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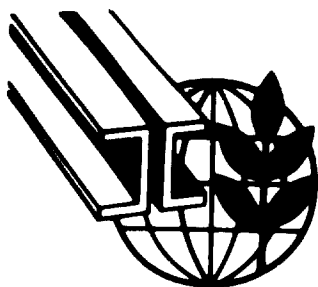
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Second Interregional Symposium
on the Iron and Steel Industry

Moscow, USSR, 19 September - 9 October 1968

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DEMAND FOR STEEL AND PROSPECTS FOR
REGIONAL COOPERATION IN SOUTHEAST ASIA ✓

by

Marketing Research Department
Marketing Division
Nippon Kokan Kabushiki Kaisha, Japan

D.01334

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SUMMARY

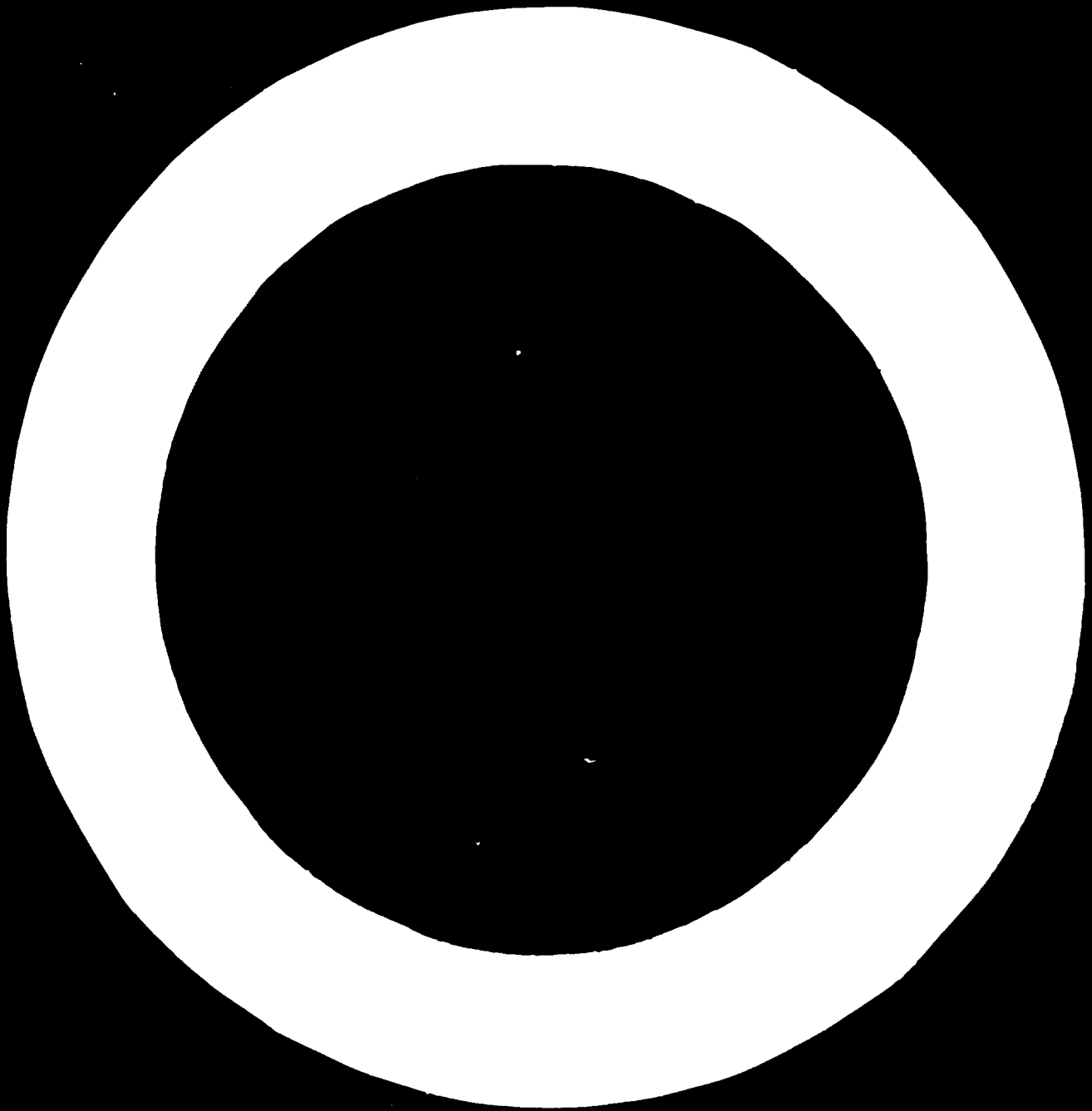
From a survey and analysis of the economic environment and crude steel demand in twelve Southeast Asian countries including Republic of Korea, Hong Kong, Laos, Cambodia, Republic of Vietnam, Thailand, China (Taiwan), the Philippines, Malaysia, Singapore, Indonesia and Ceylon, the following facts can be derived:

In Korea, Taiwan, Thailand and the Philippines, the national economy is growing at a high rate, and the demand for crude steel is increasing at a rate more than twice as fast as that of the economy. Hong Kong, Malaysia and Singapore have moderate growth both in economy and crude steel demand. The other countries remain at slower-paced level.

The total demand for crude steel in 1966 in these twelve countries amounted to 4.3 million tons. Considering the present economic condition and the past

* This is a summary of a paper issued under the same title as ID/WG.14/30.

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growth of economy and steel demand, the aggregate demand for crude steel in these countries in 1975 is estimated at 9.4 million tons, or an annual average growth rate of 9%.

The future demand for principal steel products and the possibility of regional co-operation are considered as follows:

1. Demand for bars and sections will grow at an annual average increase rate of 7.6%, and a demand of 2.24 million tons is expected in 1975. As bar mills can be operated economically on a small scale there is no requirement for a large scale plant involving regional co-operation.
2. Demand for wire rods will show an annual average increase rate of 8.2% with an estimated demand of 670,000 tons in 1975. Considering the existing facilities and plans, wire rod production in 1975 is estimated at 300,000 tons. The estimated 1975 production would require 370,000 tons of imports. However, regional co-operation is believed to be possible for supplementing the estimated shortage, which otherwise would have to be imported.
3. The annual average growth rate of tin plate will be 8.3%, and demand will reach a level of 650,000 tons in 1975. A production of 350,000 tons and a demand for import of 300,000 tons in 1975 are estimated from the present facilities and plans. Regional co-operation is possible also in this field.
4. Growth of demand for heavy and medium plates will increase at an annual average rate of 9.7% and reach a level of 750,000 tons in 1975. Countries in this area have almost no production facilities for plates. However, plans are being considered for the construction of two plate mills in this region with projected completion by 1975 and having an aggregate annual production of some 130,000 tons. Because of the diversity of sizes and standards for steel plates, further investigation will be needed in order to determine the possibility of regional co-operation.
5. Demand for cold rolled sheet will grow at an annual average rate of 11.5%, and a demand of about 1,450,000 tons is anticipated in 1975. Judging from the present facilities and future plans, by 1975, production will be 800,000 tons and import requirements will reach 650,000 tons. Regional co-operation will also be possible in this field.
6. Demand for hot rolled sheets (including hot coils) will show an annual average growth rate of 19.6% and demand will reach a level of 1.54 million

tons in 1975. While there is no rolling facility at present, three hot strip mills, planned to be constructed by 1975, would produce about one million tons, and the remaining demand of 540,000 tons may be an objective of regional co-operation.

Regional co-operation will permit operation on an economical scale through the concentration of markets. It will bring about, in addition, a multiplied effect in that a more active circulation of steel products promoted by lower prices will, in turn, promote demand. Therefore it will be a very effective means for promoting accelerated economic growth and industrialization in Southeast Asia.

