SOME ASPECTS OF THE PROBLEM OF ECONOMIC DEVELOPMENT IN TAIWAN (FORMOSA)

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by

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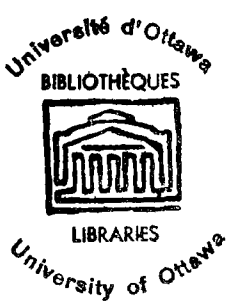

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INTRODUCTION

Some countries rely on agriculture, some attach equal importance to agriculture and industry, some depend on industry and commerce, while some others emphasize agriculture, commerce and industry at the same time. These differences result from the geophysical conditions, historical factors and available means of communication of the various countries. But emphasis generally depends upon "comparative advantages". Under present circumstances, the most effective method to the solution of Taiwan's economic problem is economic industrialization.

Industrial development, however, is not suitable in an area with very limited natural resources and a rapidly increasing population. We know that the development of agriculture in Taiwan has almost reached the fullest extent, even if the farmers should invest more capital, the marginal cost would drastically increase. Therefore, there is little possibility for us to proceed in this direction although we possess surplus labour and capital. Taiwan's interstate commerce has also reached the maximum development. It is a fact that the development of agriculture and commerce can be improved only when industry has already been developed. Meanwhile, there is an infavourable balance in our international

trade. If industry is not developed to create more purchasing power for further agriculture exploitation and commercial expansion to bring about a balance in international trade and to relieve our dependence on U.S. aid, our financial condition will be very difficult in future.

Under such circumstances, there must be a sound policy to guide us in development of Taiwan's industry; for only in this way can we hope to have a central plan, take well-coordinated measures, avoid confusion and dislocation, and finally accomplish our goal step by step.

Today, there is abundant literature on the theory of economic development of under-developed countries. Fortunately, I have been able to collect a good deal of materials concerning specific economic problems of Taiwan from authorized sources such as the Industrial Development Commission, the Economic Stabilization Board of Free China, International Cooperation Administration of the United States, and International Monetary Fund, etc. I have analyzed this literature with special emphasis on the economic development of Taiwan. I have attempted to find the suggestions and remedies recommended by experts in this field and investigate to what extent these suggestions and recommendations can be applied to the problem of economic development of Taiwan and with what possible measure of success.

In this thesis, emphasis has been placed on certain aspects such as capital formation, international trade as well as on modernization of agriculture and industry. Because without capital formation, economic development cannot be carried out. Without expansion of international trade, the increase of production would find no outlet. The sooner this industrialization is achieved, the earlier will Taiwan assume its role among the developed nations of the Far East.

CHAPTER I

A GENERAL SURVEY OF TAIWAN ECONOMY

1. Natural Environment

Area

Taiwan, better known to Westerners as "Formosa", is a semi-tropical island in the Western Pacific; less than 100 miles east of the Fhina coast. It is shaped like a tobacco leaf, about 240 miles in length and about 90 miles at its greatest width. In area, it comprises 13,837 square miles, is slightly larger than Holland or about the combined size of Massachusetts and Connecticut.[1] Besides the island proper, Taiwan includes 13 islands in the Taiwan Group and 64 islands in the Penghu Group; the latter group is also known as the Pescadores. It is an extremely mountainous island famous for its scenic beauty, more than thirty mountain peaks attaining heights of approximately 9,000 feet or over.

Climate

Its climate is semi-tropical with plenty of rainfall and sunshine. The semi-tropical climate prevails over the greater part of the island, and tropical climate prevails in the southern part. The highest temperature is 38°C. and

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[1] Han Lih-Wu, Taiwan Today, Hwa Kuo Publishing Co., Taipei, Taiwan, 1956, p. 1.

TABLE I

AREA OF THE TAIWAN AND PENGHU ISLAND GROUPS[2]

Region	Number of islands	Area in Square Miles		
		Proper	Dependents	Total
Taiwan Group	13	13,808.181	28.884	13,837.075
Penghu Group	64	24.776	24.181	48.957
Total	77	13,832.957	53.065	13,886.022

[2] China Handbook Editorial Board, China Handbook 1956-57, Taipei, Taiwan, 1957, p. 493.

the lowest is 1°C. On the average, it is 21.6°C. at Taipei[3] in the north and 24.3°C. at Kaohsiung[4] in the south. The summer is long in Taiwan and lasts from May to September. The winter is short and mild and lasts from December to February. The average annual rainfall is 2500 millimeters. There is heavy rainfall in the north from October to March because of the north-eastern seasonal winds, especially in and around Keelung[5] which has been nicknamed the "Rain Port".

Natural Resources

Taiwan has a great variety of agricultural products, such as rice, sugar cane, peanuts, soybeans, jute, vegetables, citrus, fruits, bananas, and pineapples. Rice is the most important product of Taiwan. The production of rice in 1955 was 1,614,953 metric tons. The total area devoted to rice cultivation in Taiwan was 750,739 hectares.[6] Taiwan has a population of 9,374,000[7] of whom about 52 percent of the population are farmers. The rice produced is not only enough for domestic consumption but leaves a surplus for

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[3] Capital of Free China.

[4] A sea harbor in the Southern part of Taiwan.

[5] A sea harbor in the Northern part of Taiwan.

[6] A hectare is about 0.3 acre.

[7] December, 1956, China Handbook 1956-1957, p. 496. Military personnel and foreigners are not included.

export. Sugar cane is the second most important product of Taiwan. In 1955, a total of 5,808,238 metric tons of sugar cane was produced. Tea is another important agricultural product, 14,680 metric tons being produced in 1955.

Over 1,383,000 hectares of the island in Taiwan are covered with forests. Forestry resources are very important to the island, not only as a source of lumber and fuel but also as a protective covering for the land against erosion and flood. The total timber reserve on the island is estimated at 207 million cubic meters. More than 65 percent of the trees are broadleafed, while the rest are coniferous. The best broadleafed trees are oak, castanopsis, lithocarpus, schiia, shima, terma, camphor, sandalwood and acacia. The most profitable conifers are red cypress, white cypress, hemlock pine, spruce, and fir.

Since Taiwan is surrounded on all sides by sea haul fishing is an important industry. The 1955 haul, including deep sea, inshores and coastal fishing and products of fish culture, amounted to 180,618 odd metric tons, an increase of 61,618 odd metric tons over the best year during the Japanese occupation.[8]

Most of the mines in Taiwan are located in the

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[8] On September 2, 1945, after the defeat of Japan, Taiwan and Penghu were returned to China. Taiwan had been occupied by Japanese about 51 years since 1895 under the Treaty of Shimonoseki.

northern and eastern parts of island. Up to the end of 1955, there were 1248 mining concessions comprising a total area of 20,593,147.98 hectares. The important minerals are coal, oil, gold, sulphur, and iron pyrites.

Transportation Facilities

Taiwan has a good railroad system interlinking all the important cities and towns of the province. Among the total of 4,388 kilometers of Taiwan's railroad system, 1,133 kilometers are provincial railroads and 3,255 kilometers are private railroad owned and operated by Taiwan Sugar Corporation and some other private enterprises. Highway transportation has shown a steady improvement. In recent years, a total of 16,621,776 cubic meters of roadbeds were laid; 2,890 kilometers of roads were surfaced and 2,936 bridges and culverts were built.[9] The Silo-Bridge, 2,000 meters long and nine meters wide with 31 spans across the Choshuichi,[10] forms a vital link in the North-South Highway and connects with the railroad network of Taiwan Sugar Corporation on the two shores of Choshuichi. The construction of East-West Highway across central Taiwan when completed will greatly facilitate cross-island traffic and bring prosperity to the mountain areas. It also possesses significant strategic importance.

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[9] China Handbook 1956-57, p. 502.

[10] A county in the middle part of Taiwan.

There are two harbors in Taiwan--Keelung in the north and Kaohsiung in the south. Both harbors are capable of accommodating large ships and naval vessels of up to 20,000 tons. The Keelung harbor, with a depth of nine meters, enjoys the advantage of abundant local coal supply. The shipping tonnage handle in 1955 totaled 8,499,024. Imports and exports that passed through the port in 1955 totaled 1,124,026.4 metric tons.[11]

2. Economic and Financial Institutions

Compared with other underdeveloped areas, Taiwan maybe described as an area where economic development is comparatively advanced. In spite of the fact that the annual national income per capita is only about US $131,[12] the people of Taiwan generally enjoy better living, due to lower costs and relatively equal distribution of wealth. However, Taiwan's economy is still backward if a comparison is made with that of economically advanced countries. Therefore, it has been Free China's aim to develop her economy in order to bring about a thorough modernization. During the past years, Taiwan economic development has undeniably achieved great success. In national income alone, the individual income has been raised considerably. It is indicated in Table II.

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[11] China Handbook, 1956-57, p. 503.

[12] In the fiscal year 1956.

TABLE II

NATIONAL INCOME[13]

Period	National Income		Per Capita Income	
	NT$ Million	Index	NT$	Index
1950	6,106	34.5	749	38.3
1951	8,885	50.2	1,049	53.6
1952	12,957	72.3	1,486	75.8
1953	17,690	100.0	1,958	100.0
1954	18,521	104.7	1,976	100.9
1955	22,486	127.1	2,310	118.0
1956	25,975	146.8	2,581	131.8

[13] Industry of Free China, Industrial Development Commission Taipei, Taiwan, Vol. VIII, No. 3, Sept. 1957, p.36.

