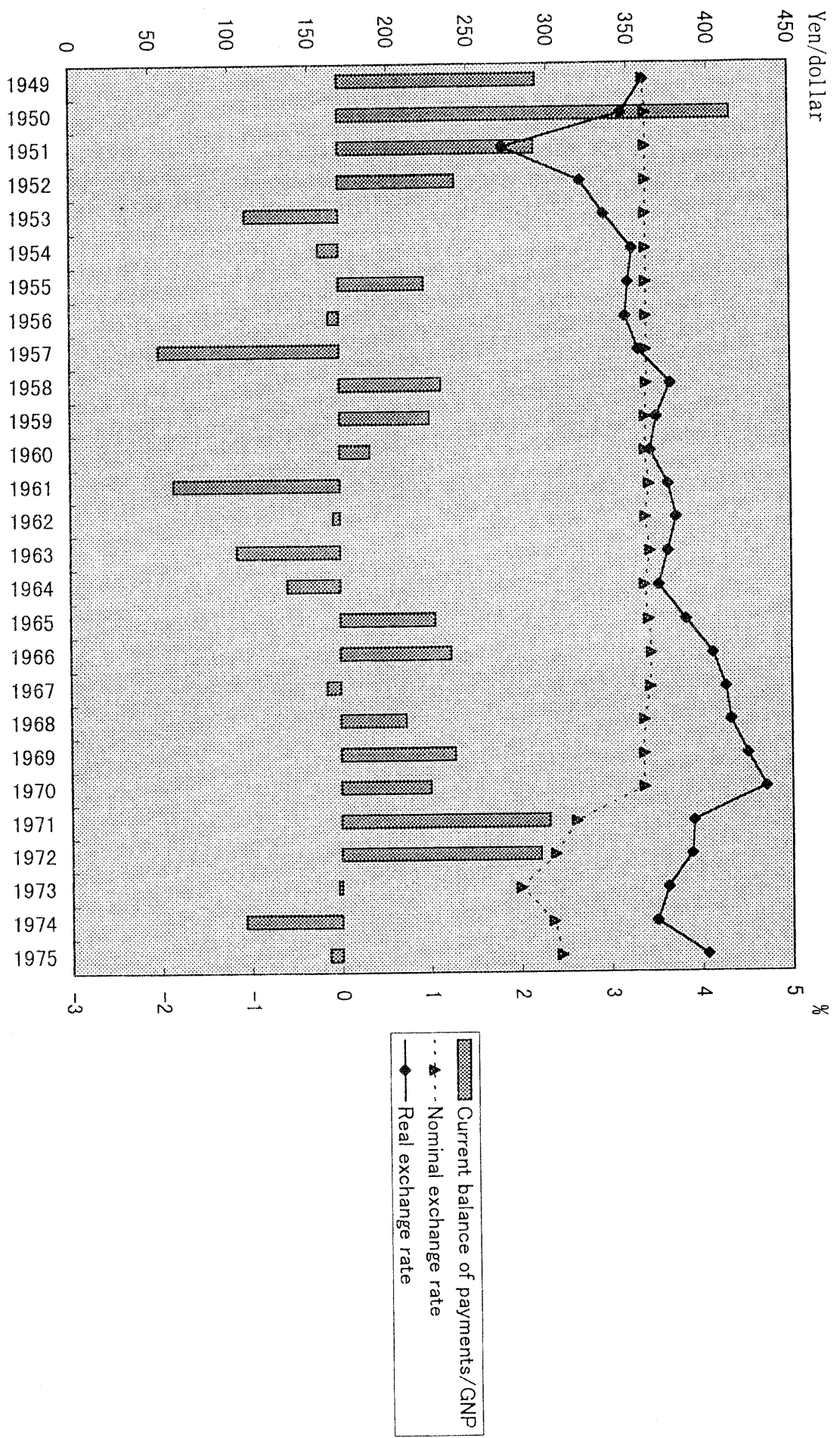


Figure 2 Black Market Rate of Yen

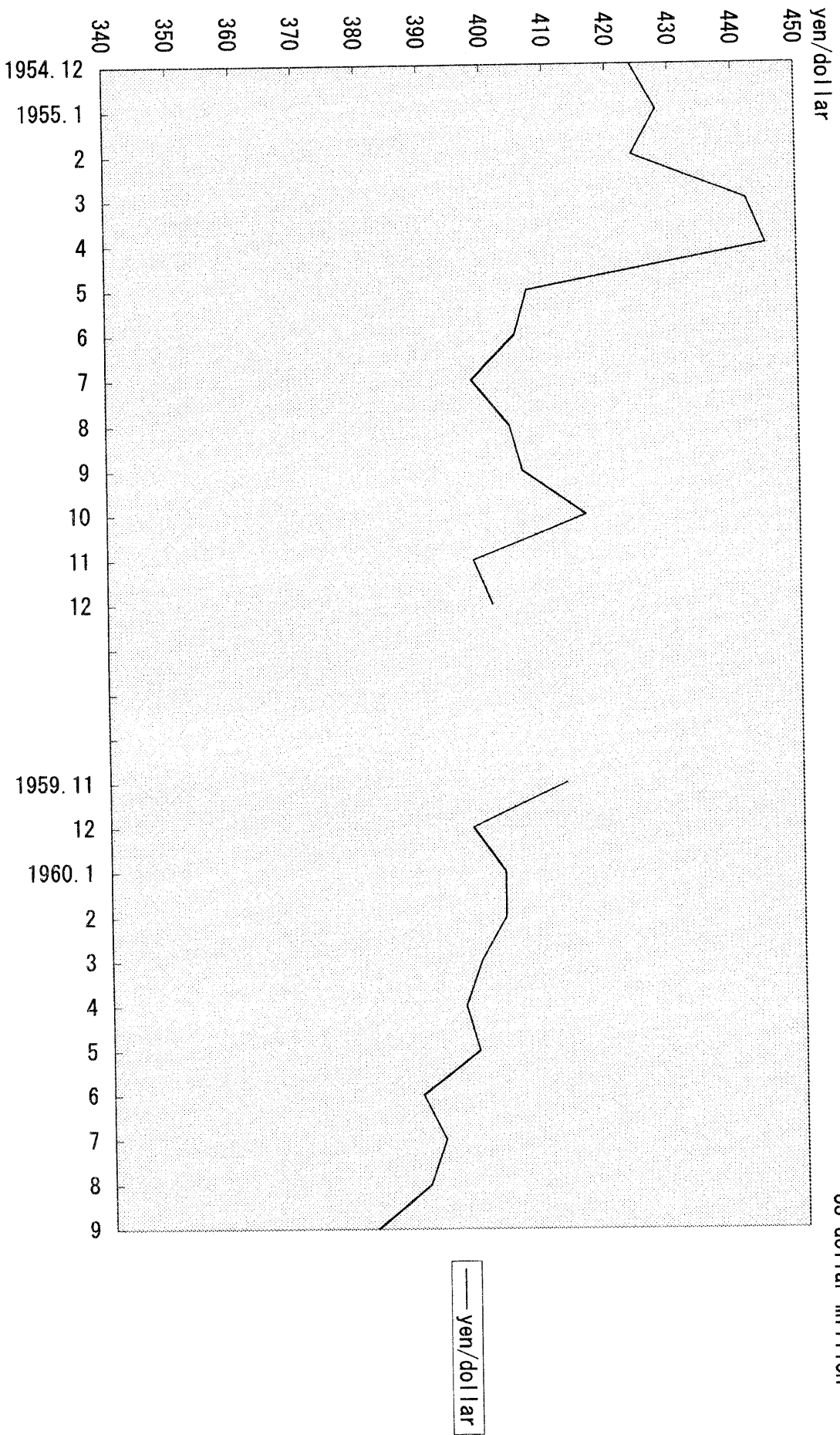


Figure 3 Foreign exchange budget and balance of payment

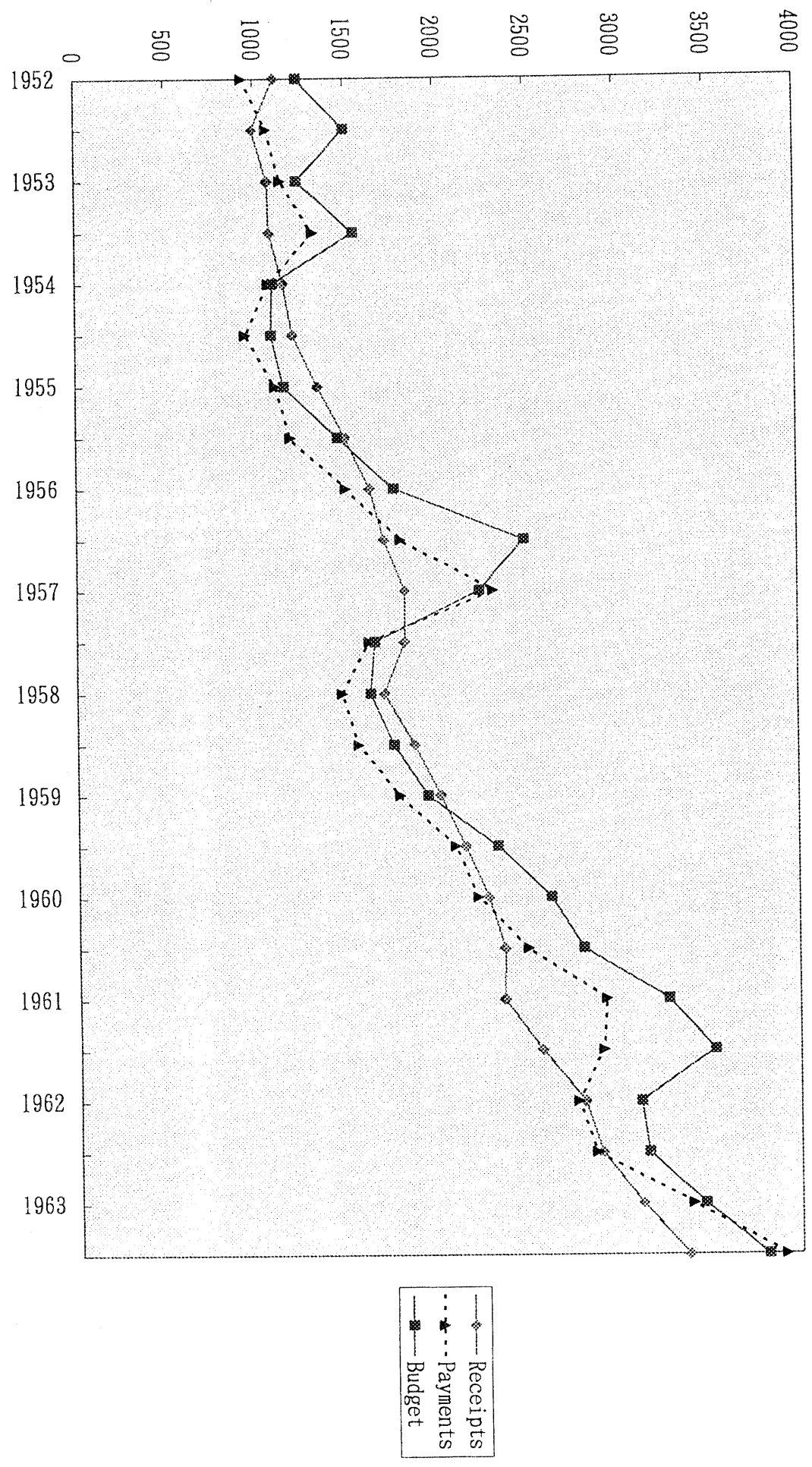


Table 1 Outline of the Foreign Exchange Budget

million of dollars, %

| | Total | FA | AA | Reserve | AA/Total |
|------|-------|-------|-------|---------|----------|
| 1952 | 1,242 | 763 | 348 | 131 | 27.99 |
| | 1,501 | 988 | 494 | 19 | 32.89 |
| 1953 | 1,237 | 799 | 300 | 138 | 24.26 |
| | 1,546 | 1,250 | 274 | 22 | 17.75 |
| 1954 | 1,100 | 931 | 141 | 27 | 12.82 |
| | 1,090 | 913 | 175 | 1 | 16.06 |
| 1955 | 1,160 | 970 | 190 | 0 | 16.38 |
| | 1,454 | 1,218 | 236 | 0 | 16.23 |
| 1956 | 1,765 | 1,413 | 352 | 0 | 19.94 |
| | 2,483 | 1,969 | 513 | 0 | 20.66 |
| 1957 | 2,236 | 1,589 | 497 | 150 | 22.23 |
| | 1,652 | 1,242 | 330 | 80 | 19.98 |
| 1958 | 1,628 | 1,148 | 330 | 150 | 20.27 |