However, the following problems still exist:

1. Compared with the advanced countries, the higher production costs may be an additional burden to these countries.
2. While the countries that establish a steel industry will enjoy such economic merits as industrialization and increase of employment, the importing countries will not enjoy such advantages.
3. It would be difficult to apply regional co-operation if there is too large a gap between the economic levels of the countries to be assisted.
4. Because the amount of trade between the developing countries is small, it is resulting in inconveniences in sea transportation and higher freight charges.

It is essential that economic and political efforts be undertaken to solve these problems as soon as possible.

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Preface

The people of the developing countries have strong desires to create heavy industries, especially integrated production of iron and steel, assisted by their governments as part of economic development plans. The advantages of establishing a steel industry are better utilization of domestic resources, saving of foreign exchange, expansion of employment, and promoting related industries, thereby contributing greatly to promoting industrialization. However, in actuality, most of these developing countries have many problems as lack of funds, small market, shortage of skilled labor and an undeveloped infra-structure. Therefore, it is not easy for these countries to establish their own steel industries as it would require an enormous initial cost and must be based on a suitable location.

Therefore, the idea of establishing a steel industry by combining resources, markets and funds based on regional cooperation is being proposed.

Let us now analyze the pattern of supply and demand for steel and examine the possibility of establishing steel industries with regional cooperation judged from the present and anticipated future market demand, as to twelve neighboring countries in Asia. The 12 countries to be studied are the Republic of Korea, Hong Kong, Laos, Cambodia, Republic of Vietnam, Thailand, China (Taiwan), the Philippines, Malaysia, Singapore, Indonesia and Ceylon.

1. Economic environment

These 12 countries have a combined population of about 280 million, while the aggregate Gross National Products is estimated to be some 30 billion dollars. Except for a few countries, the per capita income is at the low level of 100 to 200 dollars. The aggregate crude steel consumption amounts to 4.3 million tons, or less than 15kg per person. (Reference Table No. 1)

In these countries, except Hong Kong and Singapore which rely heavily on external trade, the national economy is based on primary agricultural products or mineral resources as in other developing countries on other continents, and the ratio of manufacturing and construction to GNP is very low (12 - 23%). In recent years, however, the strengthening of the industrial base is being promoted by medium and long-term economic plans. A remarkable increase in capital formation is found in all these countries, and it is expected that large scale industrialization will show great progress in the future.

Patterns of economic growth may be divided into three groups: those having shown a rapid growth such as Korea, Taiwan, and Thailand; those with a moderate rate of growth - Hong Kong, Malaysia, Singapore, and the Philippines; and the others which have a comparatively slower growth rate.

One of the outstanding characteristics of the economy of the countries in this region is the high level of their dependency on exports. In other words, a decrease in export causes a depressed economy; an increase in export brings about economic prosperity. Therefore, from this viewpoint, in order to realize a steady increase in export, it is important for those countries to switch their export from primary goods to light industrial products (and eventually to heavy industrial goods). It should be noted that all the above mentioned countries of the higher growth are rapidly increasing exports and successfully expanding the proportion of light industrial products among their exports.

2. Demand for steel

The total demand for crude steel by the twelve countries, in 1966, is estimated to be about 4.3 million tons, with an annual growth rate of 10% over the past four years. The increase in demand for crude steel has a close correlation with the national economy. In a developing country, where economic growth has accelerated, the growth rate of crude steel demand, in most cases is more than twice as fast as that of the economic growth. (Reference Table No. 2)

It is generally said that national economy and steel demand grow in parallel in advanced countries. In developing countries, however, there are very little accumulations of steel used in the past and, once those countries enter a take-off stage, their steel demand tends to show a rapid increase as steel is required in formation of infrastructure as well as in expanding industrial sectors of their economy. In such case, the elasticity of growth of steel demand to that of gross national product will be more than 2. It can reasonably be assumed that Republic of Korea, Taiwan, Thailand and the Philippines which showed rapid economic growth recently have already entered the stage of industrialization, and the growth of their steel demand would be very high especially in prosperous years.

This is evident also from the crude steel consumption per million dollars of GNP. Crude steel consumption per unit of GNP has shown a steady rise year by year in those countries which have entered the industrialization stage. On the other hand crude steel consumption per unit of GNP has shown a very slow growth in Ceylon, Cambodia and Vietnam. In developing countries, however, the crude steel consumption per unit of GNP tends to show a rapid growth, as the per capita GNP increases, as is clear from the graphs attached as Figure 1. (Reference Fig. No. 1) In advanced countries, in most cases, on the contrary, the higher economic level results in a reduced crude steel consumption per unit of GNP. But, even in countries of slow economic growth, when national interests once turn to active industrialization, the national economy and steel consumption would well follow this pattern of sudden rise. (Reference Figs. Nos. 1, 2 and 3)

3. Steel demand outlook

It is very difficult to estimate the steel demand for this region, because of the lack of adequate reference materials. To forecast the futures based on limited data covering only the recent years would not be very practical. However, we took the liberty of estimating the demand for crude steel in 1975 based on the limited amount of information available. The estimates for Taiwan, the Philippines, Malaysia, Singapore, Thailand and Indonesia were derived from ECAFE's "Report of the Survey Mission on the Development and Expansion of

the Iron and Steel Industry in Southeast Asia". In Laos, Cambodia, Vietnam and Ceylon, the steel consumption per unit of GNP has been rather low and showed little increase for years, and we estimated that steel demand over the next several years would increase in parallel with the growth rate of their GNP which is expected to be unchanged from that observed in the past five years. The estimated crude steel consumption for Korea was derived by multiplying the expected steel consumption per unit of GNP for 1975 by the estimated GNP for the same year based on an anticipated annual GNP growth rate of 8.2%. The estimated crude steel consumption for Hong Kong was made by extrapolating the figures for the past nine years using the least square method.

Based on the above estimates, therefore, the aggregate estimated crude steel demand for the 12 countries is some 9.4 million tons, which would mean a growth rate, after 1966, of 9.0% per year. (References Table No. 3 and Figs. Nos. 4, 5)

4. Current and estimated future supply and demand for the principal steel products

Now, let us look into the current and estimated future demand for the principal steel products. These products include bars and sections, wire rods, tinplate, heavy and medium-plates, cold-rolled sheets and hot-rolled sheets, including coils. The estimates of 1975 demand for these products were made by employing the following method and using figures for the past several years. (References Figs. Nos. 6, 7)

- 1) Demand for each of the 6 products was estimated yearly as to the 12 countries based mainly on figures from UN steel trade statistics.
- 2) The tonnage of aggregated demand of each product in the 12 countries was converted into ingot tonnage and compared with the total crude steel consumption of the 12 countries to obtain ratios of the demand of each product to the total steel demand as to the period of 1962-1966.

- 3) Taking into consideration the trend of the ratio and the demand and supply condition of each product, the ratio in 1975 was estimated.
- 4) By multiplying the ratio by the estimated total crude steel consumption in 1975, the aggregate demand of each product in terms of ingot tonnage was obtained. The figure was converted into product tons.

Separately, production of each product in 1975 was estimated taking into consideration existing facilities and facilities which are known so far planned to be constructed by then in the 12 countries.

