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A Study of Thailand's Balance of Trade 1953-1962

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A STUDY OF THAILAND'S BALANCE OF TRADE

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by

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CHAPTER I

ROLE OF INTERNATIONAL TRADE IN UNDERDEVELOPED COUNTRIES

Introduction

International trade theory suggests that trade can be advantageous to the industrial as well as to the underdeveloped countries. For the latter, specialization and exchange brings about an increase in total productions.

Thailand, an underdeveloped country, has for the past decade experienced an unfavorable balance of trade. A primary producing country, Thailand principally exports rice, rubber, tin, and teak. Her principal imports are manufactured goods, machinery and transport equipment, mineral fuels, lubricants and chemicals.

The thesis is intended to investigate the causes of this adverse balance of trade. Thailand's four principal exports accounted for an average of 74.7 percent of the total export income during the past decade, while the four major import items comprised an average of 77.1 percent of the total imports.

Attempts will be made to examine Thailand's potential in agricultural and non-agricultural resources as well as in human resources and to examine the possibility of expanding agricultural

export commodities in order to correct the unfavorable balance of trade.

The Theory of Comparative Advantage

The theory of comparative advantage,[1] or comparative cost, was developed more than a century ago by David Ricardo, John Stuart Mill, and other English followers of Adam Smith. The theory states that a country tends to export those products for which it has a comparative advantage or the least comparative disadvantage and to import those products for which it has a comparative disadvantage.[2] That is, each country should devote itself to what it can produce at lowest costs. Thus, a country should tend to specialize in the production of those commodities for which it has higher productivity per unit of input than other countries.

As a result of differences in factor endowments, not all countries have the same comparative advantage or disadvantage. In terms of cost comparison, one country might be able to produce a particular product at a lower cost than another country. Labor, for instance,

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[1]This section is based upon: David Ricardo, Principles of Political Economy and Taxation (London: George Bell and Sons, York Street, Covent Garden, 1817), p. 115; Hugh B. Killough and Lucy W. Killough, International Economics (Princeton: D. Van Nostrand Company, Inc., 1960), pp. 54-57; Paul A. Samuelson, Economics: An Introductory Analysis (New York: McGraw-Hill Book Company, Inc., 1955), pp. 633-643.

[2]Killough, p. 57.

is abundant in some countries; whereas land is abundant in other countries. The same is true in the case of capital, management, mineral deposits, and so on. These differences lead to a difference in prices of factors of production.

If a given factor in country A is cheaper than in country B, than it will be advantageous for country A to produce goods which utilize this factor of production to its most efficient point. This would mean that country A would be able to produce such commodities at lower costs than country B. If, on the other hand, a given factor is cheaper in country B than in country A, it will be advantageous for country B to specialize or utilize the latter factor. These differences in factor prices will ultimately determine which products are to be produced by which countries.

If factor prices do not differ, trade will never take place. The final price of exchanged products, in a money economy, will include transportation cost, insurances, interest, taxes, and tariffs, in addition to the prices paid to the factors of production. These extra costs will increase the prices of products. The cost differences among countries, however, are significant according to the theory of comparative advantage and bring about specialization. Underdeveloped countries, for example, tend to specialize in producing primary products which are then traded for needed manufactures, the specialized production of the industrialized countries.

Comparative advantage and gains from trade

The idea of specialization and trade may be illustrated as follows:[3] assume that 100 units of product x can be produced with 10 and 9 men in countries A and B respectively in any given year. Further, assume that the production of 60 units of product y in the same given year requires 12 men in country A and 8 in country B.

Table 1. Man years of labor required to produce equal quantities of product x and y in country A and B

Country	Product x	Product y
A	10	12
B	9	8

Source: Adapted from David Ricardo, Principles of Political Economy and Taxation (London: George Bell and Sons, York Street, Covent Garden, 1817), p. 115.

According to the theory of comparative advantage, it would be advantageous for country B to export product y and import product x and for country A to export product x and import product y. Country B's productivity advantage in product y is 1 to 1.5 (8 workers to 12 workers), compared to the productivity advantage in product x of only 1 to 1.1+ (9 workers to 10 workers). Therefore, it would be advantageous for country B to export product y and for country A to export product x.

[3]Ricardo, p. 115.

Assume trade takes place between these two countries. The result may be as follows:

Table 2. Before inter-country trade

Country	Workers	Product x	Workers	Product y
A	10	100	12	60
B	9	100	8	60
	Totals	200		120

Before inter-country trade, the total production of both countries in product x is 200 units and 120 units in product y. The total labor required in the production of products x and y is 19 men and 20 men respectively.

Table 3. After inter-country specialization and trade

Country	Workers	Product x	Workers	Product y
A	22	220	--	--
B	--	--	17	127.5
	Totals	220		127.5

After inter-country specialization, the total production of both countries in product x is 220 units and 127.5 units in product y. The

total labor required in product x is 22 men and 17 men in product y.

Table 4. Comparison of productivity before and after specialization with the same amount of labor

	Product x	Product y
Before specialization	200	120
After specialization	220	127.5
Increase in total production	20	7.5

In the example cited above, country B has an absolute advantage in both products, as compared with country A, but a comparatively greater productivity advantage in product y than in product x. Country B's productivity advantage in product y is 1 to 1.5 (8 workers to 12 workers). Country B's productivity advantage in product x is 1 to 1.1+ (9 workers to 10 workers). Should country A have an absolute advantage in the other product (product x), then the gains from specialization and trade might be even greater than those indicated in Table 3 above.

The gains from specialization and inter-country trade are seen (Table 4) by comparing the productivities of both country A and B before and after specialization with the same amount of labor. Before specialization and inter-country trade, the total production in product

x was 200 units and 120 units in product y. But after specialization, the total production in product x is 220 units and 127.5 units in product y. There is an increase in total production--20 units in product x and 7.5 units in product y. Thus, it may be said that specialization and inter-country trade are mutually advantageous to the trading parties. The above illustration is only an example showing gains from specialization and inter-country exchange.

Production possibilities curves and gains from trade

Gains from specialization and inter-country trade also can be illustrated through production possibilities curves. Such a curve is defined as

> a production-possibility (or transformation) schedule indicating how much of one commodity can be produced if all resources are diverted to it; also how much of the other commodity can be produced if all resources are diverted to its production; and how either good can be transformed into the other--not physically, but--by transferring resources from the production of one to the other.[4]

Referring to the above example,[5] from Table 1 the production possibilities curves can be calculated 10:5 in country A and 11.1+: 7.5 in country B. (Ratio 10:5 is derived by dividing 100 units of product x by 10 workers and 60 units of product y by 12 workers; ratio 11.1+:7.5 is derived by dividing 100 units of product x by 9 workers and 60 units of product y by 8 workers). This simply means

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[4]Samuelson, p. 636.

[5]Ricardo, p. 115.

that, in country A, one labor can produce either 10 units of product x or 5 units of product y or some intermediate combination of them within any given year. The same holds true in country B.

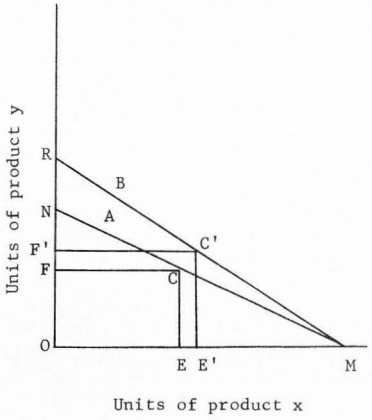

Figure 1.

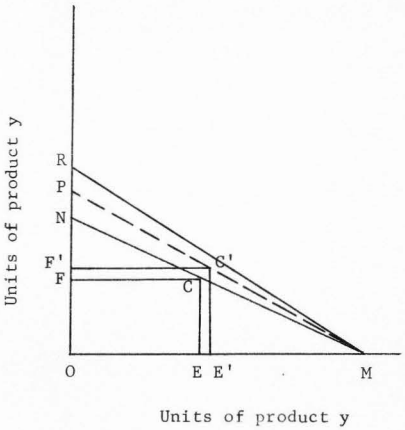

Figure 2.

Let MN and MR represent the linear production-possibilities curves of countries A and B respectively. These linear production-possibilities curves imply perfect substitution between productive factors of product x and y. In Figure 1, assume that country A consumes OE and OF units of product x and y respectively at point C. Furthermore, assume trade takes place between these two countries. By specialization, country A would divert all its factors to produce

OM units of product x and zero units of product y, because of the comparative advantage. At the same time, country B will produce OR units of product y and zero units of product x, because of the comparative advantage. After inter-country trade, country A can consume OE' units of product x and trades the E'M remaining units of product x with country B for FF' units of product y. This makes it possible for country A to move its consumption level from C up to C'. Obviously, through specialization and inter-country trade, there is a gain in consumption for country A of EE' and FF' units of product x and y respectively.

On the other hand, country B does not share the gains under this exchange ratio because it takes country B's same unit of product y to exchange for the same unit of product x, the same exchange ratio which country B has under its own production-possibilities curve. Assume that the exchange ratio is reset at about MP, represented by the broken line in Figure 2. Under this new exchange ratio, both countries can share their gains from specialization and inter-country trade. For country B, it now takes less units of product y to exchange for the same units of product x. Country A does not gain as much as previously. However, it is still better off, because the present C' is still higher than C in terms of units of product x and y.

Indifference curves in the analysis of gains from trade[6]

An indifference curve consists of various combinations of two commodities which will offer a consumer the same level of satisfaction.[7] Gains from inter-country trade can also be shown through indifference curves.

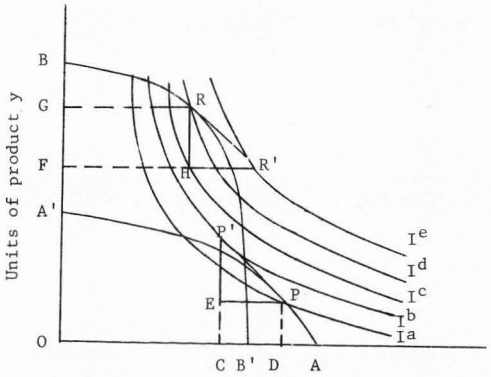

Figure 3.

[6]The American Economic Association, Readings in the Theory of International Trade (Philadelphia: The Blakiston Company, 1950), pp. 229-238.

[7]John F. Due and Robert W. Clower, Intermediate Economic Analysis: Resource Allocation, Factor Pricing, and Welfare (Homewood, Ill.: Richard D. Irwin, Inc., 1961), p. 73.

Let the indifference curves in Figure 3 represent the aggregate demand of product x and y for both countries A and B. Lines A-A' and B-B' are the concave production possibilities curves of countries A and B respectively. Assume, without inter-country trade, country A consumes OD units of product x and CE units of product y at point P on indifference curve I^a. Country B, without inter-country trade, consumes GR units of product x and OG units of product y at point R on indifference curve I^d. Now, inter-country trade takes place between these two countries. Lines P-P' and R-R' represent the terms of trade for product x and y; the slope of these two lines is the same.

After inter-country trade, country A is able to move its consumption level to a higher indifference curve at point P' on indifference curve I^b and consumes OC and CP' units of product x and y respectively. Country B is also able to move its consumption level to a higher indifference curve at point R' on indifference curve I^e and consumes FR' units of product x and OF units of product y.

EP units of product x is country A's export equalling HR', which represents country B's import of product x. HR units of product y is country B's export equalling EP', which is country A's import of product y. Since there are only two trading countries, the export of one will represent the import of the other and vice-versa.

Other aspects of gains from trade

Trade enables a country to consume some products which can not or should not be produced domestically. Furthermore, an individual can increase his utility or satisfaction through specialization and trade. The "Law of Diminishing Marginal Utility" states that as a person obtains an additional unit of any goods, its marginal utility decreases.[8] Countries trade their surplus products which have comparatively low utility for those products which they need and which have relatively high utility.

Specialization and trade bring about an increase in total production; i.e., export industries are expanded. This in turn causes gross national product (GNP) and national income (NI) to be expanded. This higher level of national income means larger payments to the factors of production and thus allows a higher level of consumption. A higher level of consumption in turn brings about a higher level of investment.

Determination of the final price ratio

Whenever two or more countries are involved in specialization and trade, there will always be a problem of setting the final price ratio. Let us refer to the example in Table 1. The production-possibilities curves for country A and B are 10:5 and 11.1+:7.5 respectively. In

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[8] Due, pp. 69-70.

order to make specialization and trade possible for these two countries, the final price ratio cannot be set outside the limits of 10:5 to 10:6.7+ (7.5 divided by 11.1). Otherwise, it will result in a gain to one trading country and a loss to another. This exploitation will prevent the injured country from engaging in trade. It would rather remain selfsufficient.

The exact final level of the exchange ratio will depend upon the strength of world supply and demand for each of the two commodities. If world demand for product x is higher than product y, the exchange ratio will settle nearer 10:5. If product y is in greater demand than product x, it will settle near 10:6.7+.

Limitations on international specialization and trade[9]

Adam Smith, in his Wealth of Nations, stated that the division of labor will increase laborers' skills, save time in their moving from one department to another, and will thus increase the laborers' productivity.[10] However, there are some limitations to the theory of specialization and trade that must be recognized. Products which are traded internationally are produced by many countries. Therefore, international specialization is less than complete except in a very

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[9]Campbell R. McConnell, Elementary Economics: Principles, Problems, and Policies (New York: McGraw-Hill Book Company, Inc., 1960), pp. 665-666.

[10]Adam Smith, An Inquiry into the Nature and Causes of the Wealth of Nations (London: George Routledge and Sons, Limited, 1890), pp. 3-10.

rare circumstance where a single country is responsible for the world's output of some product. For example, South Africa is the sole producer of diamonds.

In classical theory, as an economy expands its output of any particular commodity, it is assumed that production is normally carried out under conditions of diminishing marginal value productivity. When initially additional labor and natural resources are applied to the fixed factors, marginal product will increase; hence total product will expand at an increasing rate. Beyond a certain point, however, the rate of increase in the total product will start to decline; i.e., marginal product will start to decline.[11] This decline in parginal product tends to increase the costs of production. If all commodities were produced under conditions of increasing cost, specialization would be only partial. Each country would tend to produce some of every commodity except those commodities whose costs of production, even for a very small output, would exceed the prices at which they could be bought abroad. Then specialization would consist of goods produced in insufficient amount for domestic consumption while other products would be produced in quantities sufficient to meet both the domestic demand and still have a surplus for export.[12] Within an

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[11] Due, pp. 120-126.

[12] Bernard Okun and Richard W. Richardson, Studies in Economic Development (New York: Holt, Rinehart and Winston, Inc., 1961), p. 158.

economic system, more of the factors are productive in the production of certain commodities, thus enabling the producer to specialize in production. As a result a maximum of production will be more than sufficient to meet the domestic consumption, while the rest of the factors, which constitute a lesser percentage, produce commodities which are insufficient for domestic consumption.

Trade restrictions represent additional barriers to international trade. They include tariffs, quotas, licenses, exchange controls, and so on. Some of these artificial barriers are obtained by the domestic producers to limit the amount which a foreign firm can sell within a country. Because of this, international specialization is limited to a certain extent.