With the increasing intensification of the Anti-Communist and Resist-Russia struggle, the military expenditures have in recent years shown gradually increase.[14] However, Taiwan Governments have managed to meet all the financial requirements and have carried out their policy of supporting defence expenditure. The revenues and expenditures of the National Treasury showed close agreement to the budget. Deficits were lower than estimated. Table III will show the steady growth of the consolidated budget for all levels of government during 1951-1955.[15]

An examination of our economic position as a whole shows that we are still relying heavily upon U.S. aid. Generally speaking, Taiwan's economic pattern as Mr. Fong Hui in his essay "Factors in the economic development of Taiwan"[16] described it as follows:

(1) Taiwan is predominantly an agricultural economy with the weight of industry steadily increasing. Farm production is concentrated chiefly on sugar cane and rice crops. Other agricultural products such as cotton, wheat and soybean are produced only in small quantities.

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[14] It usually runs about 85 percent of the Government Budget.

[15] Han Lih-Wu, Taiwan Today, p. 57.

[16] Industry of Free China, Factors in the Economic Development of Taiwan, Vol. IV, No. 5, Nov. 1955, p. 14.

TABLE III

REVENUE AND EXPENDITURE
(In NT$ Million)

Year	Revenue	Expenditure
1950	1,706	1,985
1951	2,465	2,584
1952	4,135	4,109
1953	4,402	4,353
1954[17]	2,586	2,675
1954 July-1955 June	4,779	4,967

[17] Only consists of six months, from January to June.

(2) Industry consists mostly of light industries. There is no foundation for heavy industry.

(3) Agriculture is relatively progressive compared with other underdeveloped areas, although not completely mechanized.

(4) In foreign trade, agricultural products and their processed goods are the chief export, accounting for 91 per cent of the total. Sugar and rice account for 75 percent of the total export value. Exports of industrial and mineral products are only 5 percent. The chief imports are producers' goods. Capital equipment imports are about 27 percent of the total; its importance is gradually increasing.

(5) In terms of trade area, Japan is the leading nation with 50 percent of Taiwan's total trade, followed by the United States, Hongkong and Great Britain. These four regions account for 77 percent of the total trade volume.

On the side of economic reconstruction, the implementation of the first Four-Year Economic Development Plan[18] in Taiwan has produced good results. The Second Four-Year Economic Development Plan is in progress. Along with increase in the total value of agricultural and industrial production, there has been an increase in national income and the improvement of the living standard of the people. Also good results have

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18 From 1953 to 1957.

been achieved in improving the management of public enterprises, in developing private enterprises through the twofold policy of giving protection to native industries, in encouraging free competition, and in assisting private enterprise in obtaining the necessary capital and raw materials required for production.

For the purpose of economic development some new government organizations have been established to meet the required needs.[19]

ESB

The Economic Stabilization Board is an organization for the coordination of financial and economic affairs between the Central Government and the local administrations. This Board also holds weekly consultations with American officials regarding U.S. aid. Its members include the Ministers of Finance, Economic Affairs, Communication and National Defense, the Chairman of the Joint Commission on Rural Reconstruction, and the Governor of Taiwan, the President of the Executive Yuan[20] who serves as Chairman. Under the Board there are five Committees in charge of budget, finance, trade, agriculture and price control, and the Industrial Development Commission. Therefore, the ESB is the central planning organization of the country.

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19 Source: China Handbook 1956-1957, p. 100.

20 Same as Prime Minister here.

FETCC

For the consolidation of the control of foreign exchange and foreign trade under its over-all program, the Executive Yuan established the Foreign Exchange and Trade Control Commission. This Commission formulates policies and plans regarding international trade and foreign exchange problems. The Commission is composed of the following members: Minister of Finance, Minister of Economic Affairs, Secretary-General of Economic Stabilization Board, one representative from the Central Bank of China, General Manager of the Central Trust Bank of China, two representatives from the Taiwan Provincial Government, Chairman of the Board of Directors of the Bank of Taiwan, and two special appointees, with the Minister of Finance as Chairman. In the Commission there are seven departments, namely: Secretariat, Export Department, General Import Department, Special Import Department,[21] Remittance Department, Military and Civil Affairs Organization Exchange Allocation Department, and Investigation and Research Department.

NHPC

The National Housing Program Commission is composed of fifteen members. This Commission has a chief secretary and six sections, namely: General Affairs, Engineering,

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[21] For special military purposes.

Finance, House Distribution and Purchase, Management and Planning and Research.

Notwithstanding considerable economic progress, there are still many obstacles in Taiwan's economy. Lack of capital, both public and private; shortage of requisite mineral resources; increasing population and scarcity of arable land (present population being congested in some 10,000 persons per square mile of habitacle land); skilled labour neither abundant in amount, nor complete in variety; home market easily satiable and exports not oriented for keen competition; all these make up a maze in which development of industry in Taiwan has to go through. While all these things are deterrent to economic development we still have to take into consideration the fact that we are opposed by the aggressive attitude of a formidable enemy, therefore military expenditure cannot be decreased and must receive prime consideration. This is why economic policy for the past few years has been designed to adapt measures to strengthen military defence rather than peace time economic development. Such are the crucial facts one has to face in the course of the problem of economic development and growth in Taiwan.

CHAPTER II

POPULATION AND RESOURCES

1. Population and Output

The population problem of the underdeveloped countries is very serious. The hardest task of all is not only to raise the output to meet the increase of population, but it is more difficult to raise the standard of living. Professor Lewis estimates that if population is growing by 1 1/2 per cent per annum, the minimum target we can set is to increase total output by 2 per cent per annum this would double the standard of living only in 140 years. The 3 percent increase in output which is required when population is increasing by 2 percent to 2 1/2 percent is even more difficult to achieve.

The natural growth rate of Taiwan's population is 3.5 percent, the highest in the Far East. The net annual increase of the population is around 350,000 per year, which definitely constitutes a heavy burden on the island economy. According to the above estimate, output at least should increase 3 percent or more per annum. If there is only a 3.5 percent increase in agricultural and industrial production, it will be just sufficient for the increase of population. This is a real problem in Taiwan now. Table IV shows the growth rate of population in Taiwan from 1949 to 1956.

TABLE IV

POPULATION[1]

Year	Population	Death Rate per 1,000	Birth Rate per 1,000	Index
1949	7,346,931	12.62	40.67	87.7
1950	7,754,399	11.35	42.84	89.5
1951	7,869,247	11.34	48.97	93.3
1952	8,128,374	9,72	45.88	96.3
1953	8,434,609	9.26	44.40	100.0
1954	8,595,816	7,93	43.24	103.7
1955	9,078,000	-	-	107.6
1956	9,374,000	-	-	111.1

[1] Source: Industrial Development Commission, Indicator of Taiwan Economy & Han Lih-Wu, Taiwan Today, p. 49. The number of military personnel and foreigners is not included.

The arable land and other natural resources in Taiwan is rather limited and the population keeps increasing from year to year. According to the present growth rate, the population in Taiwan will be doubled after a period of thirty years. Dr. Chien Tien-Ho, officer of JCRR, noted that if the increase of agricultural products cannot keep pace with the growth of population, famine conditions may result sometime within the period of the next thirty years, not to mention the grave situation arising out of unemployment and social unrest. There is a recent trend of introducing the system of "family planning"[2] by some of the public-minded groups in Taiwan, but it takes a long time to achieve the desired result. At present, with reference to the situation aforementioned, the mortality rate in Taiwan has been greatly reduced and the birth rate is increasing considerably. So it seems quite natural that the rate of population growth in the future would be more than 3 percent per year as indicated by the present tendency. If the annual rate of population growth in Taiwan cannot be decreased, it will be necessary to increase the agricultural and industrial production with a view not only to doubling its yield to meet the need of the growing population in the next thirty years, but also to supply local industries with necessary raw materials from year to year. If this can be accomplished, Taiwan will have achieved industrialization.

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2 Such as birth control, later marriage, etc.

2. Agriculture and Industry

Taiwan's economy is still one in which agriculture plays the leading role. About 54 percent of the population depends on agriculture for living. One third of the total value of net national product comes from agriculture, while the role of industry is only secondary. The distribution of Taiwan's net national product is shown in Table V.

Under the first item, agriculture accounts for 32 percent of the national product, while fishery takes up only 1 percent and forestry 0.1 percent. Agricultural production is concentrated on rice and sugar cane. Their gross product value is 75 percent of the total gross production value for agriculture. Other important farm products are sweet potato, tea, tobacco, peanut and banana. These products, together with rice and sugar cane, make up 90 percent of the total gross product value for agriculture. Such products as cotton, wheat and soybean are produced in negligible quantities in Taiwan.

According to official statistics, in the total production value of industry, mining, electricity and transportation, food processing accounts for 32 percent, chemical industry, including fertilizers, for 15 percent; transportation for 13 percent; textiles for 11 percent; mining for 10 percent; metal machinery for 9 percent; lumber for 6 percent; and power

TABLE V

THE DISTRIBUTION OF NET NATIONAL PRODUCT[3]

Items	Percent
Agriculture, Forestry and Fishery	33.1
Industry, Mining and Electricity	24.6
Services	21.5
Commerce	19.1
Others	1.7
TOTAL	100.00

[3] Industrial Development Commission, Industry of Free China, Vol. IV, No. 5, p. 12.

for 4 percent. With respect to individual industry, the more important ones are sugar, textile, cement, fertilizer, paper and oil refining. The principal mining products are coal and salt, other mining products are negligible.