(1) Bars and sections

Bars and sections are important building material required for economic development and industrialization. The percentage they represent in total steel consumption is particularly high in developing countries. Bar mills are usually the first steel processing facilities to be installed by developing countries as they can be operated on a small scale and without a high degree of technical knowledge. Billets for these mills are either imported or produced domestically by electric furnaces. There are many small-scale bar mills in this region, including obsolete facilities. These mills are estimated to have a total annual production capacity of 1.5 to 1.7 million tons. The demand for bars and section in 1975 is estimated at 2.2 million tons, assuming that their percentage share of the total demand for crude steel is 30%. The growth rate for bars and sections for the period 1966 to 1975 is estimated at 7.6%. In these countries, both government and private enterprises are interested in constructing bar mills to meet the increasing market demand. In this field there appear to be no merit for regional co-operation to engage in any large-scale projects. In several countries where active industrialization is now underway, there is a sign of increase in demand for sheet piles and heavy sections, but their demand is not sufficient to warrant any large-scale production. (Reference Table No.4)

(2) Wire rods

Demand for wire rods has increased considerably in this region because of the rise in requirements by the increasing number of wire and nail manufacturers. At present Korea, the Philippines, Thailand and Taiwan have production facilities with an aggregate capacity of 400,000 tons per year. It is estimated that the 1975 demand for wire rods will be some 670,000 tons, or equal to 9% of the total steel demand.

It may be feasible for regional cooperation to establish a large-capacity wire rod mill to meet the demand in Malaysia, Singapore, Vietnam, Cambodia and Laos until such time as each of these countries comes to have an annual requirement of 60,000 tons. It is considered that a wire rod mill should have a minimum capacity of 60,000 tons per year to be operated economically. (Reference Table No. 5)

(3) Tin plate

From the world-wide point of view, the growth of tin plate consumption is relatively slow and furthermore, the market share of tin free sheet is increasing gradually. However, in Southeast Asia, the consumption of tin plate is rising sharply. In recent years there has been a marked upswing in the canning industry's exports, based on the region's abundance of fruits and vegetables.

The tin plate production facilities in Taiwan, the Philippines, Thailand and Korea are estimated to have an combined capacity of 140,000 tons per year.

In Malaysia there is an excellent potential for the establishment of a tin plate mill because of the country's large requirements for tin plate and the fact that she has large reserves of tin.

The combined tin plate production of the region in 1975, including the output of the existing facilities, is estimated at 350,000 tons per year.

The estimated 1975 demand is 650,000 tons per year. With the estimated 1975 production of 350,000 tons, the balance of 300,000 tons would have to be met by import from sources outside the region. Therefore, it would appear possible that electrolytic tin plate mills could be constructed through regional cooperation. (Reference Table No. 6)

(4) Heavy and medium plates

Heavy and medium plates are generally used for manufacturing machinery, shipbuilding, construction and other uses. In this region, the heavy machinery manufacturing industry, normally a major consumer of plates, has not been developed and the plates are used primarily for small and medium-size ships, large-diameter pipe, storage tanks and other steel fabricated items. With the growth of various industries, such as shipbuilding, it is expected that the consumption of plates will increase. Assuming that the ratio of demand for medium and heavy plate to total steel demand would increase to 11% in 1975, the estimated demand volume in the same year would be 750,000 tons.

At present, the only plate production facilities in the region are located in Taiwan. These are generally of a small scale. Manufacture of plates requires a high level of skill and technology and a monthly capacity of 50,000 tons is the generally accepted standard. However, it is feasible to operate economically plate mills having capacities in the range of 5,000 to 10,000 per month.

Construction is planned for two plate mills, one each in Taiwan and Korea, with an estimated aggregate production, in 1975, of 180,000 tons.

It is estimated that in 1975 the region will require some 570,000 tons of plate import. This is an area in which regional cooperation may be possible, but it would be a matter requiring further study because plates, depending on the intended uses, vary greatly in thicknesses, widths, lengths and grades of steel, and besides some portion of the plates, depending on dimensions, are produced by hot coil shearing. (Reference Table No. 7)

(5) Cold rolled sheets

Galvanized sheet production facilities are now in operation in the Philippines, Thailand, Taiwan, Malaysia, Singapore and Korea. In the past these countries have relied on imports to meet their requirements. The operation of the facilities is one of the most important factors causing the sharp increase in the region's demand for cold rolled sheets. Black sheets for galvanizing and tinning account for 70 to 80% of the current demand and the balance is used by various light manufacturing industries. The combined demand for cold rolled and galvanized sheets, during the past eight years, has grown at an annual rate of 11 to 12%. However the future demand for galvanized steel sheets is expected to increase at a slower rate compared with that of the recent years. On the other hand, an increase in demand for cold rolled sheets is expected due to the expansion of tin plate production. Assuming the 1975 ratio of their demand to the total steel demand to be 15.0% for cold rolled and galvanized sheets combined, and 6.0% for sheets for tin plating, the aggregate demand is estimated to be 1.45 million tons, an annual average growth rate of 11.5%.

The existing production facilities include two cold reversing mills in Korea and one in the Philippines. Further, installation of two in Taiwan, two in the Philippines and one in Thailand is planned. These facilities will provide a total capacity of about 1.2 million tons by 1975.

Without regional cooperation, however, the aggregate production by the three countries is not expected to exceed 800,000 tons per year by 1975 because of limited markets in individual countries. If regional cooperation is provided it can be expected that the production of cold rolled sheets by the same facilities may be increased and, with construction of an additional cold strip mill, it would be possible to meet all the estimated 1975 requirements.
(Reference Table No. 8)

(6) Hot rolled sheets (including hot coils)

In the region, the demand for hot rolled sheets (including hot coils) is from pipe manufacturing, construction and many other industries. The addition of the planned cold strip mills would lead to a considerable increase in hot coil demand for producing cold rolled sheets. In 1975, the ratio to the total steel demand is estimated at about 10% for conventional applications and 12% for producing cold strip. Therefore, the aggregate 1975 demand for hot rolled sheets is estimated to be 1.54 million tons. Although the region does not have a hot strip mill, three such mills are planned, one each in the Philippines, Korea, and Taiwan. They would have a combined capacity of 1.5 million tons per year.

However, the combined production of the three countries, in 1975, is not expected to be more than 1 million tons unless regional cooperation is made available. If a successful regional cooperation program can be carried out, the production of hot rolled sheets will increase and it can be expected that the estimated aggregated demand of 1.54 million tons in 1975, can be almost fully met from those sources in the region. (Reference Table No. 9)

5. Outlook concerning the establishment of steel industries through regional cooperation.

In the above forecast of the 1975 demand of the 6 products in the 12 southeast Asian countries, we have observed that even after the plans of construction of various production facilities known so far were taken into consideration, there exist possibilities for establishing plants to produce some of the products on regional cooperation. Those products are wire rod, tin plate, cold rolled sheets and hot rolled sheets.

However, our above discussion has been made only from the aspect of demand and is therefore only theoretical. In actuality, however, in order to determine whether or not the possibilities for regional cooperation exist, consideration must also be given to other factors such as availability of raw materials, locations for facilities, land and sea transportation cost, etc. Fundamentally,

regional cooperation would, through a concentration of markets, permit operation of facilities on an economically feasible basis and promote the distribution of low-cost steel products. Furthermore, it would also provide the additional benefit of increasing market demand. These factors would be beneficial for speeding the industrialization and economic growth of Southeast Asia.

However, in connection with the above, there are several problems which we will now discuss.

Firstly there is the matter of production cost in steel industry in developing countries. Based on past experiences, the cost of steel products of the developing countries is generally higher than those of the advanced countries. The reasons for this are that the steel industries of the advanced countries, with a background of long experience, have emphasized cost-reduction because of the severe competition of both the domestic and foreign markets. On the other hand, if a large-scale steel industry were to be established in the developing countries, management, being inexperienced, would naturally have to go through a period of trial and error. Also several other disadvantages would serve to result in higher cost. These include inadequate infra-structure and distribution channels which would result in high transportation costs, high expenses for patent rights and technical supervision, high interest rates, and shortage of skilled labor resulting in low production efficiency.

If it is a matter confined within a single country, the steel industry with high cost may be protected by setting up tariff barriers, giving due consideration to its balance with the other sectors of the economic activities. In some cases, such measure may be inevitable though domestic consumers are compelled to buy higher priced products. However this does not apply to a steel industry established on regional cooperation basis because not only the country in whose territory the steel industry was established but also the other member countries would be forced to purchase the steel products which otherwise could be imported at lower prices from outside sources.