Tariffs consist of some fixed rates of charges imposed on export and import commodities, while import quotas indicate the fixed amount of commodities which can be imported. Some tariffs, however, are imposed for the purpose of raising revenues or to protect public morals and to prevent deceptive practices. Exchange controls are enforced for the purposes of limiting the amount of imports and using multiple exchange rates for different commodities. By charging higher rates for different commodities, a partial control can be maintained over undesired or restricted products.

Depreciating the domestic currency allows export prices to be cheaper than import prices and encourage exports. At the same time,

this tends to reduce imports. Foreigners can now buy a larger quantity of export goods for the same amount of their own currencies. On the other hand, the same amount of domestic currency can buy a smaller quantity of import goods.

The export-control devices include tax rebates, freight rate arrangements, special credit facilities, direct governmental assistances, and so on. Some controls are aimed at the geographical redistribution of exports because of the inconvertibility of many currencies that hamper multilateral trade.[13] A country might take steps to prevent exports from leading to accumulation of holdings of inconvertible currency or, furthermore, to divert exports to countries paying in convertible currency. Embargoes on export commodities in scarce supply are typical during wars and other emergencies.

Some non-economic goals represent additional barriers to international specialization. Politically, it is considered necessary for a nation to become partially selfsufficient in certain lines of production even at high costs because of the fear of future wars. The production of synthetic rubber is an example.[14]

There are, however, some types of regulation which tend to facilitate rather than hamper exports and should not be regarded as

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[13] The Quest for Freer Trade (New York: United Nations, Department of Economic and Social Affairs, 1955), p. 1.

[14] Samuelson, p. 653.

barriers to trade.[15] For example, export subsidies set by the government and which interfere with the existing relationships and established markets in turn affect other countries' exports. Furthermore, some government agencies are established to grant export credits on easy terms and for relatively long periods to enable exporters to compete in foreign markets.

Trade barriers set up by governments have both advantages and disadvantages. One of the advantages of import quotas and foreign-exchange controls is the effectiveness as an emergency measure for maintaining exchange-rate stability and the allocating of available supplies of exchange to uses considered most essential to the national economy.

However, as a whole, the disadvantages outweigh the advantages, since trade restrictions taken by a trading country will usually affect other trading countries. For the latter are, eventually, forced to take similar action in order to stabilize their internal economies. Finally, trade restrictions are contradictive to the theory of comparative advantage by interferring with maximizing the effeciency of factors of production.

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[15] United Nations, The Quest for Freer Trade, p. 1.

The Distribution of Gains From International Trade[16]

The theory of comparative advantage suggests that international specialization and exchange can be advantageous to the developed as well as to the underdeveloped country. It allows an economy to benefit from the gains of division of labor which bring about an increase in total world production. The effects on the trading countries will be an increase in total production with an expansion in export industries. This in turn causes GNP and NI to expand. This higher level of national income implies a higher marginal propensity to consume, commensurate with a higher marginal propensity to save. A higher level of saving will in turn tend to bring about more investment.

Primary-producing countries

Some common characteristics of primary producing countries are: low per capita income, low level of consumption, low technology with a high rate of unemployment, high rate of illiteracy, high birth rate, too few adults, chronic disease, and short life expectancy.[17] General economic development in these areas is essential. Some economic differences among underdeveloped countries include national income per capita,

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[16]This section is based primarily upon Okun and Richardson, Studies in Economic Development, pp. 170-180.

[17]Stephen Enke, Economics for Development (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1963), pp. 16-39.

saving investment, natural resources, foreign trade participation.[18] Hence, the orientation of economic development policies of the underdeveloped countries should be determined by the different objectives desired: growth of per capita income, maintaining full employment, correcting the balance of payments whichever is the case.

Primary products[19] tend to be the principal exports of underdeveloped countries. The prices of these products are subject to wide fluctuations which are beyond the control of the producers.[20]

John Stuart Mill, in his Principles of Political Economy[21] states that one of the very important indirect advantages of inter-country trade is the tendency of every extension of the market to improve the processes of production. A country which produces for a larger market than its own is able to widen the scope of the division of labor and the use of machinery. Entrepreneurs stimulate innovations, introduce new technology, raise the productivity of labor, and generally enable the trading country to enjoy increasing returns and economic development. This applies to underdeveloped economies engaging in inter-country specialization and trade. When an economy starts to apply

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[18] Ibid., pp. 40-62.

[19] Primary products partially represent rice, rubber, coffee, tea, sugar, sea foods, tin, copper, and petroleum.

[20] Killough, p. 302.

[21] John Stuart Mill, Principles of Political Economy (London: Longmans, Green and Co., 1936), pp. 581-582.

innovations and new technology in production, the stagnant economy can then be broken and economic growth can be sustained.

Historical data indicate that ever since the 1870's the terms of trade and their trends have been moving against the primary-producing countries and in favor of the industrialized countries.[22] This change in the relationship means that the valuation of industrial commodities, in terms of the monetary unit, has been increasing faster than has the value of primary products.

There is an unequal distribution of technological progress between the industrialized and primary-producing countries, for the latter specialize in producing raw materials; and foods tend to have a very low degree of technical progress.[23]

> At the present time, peoples in the less-industrialized parts of the world are more fully aware of the possibilities of improving their economic circumstances and more keenly desirous of acquiring improved production techniques than in times gone by. This is a result, at least in part, of improvements in transportation and communication facilities. More rapid industrialization in the emerging countries can countribute to more production in these countries, and to higher living standards if population growth can be controlled. More production in the underdeveloped countries and more inter-country trade can contribute also to the economic well-being of the highly industrialized nations.[24]

Although primary producing countries share smaller gains from inter-country trade, they are still better off than with no inter-country trade at all.

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[22]Okun, p. 174.

[23]Ibid., p. 175.

[24]Killough, pp. 404-405.

Industrialized countries

At the other extreme, industrialized countries share a larger portion of gains from international trade. First, the terms of trade and their trends have been moving in their favor. Or, to state it in another way, now they can exchange the same amount of primary products cheaper in relation to the value of their own industrialized products.

Industrialized countries also enjoy a larger portion of gains from technical progress.[25] Reduction of the amount of raw materials used per units of output and mass production makes possible the low costs of production. But, sometimes, it may run into a situation of technical diseconomies of scale.

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[25] Okun, p. 175.

CHAPTER II

GENERAL CHARACTERISTICS OF THE THAI ECONOMY

Geography[1]

Thailand is located in Southeast Asia, with Burma on the west and north, Laos and Cambodia on the east, and Malaya on the south. It covers an area of approximately 200,000 square miles. The country is divided into four major parts, north, northeast, center, and south.

Climate

Thailand is affected by a tropical monsoon climate. It has three seasons: the rainy season from June to October, the cool season from November to January, and the hot, dry season from February to May. The amount of rainfall varies, but much of the area receives about 40 inches per year.

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[1]The section including geography, climate, population, employment, agriculture, forest, fisheries, metallic minerals, non-metallic minerals, industry, and transportation characteristics is based upon report of a mission organized by the International Bank for Reconstruction and Development at the request of the government of Thailand, A Public Development Program for Thailand (Baltimore: The Johns Hopkins Press, 1959); United States Operations Mission to Thailand, Thai-American Economic and Technical Cooperation (Bangkok: United States Operations Mission, 1962); Noel F. Busch, Thiland: An Introduction to Modern Siam (Princeton, N. J.: D. Van Nostrand Company, Inc., 1959).

Population

The total population surveyed on July 1, 1962, was estimated at 28.7 million. The annual rate of increase is estimated at 3.1 percent. This estimation is based on a crude birth rate of 45 per 1,000 population and a crude death rate of 14 per 1,000 population. The estimated average density of population in 1960 was 132 persons per square mile. About 98 percent of the population is native-born. Less than 900,000 persons are born outside the country. About 97 percent of the population is able to speak Thai. Buddhists predominate with 93.6 percent in 1960; Muslims, one million; Confucists, 461,000; and Christians, 150,000.

The official income per capita is estimated about $100. The rate of growth of GNP in constant dollars, measured during the period 1952-1957, averaged nearly five percent annually, which outstripped the population growth.

Employment

The labor force consists of 14 million people. Approximately 82 percent of this total is engaged in agriculture, forestry, and fishing; and only about two percent are employed in administrative, executive, and managerial positions. One and three tenths percent are professional, technical, and related workers. Miners, quarrymen, and related workers constitute 0.2 percent of the force. Clerical workers made up 1.1

percent and salesmen 5.3 percent of the labor force. The field of transportation and communications accounts for only 1.0 percent. Craftsmen, production process, and laborers total 5.9 percent. Services and sport and recreation account for 2.0 percent, and 0.7 percent is not classifiable by occupations.

Agriculture

The principle crops consist of rice and rubber, which produce about 60 percent of the total export income. Other crops include corn, cassava, sugar cane, kenaf, coconuts, tobacco, fruits, peanuts, and cotton.

Forest

Approximately 63 percent of the land is forested. Teak is the most important forest product. A large percentage of this product is consumed domestically by residential construction, furniture making, and shipbuilding.

Fisheries

The basic diet is rice and fish. Therefore, both salt and fresh water fishing are important for the Thai economy. Furthermore, non-commercial fish consumption is estimated at 20 percent more than the total commercial fish catch.

Metallic Minerals

Tin reserves, the most important, amounted to about 16 percent of the total free world reserve. Tungsten reserves are also important. Others include gold, copper, zinc, lead, manganese, molybdenum, and antimony. These exist, however, in only small deposits.

Nonmetallic Minerals

There are large deposits of salt at Korat Plateau. Gypsum and marble are also found in various parts of the country.

Industry

Industry in Thailand is limited by a lack of advanced technology, insufficient electrical power, and capital. The expansion of the power industry has fallen far behind demand. It increased from 40,000 kilowatts in the immediate pre-war years to about 200,000 kilowatts in 1959. The completion of Yanhee Hydroelectric Dam in 1963, however, is expected to add sufficiently to the power supply to meet the demand for the next 15 years.

The major industries include mining, fisheries, electric power, transportation, cement, sugar, tobacco, weaving, rice milling, and printing.

Table 5 indicates that a substantial number of establishments are concentrated in the agriculture area, rice milling, saw milling, sugar

mills, and flour milling. Out of the 15,960 classified establishments, only 306 that are classified as large hire more than 50 workers.

Table 5. Number of industrial establishments and workers employed in Thailand, 1957

Establishment	Number of establishments	Number of workers
Saw milling	1,736	130,154
Rice milling	4,921	58,459
Printing	484	17,288
Sugar mills	1,521	12,685
Weaving	409	12,470
Flour milling	1,336	11,982
Ceramics	90	11,694
Engine repair	528	7,219
Foundry and machine shops	810	6,931
Smithies	778	3,199
Ice factories	388	3,199
Aerated beverages	143	1,946
Others	2,816	38,108
Total	15,960	315,938

Source: A Mission Organized by the International Bank for Reconstruction and Development at the Request of the Government of Thailand, A Public Development Program for Thailand (Baltimore: The Johns Hopkins Press, 1959), p. 90.

Transportation

Transportation, like many other industries, remains underdeveloped. The crude, unsurfaced highways hinder rather than facilitate the movement of agricultural and non-agricultural products to their points of consumption or exportation.

Railways are insufficient to provide adequate services. The need for shifting from steam to diesel locomotives and for increasing the number of new freight cars is essential to the development program. In addition, replacement of rails and switches, repair and replacement of bridges, plus the remodeling of station yards are badly needed.

The highway system is seriously hindered by failure of proper maintenance and inadequate budgets. However, the Economic Development Plan 1961-1966 has increased the budget for the Highway Department. The Highway Administration is subject to political influence to build more roads than is technologically feasible.

The inland water transport handles a great deal of freight. The Mission of the World Bank indicates inadequate data available on the number of river craft and costs. However, the completion of Yanhee dam will assure a minimum draft in the lower reaches of the Chao Phya and encourage the introduction of larger craft.

Domestic air transport is owned and operated by the Government. The inadequate service is due to the limitation of aircraft. This leads to an infrequesnt and undependable service. But the modern Don Muang International Airport, located in Bangkok, is capable of handling heavy modern aircraft and is well served by many international air carriers.

Investment

Foreign investment in Thailand

Between 1954-1960, the annual increase in total private foreign investment was estimated to be more than $5 million.[2] The total foreign investment in Thailand for 1961 was estimated at about $115 million. There was an increase of 15 percent from the mid-1960 estimate of $100 million.

The United States was the largest single private foreign investor.[3] The U.S. dollars were invested primarily in the storage and distribution of petroleum products, manufacturing of batteries, pharmaceutical products, banking, insurance, transportation agencies, and distribution of motion pictures.

The British and the Danish placed their funds in teak, rubber, tin and trading operations.

Plan for 1961-1966 economic development expenditure

The Administration of Economic Development has estimated the expenditures that will be made by the various government agencies in executing a six year development program. These estimated expenditures are listed in Table 6.

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[2]U.S. Department of Commerce, Investment Factors in Thailand 1962 (Washington, D.C.: U.S. Government Printing Office, 1962), p. 4.

[3]U.S. Department of Commerce, Investment Factors in Thailand (Washington, D.C.: U.S. Government Printing Office, 1961), p. 3.

Table 6. Thailand's economic development expenditure estimated by administration of economic development 1961-1966 (U.S. million dollars)

Government agencies	1961	1962	1963	1964	1965	1966
Agricultural sector	21.90	27.05	28.60	40.23	41.68	41.12
Industrial development funds	21.10	13.38	10.25	2.71	2.77	2.99
Communication development funds	15.91	30.88	37.72	40.62	45.43	51.58
Social development funds	10.10	17.30	22.36	23.54	26.76	29.99
Commercial development funds	0.35	0.40	0.10	---	---	---
Reserve funds for various department and ministries	---	5.99	11.17	17.90	23.36	29.32
Totals	69.36	95.00	110.00	125.00	140.00	155.00

Source: Bank of Thailand and the Ministry of Finance, The National Economic Development Program 1961-1966 (Bangkok, 1960), pp. 12-14.

The primary objectives of this development plan are to:[4] 1) increase the rate of growth in GNP from four to five percent per annum; 2) maintain the rate of capital formation at a level of not less than 15 percent per annum; 3) increase agricultural production by three

[4]Bank of Thailand and the Ministry of Finance, The National Economic Development Program 1961-1966 (Bangkok, 1960), pp. 1-3.

percent per annum; 4) increase industrial income from 10 to 12 percent by 1963; 5) complete the Yanhee Hydroelectric Dam in 1963, which will supply 370,000 kilowatts as compared with the former 138,000; 6) improve the highway, railway, waterway, airway, and tele communication systems; 7) expand general education and public health services; 8) maintain a balance of trade which will stabilize the overall economic position; widen the external market and provide for a yearly increase of four percent in both exports and imports; and to 9) stabilize the domestic currency and revise taxes to curb inflation.

Sources of economic development funds

Economic development funds are to be derived from four major sources. These sources are listed in Table 7.