| | 1,757 | 1,161 | 470 | 125 | 26.75 |
| 1959 | 1,941 | 1,217 | 630 | 93 | 32.46 |
| | 2,328 | 1,581 | 700 | 47 | 30.07 |
| 1960 | 2,624 | 1,459 | 1,000 | 165 | 38.11 |
| | 2,800 | 1,480 | 1,150 | 170 | 41.07 |
| 1961 | 3,272 | 1,422 | 1,850 | 0 | 56.54 |
| | 3,526 | 1,526 | 1,800 | 200 | 51.05 |
| 1962 | 3,114 | 1,264 | 1,650 | 200 | 52.99 |
| | 3,154 | 774 | 2,380 | 0 | 75.46 |
| 1963 | 3,465 | 796 | 2,575 | 94 | 74.31 |
| | 3,815 | 705 | 2,860 | 250 | 74.97 |

Source: Bank of Japan, Gaikoku Kawase Binran (Handbook of the Foreign Exchange);
 Bank of Japan, Gaikoku Kawase Yosan no Gaiyo
 (Outline of the Foreign Exchange Budget).

Table2 Allocation of FA Budget of Foreign Exchange by Goods I

%

| | 1953 | 1954 | 1955 | 1956 | 1957 | 1958 | 1959 |
|--------------------------------|-------|-------|-------|-------|-------|-------|-------|
| Foods | 31.32 | 29.01 | 25.96 | 16.15 | 18.35 | 19.47 | 14.44 |