Secondly, there are inequalities in the merits which member countries will enjoy from the regional cooperation. The country in whose territory the steel industry is to be established under regional cooperation will be practically a sole beneficiary of the fruits of the cooperation. Namely providing the economy of such country is at some developing stage, the establishment of steel industry would promote related and supporting industries, accelerate industrialization and expand employments in the country. But the other member countries do not enjoy such benefits of the cooperation.

One means to solve these problems would be for each of regional cooperation member countries to concentrate its production on items which it is most suited to produce and then supply such products to the other members on a mutually cooperative basis. However, this would be a form of common market and to carry out this plan would require external common tariffs. Supposing some of the countries agree to set up a common market, each of the countries would have to purchase the comparatively high-priced products from the other countries of the common market. As such purchases would constitute substantial amounts, the effect on the economy of each of the member countries cannot be ignored.

Furthermore, even if some sacrifices were made in order to establish a so-called common market, it would result in unequal economic burdens due to the differing economic levels of the participating countries. Therefore, it is necessary that the economic levels of nations participating in a common market system be about on a par with each other.

The third, and final problem, is that both export and import trade of the 12 countries are predominantly directed to advanced countries. The aggregate volume of trade among the 12 countries does not exceed 11% of their total trade volume. The small movement of goods among the 12 countries gives rise to high ocean freight costs and inconvenient shipping schedules. This may be one of the bottlenecks of any regional cooperation plan. One of the means to overcome any such problem would be to increase trade among these countries to the maximum possible level.

In order to solve problems such as we have discussed, it is essential that there be close mutual understanding among the participating countries.

In closing, I wish to say that any regional cooperation program must be supported not only from the economic viewpoints, but must also have full support from the political aspects. It is my hope that some concrete form of regional cooperation can be started in Southeast Asia to contribute to speeding the development and prosperity of this part of the world.

FIGURE 1
PER CAPITA GNP AND STEEL CONSUMPTION PER UNIT OF GNP (TON PER MILLION US \$) (RECENT YEAR)

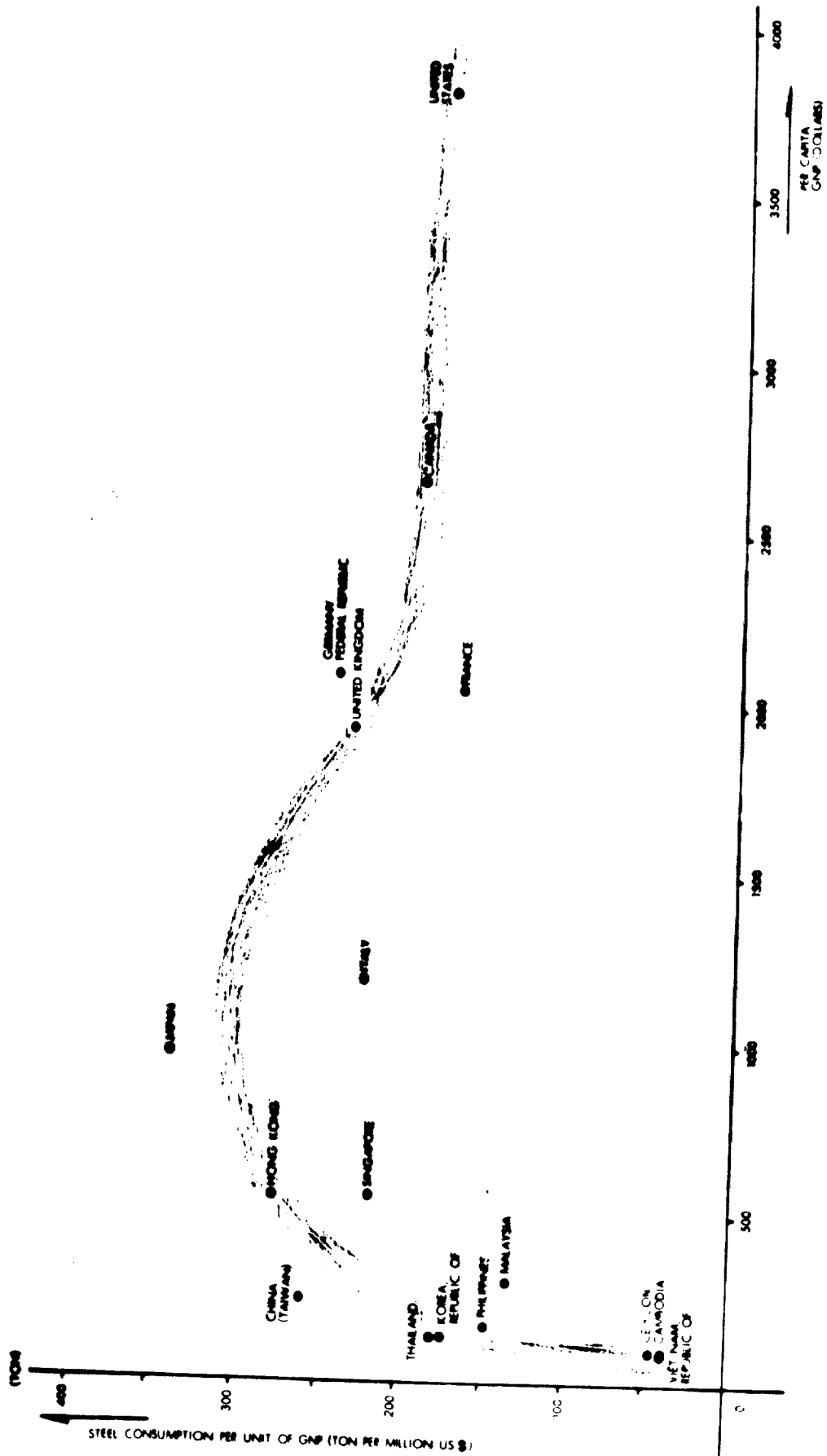


FIGURE 2
TREND OF STEEL CONSUMPTION
PER UNIT OF GNP (TON PER MILLION US \$)
(1)