National budgetary appropriations contribute the largest share of the total; for instance, 71.7, 78.1, and 82.6 percent for 1964, 1965, and 1966 respectively. It will be obtained from the following sources: revenue from taxes and public enterprises; a five percent increase in tax revenue arising out of economic expansion; and the revenue from the revised revenue code. Revenue from taxes will include the income tax, business tax, customs and excise duties, and land tax. Economic expansion will also yield an estimated five percent increase in tax revenue. Personal income and business income tax schedules will be revised. External loans are to be obtained from the World Bank, the Charter Bank of London, and the Export-Import Bank.

The largest portion of foreign aid is to be obtained from the United States of America (for 1961, the United States contributed approximately 94.2 percent of the total foreign aid received by Thailand.[5])

Table 7. Sources of economic development funds for Thailand, 1961-1966 (Million U.S. dollars)

Source	1961	1962	1963	1964	1965	1966
National budgetary appropriation[a]	69.4	95.0	110.0	125.0	140.0	155.0
External loan estimates	45.2	62.0	46.9	20.8	12.6	6.4
Foreign aid estimates	25.8	25.9	25.1	25.2	25.1	25.0
Profit from public enterprises	6.9	6.1	3.2	3.2	1.4	1.2
Total	147.3	189.0	185.9	174.2	179.1	187.6

[a]Includes only nine months appropriation.

Source: Bank of Thailand and the Ministry of Finance, The National Economic Development Program 1961-1966 (Bangkok, 1960), p. 11.

Other contributors include the United Nations, Colombo Plan, Asia Foundations, West Germany, and Japan. Profit from public enterprises will also contribute to development funds through the

[5]Budget Bureau, Annual Budget for Fiscal Year of 1962 (Bangkok, 1961), p. 110.

Government's appropriation. These, however, will represent only a small portion of the total.

Thailand has been the recipient of United Nations' aid since 1941.[6] This aid has provided for consultants and technicians, scholarships for study abroad, and needed equipment in the development program.

The Colombo Plan, a British commonwealth program designed to achieve economic development in Asian countries, also provides consultants and technicians, scholarships, and needed equipment.[7] These grants are available only at the requests of the respective governments from member countries. For example, Thailand may request scholarships from England or New Zealand.

The Asia Foundation is a private organization created by the federal government of the United States with the cooperation of the people of California.[8] This public relations organization is to provide a better understanding between Asia and the Western countries. During 1960-1961, Thailand received $52,421 of financial aid in educational services.

West Germany has offered to build vocational training schools.[9] This program will also include consultants, scholarships for teacher training in West Germany, plus needed equipment.

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[6] Annual Budget, p. 220.

[7] Ibid., p. 228.

[8] Ibid., p. 252.

[9] Ibid., p. 242.

Japan has agreed to train communication officers.[10] This program will include Japan's providing the technicians and the necessary equipment for the job.

The Unfavorable Balance of Trade 1953-1962

As it is mentioned in the introduction of this thesis, Thailand has experienced an unfavorable balance of trade.[11] There are several factors contributing to these deficits. Rice consumption has increased at a faster rate than its production. This has diminished rice exports.[12] While the market conditions are favorable, less than half the land suitable for rubber plantations is under cultivation. Tin mining is handicapped by the unfavorable market situations plus the depletion of alluvial deposits which has reduced tin exports. On the other extreme, Thailand is presently under an economic development program which requires the importation of large quantities of capital goods. This only widens the deficit gap.

Table 8 shows the total values of all imports and exports and the corresponding deficits for each of the years 1953-1962. These figures are derived by converting Thailand's Department of Customs' figures

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[10] Ibid., p. 244.

[11] Unfavorable balance of trade: a condition said to exist in the international trade of a given country when the money value of its merchandise imports exceeds the money value of its merchandise exports for a particular period of time.

[12] Public Development Program, p. 4.

using yearly exchange rates, the price of the Thai currency (baht) in terms of other currencies varied from year to year. The deficits have fluctuated widely from the low of $18.3 million in 1961 to the high of $99.8 million in 1962. The average yearly deficit, however, is approximately $50.9 million.

Table 8. Thailand's total values of all imports and exports 1953-1962 (Million of U.S. current dollars)

Year	Imports	Exports	Deficits
1953	307.4	272.7	34.7
1954	340.1	295.8	44.3
1955	361.5	340.5	21.0
1956	373.9	335.1	38.8
1957	412.2	360.7	51.5
1958	393.5	305.5	88.0
1959	427.8	356.7	71.1
1960	459.2	407.4	51.8
1961	494.5	476.2	18.3
1962	557.0	457.2	99.8

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand 1962 (Bangkok, 1963), p. G.

Table 9 indicates the total values of all imports and exports and the corresponding deficits during the period 1953-1962. The values are measured in million of U.S. constant dollars, using the year 1956 as the base. The figures derived from the Department of Customs' figures on the basis of an exchange ratio of 20 baht per U.S. dollar.

Table 9. Thailand's total values of all imports and exports 1953-1962 (Million of U.S. constant dollars)

Year	Imports	Exports	Deficits
1953	323.5	288.5	35.0
1954	351.0	308.8	42.2
1955	375.1	356.0	19.1
1956	382.7	346.1	36.6
1957	426.8	376.9	49.9
1958	411.8	322.3	89.5
1959	449.4	378.0	71.4
1960	481.1	430.7	50.4
1961	514.3	499.8	14.5
1962	575.1	476.4	98.7

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand 1962 (Bangkok, 1963), p. G.

It can be seen that the prices of these principal exports are not the major cause of the adverse balance of trade. It is rather the

fluctuations in the quantities exported. The following chapter will be devoted to an investigation of the principal exports, rice, rubber, tin, and teak. Investigations of principal imports, manufactured goods, machinery and transportation equipment, mineral fuels and lubricants, and chemicals will be in the chapter following the discussion of exports. The significance of these principal exports and imports is the fact that they comprised an average of about three-fourths of the total export and import values during the period 1953-1962.

CHAPTER III

THAILAND'S PRINCIPAL EXPORTS AND COUNTRIES OF DESTINATION

Thailand is classified as an underdeveloped and agricultural country. It possesses a tropical monsoon climate with an abundant rainfall. Agriculture produces almost 50 percent of the national income and approximately 85 to 90 percent of the total export income.[1]

The principal exports are primary products which consist of rice (leading export), rubber, tin, and teak. These four products yielded an average of 74.7 percent of the total export income for the years 1953-1962, Table 10.

Export trends have been reversed in the past decade. Rice exports have dropped from 64.9 percent of total exports in 1953 to only 34.0 percent in 1962. The export of rubber, on the other hand, has increased from 13.2 percent of total exports in 1953 to over 22 percent in 1962. While equal to rice exports in 1960, rubber exports have been subject to rather wide and varied fluctuations. Exports of tin and teak have remained rather stable throughout the entire decade with the exception of a decline in the export of teak in 1961 and 1962. These

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[1]A Mission organized by the International Bank for Reconstruction and Development at the Request of the Government of Thailand, A Public Development Program for Thailand (Baltimore: The Johns Hopkins Press, 1959), p. 33.

Table 10. Percentage of total income from Thailand's exports contributed by four products[a]

Year	Rice	Rubber	Tin	Teak	Percentage of all four
1953	64.9	13.2	5.1	2.3	85.5
1954	49.9	17.8	6.0	3.4	77.1
1955	43.9	25.4	6.1	3.7	79.1
1956	43.3	22.9	7.5	4.5	78.2
1957	48.3	18.6	6.9	3.4	77.2
1958	46.3	20.5	3.9	3.6	74.3
1959	34.0	30.9	6.1	3.4	74.4
1960	29.6	29.7	6.2	4.7	70.2
1961	36.0	21.3	6.0	2.8	66.1
1962	34.0	22.1	7.2	1.8	65.1

[a]The term, exports income, used here is the same as export value.

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand 1962 (Bangkok, 1963), p. J.

four exports, rice rubber, tin, and teak, accounted for 85.5 percent of all export income in 1953 and only 65.1 percent of total exports income in 1962. This decline does not imply a drop in the absolute level of export income derived from these four sources, but rather a relative decline as other export items have gained in significance. The new entries into the export market consist of corn and agricultural produce which accounted for 5.2 and 11.5 percent of the total export income respectively in the year 1962.[2]

[2]Annual Statement of Foreign Trade, p. I.

Rice

Rice production in Thailand occupies more than 70 percent of the total cultivated land.[3] The Central Plains are used extensively for rice production and accounts for a substantial amount of all rice exports.

Table 11. Total quantities and value of rice exports from Thailand 1953-1962

Year	Metric tons	Thousands of U.S. current dollars
1953	1,359,110	177,063
1954	1,001,486	147,817
1955	1,236,539	149,847
1956	1,264,966	117,517
1957	1,570,237	173,303
1958	1,132,930	140,657
1959	1,091,671	121,544
1960	1,202,772	121,558
1961	1,575,998	172,379
1962	1,271,023	155,458

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand 1962 (Bangkok, 1963), p. J.

Prior to 1960, more income was derived from the export of rice than from any other product. In 1960, however, income from rice

[3] Public Development Program, pp. 33-34.

exports equalled that from rubber exports. For the decade as a whole, income derived from rice exports averaged 43 percent of total export income. (See Table 10)

There is a sharp increase in the value of rice exports in 1961 and 1962 despite a big drop in the quantity exported. This is due to a decrease in the world supply of rice and reflects a higher price structure. For 1962, the price increase amounted to 12 percent.[4]

Table 12 shows rice exports by countries of destination for the period 1953-1962. Exports are valued in thousands of U.S. current dollars and are measured in metric tons. Some of the major purchasers are Japan, Singapore, Hong Kong, Malaya, Indonesia, British North Borneo, Netherlands, United Kingdom, Saudi Arabia, and Denmark.

The value of rice purchased by Japan began to decline after 1959, while the purchases made by Malaya and Indonesia increased. Exports obtained by Singapore were rather stable until 1959, when these began to decline. Purchases made by Hong Kong were also stable, except for a drop from $28,001,000 in 1953 to $15,257,000 in 1954. The value of rice purchased by British North Borneo, Netherlands, United Kingdom, Saudi Arabia, and Denmark increased throughout the decade with a minor exception in the case of the Netherlands during 1960 and 1961.

Average annual rice exports amounted to 1,267,000 metric tons, valued at $147,714,300.

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[4]Department of Customs and Bank of Thailand, Annual Statement of Foreign Trade and Balance of Payments 1962 (Bangkok, 1963), p. 3.

Table 12. Thailand's rice exports by countries of destination, 1953-1962 (Thousands of U.S. current dollars; quantity in metric tons)

Countries of destination	1953		1954		1955		1956		1957	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Japan	487,456	68,126	332,765	52,217	370,212	50,453	142,265	16,218	146,300	15,473
Singapore	253,287	31,741	210,930	29,631	246,087	28,769	302,417	14,637	296,089	34,255
Hong Kong	243,774	28,001	115,504	15,257	170,638	19,110	185,676	18,911	191,771	20,203
Malaya	122,998	15,878	85,703	11,529	155,322	18,025	169,145	18,374	166,754	18,891
Indonesia	46,179	6,640	77,420	13,090	66,308	7,405	166,563	17,324	178,594	18,195
British North Borneo	20,466	2,462	35,988	5,249	41,161	4,802	46,879	5,551	57,450	6,888
Netherlands	35,126	4,473	40,011	6,275	40,337	5,395	56,828	7,029	52,013	5,914
United Kingdom	2,251	359	19,184	2,665	9,333	1,213	20,138	2,456	26,059	2,888
Saudi Arabia	999	144	3,362	462	1,600	230	12,041	1,511	69,715	9,239
Denmark	1,208	151	2,052	310	7,409	888	12,084	1,360	18,452	2,018
Others	145,366	19,088	78,567	11,132	128,060	13,557	150,934	14,146	367,040	39,339
Total	1,359,110	177,063	1,001,486	147,817	1,236,539	149,847	1,264,966	117,517	1,570,237	173,303

Countries of destination	1958		1959		1960		1961		1962	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Japan	72,479	7,934	93,205	9,642	90,027	7,087	50,549	4,714	64,242	6,906
Singapore	222,414	28,815	217,897	25,607	208,772	23,258	195,401	24,002	172,287	24,330
Hong Kong	171,388	20,040	162,847	17,878	179,583	18,737	194,860	21,976	218,707	27,829
Malaya	143,140	18,583	211,573	22,860	193,814	21,222	191,878	22,556	145,340	19,611
Indonesia	130,832	15,500	74,629	6,686	137,987	16,097	376,102	34,253	266,166	26,863
British North Borneo	49,643	6,252	55,358	5,610	45,262	4,845	56,229	6,499	53,439	7,232
Netherlands	43,618	5,811	29,516	3,809	16,617	2,057	12,245	1,579	32,122	4,349
United Kingdom	45,126	5,686	24,696	2,876	18,609	1,887	33,339	4,019	23,196	2,757
Saudi Arabia	44,471	5,845	93,680	10,884	85,979	8,697	58,416	6,917	70,512	9,541
Denmark	10,621	1,170	8,666	970	5,234	562	4,979	491	14,508	1,552
Others	199,198	25,021	119,604	14,722	220,888	17,109	402,000	45,373	210,004	24,488
Total	1,132,930	140,657	1,091,671	121,544	1,202,772	121,558	1,575,998	172,379	1,271,023	155,058

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand (Bangkok, 1953-1962).

Rubber

Rubber is produced principally in the southern part of Thailand.[5] While land well suited for rubber production is plentiful, little or no rubber was produced prior to World War I. Subsequently, rubber and rubber products became important exports. Between 1953 and 1962, rubber accounted for 22.2 percent of income derived from exports, Table 10. Rubber thus ranked second only to rice as an income-generating export.

Table 13 indicates that a remarkable increase has taken place in rubber acreage during the period 1920-1950. This expansion in rubber was primarily due to the increase in small landholders. The average holdings in 1950 could be broken down into the following categories: 87,780 held less than 50 rai each; 3,426 held from 50 to 249; and 241 held 250 rai and more.[6]

Table 14 lists rubber exports by countries of destination for the period 1953-1962. Exports, as here listed, are valued in thousands of U.S. current dollars and measured in metric tons. The United States has traditionally been one of the major buyers of rubber. Their purchases, however, fell from $35,046,000 in 1953 to $22,505,000 in 1962. Japan, on the other hand, while accounting for only $453,000 of rubber exports in 1953 became the largest buyer of Thai rubber in 1961. In 1962 Japan alone accounted for over $27,000,000 worth of rubber exports.

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[5] James C. Ingram, Economic Change in Thailand Since 1850 (Stanford: Stanford University Press, 1955), p. 101.

[6] Ingram, p. 102.

Table 13. Thailand's rubber acreage, 1920-1950 (Thousands of acres)

Year	Mature[a]	Immature	Total
1920			60
1929	35	114	149
1934	200	166	366
1940	300	120	420
1944		(1/6 to 1/3 immature)	440
1950	688	112	800

[a]The trees are ready for tapping for latex when about five years old, but the yield of latex and the quality of rubber obtained is not so good as when the trees are a few years older.