| Government monopoly goods | 0.98 | 1.03 | 1.12 | 0.67 | 0.49 | 0.97 | 0.87 |
| Lumber | 0.00 | 1.72 | 0.89 | 0.79 | 0.46 | 0.89 | 1.77 |
| Materials of daily necessities | 0.57 | 1.70 | 2.22 | 1.57 | 1.49 | 1.42 | 1.49 |
| Textiles | 32.72 | 31.59 | 29.26 | 23.81 | 26.76 | 27.65 | 25.40 |
| Materials of fertilizer | 1.92 | 2.23 | 2.22 | 1.93 | 1.34 | 1.37 | 1.23 |
| Coal | 2.47 | 2.71 | 2.93 | 3.34 | 4.65 | 3.47 | 3.42 |
| Materials of steel | 2.16 | 3.77 | 8.21 | 15.88 | 12.61 | 4.28 | 7.43 |
| Non-ferrous metals | 0.46 | 1.60 | 1.71 | 5.13 | 3.31 | 2.29 | 3.34 |
| Petroleum | 5.73 | 7.44 | 7.24 | 6.66 | 7.26 | 11.77 | 10.96 |
| Chemicals | 0.55 | 0.38 | 0.33 | 0.44 | 0.72 | 0.87 | 0.98 |
| Medicines | 0.60 | 0.37 | 0.28 | 0.17 | 0.24 | 0.27 | 0.27 |
| Machinery | 10.45 | 5.67 | 7.87 | 15.45 | 12.01 | 11.82 | 15.91 |
| Others | 10.06 | 10.79 | 9.77 | 8.01 | 10.32 | 13.46 | 12.49 |

Source: Bank of Tokyo[1960].

Notes: Ratio to the total FA budget.