Being already overpopulated, Taiwan is in a more difficult position in its way toward economic development. If the increased population cannot be entirely absorbed by local industries annually, it would mean that the surplus people must still be added to the already overpopulated farm working force, thus cutting down the efficiency in production and wasting the agricultural resources, which could otherwise be used for industrial purposes. This is a serious problem in Taiwan today which requires immediate solution.

Agriculture

In Taiwan, agriculture has not yet been modernized. Compared with that of the Western countries, the farming technique and tools are crude. The unit farming area is likewise small. But when put side by side with other underdeveloped areas, such as Korea, Thailand, etc., its farming tools, seed selection, fertilizer application, pestilence prevention, irrigation, and even farming community organization seem to be better.

Taiwan has been maintaining a predominantly agricultural economy throughout its history. After the restoration of the island to Free China, the Government adopted a policy to

encourage an economic balance between agriculture and industry. This means that agricultural output is to be speedily increased to enable the rapid industrialization of the island.

The Agricultural Development Plan is concerned with production in six important fields, namely: food crops, special crops,[4] forestry, fishery, animal industry and water conservation. The aims set forth for the Agricultural Development Plan are given as follows:[5]

(1) To stabilize the prices of agriculture, forestry, fisheries, and animal industry products by providing an adequate supply in order to meet the needs of the military and civilian population.

(2) To boost the export of agriculture, forestry, fishery, and animal products for the purpose of increasing the foreign exchange income.

(3) To reduce the imports of agriculture, forestry, fishery, and animal products so as to effect some saving of foreign exchange.

(4) To improve the livelihood of the farmers and, at the same time, to maximize the farmers' contribution to the economy of Taiwan.

According to the above-mentioned principles, there are three measures that should be used by Government:

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[4] Such as tea, sugar cane, tobacco, etc.

[5] Economic Stabilization Board, Annual Report, 1956.

(1) Emphasis should be placed on agricultural education, research and extension courses.

(2) The export trade of agricultural products should be encouraged. Due to the small market in Taiwan, there would be easily a surplus of agricultural products after the increase of production. The Government should assist the farmers in exporting their agricultural surplus products abroad in order to increase the income for further production on one hand and to gain foreign exchange for industrial development on the other.

(3) To maintain a favorable and stable price for agricultural products in accordance with their costs of production. For this purpose, the best way would be to maintain a stable price of other commodities along with that of the rice at the same time. Meanwhile the Government should purchase the surplus of agricultural products and store it up to maintain the price at a proper level in order to maintain a stable level of farmers' income.

Industry

In Taiwan, most of the principal industries were operated by the Japanese Government during the period of Japanese occupation. With the restoration of the island to Free China, all Japanese enterprises were taken over by the Chinese Government. Their transfer to private ownership was so difficult that only a fraction of the total was turned over to private

investors while the greater part remained in Government hands. Therefore, up to this very moment, public enterprises still get the limelight in Taiwan's industry. Public enterprises accounted for 60 percent of the total production value of the principal industries while private enterprises accounted for less than 40 percent. Public enterprises not only surpassed private enterprises in volume of production, but also have more up-to-date facilities and better equipment. More than half of the private enterprises are smaller in scale, inferior in equipment and far below modern industrial standards. But the role of private enterprises has been becoming gradually more important now due to Government assistance and encouragement.

Geographical environment has limited the island's activities to its western region. It is therefore natural that both the agricultural and industrial activities on the island are concentrated in this section of the island. The reason may be explained in one way or another by such factors as transport, labour costs, and availability of raw materials, etc., generally known as the localization factors. In its nature, Taiwan's industry is essentially the processing of agricultural products. Limited in industrial resources, the chance for developing heavy capital-goods industries on this island is practically nil. Therefore, most of industries of this island are directly or indirectly connected with the utilization of agricultural resources.

Under present circumstances, if industry is not developed to create more room for further agricultural and industrial and commercial expansion to bring about a balance in our international trade and to rid the national income of dependence on foreign aid, our struggle will be much harder. Therefore, for many years, economic development has been the main target for both the Government and the people. However, there has been little achievement, the reasons should be attributed to certain difficulties which have prevented our industry from being further developed. These basic difficulties are:

(1) Difficulty in accumulating capital.

(2) Unstable laws and regulations governing enterprises.

(3) Lack of modern industrial entrepreneurship.

(4) The existence of unfavorable economic institutions and trade policy.[6]

The solution of these problems depend largely upon industry. Two methods have been suggested for industrial development. One is to develop small industries and handicrafts. This is the industrial pattern best suited for the actual environment in backward areas, including Taiwan, where there is surplus manpower, but where capital and modern productive techniques are lacking. It may absorb the surplus population of the rural communities. Another method of industrial development

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6 To be explained later.

is the establishment of certain industries that process raw materials imported abroad and make them into finished goods for export by taking advantage of our ample power supply and good communications. Such industrial foundation relatively surpasses those in other underdeveloped regions. If a specially favorable environment is built up for certain industries with parallel improvements in costs and quality, Taiwan may still engage in such industries even though the raw materials needed are lacking. This is exactly the situation of the British and Japanese textile industry. Taiwan has to develop both types of industry since it is limited in natural resources but has much manpower to make the best use of it.

3. Coordination of Industry and Agriculture

Availability in large quantities of coal, iron and agricultural resources are the basic requirement for the industrialization of a nation. Coal and iron are natural resources as for agricultural resources they are subject to reasonable increase and to utilization human efforts. Therefore, any country which aims to attain the goal of industrialization must carefully and properly utilize its agricultural resources for industrial development and at the same time try to increase their production. This is especially important to those countries which are deficient in the supply of coal and iron.

In agriculture, according to expert estimates, about 25 percent of Taiwan's land may be cultivated and the area

presently under cultivation is already 24.4 percent. In other words, the reclaimable land throughout Taiwan is only some 20,000 hectares. As for industrial resources, the shortage is even more acute. The two mining products which have some significance in Taiwan are coal and salt. But the annual coal production is only 2,000,000 tons and the yearly salt production is on an average 200,000 tons. Petroleum is an important product, exploration so far have not resulted in the discovery of any big oil fields. Other minerals including the all-important iron ore are very low in reserve and quality. They are not worth exploring. To date, the only resources in Taiwan which have not been put into full use are water resources and manpower which have potential value for economic development.

The development of agriculture and industry must go hand in hand. If agricultural technique is improving while industry remain stagnant, there would be no opportunity for making use of this improved technique to best advantage. Therefore, it is generally recognized that the most important way to improve the economic situation in economically backward countries is to develop their natural agricultural resources and industry simultaneously.

It would be comparatively easy to improve agricultural technique, to make better use of agricultural resources and to reduce the amount of farm labour required, but it is extremely difficult to coordinate agriculture with industry in order to

meet the latter's need. In a country where industrialization is just being started, it is quite possible that, due to maladjustment of agriculture with industry, the agricultural resources cannot be rapidly increased and uneconomic use of these resources will evidently follow.

The careful utilization of agricultural resources means virtually the economic use of such resources. If one man can produce the agricultural products which were formerly produced by two men, the surplus agricultural products may be used for industrial purposes. Or, a part of the land which produces such agricultural products may be utilized for planting other industrial crops. This constitutes the only possible way through which an agricultural country can be converted into an industrialized country.

Until recently, Taiwan's economy has been predominantly agricultural, but the tide has been changed gradually. The percentage of industrial production in the total national income has been heightened. It can be found in the following Table VI.

In an underdeveloped country, the industries are mostly built from the processing of agricultural products for food, textiles, paper and building material, etc. Generally, agriculture integrated with industrial processing will stabilize production and assure steady growth of industry. Such development implies coordinated investment in both agricul-

TABLE VI

INDICES OF INDUSTRIAL AND AGRICULTURAL PRODUCTION[7]

Year	Index of Industrial Production	Index of Agricultural Production
1949	47.9	74.1
1950	52.7	78.6
1951	56.8	82.2
1952	76.6	91.2
1953	100.0	100.0
1954	104.7	101.4
1955	114.7	103.6
1956	117.3	109.6

[7] Source: IDC, Indicator of Taiwan Economy, 1956.

ture and industry. In Taiwan, sugar and pineapple canning are typical examples. They absorb a large number of farm labour in processing and cultivation. When the national wealth expands from the growth of light industries, there will evolve large industrial plants for the manufacture of synthetics and capital goods.

In the United States, a "Chemurgy Council" was organized with the aim to integrate agriculture and industry for the best return from agriculture. The word "Chemurgy" means putting chemistry and the allied science to work toward the greater industrial utilization of farm grown materials. Since ninety percent of our income comes from agricultural products, such as sugar, rice, sweet potato, pineapple, tea, etc., we should follow this method in encouraging agriculture and industry to effect the best benefits possible.