Source: James C. Ingram, Economic Change in Thailand Since 1850 (Stanford: Stanford University Press, 1955), p. 102.

Thailand started to export rubber to Russia in 1959 and Czechoslovakia in 1958. Based on recent trends, Russia has the potential of becoming an important market for Thai rubber. Russia's purchases of $2,060,000 in 1959 increased to $4,115,000 in 1960.

Average annual rubber exports amounted to 149,800 metric tons, valued at $81,394,800.

Table 14. Thailand's rubber exports by countries of destination, 1953-1962 (Thousands of U.S. current dollars, quantity in metric tons)

Countries of destination	1953		1954		1955		1956		1957	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
United States	102,009	35,046	133,915	52,045	125,659	82,679	123,436	67,702	119,987	60,690
Japan	1,168	453	1,636	711	241	172	178	118	57	34
Singapore	---	---	---	---	255	213	4,128	1,438	7,672	2,728
Malaya	10	3	455	204	215	155	4,497	1,912	4,357	1,946
West Germany	---	---	5	2	2,080	1,817	3,332	2,285	2,348	1,406
United Kingdom	---	---	---	---	1,023	1,009	347	240	924	561
U.S.S.R.	---	---	---	---	---	---	---	---	---	---
Czechoslovakia	---	---	---	---	---	---	---	---	---	---
Others	30	11	270	137	137	123	306	135	193	97
Total	103,217	35,513	136,281	53,099	132,610	86,168	136,224	73,880	135,538	67,462

Countries of destination	1958		1959		1960		1961		1962	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
United States	92,723	44,407	108,308	67,776	59,075	41,113	45,690	23,264	44,150	22,505
Japan	368	179	16,578	11,987	40,717	31,416	44,926	25,845	50,742	27,211
Singapore	17,138	6,213	25,686	14,806	19,495	12,957	12,459	6,333	4,392	2,278
Malaya	4,725	1,195	10,473	6,670	15,766	10,912	17,683	9,360	23,605	11,558
West Germany	6,225	3,079	4,338	2,921	14,280	10,707	20,658	11,436	19,225	9,745
United Kingdom	10,780	5,240	4,277	2,774	5,007	3,450	19,535	11,679	28,371	15,448
U.S.S.R.	---	---	2,845	2,060	7,606	5,806	6,942	4,176	7,401	4,115
Czechoslovakia	203	115	457	302	3,391	2,603	3,038	1,760	989	499
Others	3,346	1,602	1,442	942	4,318	3,046	13,667	7,612	15,305	7,915
Total	135,508	62,830	174,401	110,238	169,655	122,010	184,598	101,474	194,180	101,274

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand (Bangkok, 1953-1962).

Tin

The production of tin in Thailand is concentrated in the southern part of the country.[7] Tin mining remained in the hands of the Chinese until the first decade of the twentieth century. In 1892, the government revised the licenses and royalties system in order to control tin mining more effectively. At the same time, it encouraged Westerners to undertake mining operations. Little change took place until 1907, when the Tongkah Harbour Tin Dredging Company, an Qustralian firm, introduced the first dredge into Thailand. Since then, Western firms have become more important.

The production of tin, between 1950 to 1955 remained steady at about 14,000 tons and increased to 18,600 tons in 1957. The total export income derived from tin averaged 6.1 percent for the years 1953-1962, Table 10.

Table 15 lists tin exports by countries of destination for the period 1953-1962. Exports are valued in thousands of U.S. current dollars and measured in metric tons. Malaya was the largest single buyer of Thai tin from 1953 to 1962. Their purchases increased from $6,386,000 in 1953 to $21,955,000 in 1962. The United States ranked second among the purchasers of Thai tin. However, their purchases have varied from a high of $5,235,000 in 1953 to a low of $3,000 in 1957. A substantital recovery occurred in 1959 with purchases of

[7] Ingram, pp. 98-100.

Table 15. Thailand's tin exports by countries of destination, 1953-1962 (Thousands of U.S. current dollars; quantity in metric tons)

Countries of destination	1953		1954		1955		1956		1957	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Malaya	6,407	6,386	10,321	13,137	10,509	14,424	13,794	19,322	17,073	23,519
United States	5,824	5,235	2,363	3,175	3,886	4,817	2,488	3,218	5	3
Brazil	2,091	2,210	517	650	752	1,076	562	894	390	565
Singapore	147	98	576	816	351	542	376	565	480	690
Netherlands	247	231	40	43	---	---	---	---	---	---
Others	19	12	63	66	137	204	378	560	448	637
Total	14,798	14,172	13,880	17,887	15,635	21,065	17,598	24,559	18,396	25,414

Countries of destination	1958		1959		1960		1961		1962	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Malaya	8,266	10,984	9,206	13,605	13,196	19,627	12,695	20,438	12,936	21,955
United States	377	490	2,751	4,160	1,324	1,655	150	238	101	169
Brazil	27	36	1,381	2,126	1,292	1,953	900	1,414	1,699	2,996
Singapore	220	291	295	439	455	717	85	135	25	44
Netherlands	---	---	12	17	585	942	2,146	3,873	3,958	6,223
Others	260	279	92	144	252	392	2,128	3,192	1,122	1,486
Total	9,096	12,080	13,737	20,491	17,114	25,286	18,104	29,390	19,841	32,873

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand (Bangkok, 1953-1962).

$4,160,000. Then, the trend was reversed in 1960, 1961, and 1962, when the total purchases equalled $1,655,000, $238,000, and $169,000 respectively. Brazilian purchases of tin have likewise been rather unstable. For instance, in 1958 only $36,000 was purchased; and this figure increased to $2,996,000 in 1962.

Average annual tin exports amounted to 15,760 metric tons, valued at $22,321,700.

Teak

Teak forests are located in the northern part of the country.[8] The teak industry is controlled by foreign entrepreneurs, especially the export sector. European firms began to invest in Thai forests in 1885. At the beginning of the twentieth century, the total foreign capital invested in the teak industry was estimated at 2,500,000 pounds sterling, and 80 percent of this amount belonged to the British investors. In 1938, Europeans controlled about 88 percent of the industry; local lessees, seven percent (probably Chinese); and the Forest Department, five percent.

Substantial amounts of this product are used domestically for house construction, furniture, shipbuilding, etc. The export income derived from teak averaged about 3.4 percent of total export income during 1953-1962, Table 10.

Table 16 lists teak exports by countries of destination. Exports are valued in thousands of U.S. current dollars and measured in cubic

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[8]Ingram, pp. 105-108.

Table 16. Thailand's teak exports by countries of destination, 1953-1962 (Thousands of U.S. current dollars, quantity in cubic meters)

Countries of destination	1953		1954		1955		1956		1957	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Denmark	4,095	450	9,743	1,487	11,017	1,848	15,939	2,620	14,138	2,720
United Kingdom	6,083	815	8,844	1,347	14,347	2,801	16,375	3,693	11,925	2,505
West Germany	1,395	177	1,895	290	1,879	334	1,308	286	1,708	384
Netherlands	4,506	619	3,933	637	6,159	1,259	6,413	1,414	7,193	1,464
Hong Kong	19,306	1,226	20,630	1,569	20,980	1,719	21,055	1,861	16,206	1,832
Sweden	1,890	234	2,897	551	1,926	337	1,080	215	2,181	485
Others	31,083	2,775	31,139	4,223	31,572	4,341	29,755	4,700	22,396	3,607
Total	68,358	6,296	79,078	10,104	87,878	12,639	91,925	14,789	75,747	12,997

Countries of destination	1958		1959		1960		1961		1962	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Denmark	19,253	3,369	20,441	3,579	31,268	5,164	14,968	2,817	9,805	1,799
United Kingdom	10,262	1,881	7,944	1,568	11,519	2,415	11,876	2,793	1,413	349
West Germany	1,951	410	3,688	783	10,122	1,979	1,951	442	1,900	492
Netherlands	6,472	1,235	4,518	922	8,280	1,622	5,063	1,137	1,253	297
Hong Kong	11,511	985	12,714	1,092	11,327	1,017	8,083	711	3,779	303
Sweden	2,440	429	2,102	285	5,208	1,078	2,294	438	2,917	580
Others	20,661	3,006	21,846	3,284	23,201	3,668	20,293	3,671	18,686	4,340
Total	72,550	11,315	73,253	11,513	100,925	16,943	64,528	12,009	39,753	8,160

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand (Bangkok, 1953-1962).

meters. Denmark is the largest purchaser of Thai teak. Their purchases increased from $450,000 in 1953 to $5,164,000 in 1960 and then declined to $2,817,000 and $1,799,000 in 1961 and 1962, respectively. The United Kingdom ranked second next to Denmark. However, their purchases were subject to wider fluctuations; for example, the value fell from $3,693,000 in 1956 to $349,000 in 1962. The purchases made by Hong Kong have been subject to a declining trend and for the Netherlands fluctuated widely with a big drop in year 1962.

Average annual teak exports amounted to 75,350 cubic meters, valued at $11,676,500.

Table 17 lists rice exports by countries of destination for the period 1953-1962. Exports are valued in thousands of U.S. constant dollars and measured in metric tons. The value of rice exports as here listed is slightly higher as compared to Table 3 which valued in current U.S. dollars. However, the overall trend is the same. The difference is due to the fact that constant dollars are valued at 20 baht per U.S. dollar, while the annual exchange rate is exchanged slightly over 20 baht per U.S. dollar. The same reason is applied to Tables 18, 19, and 20.

The trend of rice exports fluctuated widely throughout the decade. In 1954 it dropped 18 percent of the 1953 level and again increased 26 percent in 1957 from the 1956 level. The increase of 40 percent in 1961 represented the biggest increase of the period 1953-1962.

Table 17. Thailand's rice exports by countries of destination, 1953-1962 (Thousands of U.S. constant dollars; quantity in metric tons)

Countries of destination	1953		1954		1955		1956		1957	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Japan	487,456	72,077	332,765	54,515	370,212	52,749	142,265	16,753	146,300	16,170
Singapore	253,287	33,582	210,930	30,935	246,087	30,078	302,417	34,241	296,089	35,796
Hong Kong	243,774	29,625	115,504	15,928	170,638	19,979	185,676	19,535	191,771	21,112
Malaya	122,998	16,799	85,703	12,036	155,322	18,845	169,145	18,980	166,754	19,741
Indonesia	46,179	7,025	77,420	13,666	66,380	7,742	166,563	17,896	178,594	19,014
British North Borneo	20,466	2,605	35,988	5,480	41,161	5,021	46,879	5,734	57,450	7,198
Netherlands	35,126	4,733	40,011	6,551	40,337	5,640	56,828	7,261	52,013	6,180
United Kingdom	2,251	380	19,184	2,782	9,333	1,268	20,138	2,537	26,059	3,019
Saudi Arabia	999	152	3,362	483	1,600	240	12,041	1,561	69,715	9,655
Denmark	1,208	160	2,052	324	7,409	928	12,084	1,405	18,452	2,109
Others	145,366	20,200	78,567	11,625	128,060	14,178	150,934	17,129	367,040	41,113
Total	1,359,110	187,332	1,001,486	154,325	1,236,539	156,668	1,264,966	143,032	1,570,237	181,107

Countries of destination	1958		1959		1960		1961		1962	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Japan	72,479	8,370	93,205	10,216	90,027	7,491	50,549	4,947	64,242	7,197
Singapore	222,414	30,400	217,897	27,131	208,772	24,584	195,401	25,190	172,787	25,352
Hong Kong	171,388	21,143	162,847	18,942	179,583	19,805	194,860	23,064	218,707	28,998
Malaya	143,140	19,606	211,573	24,221	193,814	22,432	191,878	23,672	145,340	20,435
Indonesia	130,832	16,353	74,629	7,084	137,987	17,015	376,102	35,949	266,166	27,991
British North Borneo	49,643	6,597	55,358	5,944	45,262	5,121	56,229	6,821	53,439	7,536
Netherlands	43,126	6,131	29,516	4,036	16,617	2,174	12,245	1,657	32,122	4,532
United Kingdom	45,126	5,999	24,696	3,047	18,609	2,995	33,339	4,218	23,196	2,873
Saudi Arabia	44,471	6,167	93,680	11,532	85,979	9,193	58,416	7,260	70,512	9,942
Denmark	10,621	1,235	8,666	1,028	5,234	594	4,979	516	14,508	1,617
Others	199,198	26,398	119,604	15,600	220,888	17,086	402,000	46,615	210,004	25,520
Total	1,132,930	148,399	1,091,671	128,781	1,202,772	128,490	1,575,998	179,909	1,271,023	161,993

Source: Deaprtment of Customs, Annual Statement of Foreign Trade of Thailand (Bangkok, 1953-1962).

Table 18 lists rubber exports by countries of destination during 1953-1962. Exports are valued in thousands of U.S. constant dollars and are measured in metric tons. The trend reflected a sharp increase of 47 percent in 1954 and 62 percent in 1955 from the previous years level. It began to decrease during the following three years, 1956, 1957, 1958, followed by an increase of 76 percent in 1959.

Table 19 indicates tin exports by countries of destination between 1953-1962. Exports are valued in thousands of U.S. constant dollars and measured in metric tons. The tin exports trend has been rather favorable throughout the period 1953-1962, but for a big drop in the year 1958, due to an export quota set by the International Tin Agreement. However, it was followed by a recover of 70 percent in 1959 from the 1958 level, and the trend began to level off through 1962.

Table 20 shows teak exports by countries of destination for the period 1953-1962. Exports are valued in thousands of U.S. constant dollars and measured in cubic meters. The trend of teak exports has been fluctuating in a two-three years cycle. For example, there was an increase of 58 percent in 1954, 25 percent in 1955, and 15 percent in 1956 from the previous year level. The trend began to reverse in 1957 and 1958. In 1959 and 1960, there was an increase followed by a decrease in the last two years.

Tables 17, 18, 19, and 20 represent additional evidence that changes in exported quantities of these principal products are the major cause of thailand's adverse balance of trade.