Table3 Allocation of Foreign Exchange by Goods II

Thousand of dollars

| | 1956 | | 1957 | | 1958 | |
|-------------------------|-----------|------------|-----------|------------|-----------|------------|
| | Oct.-Mar. | Apr.-Sept. | Oct.-Mar. | Apr.-Sept. | Oct.-Mar. | Apr.-Sept. |
| Staple Foods | 186,025 | 122,034 | 177,244 | 142,513 | | |
| Soybean | 48,105 | 48,000 | 33,600 | 40,425 | | |
| Sugar | 65,057 | 89,706 | 47,486 | 54,000 | | |
| Salt | 6,294 | 5,042 | 4,942 | 5,100 | | |
| Lumber | 12,360 | 6,942 | 6,000 | 10,662 | | |
| Beef fallow | 14,330 | 13,338 | 10,350 | 11,000 | | |
| Hides | 8,250 | 11,150 | 12,050 | 11,382 | | |
| Raw cotton | 198,122 | 216,275 | 215,300 | 204,639 | | |
| Wool | 121,000 | 124,800 | 141,500 | 73,500 | | |
| Pulp for chemical fibre | 10,626 | 14,370 | 7,010 | 7,752 | | |
| Phosphorous ore | 10,538 | 9,123 | 8,605 | 6,868 | | |
| Potash | 30,507 | 20,807 | 16,330 | 16,320 | | |
| Raw materials for steel | 159,810 | 288,503 | 68,500 | 57,400 | | |
| Coal | 57,683 | 82,237 | 49,363 | 38,777 | | |
| Petroleum | 104,982 | 103,616 | 93,470 | 141,000 | | |
| Machinery | 146,000 | 190,000 | 150,000 | 123,000 | | |

Source: Bank of Japan, Yosan Hensei Jijo (Making Foreign Exchange Budget),
latter half of 1956-former half of 1958.

Table4 Claims for Foreign Exchange Budget by Ministries and Agencies

thousand of dollars

| | 1956 | | 1957 | | 1958 | |
|------------------------------------|------------|-------------|------------|-------------|------------|-------------|
| | Oct. -Mar. | Apr. -Sept. | Oct. -Mar. | Apr. -Sept. | Oct. -Mar. | Apr. -Sept. |
| Total | 157,430 | 288,661 | 193,529 | 189,461 | | |
| (Ratio of Actual Allotment, %) | (92.72) | (65.82) | (77.51) | (64.92) | | |
| Bureau of Heavy Industry, MITI | 66,382 | 119,689 | 54,222 | 88,202 | | |
| Bureau of Textile, MITI | 22,946 | 16,780 | 15,285 | 10,234 | | |
| Bureau of Light Industry, MITI | 11,159 | 24,967 | 19,000 | 12,939 | | |
| Bureau of Enterprise, MITI | 9,813 | 10,917 | 502 | 18,135 | | |
| Bureau of Mining, MITI | 9,745 | 11,362 | 8,968 | 9,159 | | |
| Bureau of Public Utility, MITI | 7,615 | 31,886 | 1,450 | 3,207 | | |
| Bureau of Coal, MITI | n. a. | n. a. | 2,330 | 2,329 | | |
| Ministry of Transportation | n. a. | 45,921 | 15,752 | 11,493 | | |
| Ministry of Agriculture and Forest | 5,874 | 12,041 | 4,845 | 6,535 | | |
| Agency of Defence | 5,686 | 4,999 | 4,918 | 2,615 | | |
| Ministry of Construction | n. a. | 2,952 | 1,951 | 4,550 | | |
| Agency of Science and Technology | n. a. | 2,357 | 4,147 | 1,439 | | |
| Ministry of Fiance | n. a. | n. a. | 1,956 | 500 | | |
| Ministry of Health and Welfare | n. a. | n. a. | 1,000 | 1,148 | | |
| Ministry of Education | n. a. | n. a. | 1,000 | 400 | | |
| Others | 18,210 | 4,790 | 56,203 | 16,576 | | |

Source: Bank of Japan, Yosan Hensei Jijo (Making Foreign Exchange Budget),
latter half of 1956-former half of 1958.

Table 5 Estimation of Rent

yen

| | Unit | A Domestic price | B Import | C c.i.f. price | D Tariff | B+C | E A/D |
|----------------------------|----------------|---------------------|-------------|-------------------|-------------|-----------|----------|
| Staple foods | | | | | | | |
| Rice | ton | 68,767 | 61,350 | 0 | 0 | 61,350 | 1.12 |
| Wheat | ton | 52,360 | 26,350 | 0 | 0 | 26,350 | 1.99 |
| Soybean | ton | 43,694 | 43,762 | 0 | 0 | 43,762 | 1.00 |
| Refined sugar | ton | 132,900 | 62,995 | 15,749 | 0 | 78,744 | 1.69 |
| Flour | ton | 44,766 | 35,857 | 8,964 | 0 | 44,821 | 1.00 |
| Crude sugar | ton | 59,903 | 37,671 | 7,534 | 0 | 45,205 | 1.33 |
| Raw Cotton | ton | 314,506 | 295,544 | 0 | 0 | 295,544 | 1.06 |
| Wool yarn | ton | 2,420,855 | 1,448,937 | 144,894 | 1,593,831 | 1,593,831 | 1.52 |
| Wool | ton | 1,149,868 | 614,443 | 0 | 0 | 614,443 | 1.87 |
| Coal | ton | 7,516 | 7,159 | 0 | 0 | 7,159 | 1.05 |
| Fuel | | | | | | | |
| Crude oil | kl | 6,881 | 6,359 | 0 | 0 | 6,359 | 1.08 |
| Volatile oil | kl | 30,928 | 11,095 | 0 | 0 | 11,095 | 2.79 |
| Metal | | | | | | | |
| Scrap | ton | 20,965 | 17,754 | 0 | 0 | 17,754 | 1.18 |
| Steel plate | ton | 43,981 | 39,903 | 5,985 | 0 | 45,888 | 0.96 |
| Iron ore | ton | 5,726 | 5,377 | 0 | 0 | 5,377 | 1.07 |
| Machinery | | | | | | | |
| Truck | number | 1,015,000 | 174,190 | 52,257 | 0 | 226,447 | 4.48 |
| Car | number | 837,430 | 216,766 | 86,706 | 0 | 303,472 | 2.76 |
| Vacuum bulb | number | 197 | 316 | 47 | 0 | 363 | 0.54 |
| Materials for construction | | | | | | | |
| Ceder lumber | m ³ | 11,749 | 19,766 | 0 | 0 | 19,766 | 0.59 |
| Ceder log | m ³ | 8,306 | 14,169 | 0 | 0 | 14,169 | 0.59 |
| Pine lumber | m ³ | 11,225 | 17,391 | 0 | 0 | 17,391 | 0.65 |
| Salt | ton | 3,600 | 3,839 | 0 | 0 | 3,839 | 0.94 |
| Chemicals | | | | | | | |
| Paint | ton | 168,112 | 261,442 | 39,216 | 0 | 300,658 | 0.56 |
| Dyestuff | ton | 507,867 | 2,023,691 | 505,923 | 2,529,613 | 0.20 | 0.20 |
| Printing paper | ton | 64,903 | 73,704 | 7,370 | 0 | 81,075 | 0.80 |
| Pulp for rayon | ton | 78,814 | 71,323 | 3,566 | 0 | 74,889 | 1.05 |
| Others | | | | | | | |
| Soybean refuse | ton | 42,160 | 35,368 | 0 | 0 | 35,368 | 1.19 |