CHAPTER III

CAPITAL FORMATION AND UTILIZATION

1. Capital Requirements

Capital-Income Ratio

Economic development is associated with an increase in capital per head. Professor W. A. Lewis,[1] maintained that in advanced countries the ratio of the value of capital to the value of output seems to be pretty constant at the margin, this margin ratio lies between 3 to 1 and 4 to 1, when the value of land and other natural resources is excluded from capital and the value of imported assets[2] from both capital and income. It may be stated that on the average an investment of US $100 is associated with an increase of national income by between US $25 and $33 per year; or say that raising national income by 3 percent per annum cumulatively is associated with an annual net investment of between 9 percent and 12 percent of national income. Given the aberage life of capital, the principal determinant of the capital-income ratio is the proportion of national income annually invested. On the other hand, the ratio of capital in existence to annual

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1 W. A. Lewis, The Theory of Economic Growth, George Allen and Unwin Ltd., London, 1956, p. 201.

2 For example, machinery and equipment received from U.S. Government.

income is much lower in underdeveloped countries; because the rate of accumulation is smaller, merely 1 to 1. It is argued on a priori ground that in underdeveloped countries there are limits to the rate of capital formation. Of these, the two most important, given finance and suitable natural resources and appropriate institutions, are shortage of skill and inadequacy of public utilities. Shortage of skill not only prevents people from using capital fruitfully, but may prevent them from using it all. Public utility services such as communications, dock facilities, water supply, electric power and other similar services are necessary for the development of new enterprises.

In developed countries, the stock of reproducible capital is more than three times as great as national income, whereas in underdeveloped countries the stock of capital, excluding land, is smaller than or not much greater than national income. With a low level of national income in underdeveloped countries, the obstacle to greater investment is that the current propensity to save is too low, hence a low level of capital formation.

Capital Formation in Taiwan

Indeed, only on the furtherance of industrial development can a modern economy be established; and only through the opening up of courses of capital can industry be developed. The economic development plan cannot be carried out without

capital formation. In Taiwan, private capital investment is supposed to be encouraged. According to the analysis made by the Industrial Development Commission, approximately 40 percent of the capital invested in Taiwan in these last few years came from U.S. Aid Fund while about 60 percent from domestic sources.

Owing to the lack of entrepreneurs, there is lack of initiative to run modern enterprise. Therefore, people in underdeveloped areas are not willing to invest in modern industries, even though there may have good investment climate and available basic economic facilities. On the other hand, in case they are willing to do so, the efficiency of their operation is also not necessarily higher than that of the public enterprise. This is in sharp contrast with the condition in industrialized countries where people will voluntary invest their capital once the opportunities are offered. And as a result business activity is more efficient.

Data on capital formation in Taiwan are very scarce. It is only recently that a preliminary estimate has been made by the Industrial Development Commission. In brief, the estimate shows:

(1) U.S. Aid plays a leading role in Taiwan's capital formation.

(2) The main domestic sources of capital formation are public enterprises. Private capital formation is of minor importance.

(3) In capital formation, stocks on hand are of primary importance. The stock of fixed capital is relatively small, accounting for only 22 percent of the total investment.[3]

(4) Aside from U.S. aid funds, the rate of capital formation is low. The gross capital formation rate is only 13 percent and the net capital formation rate is 10 percent of the national income. These rates are half the rates of Japan but close to the rates of other countries of South-East Asia. These formation rates are evidently insufficient to meet the requirements of Taiwan's economic development.

According to estimates prepared by the "China Economist", capital requirements will be in the neighbourhood of U.S. $1,466,000,000 if Taiwan is to double the 1953 industrial production (about NT $4 billion worth of commodities).[4] If there is shortage of sufficient capital, this goal cannot be attained.

Generally speaking, the sources of capital investment for economic development in Taiwan consist of three parts:[5]

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[3] Data from Industry of Free China, Industrial Development Commission, Vol. IV, No. 5, Nov. 1955, p. 18.

[4] Beginning from September 1955, the official exchange rate is NT $.15.65 to US. $1 plus the official exchange certificate fee and the defense surtax, China Handbook 1956-57, p. 342.

[5] Data from MSM/C and T. C. Pan, Financing Industrial Development, Industry of Free China, IDC, Vol. VIII, No. 4, pp. 2-9.

(1) Public financing: from 1952 to 1956, the public enterprises and the Governments have invested in the five major sectors[6] a total of NT $2,600 million[7], averaging NT $525 million a year. These funds are invested chiefly in the fields of power, fertilizer, transportation, sugar by-products, petroleum, irrigation, etc.

(2) Private financing: This comes from domestic, Chinese and foreign sources. As there exists no organized capital market in Taiwan, investment or subscription are not made through the security market, but directly by the entrepreneurs themselves. During the past five years, 1952-1956, private investment in the five major sectors amounted to NT $3,320 million, of which agriculture accounted for almost 50 percent. The annual amount of private investment is NT $660 million. The major fields are textiles, chemicals, cement, paper and board, window glass, electrical appliances as well as irrigation and rural housing. Among the investment financed by private capital, overseas Chinese and foreigners contributed about US $25 million. All these funds are invested in industrial undertakings, mostly for the establishment of new plants.

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6 Those sections are: agriculture (including forestry and fishing), mining and quarrying, manufacturing, power and transportation and communications.

7 Agriculture accounted for NT $600 million.

8 Mainly for power, fertilizer, chemical, highway, metal, paper and pulp, food processing, railway, etc.

(3) U.S. aid funds are directly loaned to both the Government and private development projects,[8] under joint American and Chinese government screening and approval. The agencies doing such work are: CUSA, JCRR, IDC, J.G. White Co. and ICA/MSM/C.[9] Based on MSM/C's data, capital investment financed by U.S. aid in the above-mentioned five major sectors totalled some NT $2,900 million during the period of 1952-1956,[10] averaging NT $580 million a year.

In this Chapter, I would like to describe the public, private, and private foreign capital investment in greater details and then discuss in Chapter IV the U.S. aid special investment program.

2. Public and Domestic Private Investment

The fixed capital formation by public and domestic private capital during 1952-1954 is indicated in Table VII.

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[8] Mainly for power, fertilizer, chemical, highway, metal, paper and pulp, food processing, railway, etc.

[9] CUSA: Council for U.S. aid; JCRR: Joint Commission of Rural Reconstruction; IDC: Industrial Development Commission; J. G. White Co.: A U.S. Engineering Co.; JCA/MSM/C: International Cooperation Administration, Mutual Security Mission to China.

[10] Agriculture accounted for about NT $430 million.

TABLE VII

FIXED CAPITAL FORMATION[11]
(1952-1954)
Unit: NT $1,000

Year	Public Amount	Percent	Private Amount	Percent	Total Amount	Percent
1952	654,338	54.68	545,304	45.32	1,196,642	100
1953	865,995	58.42	616,463	41.58	1,482,458	100
1954	876,547	52.49	793,281	47.51	1,669,828	100

11 This covers agriculture, manufacturing, mining, electricity (including national gas and water), transportation and communication.
U.S. aid to communication and transportation, which was listed in the original data, was taken as part of government investment.

Source: ICA/MSM/C and IDC.

The above figures indicate that public investment surpassed private investment for each year during 1952-1954. The reason why public investment occupies so great a percentage in total investment is that the basic economic facilities have to be increased in line with economic development. Therefore, it is necessary that the government develop the existing public enterprises.

Public Investment

Public investment in Taiwan may be divided into three groups:

(1) Investment basic to general economic development. This includes electricity, communications and transportation, irrigation, etc., all of which are basic economic facilities.

(2) Investment for the further development of existing public enterprises. Among the enterprises in which the Government has invested heavily are: sugar and sugar by-products, fertilizer, petroleum, alkali, aluminum and machinery, these industries which play a very important role in the over-all development plan.

(3) Investment for demonstration or promotion purposes. To stir up the interest of private industry, certain enterprises may be first established by the Government and then, in due course, transferred to private operation.

TABLE VIII

PUBLIC AND PRIVATE CAPITAL FORMATION
BY INDUSTRIAL SECTORS: NT $1,000[12]

		1952 Amount	1952 Percent	1953 Amount	1953 Percent	1954 Amount	1954 Percent
Agriculture	Public	185,083	40.92	181,054	37.94	222,475	36.77
	Private	267,201	59.08	296,122	62.06	382,588	63.23
	Total	452,284	100.00	477,176	100.00	605,063	100.00
Mining	Public	3,939	38.43	9,789	56.89	6,369	69.11
	Private	6,310	61.57	7,417	43.11	9,509	30.89
	Total	10,249	100.00	17,206	100.00	15,878	100.00
Manufacturing	Public	144,451	34.96	127,408	28.93	190,209	32.16
	Private	268,793	65.04	312,924	71.07	401,184	67.84
	Total	413,244	100.00	440,332	100.00	591,393	100.00
Electricity	Public	138,412	100.00	418,547	100.00	322,039	100.00
	Private	-	-	-	-	-	-
	Total	138,412	100.00	418,547	100.00	322,039	100.00
Communications & Trans.	Public	182,453	100.00	129,197	100.00	135,455	100.00
	Private	-	-	-	-	-	-
	Total	182,453	100.00	129,197	100.00	135,455	100.00

12 ICA/MSM/C, Taiwan Gross Civilian Capital Formation, 1952-1954, Nov. 1955, and T. Y. Wang, Government Investment in Taiwan, Industry of Free China, Vol. VI, No. 1, July 1956, p. 10.

The pattern of government investment is shown in Table IX.