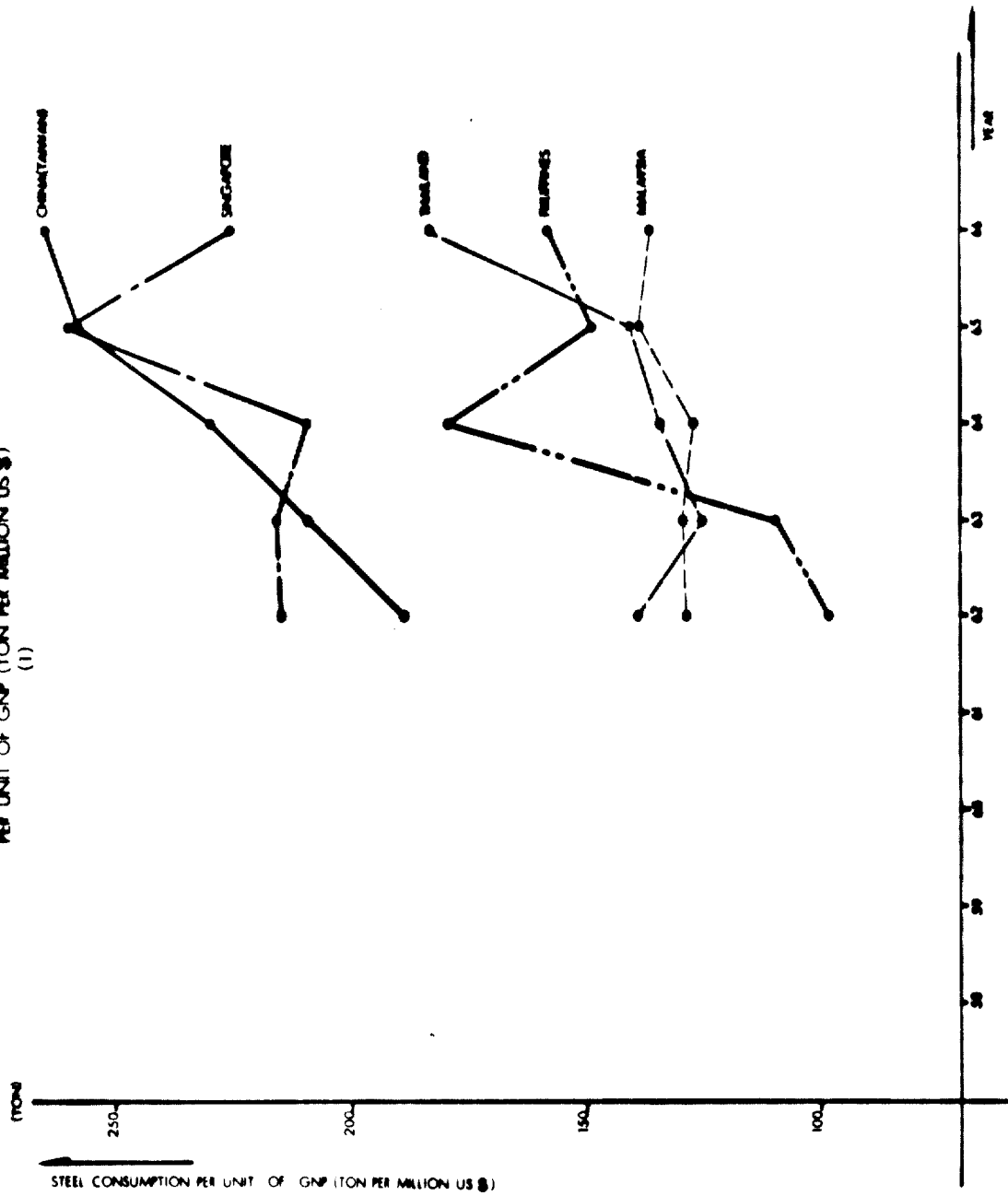


FIGURE 3
TREND OF STEEL CONSUMPTION
PER UNIT OF GNP (TON PER MILLION US \$)
(2)

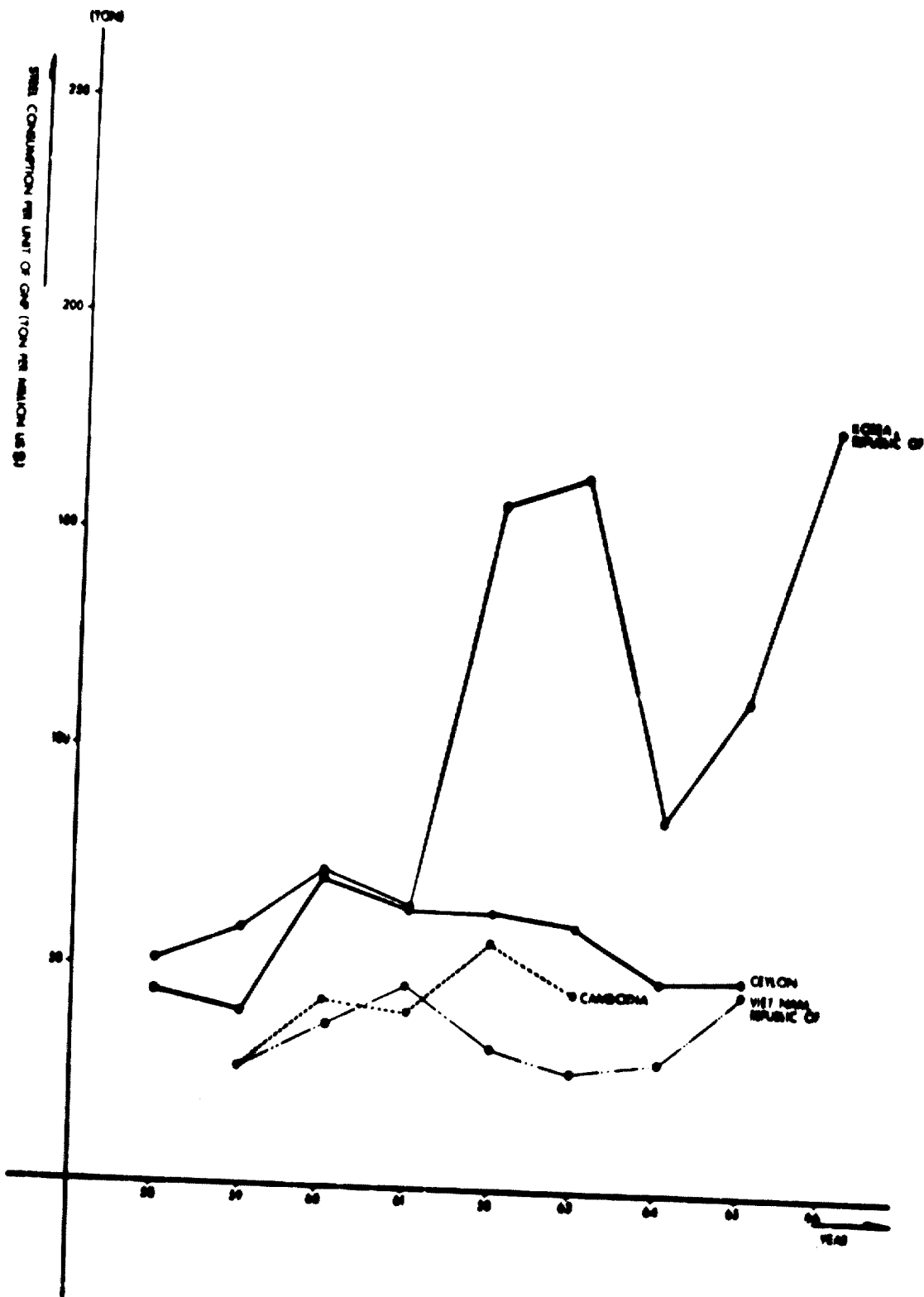


FIGURE 4
TREND OF TOTAL CRUDE STEEL CONSUMPTION IN SIX
SOUTH-EAST ASIAN COUNTRIES (1)