Source: Bank of Japan, Oroshiuri Bukka Tokei Nenpo (Statistical Year Book of the Wholesale Prices), 1955;
 Ministry of Finance, Gaikoku Boeki Nenpyo (Year Book of the International Trade), 1955;
 Ministry of Finance, Import Tariff of Japan, 1955.

Table 6 Methods and Criteria of Foreign Exchange Allocation by Firm (latter half of 1956)

| | Method | Criteria |
|-------------------------|--------|---|
| Soybean | AT0 | Criteria set by the consuming industry based on actual consumption in the first half of 1956, actual allocation in the first half of 1956, and desirable allocation |
| Sugar | AT | Actual import in 1955 |
| | ATN | Criteria set by the trade associations of sugar refining industry based on production capacity, actual production, and per capita rate. |
| Lumber | AT | Actual import from July 1955 to June 1956 |
| | AT | Actual import from July 1955 to June 1956 |
| Beef tallow | AC | Actual export (export link). actual consumption in the latter half of 1955, actual production 1955 and per capita rate |
| | AC | 1955 and per capita rate |
| Hides | AT | Actual import |
| | AC | Actual purchase |
| Raw cotton | AT | Actual export (export link) |
| | ATN | Actual export (export link) and production capacity |
| Wool | ATN | Actual export (export link) and production capacity |
| | ATN | Actual export (export link) |
| Pulp for chemical fiber | ATN | Actual export (export link) |
| Phosphorus ore | AT0 | N. a. |
| Potash | AT | N. a. |
| Raw materials of steel | ATN | Actual production and production plan |
| Coal | ATN | |
| Crude oil | AC | Actual foreign exchange allotment and actual import in the last three years |
| Refined oil | AT | Actual foreign exchange allotment and actual import in the last three years |
| Machinery | AC | Individual screening by the Council of Machinery Import |

Source: Bank of Japan, Yosan Hensei Jijo (Making Foreign Exchange Budget), latter half of 1956.

Notes: AT0...Allocation to trading company on order

AT...Allocation to trading company

ATN...Allocation to trading company on notification

AC...Allocation to consuming company

Table 7 Determination of Foreign Exchange Allocation for Wool Import by Firm

| Fiscal Year | Export performance (α) | Production capacity ad-R2 (β) | Number of samples (Number of firms) |
|------------------|------------------------------------|--|--|
| 1951 Apr. -Sept. | 1.562 (2.185) | 10,577 (5.213) | 0.965 |
| Oct. -Mar. | 0.827 (2.179) | 21,848 (4.453) | 0.987 |
| 1952 Apr. -Sept. | 1.234 (3.617) | 10,097 (12.556) | 0.994 |
| Oct. -Mar. | 1.206 (1.414) | 23,627 (7.880) | 0.974 |
| 1953 Apr. -Sept. | 1.903 (7.196) | 5,278 (5.114) | 0.992 |
| Oct. -Mar. | 1.963 (9.138) | 10,746 (13.699) | 0.996 |
| 1954 Apr. -Sept. | 0.689 (9.643) | 3,140 (4.342) | 0.987 |
| Oct. -Mar. | 1.771 (16.139) | 2,991 (2.455) | 0.992 |
| 1955 Apr. -Sept. | 1.732 (28.481) | 4,484 (10.860) | 0.998 |
| Oct. -Mar. | 1.275 (15.543) | 13,533 (13.958) | 0.996 |
| 1956 Apr. -Sept. | 0.319 (2.121) | 23,458 (13.195) | 0.967 |
| Oct. -Mar. | 1.487 (12.585) | 28,759 (18.522) | 0.993 |
| 1957 Apr. -Sept. | 0.293 (6.248) | 7,639 (12.137) | 0.981 |
| Oct. -Mar. | 1.029 (9.433) | 17,806 (10.639) | 0.989 |
| 1958 Apr. -Sept. | 0.995 (16.243) | 8,069 (13.058) | 0.985 |
| Oct. -Mar. | 0.738 (28.372) | 9,105 (34.982) | 0.991 |
| 1959 Apr. -Sept. | 1.131 (24.427) | 381 (4.622) | 0.931 |
| Oct. -Mar. | 0.815 (19.958) | 13,441 (28.912) | 0.991 |
| 1960 Apr. -Sept. | 0.566 (14.784) | 13,864 (18.372) | 0.967 |
| Oct. -Mar. | 0.691 (20.214) | 7,930 (27.241) | 0.984 |

Note: t-values are in parentheses.