Table 18. Thailand's rubber exports by countries of destination, 1953-1962 (Thousands of U.S. constant dollars; quantity in metric tons)

Countries of destination	1953		1954		1955		1956		1957	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
United States	102,009	37,079	133,915	54,335	128,659	86,441	123,436	69,936	119,987	63,422
Japan	1,168	479	1,636	743	241	130	178	123	57	36
Singapore	---	---	---	---	255	223	4,128	1,486	7,672	2,851
Malaya	10	3	455	213	215	163	4,497	1,975	4,357	2,034
West Germany	---	---	5	2	2,080	1,901	3,332	2,361	2,348	1,470
United Kingdom	---	---	---	---	1,023	1,055	347	248	924	587
U.S.S.R.	---	---	---	---	---	---	---	---	---	---
Czechoslovakia	---	---	---	---	---	---	---	---	---	---
Others	30	11	270	144	137	129	306	191	193	102
Total	103,217	37,572	136,281	55,437	132,610	90,042	136,224	76,320	135,538	70,502

Countries of destination	1958		1959		1960		1961		1962	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
United States	92,723	46,850	108,308	71,809	59,075	43,456	45,690	24,416	44,150	23,450
Japan	368	189	16,578	12,700	40,717	33,207	44,926	27,134	50,742	28,354
Singapore	17,138	6,554	25,686	15,687	19,495	13,695	12,459	6,646	4,392	2,374
Malaya	4,725	2,104	10,473	7,067	15,766	11,534	17,683	9,823	23,605	12,043
West Germany	6,225	3,248	4,338	3,095	14,280	11,318	20,658	12,003	19,225	10,155
United Kingdom	10,780	5,528	4,277	2,939	5,007	3,647	19,535	12,257	28,371	16,097
U.S.S.R.	---	---	2,845	2,182	7,606	6,136	6,942	4,383	7,401	4,288
Czechoslovakia	203	122	457	321	3,391	2,751	3,038	1,847	989	520
Others	3,346	1,690	1,442	998	4,318	3,220	13,667	7,989	15,305	8,248
Total	135,508	66,285	174,401	116,798	169,655	128,964	184,598	106,498	194,180	105,529

Source: Deaprtment of Customs, Annual Statement of Foreign Trade of Thailand (Bangkok, 1953-1962).

Table 19. Thailand's tin exports by countries of destination, 1953-1962 (Thousands of U.S. constant dollars; quantity in metric tons)

Countries of destination	1953		1954		1955		1956		1957	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Malaya	6,470	6,756	10,321	13,715	10,509	15,081	13,794	19,959	17,073	24,577
United States	5,824	5,539	2,363	3,315	3,886	5,038	2,488	3,324	5	3
Brazil	2,091	2,338	517	678	752	1,125	562	923	390	590
Singapore	147	104	576	852	351	566	376	584	480	721
Netherlands	247	245	40	45	---	---	---	---	---	---
Others	19	13	63	69	137	213	378	579	448	665
Total	14,798	14,995	13,880	18,674	15,635	22,023	17,598	25,369	18,396	26,556

Countries of destination	1958		1959		1960		1961		1962	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Malaya	8,266	11,588	9,206	14,415	13,196	20,746	12,695	21,450	12,936	22,878
United States	377	517	2,751	4,408	1,324	1,750	150	250	101	176
Brazil	27	38	1,381	2,252	1,292	2,064	900	1,589	1,699	3,121
Singapore	220	308	295	465	465	757	85	142	25	46
Netherlands	---	---	12	18	585	996	2,146	4,065	3,958	6,485
Others	206	294	92	152	252	415	2,128	3,350	1,122	1,548
Total	9,096	12,745	13,737	21,710	17,114	26,728	18,104	30,846	19,841	34,254

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand (Bangkok, 1953-1962).

Table 20. Thailand's teak exports by countries of destination, 1953-1962 (Thousands of U.S. constant dollars; quantity in cubic meters)

Countries of destination	1953		1954		1955		1956		1957	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Denmark	4,095	476	9,743	1,552	11,017	1,932	15,939	2,707	14,138	2,842
United Kingdom	6,083	863	8,844	1,407	14,347	2,928	16,375	3,815	11,925	2,618
West Germany	1,395	187	1,895	303	1,879	349	1,308	296	1,708	401
Netherlands	4,506	655	3,933	665	6,157	1,317	6,413	1,460	7,193	1,530
Hong Kong	19,306	1,297	20,630	1,638	20,980	1,797	21,055	1,923	16,206	1,914
Sweden	1,890	248	2,897	575	1,926	353	1,080	222	2,181	507
Others	31,083	2,936	31,136	4,409	31,575	4,539	29,755	4,855	22,396	3,769
Total	68,358	6,662	79,078	10,549	87,878	13,215	91,925	15,278	75,747	13,581

Countries of destination	1958		1959		1960		1961		1962	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Denmark	19,253	3,554	20,441	3,792	31,268	5,459	14,968	2,957	9,805	1,874
United Kingdom	10,262	1,985	7,944	1,661	11,519	2,553	11,876	2,931	1,413	364
West Germany	1,951	432	3,688	830	10,122	2,092	1,951	464	1,900	512
Netherlands	6,472	1,303	4,518	977	8,280	1,714	5,063	1,193	1,253	309
Hong Kong	11,511	1,040	12,714	1,157	11,327	1,075	8,083	746	3,779	316
Sweden	2,440	452	2,102	302	5,208	1,033	2,294	460	2,917	605
Others	20,661	3,171	21,846	3,480	23,201	3,877	20,293	3,853	18,686	4,522
Total	72,550	11,937	73,253	12,199	100,925	17,803	64,528	12,604	39,753	8,502

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand (Bangkok, 1953-1962).

The total exports for the period 1953 to 1962 will be discussed in Chapter V.

CHAPTER IV

THAILAND'S PRINCIPAL IMPORTS AND COUNTRIES OF ORIGIN

Thailand, a primary producing country, is forced to import essential manufactured goods: machinery, transport equipment, mineral fuels and lubricants, and chemical products. These four principal import categories accounted for an average of 77.1 percent of the total value of imports between 1953 and 1962. Despite the fact that Thailand has essentially an agriculturally-based economy, food imports are also important and accounted for 6.5 percent of the value of total imports in 1962.[1]

Table 21 lists the percentage of total imports accounted for by these four major import categories for the period 1953-1962. Note that while these four import categories accounted for only 69.5 percent of total imports in 1953, they accounted for 82 percent in 1962. Machinery and transport equipment, mineral fuels, lubricants, and chemicals all increased as a proportion of total imports for the period considered while the proportion of manufactured goods declined.

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[1]Department of Customs, Annual Statement of Foreign Trade of Thailand 1962 (Bangkok, 1963), p. I.

Table 21. Percentage of value of Thailand's four major imports, 1953-1962

Year	Manufactured goods	Machinery and transport equipment	Mineral fuels, lubricants and related materials	Chemicals	Percent of total imports
1953	35.9	21.1	7.3	5.2	69.5
1954	36.8	19.8	8.1	7.5	72.2
1955	36.8	18.4	9.2	7.7	72.1
1956	38.8	20.4	10.4	8.7	78.3
1957	36.8	22.3	10.8	8.8	78.7
1958	35.9	22.5	10.9	9.1	78.4
1959	34.7	24.5	10.5	10.3	80.0
1960	34.2	24.8	10.6	10.2	79.8
1961	36.5	23.9	9.9	10.2	80.5
1962	33.6	27.4	10.6	10.4	82.0

Source: Statistical Year Book of Thailand 1956 to 1958, Central Statistical Office, Office of the National Economic Development Board, (Bangkok, 1959), pp. 138-139; Department of Customs, Annual Statement of Foreign Trade of Thailand, (Bangkok, 1959, 1960, 1961, 1962).

Manufactured Goods

Manufactured goods consist of manufactured rubber, automobile tires, paper, plywood, textiles, cements, carpet, glass, ceramics,

custom jewelry, steel, copper, neckel, etc.[2] These manufactured goods classified by material comprised an average of 36 percent of total imports between 1953-1962, Table 21.

Table 22 lists imports of manufactured goods by country of origin for the period 1955-1962. Imports are valued in thousands of U.S. current dollars. Japan, the most important supplier of manufactured goods, accounted for over 39 percent of total manufactured imports in 1955 and 51 percent in 1962. Hong Kong, the second most important supplier, accounted for 13 percent of total manufactured imports in 1955 and only four percent in 1962. However, imports from Hong Kong fluctuated rather widely from a high of $39,081,000 in 1956 to a low of $7,451,000 in 1962. The United States has also been an important source of manufactured goods. In 1955, U.S. exports of manufactures to Thailand amounted to $9,879,000 and in 1962 to $16,852,000. The value of imports from the United Kingdom declined from $12,771,000 in 1955 to $9,249,000 in 1962, while imports from West Germany remained stable from 1955 to 1962 at about $8,558,000.

Average annual imports of manufactured goods was $155,663,000.

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[2]Department of Customs and Bank of Thailand, Annual Statement of Foreign Trade and Balance of Payments 1962 (Bangkok, 1963), Table 26.

Table 22. Thailand manufactured goods imports by countries of origin, 1955-1962 (Thousands of U.S. current dollars)

Countries of origin	1955	1956	1957	1958	1959	1960	1961	1962
Japan	52,481	47,191	60,502	64,882	70,775	76,992	89,038	96,222
France	2,795	2,344	3,998	2,197	2,284	3,102	7,259	9,200
United States	9,879	7,230	9,898	12,188	12,422	14,081	13,653	16,552
Hong Kong	17,060	39,081	19,604	23,745	16,230	13,603	14,182	7,451
Belgium	2,216	3,224	4,297	1,958	2,998	1,781	1,778	2,836
United Kingdom	12,771	10,796	12,168	9,173	8,995	9,594	10,240	9,249
West Germany	8,626	8,304	10,767	7,692	8,519	8,591	8,173	7,796
Sweden	1,397	2,589	1,738	1,355	2,284	1,957	1,971	1,840
Italy	1,542	1,514	1,883	1,242	1,237	1,336	1,634	3,341
Netherlands	3,614	1,221	3,283	2,006	2,617	1,336	1,346	1,162
India	7,614	5,373	7,677	4,634	5,140	4,964	6,778	7,263
Malaya	3,084	3,175	3,153	2,293	1,951	2,004	1,730	193
Taiwan	48	146	241	143	951	1,957	5,865	8,523
Singapore	5,253	6,399	4,397	2,914	4,902	5,871	4,423	96
Others	4,674	6,888	8,353	5,160	6,996	9,880	12,548	15,399
Total	133,054	145,475	151,844	141,607	148,301	156,956	180,618	187,423

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand (Bangkok, 1955 to 1962).

Machinery and Transport Equipment

Machinery and transport equipment includes machine parts and accessories, machine tools, agricultural machinery (tractors and trucks), buses, aircraft, etc.[3] These imported goods accounted for an average of 22.5 percent of the total value of imports from 1953-1962, Table 21.

Table 23 lists imports of machinery and transport equipment by countries of origin for the period 1955-1962. All imports are valued in thousands of U.S. current dollars. Imports from the United States amounted to $18,843,000 in 1955 and $37,627,000 in 1962. This accounted for 13 percent of total machine and equipment imports in 1955 and 25 percent in 1962. Although the United States has traditionally been the major supplier of machine and transport equipment, imports from Japan have in recent years exceeded imports from the United States. By 1962 imports from Japan accounted for 28 percent of the total; whereas imports from the United States accounted for 25 percent. Imports from the United Kingdom amounted to $16,000,000 in 1955 and $23,147,000 in 1962. This, however, represents a decrease from 24 percent of total machine and equipment imports in 1955 to less than 15 percent in 1962.

Average annual imports of machinery and transport equipment was $102,058,000.

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[3] Annual Statement of Foreign Trade and Balance of Payment 1962, Table 26.

Table 23. Thailand machinery and transport equipment imports by countries of origin, 1955-1962 (Thousands of U.S. current dollars)

Countries of origin	1955	1956	1957	1958	1959	1960	1961	1962
Japan	8,530	8,988	14,630	15,145	21,989	25,107	35,625	42,857
United States	18,843	19,198	24,234	25,131	25,892	29,164	20,865	37,627
West Germany	6,843	8,500	11,926	11,562	12,517	18,568	15,480	19,806
United Kingdom	16,000	18,270	19,121	18,251	20,276	18,520	20,084	23,147
Italy	1,108	1,221	1,496	1,433	1,047	2,338	3,269	4,309
France	433	586	579	2,627	8,234	2,959	1,586	7,990
Sweden	578	439	531	430	333	2,434	960	3,680
Netherlands	4,530	4,689	4,876	3,201	3,522	2,816	3,221	5,472
Denmark	1,108	2,051	1,931	2,341	1,570	1,813	5,625	968
Hong Kong	1,493	3,419	1,690	2,436	1,951	2,577	1,923	629
Malaya	1,831	2,100	3,959	1,051	1,903	1,241	1,682	145
Singapore	2,939	3,175	4,683	2,771	2,189	2,243	2,019	145
Others	7,180	1,758	2,414	2,532	3,284	4,295	5,721	6,053
Total	71,416	74,394	92,075	88,911	104,707	114,075	118,060	152,828

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand (Bangkok, 1955-1962).

Mineral Fuels, Lubricants, and Related Materials

The products included in this category are coal, coke, and petroleum products.[4] These products comprised an average of 9.8 percent of the total value of imports from 1953-1962, Table 21.

Table 24 lists imports of mineral fuels, lubricants, and related materials by countries of origin for the years 1955-1962. Imports are valued in thousands of U.S. current dollars. Indonesia is the largest supplier of these products. The value of goods supplied by Indonesia increased from a low of $11,373,000 in 1955 to a high of $36,125,000 in 1962. The value of imports from Singapore, the second largest supplier, increased from $8,481,000 in 1955 to a high of $18,990,000 in 1959 and then declined to $1,162,000. The value of fuel and lubricant imports from Iran amounted to $1,909,000 in 1960, fell to $144,000 in 1961, and then increased to $10,169,000 in 1962. This amounted to 17 percent of total fuel and lubricant imports in 1962. In the case of the United States, the value of imports fluctuated less widely. The value of imports from the Netherlands, Japan, and the United Kingdom increased, while the value from Bahrein and Malaya decreased.

Average annual imports of mineral fuels, lubricants, and related materials was $45,113.

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[4] Annual Statement of Foreign Trade and Balance of Payment 1962, Tabl3 26.

Chemicals

Chemical products imported by Thailand consist of dye extracts, perfumes, synthetics, medicine, fertilizer, and dynamite.[5] These imported products comprised an average of 8.8 percent of the total value of imports for the period 1953-1962, Table 21.

Table 25 lists chemical products imported by country of origin for each of the years 1955-1962. Imports are valued in thousands of U.S. current dollars. The United States is the single largest supplier of chemical products to Thailand. The value of these products increased from $7,518,000 in 1955 to $13,462,000 in 1962. The United Kingdom ranked second among the suppliers. In 1955 the United Kingdom supplied $4,337,000 worth of chemical products to Thailand. This figure increased to $7,990,000 by 1962. Imports of chemicals from Japan has increased at a rather rapid rate. In 1955 these imports amounted to $1,445,000 and then increased to $11,234,000 in 1962, or increased 677 percent. By 1962 imports of chemicals from Japan accounted for over 19 percent of total chemical imports. During 1955-1962, the value of chemical products supplied by West Germany increased from $2,891,000 in 1955 to $8,958,000 in 1962.

Average annual imports of chemical products was $41,400,000.

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[5] Annual Statement of Foreign Trade and Balance of Payment 1962, Table 26.