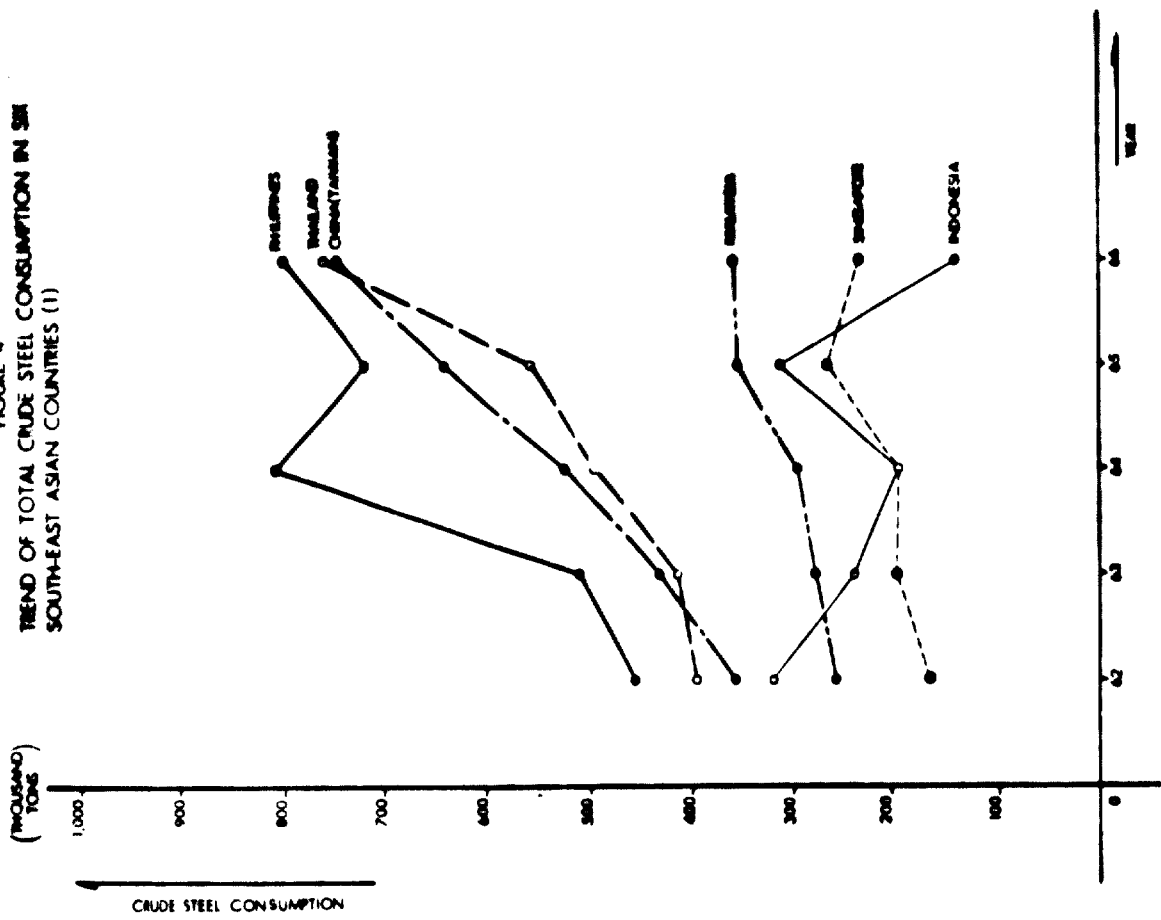


FIGURE 5
TREND OF TOTAL CRUDE STEEL CONSUMPTION IN SEI
SOUTH-EAST ASIAN COUNTRIES (2)

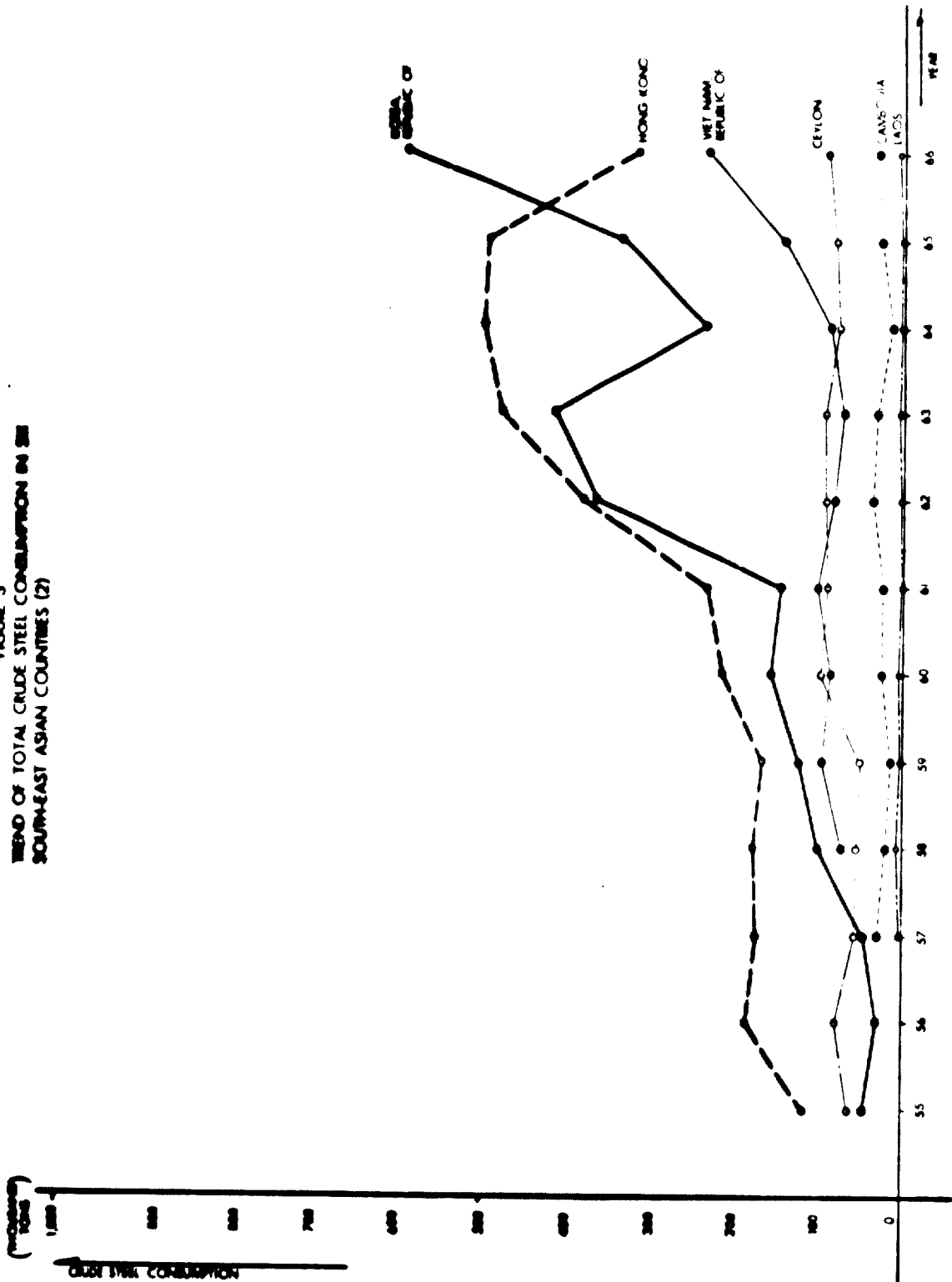
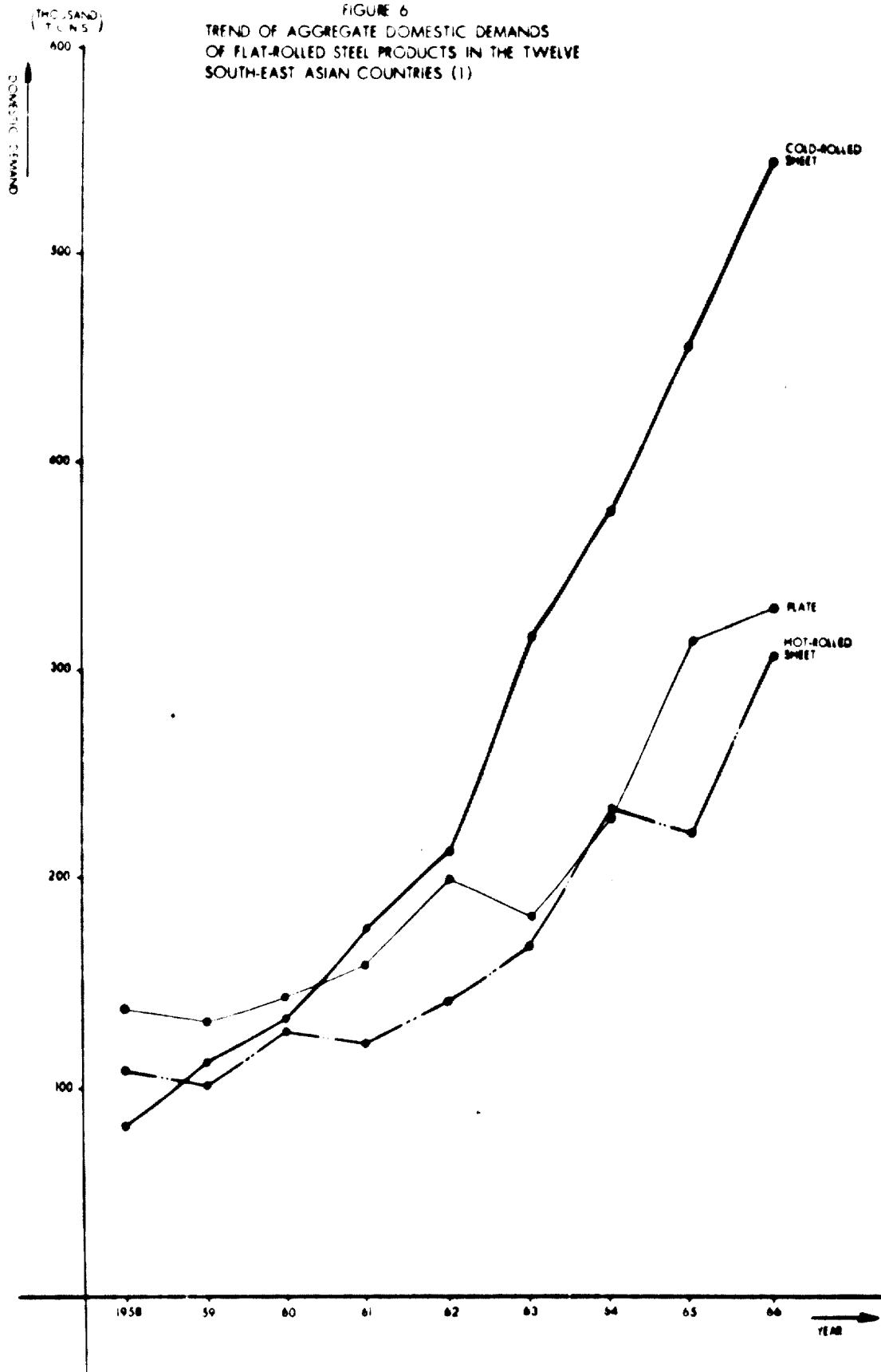