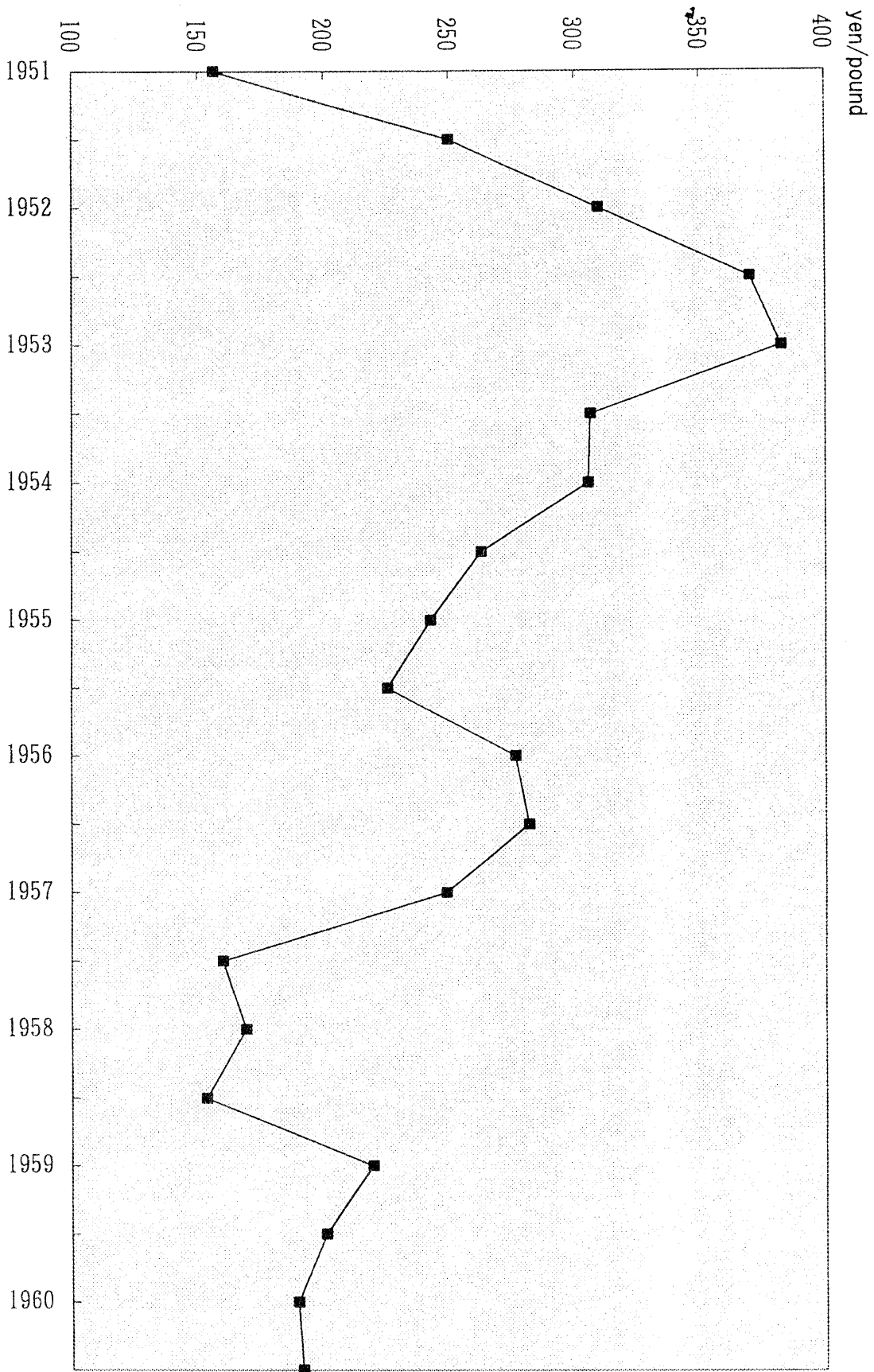


Figure 4
Difference between domestic and import prices of wool

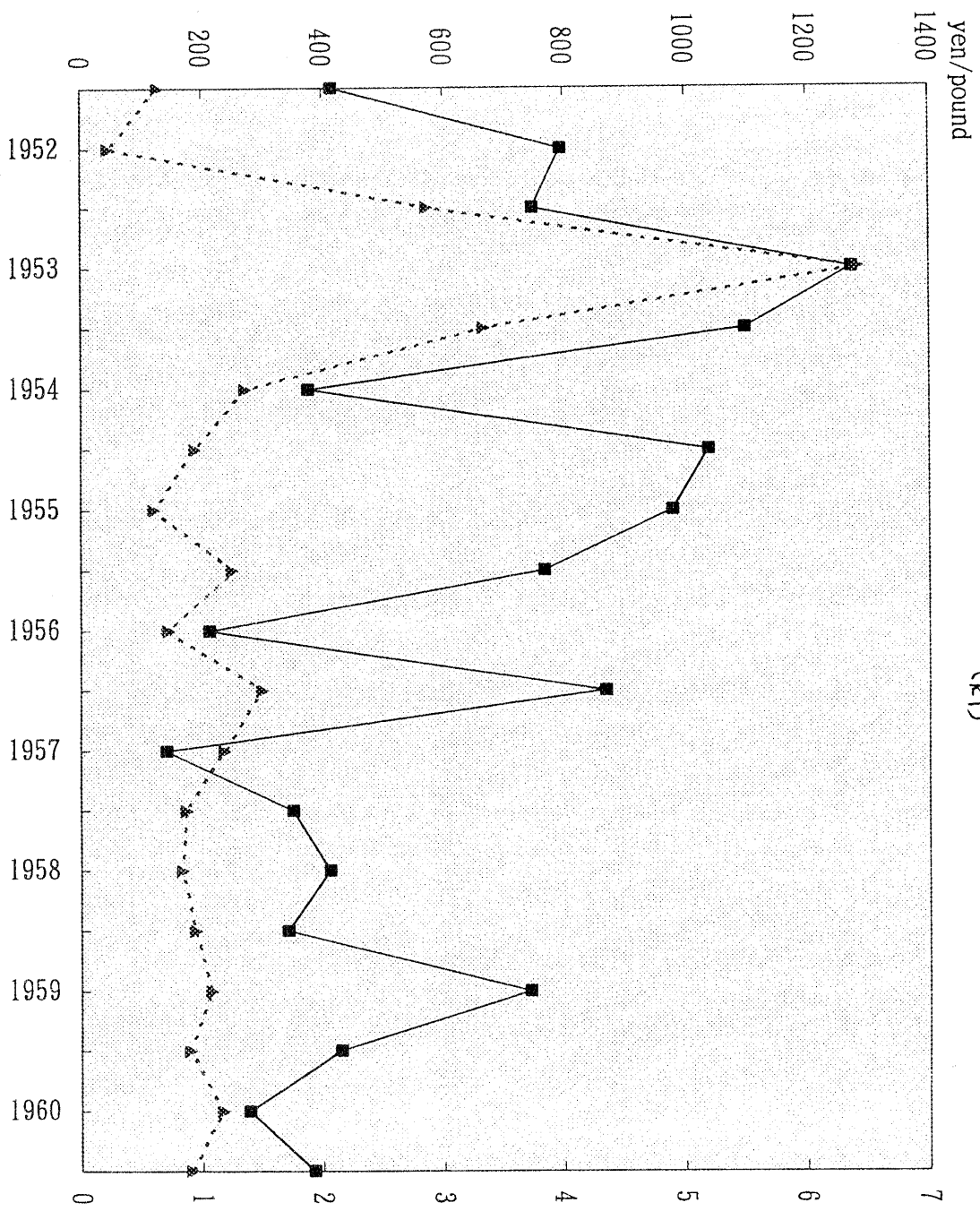


Figure 5
Rent and export of wool yarn
(R1)