Public investment during the last few years was chiefly for the development of basic economic facilities, averaging 35.4 percent of the public investment to electricity; 24.9 percent to agriculture, of which irrigation projects took the main share; 19.5 percent each to manufacturing and communications and 0.80 percent to mining.

Domestic Private Investment

Today, the main problem confronting private capital investment in Taiwan is two-fold: first, a shortage of fixed and working capital; secondly, inferior and insufficient equipment. In Taiwan, private capital investment accounts for less than 40 percent of the total capital stock.

Had the "profit motive" been recognized, a change could be hoped possibly in the future that consequently would pave the road for investments of both internal and foreign capital. It is for this reason that the Government has adopted new measures to encourage both overseas Chinese and foreign nationals to invest in Taiwan. And at the same time the emphasis has been laid also on improving economic conditions in order to attract domestic private capital. To encourage the domestic private investment, the following measures may be considered:

(1) A favorable atmosphere should be first created by making a detailed study of the existing laws and regulations

TABLE IX

PATTERN OF PUBLIC INVESTMENT[13]
1952-1954
Unit: NT $1,000

Items	1952 Amount	Percent	1953 Amount	Percent	1954 Amount	Percent
Agriculture	185,083	28.29	181,054	20.91	222,475	25.38
Mining	3,939	0.66	9,789	1.13	6,369	0.73
Manufacturing	144,451	22.08	127.408	14.71	190,209	21.70
Electricity	138,412	21.15	418,547	48.33	322,039	36.74
Trans.& Comm.	182,453	27.88	129,197	14.92	135,455	15.45
TOTAL	654,338	100.00	865,995	100.00	876,547	100.00

13 Source: T. Y. Wang, Government Investment Taiwan, Industry of Free China, Vol. VI, No. 1, July, 1956, p. 11.

governing private investment and amending them. The necessary amendments of such laws and regulations in so far as such amendments shall not constitute any infringement on the nation's sovereignty but shall be beneficial to its economic development. At the present time, the custom tariffs and exchange[14] controls are not an inducement, but on the contrary, a deterrent to private capital investment in Taiwan. Hence, it should be amended.

(2) The present Income Tax Law and tax rates on business profit are not conducive to capital formation, and, therefore, should be also amended.[15]

(3) The establishment of a perfect and effective stock exchange market is necessary. It seems to me this is very important, since it is the only way to attract idle capital.

The Establishment of a Stock Exchange in Taiwan

The stock market is a product of modern economic development. The extent to which it functions efficiently in raising long-term capital is closely related to the stage of development. In underdeveloped countries, it is obvious that a stock exchange cannot be expected to perform its functions satisfactorily. Miss Grace Eacoy analyzes the capital market in Taiwan. She argues that: "Under the present situation, there are two major obstacles to the absorption of funds by the exchange.

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14 To be explained later.

15 For details please see Appendix B, Income Tax Law.

One is the high market rate of interest, the other is the higher rate of return in the commercial field rather than in the industrial."[16] Indeed, now in Taiwan, the preferential rate of interest[17] for one month is 1 percent, the bank rate for time loans (secured) is 1.8 percent, while that of the black market is 4 percent or more, Compared with such high rates, there scarcely is any industrial investment that could promise as high a rate of return as any of these. In this sense, loans seem to offer more safety than investment. As to the other obstacle, investment in commercial enterprise not only would yield higher return, but is also liquid and has a more rapid turnover. Under conditions of inflation, liquidity will become more important as inflation increases because the funds can be easily used for lucrative speculative purposes.

Meanwhile, in making investment, the motive of the investor is to earn the prospective long-term returns, not immediate profits. The stability of political conditions is one of prime importance. In Taiwan, stabilization policies to a great extent are not exactly as in peace time, and as a result investors do not prefer long-term investments. In these

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16 Industry of Free China, Grace Eacoy, The Stock Exchange in Taiwan, Industrial Development Commission, Vol. V, No. 4, April 1956, pp. 1-7.

17 Preferential rate of interest is given to local industry by the Bank of Taiwan. The Bank rate of interest for savings is 1.5 percent per month in Taiwan.

circumstances, an exchange cannot successfully raise funds for long-term investment. Therefore, in the light of our underdeveloped economy, the climate favorable to the efficient functioning of a stock exchange in raising long-term capital is still lacking; this and other restrictive factors, make it impossible for an exchange to induce capital into productive investment. Even if the economic conditions would improve, the best benefits under the present circumstances that a stock exchange can render is limited to a few speculative groups; it has nothing to do with people's savings and industrial funds. Instead it would facilitate transactions of a speculative nature rather than of an investment nature.

Since the transfer of the four public enterprises to private pwnership and the issuing of land bonds,[18] the security market in Taiwan suddenly became extremely active. The security prices fluctuated abnormally during the last few years. As there is no organized stock exchange in Taiwan, the sale and purchase of securities are handled by a number of brokers on behald of their clients. Since the Government revised the "Regulations on Control of Security Demands",[19] the Regulations provide that security transactions should be limited to small transactions only and each transaction should be accompanied with an invoice. They also provide that the

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18 Land bonds are issued by Provincial Government for the purpose of "Land-to-tiller" program.

19 March, 1955.

brokers should check the identification card of their clients and register their names and addresses and volume of securities they want to sell and buy, and also provide that brokers can sell or buy securities only for their clients, but not for themselves. The Regulations are adopted in an effort to prevent manipulation of security prices.

Recently, the Government has been studying the problem of setting up organized exchange for negotiable instruments. The Provincial Government has now announced the Regulations for brokers' business. As soon as the stock brokerage business has attained normal development, the Government will have a stock exchange established in accordance with the various laws that concern stocks and dealings thereof.

In dealing with this problem, I hope that the above-mentioned obstacles will be taken into consideration and effective and sound measures will be introduced by the Government as to the road for the establishment of an efficient exchange.

3. Foreign Capital Investment

Under the present circumstances the only way to promote Taiwan's industrialization on a large scale is the utilization of foreign capital. The reason is because the required amounts of capital used by modern industrial development is beyond the financial ability of the people of economically backward areas. Hence the talk of foreign capital

investment to boost Taiwan's production has recently gained momentum. The sources of such capital investment will come from two parts: first, from foreign nationals, and secondly, from the overseas Chinese.

The Need for Foreign Capital

After an examination of our economy as a whole, it cannot be denied that part of the success in our economic development depends on American aid. But American aid is limited. In the event of a decline or cessation of American aid, the Government has devised the "Four-Year Economic Development Plan" to obtain economic self-sufficiency and self-support. On our road toward self-sufficiency and self-support, the invitation of capital from foreign nationals of friendly countries will not only help our economic reconstruction, but also will give ourselves the chance to benefit from the technical know-how and experience of advanced countries as well as their modern managerial methods. Moreover, foreign investment will help to improve the productive conditions of our small scale industries and agriculture, increase employment opportunities for our people, expand the national income, balance international payments, stabilize the value of money and lay the foundation of our future prosperity. The enactment of the "Statute for Investment by Foreign Nationals"[20] is, therefore, an appropriate action indeed.

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20 This Regulation has been established on July 4, 1954.

The Chief Obstacles for Foreign Capital Investment

The investors, in sizing up investment possibilities in a country, are primarily concerned with three factors, namely: profit, safety and free transferability of investment funds. In spite of the Government's early decision in soliciting the aid of foreign capital, private investment by foreign investors in productive enterprises in Taiwan in recent years has been far from encouraging. This situation may be explained by many factors:

(1) The delay of taking appropriate actions to amend laws and regulations concerning foreign investments in implementing the Government policy, thus hampering the would-be investors at the very outset of opportunity. The prevailing ideals ingrained in the minds of people in backward areas tend also to discourage the foreign investor. To allow a foreign investor to establish a factory in one's own market is an invasion of the people's industry.

(2) The existing exchange control, designed to prevent out-flow of capital funds and foreign exchange, has been too severe and intolerable from the business standpoint. The limitations on outward remittances of profits, the absence of free movement of capital also discourage investors from risking their money on investment in the Taiwan industry. Also foreign capital has been unfavorably treated by Taiwan's own harm-inflicting controls. Under the present exchange and

trade control policy, inward remittances would suffer a loss of 40 percent on the part of the remittances.[21] This has, consequently, chocked up the way of inward movement of capital through remittances.

(3) The existing corporate income tax rates, directly and proportionally progressive to the size of capital funds, is a crushing burden on investors, and the same may be said against both the business and stamp taxes.[22] In modern business, it is the chief objective of the executive to attain a high velocity of circulation of working capital and quick turnover of business transaction in order to make maximum profits for his business. However, in Taiwan, each transaction of business is taxed.

(4) The marketing situation of the local industrial products is a problem which worries the investors to no small extent. Due to the small size of the population, the local consumption market is limited. This island has to compete with other economically advanced countries for a world market for its products. These circumstances necessarily involve a great risk.

These are the impediments to any worthwhile flow of foreign capital into the Taiwan industrial development. It is

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21 According to Government exchange control regulations, the remittances will be exchanged with the official rate about US $1 NT $24 but the black market exchange rate is US $1 NT $40.

22 Such as contracts, certificates, invoices, etc.

undeniable that most Government enterprises have been benefited by the influx of U.S. aid, but a simultaneously development of private enterprises is equally essential to the economic life of Taiwan. And to this end, sufficient import of foreign capital is now unanimously recognized to be important by all quarters concerned over the well-being of the island.