FIGURE 6
TREND OF AGGREGATE DOMESTIC DEMANDS
OF FLAT-ROLLED STEEL PRODUCTS IN THE TWELVE
SOUTH-EAST ASIAN COUNTRIES (1)



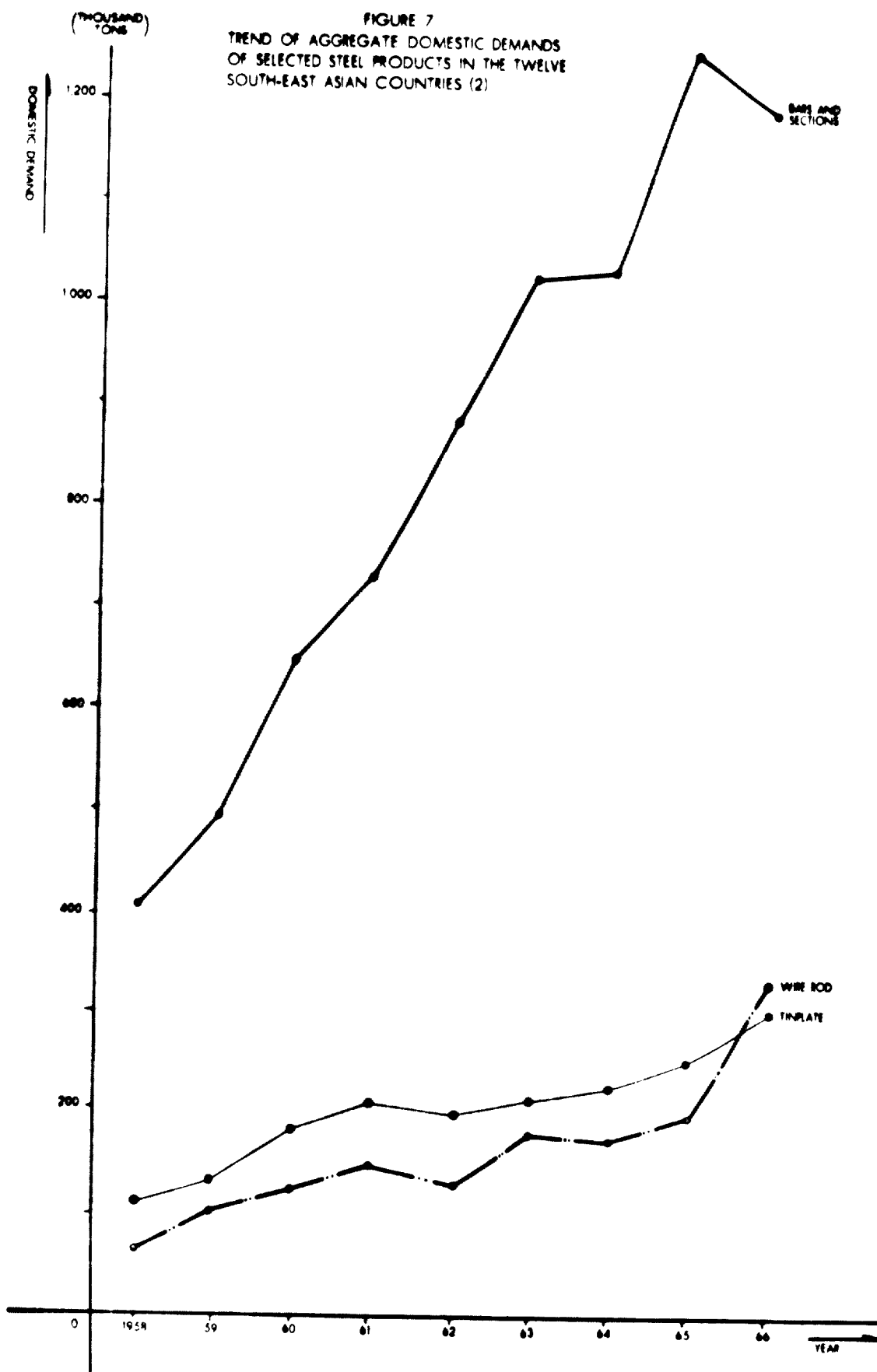


Table 2 Growth Rates of GDP and Crude Steel Consumption

Country	Crude Steel Consumption in 1966 1000M/T	Annual Average Growth Rate of GDP %	Annual Average Growth Rate of Crude Steel Consumption %	Elasticity Value
Korea, Republic of	592	(61 - 66) 8.2	(61 - 66) 32.0	3.9
Hong Kong	322	(N.A.)	(61 - 65) 7.4	
Laos	4	(N.A.)		
Cambodia	34	(59 - 63) 5.0	(59 - 63) 19.4	3.9
Viet Nam, Republic of	233	(60 - 65) 5.1	(60 - 65) 10.7	2.1
Malind	761	(62 - 66) 8.6	(62 - 66) 17.8	2.1
China (Taiwan)	746	(62 - 66) 8.6	(62 - 66) 19.9	2.3
Philippines	809	(62 - 66) 4.6	(62 - 66) 15.0	3.2
Malaysia	363	(62 - 66) 6.0	(62 - 66) 7.9	1.3
Singapore	230	(62 - 66) 6.7	(62 - 66) 9.4	1.4
Indonesia	140	(61 - 66) 1.6	(N.A.)	
Ceylon	89	(60 - 65) 3.1	(60 - 65) - 4.2	