—■— rent/export quantity
...▲... growth rate of wool yarn export

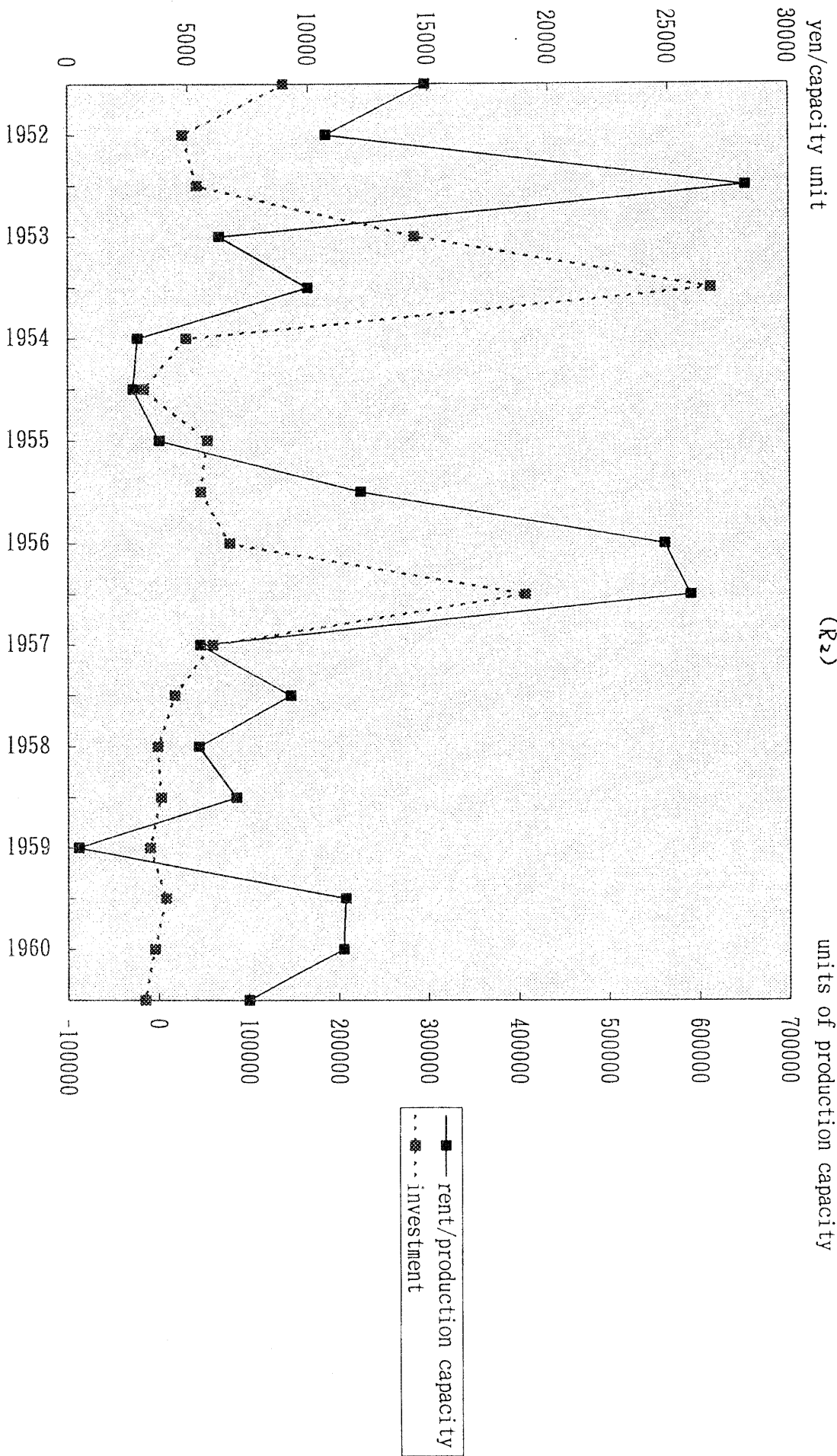


Figure 5
Rent and investment
(Rz)

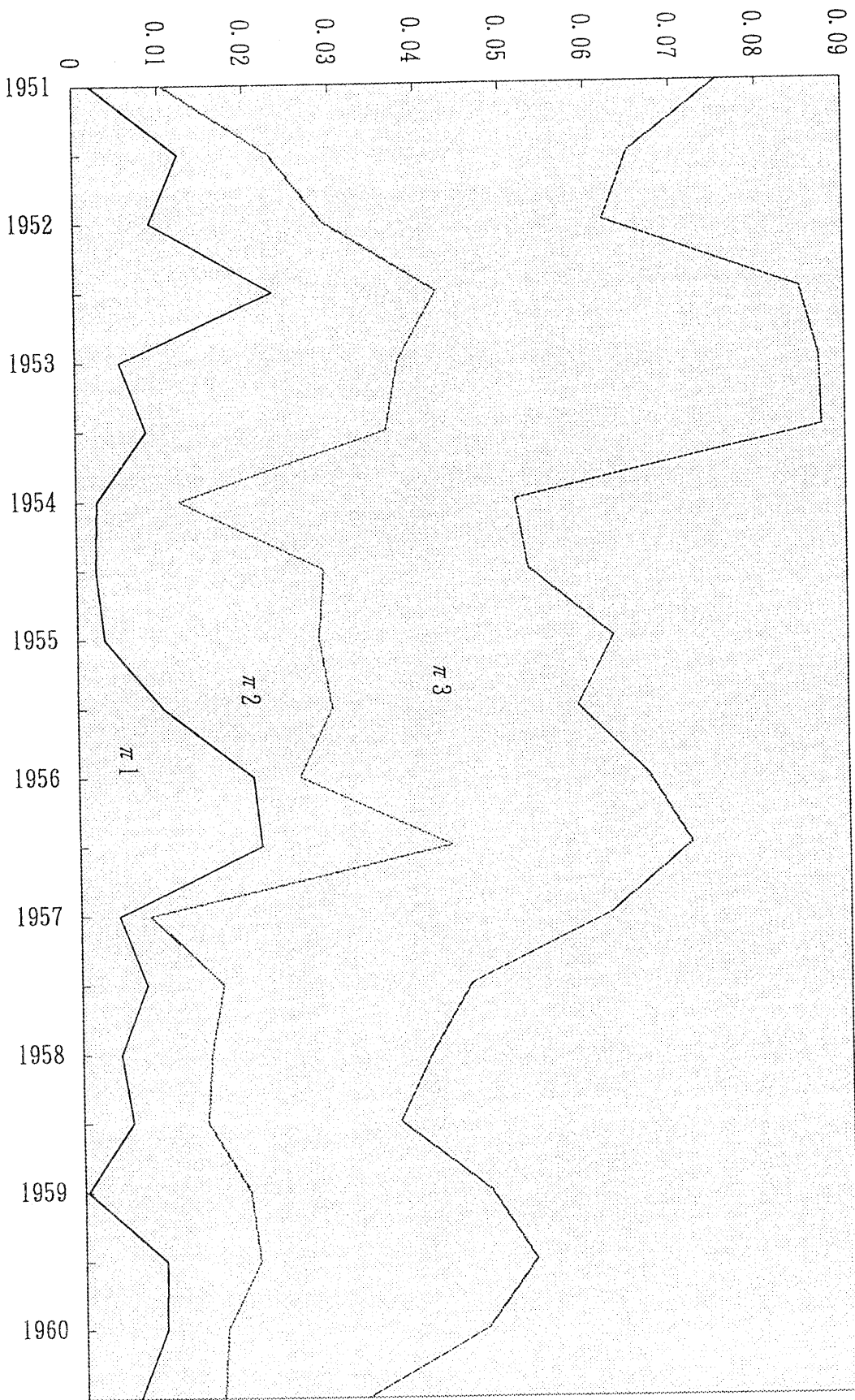


Figure 7 Decomposition of rate of return

Table 8 Estimation of the Export and Investment Functions

| | Pyd/Pye | R1 | $\pi 1$ | $\pi 2$ | $\pi 3$ | i | ad-Rsquared | DW |
|------------|----------------------|--------------------|------------------|------------------|-------------------|--------------------|-------------|-------|
| Export | -0.1717 (-0.0104) | -0.0021 (3.290) | | | | | 0.398 | 1.604 |
| Investment | | | 1.028 (3.208) | 0.737 (3.271) | 0.0591 (1.920) | -1.467 (-1.783) | 0.521 | 2.007 |

Note: t-values are in parentheses.