How to Encourage the Inflow of Foreign Capital

The "Statute for Investment by Foreign Nationals", which consists of 23 articles, has been approved by the Legislative Yuan in July, 1954;[23] the Government also revised the Income Tax Law in 1956 to exempt new corporations from income tax for three years. These would give to foreigners an incentive to import their capital to Taiwan for purposes of economic development. In order to formulate a sound and effective policy of attracting foreign capital, more new measures should be promulgated for encouraging the inflow of alien capital to Taiwan, the most important ones are as follows:

(1) A high policy making committee should be organized by the institutions concerned to pronounce the final judgment and decision on the question of attracting foreign capital and to give approval or disapproval to applications for foreign investments.

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23 Statute for Investment by Foreign Nationals, IDC, Industry of Free China, Vol. II, No. 1, July, 1954, p. 26.

(2) As to actual investment procedures, banks should be appointed to guide and assist the activities of investors according to established commercial practices.

(3) In the meantime, all informative materials useful to investors should be compiled and printed in pamphlets for distribution to all concerned.

(4) The stipulations on the withdrawal of capital and the remittance of profits should be relaxed.

(5) The imposition of heavy income taxes should by all means be avoided.

(6) The explicit stipulation should be provided to afford safe protection and equality before law for foreign capital.

(7) More detailed stipulations shouldbe provided governing import of materials with self-provided exchange in order to meet the shortage of raw materials.

(8) At the same time, we must adopt many measures to attract foreign capital such as improvement in the domestic enterprise system, establishment of a modern stock exchange, maintaining the normal profits and to guarantee the safety of the foreigners investment.

All these are essential in the establishment of a climate favorable to foreign investment and are the necessary conditions for a substantial inflow of foreign capital.

Foreign Capital Investment by Overseas Chinese

In the past few years, the Government has been taking various measures in this direction. With the promulgation of the "Regulations Governing Sale of Goods Imported under Investment Programme of Overseas Chinese" on January 17, 1956[24] by the Executive Yuan, a new stage has entered in connection with the investment by Overseas Chinese in Taiwan. Overseas Chinese investment in Taiwan began in April 1955. Up to the end of December 1955, altogether 55 applications have been approved. On the basis of value reported by the 55 applicants, the total value of machinery, raw materials and supplies imported by them was estimated at US $1,637,351.

We can readily see that so far as the investment by Overseas Chinese concerned, much has still to be done. In addition to the promulgation of "the Statute for Investment by Overseas Chinese", other measures have to be taken by the Government in order to improve the environment for investment by them. The following are a few more important steps that have to be adopted:

(1) In case the Overseas Chinese investors fail to buy the necessary private land as factory site due to the refusal of the land owner to sell, they can apply to governments to look for a piece of public land for them.

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24 Industry of Free China, New Measures to Encourage Overseas Chinese Investment in Taiwan, Vol. V, No. 5, May, 1956, pp. 48-52.

(2) The factories set up by Overseas Chinese can apply to Foreign and Trade Commission or the Ministry of Economic Affairs to import raw materials and equipment with self-provided foreign exchange.

(3) The present Law and Regulation for encouraging Overseas Chinese to investment is not too attractive and hence need further revising.

The purpose of encouraging Overseas Chinese to invest in domestic industries has economic and political advantages. Economically, to develop Taiwan's industries on the one hand and politically to enlist the loyal Overseas Chinese to take part in the Anti-Communist and Resist-Russia struggle of their mother country on the other. Therefore, the investment by Overseas Chinese in Taiwan must be strengthened, so as to arouse their interest in making further investment.

4. Savings

So far as external financing is available only in limited measure, a great part of the development investment must be financed domestically, therefore, saving becomes an important problem in underdeveloped countries. The proposition which we have established in the preceding section is that investment is necessary to economic development. From that it follows, saving is necessary to economic development, because investment has to be equalled by saving. In our day, however, we recognize both that saving is not necessarily

always invested (some may be hoarded) and also that some investment may not be matched by current saving (it may be financed by dishoarding or by the creation of additional money). The rate of saving is a function not only of inequality of income, but more precisely, of the ratio between profits and national income.

However, the real income per head in underdeveloped countries is usually extremely low and in some cases hardly sufficient to provide a healthy level of consumption; there are generally insufficient savings available to finance the development attempts. Meanwhile, in Taiwan, as well as in other backward areas, the prople are not accustomed to modern managerial practices. They do not understand the nature of an enterprise; and they are ignorant of the operation, the rate of return, and the degree of safety of the investment. During a period with stable money value, most of the people's savings are loaned at a higher rate of interest or deposited in a business store. And in time of unstable currency, they turn their savings into hoarding of commodities or purchase of gold with a view to preserve the value of their savings. In the underdeveloped countries where income is low whule the propensity to consume is high, the propensity to save is too low. Assuming that people in underdeveloped countries have the ability and desire to save if the economic and financial institutions are unstable and unfavorable, people would loss con-

fidence in the value of currency and will not invest in business. These factors would be recognized as the greatest obstacles in underdeveloped countries.

In Taiwan, there are three possible forms to keep savings:

(1) Purchase of newly issued stock; this way is only a limited measure since there is not a complete Stock Exchange market.

(2) Depositing in the banks, this would be also often avoided because of the public discontentment with the low bank interest rate as well as the fear of depreciation.

(3) Therefore, the only method for savings is to make loans to people who need money. This is generally called black market capital.

Since a part of the savings fails to go into the hand of entrepreneurs as investment, today we are faced with the paradox of much idle capital and yet a scarcity of productive capital. Hence the road from savings to investment has been blocked. The proper approach is to reopen the road leading from savings to investment.

In Taiwan, some people argued that the most fundamental and effective way to encourage the people to save is, given the problem of increasing in national income, to bring about a change in people's attitude and social habits through education. Another is to give greater protection to credi-

tors whose position has been undermined by unsatisfactory social customs. This will assist people to engage in productive enterprises to follow the traditional and sound methods of raising capital and loans in order to get the money they need. It also will help to make good use of their savings. Other measures include by offering a higher rate of interest and better facilities of saving institutions to absorb small savings. It is not possible in a short time to achieve good results through the use of modern banking organizations or capital markets in underdeveloped countries. Taxation policies may be of help but far-reaching results can hardly be expected. The Government is attempting to encourage and utilize savings now, but no concrete and effective measures have yet been worked out.

As to how the savings can be most effectively utilized in an economic development plan, a stock exchange is absolutely necessary without which people's dealings in stock would be handicapped and private savings would be unable to find a satisfactory investment.

If possible the Government may also exempt or decrease income taxes to encourage savings for economic development. As to people with savings who are unwilling to invest in productive enterprises, there should be long-term educational programmes to change their attitude and outlook. Such a change, however, could not be obtained within a short period of time.

CHAPTER IV

GOVERNMENT ROLE

1. The Functions of Government

The Government plays an important role in the stabilization and encouragement of economic activity. No country has made economic progress without positive stimulus from an intelligent government. In underdeveloped countries, public opinion is likely to be even less effective than in advanced countries in controlling and checking economic activities. Therefore, the range of activities which the government can usually undertake is even greater in underdeveloped countries than in the more advanced countries. Broadly speaking, the most important functions which related to economic development may be outlined as follows:

(1) Maintaining public services: maintenance of law and order, extension of public utilities, provision of minimum education and health services are leading examples. These functions are basic for economic development.

(2) Influencing attitudes: Economic development in underdeveloped countries depends largely upon the community having attitudes which are favorable to economic development rather than attitudes which are opposed to economic development. In this field, the government plays a considerable part in determining these attitudes.

(3) Distributing national income: Another fundamental role of the government is promoting greater equality of income and wealth. This is a matter of great importance. Economic development requires that an adequate share of increase in the national income shall go into savings and open the way for capital formation rather than into the pockets of those who will spend the proceeds on consumption. The distribution of the national income raises difficult problems for underdeveloped countries, in so far as they wish to combine equality with incentives and with a high level of saving for economic development.

(4) Creating an effective system of economic institutions: An effective and sound system of economic institutions is necessary for economic development. Therefore, in the early stage of economic development much time should be spent by the government on creating a good legislative and administrative framework more favorable to economic development.

(5) Maintaining a high level of employment: The employment problem is one of the most important problems in connection with economic development. In underdeveloped countries the primary cause of unemployment is the shortage of resources for people to work with. Hence, the government should increase the capital formation, or provide new opportunities for employments by making better use of available resources.

(6) Influencing the level of investment: A higher rate of domestic savings, hence the higher rate of domestic capital investment, can be achieved only by amending fiscal policy or by monetary policy. This is rather a political problem which underdeveloped countries must solve themselves under prevailing conditions.

All these are fundamental and important. In Taiwan, the authorities concerned have tried to promote a healthy and effective government framework in order to encourage economic development.

2. Economic Development Programmes[1]

In this section, I would like to describe some of the most significant works which have been undertaken by the Taiwan Government for the purpose of economic development.

First Four-Year Economic Development Plan

The Government adopted the First Four-Year Economic Development Plan on January, 1953, which ended on December 31, 1956. Its main features are as follows:

(1) Beginning in 1953, American aid was to be used for increasing the production of rice, sugar, and certain other items, partly for domestic consumption and partly for export.