Table 3 Apparent consumption of crude steel and the forecast of 1975

Country	Year							(unit 1,000 MT)
	1962	1963	1964	1965	1966	1975		
Republic of Korea	367.4	417.8	236.8	335.0	592.0	1550		
Hong Kong	380.2	479.1	504.0	499.6	521.8	852		
Thailand	397	415	482	543	761	1555		
Laos	1.6	3.6	1.8	0.4	4.0	6		
Camodia	38.9	32.7	16.8	28.2	33.7	52		
Republic of Viet Nam	83.5	72.1	88.9	142.1	233.3	362		
China (Taiwan)	360	433	526	644	746	1534		
Philippines	461	511	811	721	809	1644		
Malaysia	268	278	299	356	363	816		
Singapore	173	198	197	218	230	398		
Indonesia	327	249	196	317	140	480		
Ceylon	92.3	93.8	75.8	80.7	89.0	116		
Total	2949.9	3183.1	3435.1	3895.0	4323.8	9365		
United States of America	91058	102309	118067	127684	131400	-		
United Kingdom	17731	19899	24747	25131	21247	-		
Japan	22945	24726	31417	28841	35032	-		

Source: Report of the survey mission of South-East Asia (ECAFE)
U.N. Statistics of World Trade in Steel
Export and Import Statistics of Individual countries where available
Steel Trade Statistics compiled by the Japan Iron and Steel Federation

Table 4 Supply and Demand of Bars and Sections

(Unit 1,000 MT)

	1962	1966	Annual Average Growth Rate 1962 - 1966	1975	Annual Average Growth Rate 1966 - 1975
Domestic Demand	884	1,211	8.2 %	2,240	7.6 %
Production	326	690	16.2 %	1,400	8.2 %
Import	558	521	- 1.4 %	840	5.5 %
Ratio to Total Steel Demand	37.5 %	35.1 %		30 %	

Table 5 Supply and Demand of Wire Rod

(Unit 1,000MT)

	1962	1966	Annual Average Growth Rate 1962 - 1966	1975	Annual Average Growth Rate 1966 - 1975
Domestic Demand	131	330	26.0 %	670	8.2 %
Production	71	120	14.0 %	300	10.8 %
Import	60	210	28.0 %	370	6.5 %
Ratio to Total Steel Demand	5.3 %	9.1 %		9.0 %	

Table 6 Supply and Demand of Tinplate

	(Unit 1,000 MT)				
	1962	1966	Annual Average Growth Rate 1962 - 1966	1975	Annual Average Growth Rate 1966 - 1975
Domestic Demand	200	304	11.1 %	650	8.8 %
Production	10	77	50.0 %	350	18.3 %
Import	190	227	3.6 %	300	3.2 %
Ratio to Total Steel Demand	9.2 %	9.4 %		9.4 %	

Table 7 Supply and Demand of Heavy and Medium plates

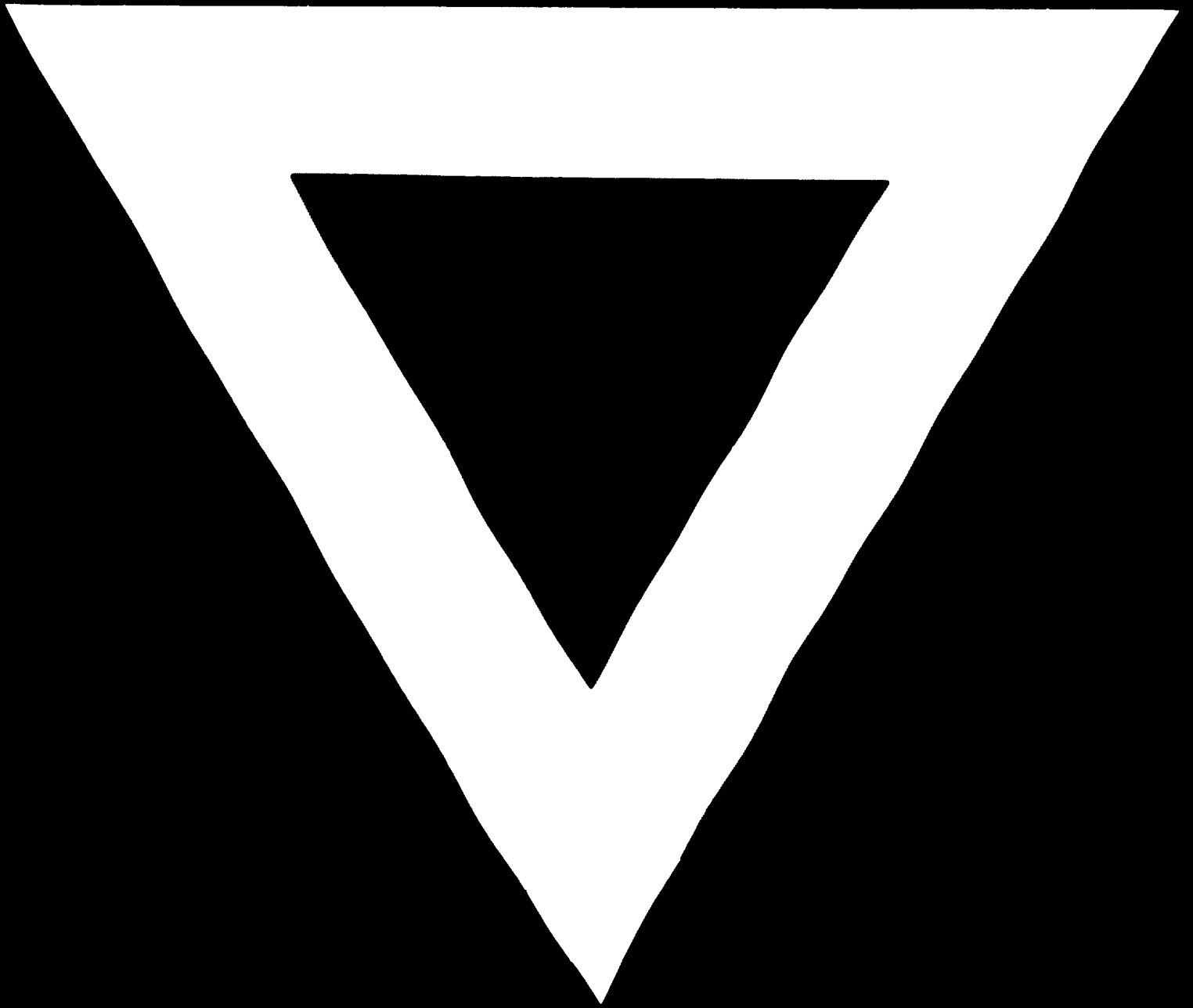
	(Unit 1,000 MT)				
	1962	1966	Annual Average Growth Rate 1962 - 1966	1975	Annual Average Growth Rate 1966 - 1975
Domestic Demand	200	328	13.1 %	750	9.7 %
Production	200	328	10.4 %	180	6.7 %
Import				590	
Ratio to Total Demand	9.2 %	10.2 %		11.0 %	

Table 8 Supply and Demand of Cold-rolled Sheets

	(Unit 1,000 MT)				
	1962	1966	Annual Average Growth Rate 1962 - 1966	1975	Annual Average Growth Rate 1966 - 1975
Domestic Demand	213	545	26 %	1,450	11.5 %
Production		20		800	51.0 %
Import	213	525	19.8 %	650	2.4 %
Ratio to Total Steel Demand	9.7 %	16.4 %		41.0 %	

Table 9 Supply and Demand of Hot-rolled Sheets including Hot-rolled Coil

	(Unit 1,000 MT)				
	1962	1966	Annual Average Growth Rate 1962 - 1966	1975	Annual Average Growth Rate 1966 - 1975
Domestic Demand	141	308	22.0 %	1,540	19.6 %
Production		308		1,000	
Import	141	308	16.9 %	540	10.2 %
Ratio to Total Steel Demand	6.4 %	9.6 %		10.0 %	



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