Table 24. Thailand mineral fuels, lubricants and related materials imports by countries of origin, 1955-1962 (Thousands of U.S. current dollars)

Countries of origin	1955	1956	1957	1958	1959	1960	1961	1962
Indonesia	11,373	12,408	16,803	14,190	13,422	13,174	14,855	36,125
Iran	626	293	434	95	190	1,909	144	10,169
United States	3,807	2,589	3,476	2,293	2,189	3,120	1,971	3,970
Netherlands	963	635	1,255	1,194	1,570	2,195	1,971	2,953
Japan	48	195	579	95	237	334	1,153	2,082
United Kingdom	626	1,025	1,255	1,146	1,856	1,575	1,586	1,937
Bahrein	2,072	2,882	820	95	142	---	96	48
Malaya	4,481	5,178	5,697	4,395	3,902	3,579	3,173	---
Singapore	8,481	12,457	14,099	18,967	18,990	18,902	16,105	1,162
Others	867	195	386	573	2,522	4,152	7,596	823
Total	33,344	37,857	44,804	43,043	45,020	48,922	48,650	59,269

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand (Bangkok, 1953-1962).

Table 26 lists manufactured goods imports by countries of origin for the period 1955-1962. Imports are valued in thousands of U.S. constant dollars. The difference of import values in terms of current and constant dollars is because the latter is valued at an exchange rate of 20 baht per U.S. dollar, while the current exchange rate is a little over 20 baht per U.S. dollar. (The reason above is applicable to Tables 27, 28, and 29.

The trend of manufactured goods has steadily increased, except for a drop of six percent in 1958 from the previous year. In 1958 the export incomes dropped $83.1 million in current dollars, or about 22 percent from the 1957 level. (See Thailand's Balance of Payments, Table 30).

Table 27 indicates machinery and transport equipment imports by countries of origin between 1955-1962. Imports are valued in thousands of U.S. constant dollars.

The trend of machinery and transport equipment imports has been increasing with wide fluctuations. In 1958 there was a decrease of three percent after two years of increase. The trend began to increase after 1959 and continued through 1962.

Table 28 shows mineral fuels, lubricants, and related material imports by countries of origin during 1955-1962. Imports listed here are valued in thousands of U.S. constant dollars.

Imports of mineral fuels, lubricants, and related materials reflected an increase during 1956 and 1957. Again, there was a drop of

Table 25. Thailand chemical imports by countries of origin, 1955-1962 (Thousands of U.S. current dollars)

Countries of origin	1955	1956	1957	1958	1959	1960	1961	1962
United States	7,518	9,428	10,526	9,698	12,517	11,789	12,115	13,462
United Kingdom	4,337	5,080	5,697	5,590	6,092	6,443	7,115	7,990
West Germany	2,891	2,931	3,573	3,917	5,330	6,252	6,923	8,958
Switzerland	1,253	1,514	1,545	1,385	1,618	1,670	1,778	2,227
Italy	433	683	917	1,003	1,047	1,479	1,875	1,734
Hong Kong	3,614	3,810	4,056	4,443	4,569	4,248	3,942	2,227
Japan	1,445	1,563	3,186	4,156	5,759	6,169	7,211	11,234
Netherlands	1,531	1,563	2,124	1,290	1,856	2,434	2,259	2,276
Singapore	2,024	2,002	1,207	1,194	1,237	1,288	1,490	435
Others	2,650	3,370	3,573	3,487	3,855	5,250	5,528	7,070
Total	27,996	31,940	36,404	36,163	43,880	46,962	50,236	57,622

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand (Bangkok, 1953-1962).

Table 27. Thailand machinery and transport equipment imports by countries of origin, 1955-1962 (Thousands of U.S. constant dollars)

Countries of origin	1955	1956	1957	1958	1959	1960	1961	1962
Japan	8,850	9.200	15,150	15,850	23,100	26,300	37,050	44,250
United States	19,550	19,650	25,100	26,300	27,200	30,550	21,700	38,850
West Germany	7,100	8,700	12,350	12,100	13,150	19,450	16,100	20,450
United Kingdom	16,600	18,700	19,800	19,100	21,300	19,400	20,850	23,900
Italy	1,150	1,250	1,550	1,500	1,100	2,450	3,400	4,450
France	450	600	600	2,750	8,850	3,100	1,650	8,250
Sweden	600	450	550	450	350	2,550	1,000	3,800
Netherlands	4,700	4,800	5,050	3,350	3,700	2,950	3,350	5,650
Denmark	1,150	2,100	2,000	2,450	1,650	1,900	5,850	1,000
Hong Kong	1,550	3,500	1,750	2,550	2,050	2,700	2,000	650
Malaya	1,900	2,150	4,100	1,100	2,000	1,300	1,750	150
Singapore	3,050	3,250	4,850	2,900	2,300	2,350	2,100	150
Others	7,450	1,800	2,500	2,650	3,450	4,500	5,950	6,250
Total	74,100	76,150	95,350	93,050	110,000	119,500	122,750	157,800

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand (Bangkok, 1953-1962).

Table 28. Thailand mineral fuels, lubricants and related materials imports by countries of origin, 1955-1962
(Thousands of U.S. constant dollars)

Countries of origin	1955	1956	1957	1958	1959	1960	1961	1962
Indonesia	11,800	12,700	17,400	14,850	14,100	13,800	15,450	37,300
Iran	650	300	450	100	200	2,000	150	10,500
United States	3,950	2,650	3,600	2,400	2,300	3,250	2,050	4,100
Netherlands	1,000	650	1,300	1,250	1,650	2,300	2,050	3,050
Japan	50	200	600	100	250	350	1,200	2,150
United Kingdom	650	1,050	1,300	1,200	1,950	1,650	1,650	2,000
Bahrein	2,150	2,950	850	100	150	---	100	50
Malaya	4,650	5,300	5,900	4,600	4,100	3,750	3,300	---
Singapore	8,800	12,750	14,600	19,850	19,950	19,800	16,750	1,200
Others	900	200	400	600	2,650	4,350	7,900	850
Total	34,600	38,750	46,400	45,050	47,300	51,250	50,600	61,200

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand (Bangkok, 1953-1962).

three percent in 1958 from the previous years level. The increasing trend existed from 1959 to 1962, except for a drop of two percent in 1961.

Table 29 lists chemical imports by countries of origin for 1955 to 1962. Imports are valued in thousands of U.S. constant dollars.

The chemical imports have been subject to an increasing trend with some variations. For instance, in 1959 imports increased 21 percent over the 1958 level. The rate of increase for 1960 and 1961 is six percent.

Table 26, 27, 28, and 29 represent additional evidence that changes in imported quantities of these principal products are the major cause of Thailand's adverse balance of trade.

The total imports for 1955 to 1962 will be discussed in the following chapter.

Table 29. Thailand chemical imports by countries of origin, 1955-1962 (Thousands of U.S. constant dollars)

Countries of origin	1955	1956	1957	1958	1959	1960	1961	1962
United States	7,800	9,650	10,900	10,150	13,150	12,350	12,600	13,900
United Kingdom	4,500	5,200	5,900	5,850	6,400	6,750	7,400	8,250
West Germany	3,000	3,000	3,700	4,100	5,600	6,550	7,200	9,250
Switzerland	1,300	1,550	1,600	1,450	1,700	1,750	1,850	2,300
Italy	450	700	950	1,050	1,100	1,550	1,950	1,800
Hong Kong	3,750	3,900	4,200	4,650	4,800	4,450	4,100	2,300
Japan	1,500	1,600	3,300	4,350	6,050	6,400	7,500	11,600
Netherlands	1,900	1,600	2,200	1,350	1,950	2,550	2,350	2,350
Singapore	2,100	2,050	1,250	1,250	1,300	1,350	1,550	450
Others	2,750	3,450	3,700	3,650	4,050	5,500	5,750	7,300
Total	29,050	32,700	37,700	37,850	46,100	49,200	52,250	59,500

Source: Department of Customs, Annual Statement of Foreign Trade of Thailand (Bangkok, 1953-1962).

CHAPTER V

THAILAND'S BALANCE OF PAYMENTS

Balance of Payments

A balance of payments is a system used to record all the international transactions of a country with the rest of the world during a given period of time.[1] It is set up as double-entry bookkeeping. The receipts and payments of a country may not always be equal during a given period of time. When the receipts exceed the payments, it is called a favorable balance of payments.[2] On the other hand, if the payments exceed the receipts, it is called an unfaborable balance of payments.

A balance of payments can be grouped into three major sections as follows:

(1) The current account records the flow of goods and services.

(2) The capital account summarizes changes in one country on the rest of the world and claims arising out of current account.

(3) The monetary gold account records the flow of the monetary gold between a given country and the rest of the world.

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[1]Charles N. Henning, International Finance (New York: Harper & Brothers, Publishers, 1958), p. 15.

[2]Stephen Enke, and Virgil Salera, International Economics (New York: Prentice-Hall, Inc., 1949), pp. 151-152.

Current account

Exports and imports are the two major tiems in the current account. Exports represent claims on foreigners which may be recorded as credits. Imports represents foreigners' claims on the domestic economy and can be itemized as debits.

The service items in the current account (invisible items) consist of transportation charges, insurances, travel, and investment income. Government expenses are also included as invisible items in the current account.

The difference between these debits and credits is called the balance of trade. A credit balance is called a favorable balance of trade; and an unfavorable balance of trade exists when there is a debit balance.

Capital account

The capital account records the flow of capital. An inflow of capital is a credit, and an outflow is a debit just the opposite of the current account. An export of capital represents an increase in net claims on foreigners, while an import of capital gives rise to net foreign claims on residents.

The capital account can be divided into private and government capital movements. On the side of private, capital movements occur to make a profit or to minimize a loss. But most of the government capital movements take place in response to autonomous changes

occuring elsewhere in the balance of payments; for example, changes in the central bank.

Monetary gold account

The account is used to record the movements of gold. Exports of monetary gold are itemized as a credit, and imports are recorded as a debit in the balance of payments, the same procedure as the recording of current account. The short-term capital movements between countries are also recorded in this account. Both monetary gold and short-term capital movements generally take place for the purpose of balancing the balance of payments in case a country overbuys or oversells goods and services.

Thailand's Balance of Payments

Thailand's balance of payments measured in millions of U.S. current dollars for the period 1953 to 1962 is shown in Table 30. The International Monetary Fund's figures of exports and imports somehow do not correspond with those from Thailand's Department of Customs. The writer is unable to explain these differences. However, personal communications with an officer at the Bank of Thailand revealed that one of the reasons for the difference is that the Department of Customs overvalued some non-commercial goods and services possessed by diplomats.

Table 30. Thailand's balance of payments, 1953-1962 (Millions of U.S. current dollars)

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
A. Goods and services										
Export f.o.b.	322.6	283.4	334.9	361.5	390.1	307.0	357.4	405.0	473.3	453.9
Import c.i.f.	-330.4	-311.7	-321.1	-358.5	-404.7	-385.5	-424.4	-447.4	-479.9	-540.7
Nonmonetary gold	- 25.7	- 16.8	- 10.7	- 4.5	- 5.1	- 1.1	--	- 2.9	- 6.2	- 7.5
Trade Balance	- 33.5	- 45.1	- 3.1	- 1.5	- 19.7	- 79.6	- 67.0	- 45.3	- 12.8	- 94.3
Travel	- 5.6	- 4.1	- 4.3	- 7.5	- 10.0	- 6.0	- 4.8	- 7.3	- 4.5	- 7.4
Investment income	- 3.7	- 2.1	- 5.2	- 7.6	- 11.8	- 7.2	- 6.5	- 4.7	- 4.1	- 4.7
Government, N.I.E.	- 2.3	- 2.8	- 2.8	2.0	5.8	9.1	9.3	11.9	16.4	26.5
Other services	- 9.0	- 7.6	- 6.4	- 0.7	- 0.6	5.0	- 1.0	5.4	7.6	10.0
Total	- 54.1	- 61.7	- 15.6	- 15.3	- 36.3	- 78.7	- 70.0	- 40.0	2.6	- 69.9
B. Transfer payments and capital movements (other than Group E)										
Private transfer payments	- 4.4	- 7.1	- 8.1	- 8.9	- 9.3	- 1.3	3.1	2.5	4.7	5.1
Misc. central government transfer payments	--	--	12.9	3.1	3.6	4.6	3.8	2.1	2.0	12.0
IBRD loans (net)	8.2	1.8	2.1	2.5	6.8	3.6	9.7	8.6	9.7	13.9
U.S. Government grants (net)	--	--	13.5	23.3	32.6	20.5	37.3	30.2	19.1	26.8
U.S. Government loans (net)	--	--	--	6.9	6.2	0.5	8.4	14.8	14.7	10.6
Misc. private capital	--	--	2.4	6.4	11.8	11.4	1.8	0.3	16.9	47.8
Misc. government capital	3.0	4.9	2.8	- 0.3	- 2.7	- 1.5	1.2	- 2.8	- 0.4	- 0.6
Total	6.8	- 0.4	25.6	33.0	49.0	37.8	65.3	55.7	66.7	115.6
C. Net errors and omissions	1.3	40.5	18.3	- 3.4	- 5.0	21.5	10.9	29.2	9.6	16.6
D. Total (A through C)	- 46.0	- 21.6	28.3	14.3	7.7	- 19.4	6.2	44.9	78.9	62.3
E. Monetary movements										
IMF accounts	--	--	--	--	--	--	8.1	--	--	--
Other liabilities	- 2.6	0.3	5.6	7.6	0.6	3.4	6.3	10.8	13.9	5.1
Private institutions' claims (increase-)	5.2	3.1	0.2	- 8.2	- 1.1	0.9	- 2.3	- 3.9	- 10.1	1.6
Central institutions' claims (increase-)	43.4	17.4	- 34.7	- 13.7	- 7.2	15.1	- 10.2	- 51.8	- 82.8	69.0
Monetary gold (increase-)	--	0.8	0.6	--	--	--	8.1	--	0.1	--
Total	46.0	21.6	- 28.3	- 14.3	- 7.7	19.4	- 6.2	44.9	- 78.9	- 62.3

Source: International Monetary Fund, IMF Balance of Payments Yearbook, (Washington, D.C.), XII (April 1961), 5; XV (November 1963), 5.

Current account

Exports. Thailand's exports have fluctuated rather widely. They dropped from $390.1 million in 1957 to $307 million in 1958 and increased to $357.4 million, $405 million, and $473.3 million in 1959, 1960, and 1961, respectively. Such wide movements can partly be explained by the fluctuations in exported quantities of the four major export income earners, rice, rubber, tin, and teak, Tables 17, 18, 19, and 20. In addition, the export quantities are subject to the fluctuations in domestic production and importers' demands.

The changes in exported quantities of these principal commodities will certainly reflect changes in total exports since they generated a high proportion of the total export income, Table 10.

The quantity of rice exports increased from 1,001,486 metric tons in 1954 to 1,570,237 metric tons in 1957; since then the trend has been reversed. In 1961, however, the quantity of rice exports recovered and exceeded the 1957 level but, again, declined to 1,271,023 metric tons in 1962.

The quantity of rubber exports is subject to milder variations as compared to rice. It increased from a low of 103,217 metric tons in 1953 to a high of 194,180 metric tons in 1962. From 1954 to 1958, the quantity of rubber exports remained rather stable at approximately 135,500 metric tons followed by an increasing trend throughout 1962.