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[1] Source: a) China Handbook 1956-1957, pp. 372-378.
b) Industry of Free China, Vol. VII, No. 6, September, 1957.
c) Y.T. Wang and W.C. Tung, The Miracle of 37.5, The Newsdom Co., Ltd., Hongkong, 1952.
d) Annual Year Report, By Economic Stabilization Board and MSM/C, 1956.

(2) To reduce imports of industrial goods, the Government was to promote industrial expansion, especially in power, fertilizer, and transportation.

(3) Ways were to be devised to increase exports and reduce imports with a view to balancing international payments at the end of the fourth year of the plan.

(4) The national budget was to be balanced by increasing taxation.

It was estimated that after the completion of the Four-Year Economic Development Plan, the savings in foreign exchange would amount to US $71,000,000. This plan has produced good results. Along with the increase in the total value of agricultural and industrial production, there has been an increase in the national income and some improvement in the standard of living of the people. Taking the production figures of 1952 as 100, the yearly index of increase of agricultural and industrial production are shown in Table X.

Second Four-Year Economic Development Plan

The Executive Yuan[2] in its May, 1957, meeting adopted the Second Four-Year Economic Development Plan for Taiwan. The Plan which picks up where the First Four-Year Plan left off, begin with 1957 and is to be completed towards the end of 1960. In this Plan, the investment target is set at

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[2] Same as Cabinet here.

TABLE X

INDICES OF ANNUAL INCREASE OF AGRICULTURAL AND INDUSTRIAL PRODUCTION[3]

Items	1952	1953	1954	1955
Agricultural Production	100	109.6	111.2	114.8
Mining (15 Items)	100	87.4	100.8	113.3
Manufacturing (including 99 items)	100	134.1	139.5	153.0
Public Utilities (Power, gas & water supply)	100	106.0	118.6	126.0

[3] Data from China Handbook 1956-1957, p. 378.

NT $20,000 million at the 1956 constant price level, averaging NT $5,000 million a year. Of the fixed capital, NT $4,770 milloon will be used in agriculture, forestry, fishery, animal husbandry and water conservation and NT $8,420 is to be invested in manufacturing, mining and power. Of the expected production increases, transportation and services will be raised by 45.8 percent, the industrial sector will be raised by 104.4 percent while agricultural production will be up only 19.7 per cent. This clearly shows that the potential for development in agriculture is far below that in industry. It will represent a 33.4 percent increase in the national income.[4]

The main sources of investment in the implementation of the Plan will be people's savings, especially for agriculture and general consumers industrial reconstruction. Therefore, the Plan puts special emphasis on the improvement of the investment climate in the hope that the people will not insist on a raise in the present consumption levels but will make savings to be invested in enterprises which usher in long-term prosperity. The Plan has provisions for agricultural, industrial, transportation and other special projects.[5] In brief:

(1) Mining Industries: The Government should still take an active part in the exploration of mineral resources

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[4] 1952 production index as 100.

[5] Industrial Development Commission, An Outline of Second Four-Year Economic Development Plan, Vol. VII, No. 6, June, 1957, pp. 21-25.

such as petroleum, coal and aluminum. The production goal for coal set for 1960 is 4,200,000 tons, a 64.7 percent increase over the base year. Production of other minerals, e.g. salt, sulfur, pyrite, gold, silver, and copper, will also be increased. The net product of these mines will increase 72 percent in 1960 as compared with the base year.

(2) Manufacturing Industries: There are 23 industrial projects listed in the program relating to expansion or establishment of factories: food processing, sugar, alcoholic beverages, tobacco, textile, lumber, pulp and paper, leather, resins, industrial chemicals, fertilizers, synthetic fibers, pharmaceuticals, other chemicals, petroleum, glass, cement, iron and steel, aluminum, electrical appliances, shipbuilding and handicrafts. The net product for these industries (excluding the net product of those which are not listed in the Plan) will increase 110 percent in 1960 over the base year. The following is a brief description of some of the more important projects:

A. Iron and steel industries: It is hoped that in addition to an improvement and expansion of established mills, an integrated plant with an annual ingot capacity of 200,000 to 250,000 tons will be established in the interest of promoting regional economic cooperation through utilization of U.S. Aid funds, iron ores from neighbouring friendly countries and cooking coal resource of Taiwan. In aluminum, the facili-

ties will be further improved and expanded, aiming at increasing production to 19,000 tons of ingots by 1960, an increase of 138 percent over the base year. In machinery and electrical appliances, attention will be given to improvements in quantity and quality.

B. Textile industry: Efforts will be directed toward the reduction of the cost of production and promotion of exports so as to provide sufficient foreign exchange proceeds to import raw materials to expand production. Balanced development and expansion can still be made in cotton, woollen and synthetic fiber textile enterprises. So will be the chemical industries which provide raw materials for the manufacturing of artificial fiber.

C. Chemical fertilizer: It is expected that all of the fertilizer projects initiated during the First Four-Year Plan period will be brought into production during the period of this Plan. Completed also will be the Second Extension Project of the Kaohsiung Ammonium Sulfate Works. The net product for the fertilizer industry in 1960 will be increased by 216 percent over the base year.

D. Sugar: The newly erected by-product plants for the manufacture of yeast and hard board are already in operation. Are present to expand other sugar by-product industries.

E. Cement: The net product is expected to show an increase of 13 percent in cement, production will be up to

1,200,000 tons in 1960, which will not only meet domestic need but also provide a surplus for export.

3. Power: During the period of the Plan, the installation capacity shall be increased by 280,000 Kw. The 1960 power generation target is 3,106,000,000 KWH. which is an increase of 67 percent over the base year.

At the same time, some public works have been undertaken by the Government, among which the most significant ones are the Taiwan's East-West Highway and the Shihmen Reservoir.

Taiwan's East-West Highway

During the earthbreaking ceremony for the construction of East-West Highway on July 7, 1956, Premier O. K. Yui observed that: "The completion of the Highway would open up new possibilities of national wealth unprecedented in Free China. Gold deposits and forestry resources alone were estimated at NT $7,000,000,000. With the launching of the construction project, Taiwan is embarking on a new epoch of speedy but well-planned economic development.[6]

There are many factors demanding the construction of the East-West Highway. Most of these factors are, of course, economic in nature. But the most important reason is that the eastern part of Taiwan, constantly threatened by earthquakes and typhoons and cut off from the outside world by the

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[6] China Handbook 1956-1957, pp. 8-9.

Pacific Ocean and steep mountain ranges, is in urgent need of help, both economic and cultural, from the better-developed western part of the island. This Highway, when completed, will greatly contribute to the future prosperity of the eastern part of the island and the opening up of new resources of national wealth.

Aside from the mineral and forestry resources which the Highway will help to exploit, many other projects of high economic value can also be introduced after the completion of the Highway. These include power generation, estimated at 185,000 KW., and water conservation. Through the construction of the highway, some 2,400 hectares of arable land will be added to Taiwan's plantation acreage.

Another advantage of the Highway is that its construction is providing jobs for those veterans who have retired from active service. The Highway is expected to provide employment for nearly 20,000 ex-soldiers when its construction is in full swing.

The cross-island highway starts from Taichung in Central Taiwan. Passing through Chiayang, the first section of the road will reach Lishan. From there it branches out into two routes: one goes through the mountainous region of Pilu, Kupai-yang, Ta-pei-tao and finally reaches Tailiko where it will connect with the Suao-Hualien Highway; the other will follow the course of the Tachia Creek and pass through Hsichih,

Yu-an, Tuchang, Nutao until it reaches Lotung. Both routes are 4.5 meters to 7.5 meters in width.

The total construction cost of the East-West Highway was estimated at NT $240,000,000 and US $1,200,000, and the Highway is expected to be completed in the second half of 1959.

Shihmen Reservoir

Construction of the Shihmen Reservoir and related structures will take more than five years and is expected to be completed on December, 1960. The site of the projected dam is located on the Taketan Creek in northern Taiwan, some 40 kilometers south of Taipei. The dam is intended for irrigation, power generation, flood control, and water supply.

The dam, closing off an area of 763 square kilometers and surrounded by hills, will create an artificial lake capable of holding 316,000,000 cubic meters of water, sufficient to meet supply requirement for a gross irrigation area of 54,540 hectares where two crops of rice are planted each year. Rice production will be increased by 69,000 tons a year owing to the assured water supply. The archshaped dam will rise 125 meters from the bottom of the Shihmen gorge. Its base will be 40 meters thick, while the top will be 380 meters long and 5 meters in width.

A hydro-electric station will be built at the foot of the dam, with an initial capacity of 40,000 kilowatts and an ultimate total installation of 120,000 kilowatts. When

completed, the annual power output will be 198,200,000 kilowatt hours. High tension wires of 154 kilovolts will transmit the power to Lungtan, thereby linking the installation to the island-wide electric system.

The project will also remove the threat of flood to more than one million people living along the Tamsui River and in the part of Taipei. A domestic water treatment plant at Pingcheng, utilizing the water from the new system of irrigation canals to be built, will supply 340,000 people in 17 localities with 30,000 tons of water supply daily. Other constructions include a barrier 300 meters from the main dam to discourage flood water, and harbour installations for regulating the power release to serve irrigation requirements. Two irrigation canal systems, totalling 2,430 meters in length, will be built in addition to those already in existence.