The quantity of tin exports has increased during the period 1953-1962. In 1958, however, the International Tin Agreement limited

Thailand's export quota to 10,000 metric tons and Thailand only exported 9,096 metric tons, accounting for a drop of 51 percent from the previous year's level.

Between 1953 and 1956, the quantity of teak exports increased from 68,358 cubic meters to 91,925 cubic meters. For the next three years, however, it declined. In 1960 it reached a high of 100,925 cubic meters and dropped to 39,753 cubic meters in 1962 which represented a drop of 61 percent.

Imports. Thailand's imports have fluctuated, but not nearly so widely as exports. A low of $311.7 million was recorded in 1954 and a high of $540.7 million in 1962. This represents a 73 percent increase. The increase has been primarily in the capital goods needed to further the economic development program.

Manufactured goods, which constituted the highest proportion of total imports, increased from 1955 to 1962. In 1955, the value of imported manufactured goods, in constant dollars, amounted to $138,050,000; this increased to $193,600,000 in 1962. Imports of machinery and transport equipment also increased. The value of imported machinery and equipment increased from a low of $74,100,000 in 1955 to a high of $157,800,000 in 1962. This represented an increase of 114 percent over the 1955 level. Imports of mineral fuels and related materials increased from $34,600,000 in 1955 to $61,200,000 in 1962. The value of chemical products increased from $29,050,000 in 1955 to $59,500,000 in 1962.

The fluctuations in these imports are closely related to the trend of export fluctuations, Table 30. Generally, export incomes are used to finance imports. An increase or decrease in the income of exports will reflect a similar increase or decrease on imports. But, a country may continue to live on a trade deficit balance if it can depend on foreign aid or on an outflow of foreign exchange reserves.

Capital account

Private transfer payments. The private transfer payments were unfavorable from 1953 to 1958. The amount of payments increased from $4.4 million in 1953 to $9.3 million in 1957 and then declined sharply to $1.3 million in 1958. Between 1959 and 1962, the trend reversed in a favorable direction with a high of $5.1 million in 1962.

IBRD Loans (net). Membership privilege enables Thailand to make loans from the World Bank. The amount of net loans took a sharp decline from $8.2 million in 1953 to $1.8 million, $2.1 million, and $2.5 million in 1954, 1955, and 1956 respectively. From 1956 to 1962, net loans were increased; by 1962 they amounted to slightly less than $14 million. Between 1953 and 1962, Thailand's net loans obtained from the World Bank amounted to $66.9 million. Total loans of $171,859,000 have been made from the World Bank since Thailand became a member.[3] This amount can be broken down to $72,259,000, transportation; $72,600,000, multipurpose and power; and $27,000,000, agriculture.

[3] The World Bank Group in Asia (September, 1963), p. 77.

U.S. Government grants (net). Thailand has been the recipient of grants from the U.S. Government. The total grants received by the Thai Government for the period 1955-1962 equalled $203.3 million, or an average of $27.1 million annually.

Miscellaneous private capital. The amounts in this category have fluctuated rather widely. The trend increased between 1955 and 1958 and declined to a low of $0.3 million in 1960. It recovered to a high of $47.8 million in 1962.

Monetary gold account

Central institutions' claims. Central institutions claims are primarily central bank of nations which Thailand had economic relationship. The claims of the central institutions as revealed in the IMF's figures have fluctuated widely. They varied from a minus $82.8 million in 1961 to a plus $69 million in 1962.

Private institutions' claims. The claims in this category fluctuated to a lesser degree as compared to the central institutions; for example, $5.2 million in 1953, minus $10.1 million 1961. (For a completed detail, see Table 30.)

Thailand's balance of payments deficits in the current account during 1954 and 1955 were financed through foreign exchange reserves reduction.[4] However, the foreign exchange reserves were restored

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[4] Public Development Program, p. 231.

between 1955 and 1957 through the United States Government's extension of grants to Thailand and through an inflow of private capital. In addition, the deficit figures in the current account for both 1955 and 1956 declined to a little over $15 million and $36.3 million for 1957. These decreased deficits have reduced the outflow of foreign exchange reserves to a great extent. In 1958 the deficit in the current account took a big jump to $70 million. This is due to the decline in export income resulting from a poor rice crop and the reduction of foreign demand for rubber and tin, while imports remained at a high level.[5] A surplus of $2.6 million appeared in the balance of current account in 1961. This can be explained by the fact that exports almost equalled imports. However, in 1962 the deficit figure went up to $69.9 million. The gap was financed through $47.8 million of private capital inflow (the same year when the Industrial Promotion Act of 1962 was passed; see Chapter II) plus $26.8 million of United States Government grants.

The trade deficits will continue, at least, through 1966 because of the increase in imports of manufactured goods, machinery and transport equipment in promoting the economic development program. To finance these gaps without great disturbance in foreign exchange reserves, the Thai economy has to depend on the continued inflow of private capital, foreign loans, and foreign grants. But the latter is

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[5] Ibid.

undependable; it can be shifted easily according to political situations.

However, an economy could not forever depend to a large degree on external circumstances beyond its control. An examination of the potential of Thai economy for reversing this adverse trend in Chapter VI.

Terms of Trade

Terms of trade express the relationship of export prices to import prices.[6] They indicate a ratio between the prices of export goods and the prices of import goods with prices expressed as index numbers. When the ratio is less than one, the terms of trade are unfavorable. On the other hand, when it is greater than one, the terms of trade are favorable. Favorable terms of trade imply that export prices are valued higher than import prices.

Table 31 shows Thailand's terms of trade for the period 1953-1962, using 1958 as the base year. It is obvious that the terms of trade have been moving in favor of Thailand, except in 1956 and 1957. During 1956 and 1957, the average export prices of two major export income earners (rice and rubber) declined sharply. The average export price of rice dropped from $121 per metric ton in 1955 to $93 per metric ton in 1956 and $110 per metric ton in 1957. In the case of rubber, the average export price dropped from $649 in 1955 to $542 in 1956 and

[6]Killough, p. 37.

$497 per metric ton in 1957, which amounted to a decline of 16 percent and 23 percent from the 1955 level.

Table 31. Terms of trade of Thailand, 1958 = 100

Year	Exports unit value	Imports unit value	Terms of trade
1953	98.13	95.13	103.15
1954	109.34	100.06	109.27
1955	103.39	100.67	102.70
1956	98.16	100.68	97.49
1957	97.52	103.34	94.37
1958	100.00	100.00	100.00
1959	105.85	98.72	107.22
1960	109.08	100.40	108.65
1961	106.07	101.70	104.30
1962	104.31	95.54	109.18

Source: Bank of Thailand, Bank of Thailand's Report, 1964.

Again, the terms of trade point out that Thailand's problem is not a price fluctuation, but rather a problem of quantity fluctuation.

CHAPTER VI

THAILAND'S ECONOMIC POTENTIAL

Agricultural Resources

According to the report of a mission organized by the World Bank and other available sources, Thailand has great potential in the agriculture sector. During the period 1953-1962, export income increased 74 percent, while imports increased to a high of 78 percent from the 1953 level, Table 8. About 85 to 90 percent of the export income is derived from agricultural products.[1] From 1956 to 1961 farm income, at constant prices, increased approximately 60 percent.[2] During the past decade, rice production increased slightly over one percent annually, while other crops increased 18 percent annually.[3]

Thailand is ranked as one of the world's largest rice suppliers and as the leading exporter of agricultural food-stuffs in Asia. It ranks third as the world supplier of rubber and fourth among world corn exporters. It also ranks fifth place in world tin production.

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[1] A Mission organized by the International Bank for Reconstruction and Development at the Request of the Government of Thailand, A Public Development Program for Thailand (Baltimare: The Johns Hopkins Press, 1959), p. 33.

[2] U.S. Department of Agriculture, Agricultural Diversification and Economic Development in Thailand (Washington, D.C., March 1963), p. iv.

[3] Ibid.

The economic development program of 1961-1966 will include an increase of three percent in agricultural production annually. Targets are listed as follows:[4]

(1) Rice production is to be increased at an annual rate of 1.3 percent.

(2) Rubber production in the first three-year period (1961-1963) is to be increased by at least six percent over the 1959 level.

(3) Corn production by 1963 is to double the 1959 output.

(4) Teak production will be increased through reforestation and conservation of the existing teak forest.

(5) Cassava production will be increased through introduction of improved techniques.

(6) Efforts will be made to increase the sticklac production.

(7) Livestock production will be increased at the minimum rate of three percent annually, and fishing will be increased 50 percent by 1963 over the 1959 level.

(8) A forest conservation reforestation program, aimed at attaining a forest reserve area equal to 50 percent of the total land area of the Kingdom, will be undertaken.

The production of some commodities has already surpassed the 1961 goals. For example, rice, 1.4 percent; rubber, six percent plus; corn, 252 percent; cassava, 233 percent. The writer is unable to obtain the 1963 figures at the time of writing this thesis.

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[4]The National Economic Development Program, pp. 1-2.

Rice

The World Bank Mission suggested several means to increase the yield of rice production.[5] These included higher agricultural education, agricultural extension services, improved irrigation systems, research in seed and fertilizer improvement, and pest and disease control.

The standard of education at the Kasetsart (agricultural) University should be improved by enhancing the quality of instruction through a more qualified staff and by providing adequate classrooms, laboratories, and the necessary facilities. This higher level of agricultural education will enable Thailand to establish a more effective extension service through more qualified personnel for research, training, supervision, and administration. The completion of Yanhee Hydroelectric Dam, the largest undertaken in Thailand, will permit irrigation of large areas, reduce floods, and allow year-round river navigation. Seed experimentation under field conditions shows that there is a possibility to increase production by 15 or 20 percent. Rice production will provide a higher yield if an adequate amount of fertilizer is applied. Presently, farmers use very little fertilizer. Every effort should be made to bring pests and disease under control. This could be implemented through an adequate scientific research program.

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[5]Public Development Program, pp. 53-69.

Rubber

The World Bank Mission believes that Thailand's potential in rubber output could be eight times what it is today.[6] There is a possibility that rubber exports eventually will surpass rice exports. The potential in rubber production depends on the expansion of the world market. The domestic market is unable to absorb increased production due to the limit of technology. For example, rubber manufactured goods, such as automobile tires, are imported. New market prospects, however, are available and should be a stimulating impetus. In Southern Thailand, there is a huge area of unused land suitable for growing rubber. If these lands are brought under proper cultivation with the high-yielding types of rubber now available, output could be tripled.

Corn

Prior to 1950, Thailand grew very little corn. However, the present output exceeds the 1950 output by 30 times.[7] This increase occurred because, first, the return on corn per acre averaged $37.5 as compared with $22.5 for rice, which requires greater labor and, second, corn requires a short growing season of only 90 to 120 days as compared with 150 to 180 days for rice. Thus double-cropping each year is possible with corn.

The potential for Thailand's corn is great. Thai producers have the competitive advantage of nearness to Japan over other suppliers to

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[6] Public Development Program, p. 70.

[7] Agricultural Diversification, p. 8.

the Japanese market.[8] Thai producers, for example, also have a freight cost advantage over the Americans. This would enable them to sell corn at a lower price. Although approximately 80 percent of the corn exports go to Japan, a sizable quantity was sent to Western Europe early in 1962. Other major markets include Singapore, Hong Kong, North Borneo, and Malaya.

Kenaf

Kenaf is a soft fiber used mostly for the manufacture of gunny bags. It is also used to a lesser extent in the production of rope and paper. From 1950 to 1958, the production of kenaf averaged 20,000 metric tons and increased to 200,000 metric tons in 1961.[9] This rapid increase is in part attributed to a heavy subsidy by the Government. Thailand heretofore has been importing gunny bags from abroad. Now the Thai Government plans to expand the bag manufacturing industry to meet the domestic demand. This will serve as a remedy to reduce the outflow of foreign exchange reserves.

Cassava

Prior to 1956, cassava was classified as an unimportant crop. Presently, it occupies about two percent of the total cultivated lands and yields an output of 1.5 million metric tons in 1961.[10] The increase

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[8] Ibid., p. 9.

[9] Ibid., p. 10.

[10] Ibid.

in cassava production is due to the strong demand in the United States and European markets for tapioca flour.

Sugar

Prior to 1950, Thailand's sugar cane production was insufficient to meet domestic demand.[11] The gap was filled by several thousand tons of imported sugar. Since then, the production of sugar cane has increased fivefold. The current production exceeds domestic demand; and, as such, Thailand is seeking foreign markets to export these surpluses.

Nonagricultural Resources

Manufacturing

The World Bank Mission concluded that industries which are primarily based on domestic natural resources will automatically expand as the agricultural sector expands.[12] It is believed that Thailand, for the time being, is unable to compete internationally in heavy industries. This is due to technological and managerial skills handicaps.

The Mission is disappointed with the Government-owned enterprises and suggests that the Government eliminate its participation. Some government enterprises are competing with private enterprises. A

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[11] Ibid., p. 11.

[12] Public Development Program, p. 95.

complete withdrawal may be difficult because certain fields of industry require large capital outlays preventing private concers from such an undertaking. However, capital can be raised through stock selling to the public. Furthermore, it is suggested that these enterprises be turned over to private entrepreneurs under contractual arrangements with the Government when feasible.

The Industrial Promotion Act of 1962 is an amendment of the same act of 1954, 1958, and 1960. The Government passed this act in order to give confidence to private businessmen and to help them in expanding industry in Thailand. There are three significant aspects which are included in the 1962 act. They are as follows:[13]

(1) to increase the privilege and benefit grants to promote industries;

(2) to award differences in privileges and benefits to each of the three classes of industries: (a) industrial activities which are vital and necessary to the economy, (b) industrial activities which are less vital and necessary to the economy, and (c) industrial activities other than those classified under classes a and b; and

(3) to reduce red tape in establishing a promoted industry.

Minerals and fuels

Tin mining is jeopardized by unfavorable market conditions. The

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[13]U.S. Department of Commerce, Industrial Promotion Act of Thailand, 1962 (Washington, D.C.: U.S. Government Printing Office, 1962), p. 1.

production of tin reached its peak of 24,000 metric tons in 1940. In 1958 the International Tin Agreement restricted Thailand's tin quota to 10,000 metric tons.[14] This reduced output by a substantial amount.

Tin production from the accessible alluvial deposits, however, is exhausted. Surveys indicate that there are large deposits both off-shore and inland which have not yet been exploited. Exploitation of these deposits would enable Thailand to increase tin production if market conditions were improved with enlarged quotas. A joint British-Whai company has built a special sea-going dredge which operates in the coastal waters off Puket.[15] It is currently predicted that these coastal operations will be successful and lead to further expansion in tin production. The World Bank Mission suggests that the Government remove restrictions from reserved areas for its own exploitation. At the same time, it should encourage private mining to increase operation all over the country.

Other mineral deposits are insignificant.[16] There is gold, copper, iron-ore, tungsten, manganese, lead, zinc, zircon, and titanium. They either exist in small deposits or the diseconomies of production do not warrant exploitation.

Thailand has to import mineral fuels to meet domestic demand. In 1962 the value of imports of mineral fuels, lubricants, and related

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[14] Public Development Program, p. 111.

[15] Ibid.

[16] Ibid., p. 112

materials accounted for 10.6 percent of the total value of imports, Table 21.

Some small oil reserves have been discovered, but it is believed that diseconomies would result from commercial exploitation.[17] The World Bank Mission strongly urged that the Government give careful consideration to this problem before making a financial investment in this industry.

Several deposits of lignite have been discovered; but only a few have been surveyed, and only one is being exploited.[18] For the time being, an estimated 30 million tons exist; but the total reserves is expected to reach 120 million tons with future exploration.

Thailand is increasing the amount of imported liquid fuels. This has resulted in a decline in domestic wood and charcoal production.[19] This reduction is desirable in order to protect and maintain the forests, especially for development of hydroelectric and irrigation projects as recommended by the World Bank Mission. However, this increase of import in the short run will only worsen the balance of trade situation.

Electric power

Thailand has a great potential in hydroelectric power which has not

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[17] Ibid., pp. 108-110.

[18] Ibid., pp. 107-108.

[19] Ibid., p. 106.

been fully exploited.[20] The construction of the Yanhee Hydroelectric Dam was completed and is capable of supplying 140,000 kilowatts in its initial stage, with the ultimate capacity of 560,000 kilowatts.[21] This increased the total supply of power to 370,000 kilowatts by the end of 1963, as compared to 200,000 kilowatts in 1959, which represents the lowest rate of power consumption in the world.

The development of electric power certainly will accelerate economic development. The increased power supply will lead to a reduction in price. At the same time, the Yanhee Dam will provide a better irrigation system and enable the farmers in the Central Plain to grow two crops a year.[22]

Transportation

An average of $37 million annually for communications development is included in the 1961-1966 economic development program, see Table 6.

The existing highways need improvement and better maintenance. New construction will be undertaken when financially feasible. In order to keep pace with the four percent annual increase in demand for railroad services, attempts will be made to increase the rolling-stock. The harbors at Bangkok, Songkla, and Puket are being improved to facilitate transportation. The modern Don Muang International

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[20] Ibid., p. 113.

[21] Ibid., p. 115.

[22] Ibid., p. 117.

Airport is capable of handling heavy modern aircraft; however, additional equipment and personnel will be obtained. Post, telegraph, radio, and telecommunication will be improved and expanded at the same time.

Teak

Teak production was reduced by about five percent annually between 1961 and 1963.[23] However, the Department of Forestry will try to increase the reserve from the present 20,460 square miles up to 166,780 square miles.[24] The export income derived from teak is rather low and has a declining trend, see Table 10.

During 1930-1945, there was an estimated 1.3 million mature trees. But for the period 1955-1970 the number of mature trees was estimated at 460,000.[25] The penalty for unauthorized cutting of timber is $25 or six months imprisonment. But, in practice, offenders are fined only a small amount of money due to the sympathy with those offenders who have no other way of making a living.

Fisheries

The potential for expansion of marine fisheries is very impressive. The National Development Board has established a target of a 50 percent increase over the 1959 level by 1963. The fish industry,

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[23] The National Economic Development Program, p. 1.

[24] Public Development Program, p. 83.

[25] Ibid.

however, is faced with a marketing problem.[26] The sector is jeopardized by competitive price.

Human Resources

Thailand, presently, has no gross problem of population pressure.[27] From Table 32 it appears the total population will increase to 30,999,705 by the year 1966. There will be slightly less than one million people who will enter agriculture, based on the figure of 82.3 percent of the total labor force engaged in agriculture for 1962. These increases in total population and labor force will, certainly, require additional lands for cultivation and food supply. At the present, about 20 percent of the land is under cultivation.[28] Therefore, there should not be any serious problem in land expansion. The rapid growth in population will reduce the rice surplus for export. This, however, will be compensated for when new lands are brought under cultivation.

In the field of training, in addition to those indicated in Chapter II, Thailand also receives aid under the Thai-American Economic and Technical Cooperation Program. The United States Mission has offered to provide aids and technical training in the fields of agriculture, education, public health, communication, industrial development

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[26] Ibid., p. 84.

[27] Josephen L. Sutton, Problems of Politics and Administration in Thailand (Bloomington: Institute of Training for Public Service, Department of Government, Indiana University, 1962), p. 130.

[28] Sutton, p. 131.

Table 32. Thailand's population--past and projected, 1956-1966

Year	Population
1956	23,500,000
1957	24,200,000
1958	24,900,000
1959	25,600,000
1960	26,258,000
1961	27,181,000
1962	28,000,000
1963	28,835,000
1964	29,479,565
1965	30,239,656
1966	30,999,705

Source: Demographic Yearbook 1962 (New York: United Nations Department of Economic and Social Affairs, 1963); The 1963 figure is taken from Office of the Prime Minister, National Statistical Office; Thailand Census of Population; The figures for years 1964, 1965, and 1966 are derived by algebraically projection.

and public works and engineering.[29] To carry out the programs, the United States will provide technical advisory services, training programs, and necessary equipment. From 1951-1965, it is estimated the U.S. dollar contribution to the programs will total $110,985,000.[30]

[29] Thai-American Economic and Technical Cooperation, pp. OP-4-5.

[30] Ibid., pp. PD-3, 4, and passim.

CHAPTER VII

SUGGESTED METHODS OF CORRECTING THE UNFAVORABLE BALANCE OF TRADE

Expanding Production of Export Commodities

According to the theory of comparative advantage, as discussed in Chapter I, Thailand will benefit more through specialization in agricultural production. The country possesses a favorable environment for agriculture. As shown in Table 10 rice and rubber contributed an average of 65.2 percent of the total export income during the period 1953-1962. Both are the major foreign exchange earners, financing the imports.

An increase of agricultural production is included in the National Economic Development Program 1961-1966.[1] Some major emphases are placed on rice, rubber, corn, and cassava production. (See Chapter VI.) The significance and potentials of these commodities have been explained at some length in the previous chapter.

Rice

The completion of the Yanhee Hydroelectric Dam provides a better irrigation system, in addition to power supply. An adequate water supply

[1] Office of the National Economic Development Board, The National Economic Development Program 1961-1966 (Bangkok, 1960), pp. 1-2.

will enable farmers in the Central Plain to cultivate two crops of rice a year, and include those means suggested in Chapter VI for increasing rice production.

Rubber

The World Bank Mission suggested three stages in the rubber development program.[2] Surveys of new areas which will be suitable for rubber planting will be included in the first stage. During the second stage, emphasis on new planting and expanded activities will be based on the foundations built up from the first stage. It takes about $2.6 million to finance the first two stages from 1959-1963. The third stage will include a new program for the replanting of the over-age rubber area with high-yielding rubber. Ten thousand acres of replanting is recommended for an initial goal, and another 30,000 to 40,000 acres annual follow-up. The potential for expanding the foreign market for Thai rubber is rather favorable. Japan, Russia, Britian, and West Germany have been importing Thai rubber at a rapidly increasing rate in recent years.

Corn

In 1961, corn provided approximately $29 million of foreign

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[2]A Mission organized by the International Bank for Reconstruction and Development at the Request of the Government of Thailand, A Public Development Program for Thailand (Baltimore: The Johns Hopkins Press, 1959), pp. 72-73.

exchange to the Thai economy.[3] Most of the new fertile lands are used to plant corn and require little fertilizer. The yields increased from 10 bushels to 25 bushels per acre in 1950 and 1961 respectively. However, higher yields are expected as improved seeds become available and more fertilizer is applied. Thailand has a huge potential for expanding the foreign corn market. In addition to supplying the big market in Japan, Thai producers are expanding their exports into Western Europe.

Kenaf

A favorable cost-price relationship plus the failures in India and Pakistan give rise to a sharp increase in the kenaf production in Thailand. In addition, the Thai Government guarantees a minimum price and free seed distributions to the farmers. The kenaf production jumped from 10,000 metric tons in 1955 to 200,000 metric tons in 1961.[4] It also earned slightly less than $30 million of foreign exchange in 1961. Japan, Belgium, Italy, West Germany, the United Kingdom, and Taiwan provide a tremendous market potential for Thai kenaf.

Cassava

Since 1956, the cassava production has increased at a very rapid rate; for example, 1956, 185,000 metric tons; 1957, 425,000 metric tons;

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[3]U.S. Department of Agriculture, Agricultural Diversification and Economic Development in Thailand (Washington, D.C.: U.S. Government Printing Office, 1963), p. 15.

[4]Ibid., p. 6.

1958, 650,000 metric tons; 1959, 660,000 metric tons; 1960, 1,083,000 metric tons; and 1961, 1,544,000 metric tons.[5] A high level of production is feasible if the government will take measures to stimulate production. (See export commodities subsidy program.) In 1961, cassava exports valued at around $20.5 million. The expansion of the cassava market is feasible in the United States, West Germany, Italy, the United Kingdom, and Australia.

Export-Import and Exchange Controls

Export controls

Most goods and services can be exported from Thailand freely.[6] However, some goods require export licenses for the purpose of control rather than restriction from exportation. The following goods require export licenses:[7] gold, platinum, and precious stones; radioactive materials; tin metal and manufactures; tin ore, iron ore, tungsten, lead and lead ore, antimony, sinc, minerals containing columbium, tantalum, and thorium; certain fertilizers; rubber; paddy rice and rice products except gummy sugar; and live cattle, horses, elephants, and certain other animals.

Import controls

Thailand's import controls are aimed at two purposes: to restrict

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[5] Ibid.

[6] U.S. Department of Commerce, Licensing and Exchange Controls, Thailand (Washington, D.C., April 1960), p. 3.

[7] Ibid.

imports from communist China and to serve as a protection for domestically-produced goods.[8] A stable exchange rate enables Thailand to import freely from the rest of the world. But restrictions are placed upon goods similar to those produced by new local enterprises in order to promote the domestic industry industry.

Import licenses are required for the following major categories:[9] food and food products; minerals, metals, and other raw materials; paper, paper products, and stationery articles; textile goods and apparel; miscellaneous handicraft articles and household wares; and miscellaneous manufactured and semi-manufactured articles.

Exchange controls

Prior to 1955, the exchange control system was used to prevent capital flight and to stabilize the balance of payments.[10] Since then a single, free, and uniform rate has been used to replace the former multiple exchange rate system. All foreign exchange transactions (buying and selling) still must go through the Bank of Thailand or its authorized agents which are under the Bank's supervision.

The export, import, and foreign exchange controls cannot possibly be used to correct the adverse balance of trade effectively. Thailand's commercial policy is considered comparatively free from restrictions.[11]

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[8] Ibid., p. 1.

[9] Ibid., pp. 1-2.

[10] Ibid., p. 3.

[11] Ibid., p. 1.

Foreign trade implies goods exchanged for goods. If a government of a trading partner takes measures to reduce imports, then at the same time it reduces its export capacity abroad. This is simply because of retaliations taken by other trading partners. Therefore, a beggar-my-neighbor policy will never work out. Futhermore, such government intervention will always distort the current trading relationship among countries.

Export Commodities Subsidy Program

The term "subsidy" can be defined as a reallocation of resources by transferring them from one use to another.[12] The general purpose of subsidy programs is to increase a particular commodity or service. They also can be used to accelerate the growth of an industry or to preserve an industry.

Export subsidy programs can take many forms. Government can stimulate production by guaranteeing a minimum price for the product, granting tax exemptions, offering special loans and credit, and awarding free distribution of seeds or land.

At the present time, the Thai Government is using the subsidy program to a small degree in pursuing its economic policy. To increase rubber production, the Government exempts producers from taxes, licenses, and export duties.[13] In the kenaf industry, the Government

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[12]Donald Stevenson Watson, Economic Policy: Business and Government (Boston: Houghton Mifflin Company, 1960), pp. 154-155.

[13]Agricultural Diversifications, p. 8.

stimulates production by providing free seed distribution, guaranteeing a minimum price, and developing processing and transportation facilities.[14] The corn industry is well enhanced by the favorable market conditions and needs no subsidy. However, the Thai Government, in cooperation with the Japanese Government, has agreed to provide better storage and drying facilities to reduce excess moisture in corn.[15] This improvement might increase the demand for Thai corn in the Japanese market.

The rapid increase in the sugar industry during the past decade has induced the Government to encourage an export surplus through the subsidy program. Sugarcane production increased from a low of 839,000 metric tons in 1950 to a high of 4,990,000 in 1960.[16] The export subsidy program operates by lowering the export price; then the Government makes compensations to the exporters. In 1961, Thailand exported 41,804.6 metric tons of refined sugar, and $5.6 million was paid out under the export subsidy program.[17]

The cassava production could have increased at a higher rate if the Government had taken proper measures to stimulate the production. Farmers are unwilling to expand their production at a higher rate

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[14] Agricultural Diversification, p. 10.

[15] Ibid., p. 9.

[16] Ibid., p. 6.

[17] Personal communication from Mr. Srisit Nagapradip, Bank of Thailand, May 4, 1964.

because the continuous cultivation will deplete soil fertility rapidly.[18] The Government can distribute fertilizer at a lower cost than the current market price. A good research program is still another possible aspect which the Government may well consider.

These principal agricultural export commodities, which are already subsidized by the Government, will enable the exporters to compete in the foreign market more successfully. This will certainly serve as one remedy for the chronic deficit of balance of payments.

Although at the beginning of this chapter the writer stated that it would be advantageous for Thailand to expand agricultural production, the theory, per se, is contradictory to subsidy programs. But the subsidy programs which are already or should be, taken by the Government lie in the agricultural industry, in which Thailand already has great potential. It is primarily a matter of getting the industry started. Corn production and export offers one example. Thailand produced little corn prior to 1950. In 1961, it generated $29 million of export income.

Stabilizing Prices of Primary Commodities

Prices of primary products are generally subject to wide fluctuation.[19] A slight price change may have serious repercussion on

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[18] Agricultural Diversification, p. 10.

[19] Killough, p. 302.

an economy, especially on one which relies heavily on a single export commodity. People with an underdeveloped country are not content to depend upon economic conditions abroad over which they have no control.[20] Such unstable conditions called for some international price stabilization action to compensate the producers.

Price stabilization devices included inter-governmental commodity agreements, buffer stock, and export quota.[21] An inter-governamental commodity agreement, the exporting and importing countries will make compensatory payments to each other whenever the market price of a particular commodity moves outside an agreed price range. Buffer stock is a system in which the Commission on International Commodity Trade will buy commodities for the purpose of maintaining the prices. This practice establishes a threat to the world market when surpluses accumulate. An export quota exists when the major world producers of a particular commodity agree to limit each one's production in order to prevent the price from falling.

Price stabilization mechanisms are, however, contradictory to the theory of comparative advantage. The theory suggests maximizing world output, lowering production cost, and providing a higher standard of living. At the other extreme, price stabilization measures tend to limit world production and maintain higher prices when lower prices

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[20] Ibid.

[21] International Compensation for Fluctuations in Commodity Trade (New York: United Nations, Department of Economic and Social Affairs, 1961), pp. 54-56.

are feasible. In the long run, such a system may be regarded as a self-defeating policy.

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