The Shihmen Dam is one of the boldest project ever launched by the Government of Republic China. Estimated cost of the multi-purpose project, excluding interest accumulated during construction is NT $616,398,000 for local expenditures and US $14,937,000 for imported machinery and equipment and technical assistance. Of this sum, US $3,264,000 is for procurement of offshore construction equipment and material, US $700,000 for contract services from the United States, and US $36,000 for the in-service training of 12 engineers in the United States. All local expenditures are met by the Chinese Government with commodity taxes payable by the project to the

national treasury, government sales from the "land-to-the-tiller"[7] program, and annual budget appropriations for water conservation projects.

3. International Relations

U.S. Aid and Taiwan Economy

Since the bilateral Sino-American Treaty was signed in 1948,[8] Taiwan has been received actually from 1950 to 1956 more than US $100 million of U.S. aid every year. More than half of the U.S. aid is expended on the importation of machinery and equipment. The influence exercised by American aid on Taiwan's economy, whether the aid is used to balance Government payments, develop economic reconstruction, stabilize market prices or is used in other fields having a bearing on the national development or the people's livelihood, is too important no to be mentioned again here. During the past years, due to cautious approaches adopted both by the Chinese and the Americans, remarkable achievements have been obtained.

Table XI is a breakdown of the annual appropriations of U.S. economic aid funds covering the period between the fiscal years 1950-1956.

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[7] Equivalent to farmers purchasing land from the Government.

[8] The world-wide U.S. economic assistance program was set in motion under the Foreign Assistance Act of 1948, of which Title IV, often cited as the China Aid Act of 1948, authorizes a program of economic assistance to Free China. Under this Act, Free China entered into a bilateral agreement with the U.S. on July 3, 1948, thereby setting forth the criteria for the use of U.S. aid in China.

TABLE XI

U.S. ECONOMIC AID [9]
(Fiscal Years 1950-1956)

Fiscal Year	Annual Appropriations	Remarks
1950	US $7,623,341.57	1. Prior to 1950, US aid funds were obligated out of appropriations for 1948
1951	85,200,000.00	
1952	68,250,000.00	
1953	75,000,000.00	2. Appropriations for 1954 included US $10,000,000 paid for surplus agricultural products.
1954	86,800,000.00	
1955	107,000,000.00	
1956	68,900,000.00	3. Aid funds for Direct Forces support program not included in this Table

[9] China Handbook 1956-1957, pp. 427-428.

The U.S. aid funds are made available under the following three programmes:

(1) Defense Support: It assists in providing the supplemental resources necessary for carrying out a defense program. The aid generally is of indirect rather than direct assistance to the military purposes and usually provides economic benefits to the civilian population. It includes construction of roads, bridge, dam, and electric power plants; exploitation of natural resources, such as minerals, lumber and fisheries;[10] importation of raw materials for the support of established industry and agriculture; and the provision of raw and finished materials to develop and maintain additional industry and expand and improve agricultural production.

(2) Technical Cooperation: It is the sharing of knowledge, experience, techniques, and skills of the United States with other people, thereby helping them to further their economic development and raise their standards of living. This category emphasizes and consists mainly of teaching, and exchanging information, and training. It does not provide for supplies and equipment beyond those needed for effective teaching and demonstration. Included in this category are land reform, engineering services, civil aviation administration, agricultural extension, education, public health, econo-

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[10] Soldiers employed by the Government are supplied with food, housing, clothing, family allowance, etc.

mic planning, public administration, and mass communication programs.

(3) Direct Forces Support: U.S. aid assists in the financing of specific supplies, equipment, and services which go directly to, or immediately benefit, the military forces of Taiwan. This is distinct from the strictly military end items, or "hardware", provided under Military Assistance of the Mutual Defense Assistance Program, which is financed by U.S. Department of Defense appropriations. Included in Direct Forces Support are such items as raw cotton for uniforms, wheat and soybeans for troop dietary supplement, construction materials for barracks, airfields, vehicle repair shops, and other military installations, as well as a variety of manufactured and semi-manufactured materials required to assist in establishing an adequate military defense.

U.S. Aid has not always been beneficially applied due to the following circumstances:

(1) The U.S. aid has been more or less isolated, instead of being an indispensable part of our economic conditions. The procedure and operation of the aid have not been adjusted properly to meet the needs of our specific social and economic environments.

(2) Another shortcoming is the fact that our plans on using aid in the past were in general not formulated after careful designing and coordination or one might say that we lacked adequate long-rang plans.

(3) Recent U.S. aid policy has placed more emphasis on our military needs, economic aid is mainly used for defense support purposes. Due to the emphasis on military expenditures, the industrial development program has been considerably lessened. How to coordinate the military, economic and industrial development requirements becomes a most urgent problem.

The Economic Stabilization Board, our highest designing and screening agency, has taken these problems into consideration. We believe that in near future the U.S. aid will be more effectively used.

International Trade

Taiwan being an island, such means of subsistence as clothing, food, housing and transport could not be provided entirely from the resources it now possesses. Yet its population is increasing very fast, and its arable land has been utilized to a great extent. Therefore, it becomes incumbent to speed up its industrialization, to develop its foreign trade and, above all, to trade with what it abounds for what it lacks.

The industrialization of Taiwan must not only aim at attaining self-support and self-sufficiency, but also be coordinated with the expansion of foreign trade which is a prerequisite for the development of island's economy. Now with Taiwan's industry well developed due to rehabilitation and reconstruction, the problem of trade expansion has aroused a

good deal of discussion among the thoughtful observers both within and outside the industrial circle.

In the past few years, the total import and export trade of Taiwan amounted to approximately US $220,000,000 a year. The value of foreign trade per capita is around US $24.00. This obviously leaves much more room for further development if we should compare it with other countries that have gone well ahead of us in the field of foreign trade. Several nations in the world which have the same population as Taiwan may be cited, the individual share in total foreign trade value per year is indicated in Table XII, which shows clearly that we have to redouble our efforts to develop the foreign trade of this island.

Foreign trade in Taiwan during the period of 1949-1956 is indicated in Table XIII.

With respect to foreign trade for the year of 1956, imports are about US $227.2 million and exports US $130.1 million. The chief exports are raw agricultural and processed agricultural products. The principal import goods are raw materials, machinery and equipment and finished industrial goods. Sugar is the biggest export item, the average sugar exports in the last few years were 63 percent of the total export value, together with rice, they accounted for 75 per cent of the total export value. In addition to 7 percent in tea, 4 percent in bananas, 3 percent in pineapple and 2 percent in citronella oil. These six agricultural products accounted

TABLE XII

FOREIGN TRADE OF SOME COUNTRIES[11]

Country	Amount, per head
Belgium	US $ 41.24
Ceylon	75.44
Australia	310.80
Peru	44.93
Portugal	53.44
Sweden	30.92

11 T. C. Chang, How to Promote Taiwan Export, Industry of Free China, Vol. V, No. 5, May, 1956, p. 24.

TABLE XIII

TOTAL IMPORT AND EXPORT VALUE[12]
(Unit: US $ million)

Year	Exports	Total[13]	Imports		Self-provided Exchange
			Exchange Settlement	U.S.Aid	
1949	33.9	34.9	26.0	8.9	-
1950	93.1	122.7	91.6	20.5	10.6
1951	93.1	143.3	84.3	56.6	2.4
1952	119.5	207.0	115.2	89.1	2.7
1953	129.8	190.6	100.6	84.0	6.0
1954	97.8	204.0	110.2	87.9	5.9
1955	133.4	190.1	91.6	89.2	9.3
1956	130.1	227.2	114.4	95.4	17.4

[12] Source: Inditor of Taiwan Economy, Industrial Development Commission.

[13] Excluding self-provided exchange.

for 91 percent of the total export value. The exports of industrial and mining products average less than 5 percent of the total. Coal and salt jointly accounted for 3 percent. In short, Taiwan's exports are almost entirely made of agriculture or processed agricultural products with sugar and rice in the lead. The export of industrial and mining product is negligible.

On the side of imports, the average put capital equipment at 26.5 percent, producer's goods at 40.8 percent, consumers' goods at 28.7 percent and other goods at 4 percent. In detail, the following Table shows the highest import figures.

The eight items in Table XIV made up 77 percent of the total. The present trend indicates a growing emphasis on the importation of capital equipment and producers' goods especially capital equipment. The relative value of consumers' goods imports is decreasing since the gradual development of industry in Taiwan.

With respect to trade areas, Taiwan used to deal with Japan as the principal customer and supplier. During the last few years, the average annual trade with Japan was still about 50 percent of the total trade volume. The United States took second place with 10 percent, Hongkong third with 8 percent and Great Britain fourth with 6 percent. The four areas accounted for 77 percent of the total. In import, goods from Japan made up about half of the total import value. The

TABLE XIV

TOTAL IMPORT VALUE[14]

Items	Percentage of total import value
Raw Cotton & Products	16 percent
Fertilizers	12 percent
Metals & Products	10 percent
Machinery & Tools	9 percent
Wheat	8 percent
Soybean	8 percent
Oil	5 percent
Pharmaceuticals	5 percent

[14] Fong-Hui, Factors in Economic Development of Taiwan, Industry of Free China, Vol. IV, No. 5, Nov., 1955, p. 14.

United States supplied 15 percent of the total and Hongkong and Great Britain 6 percent each. The four areas combined accounted for 82 percent of the total import value. Exports to Japan were 50 percent of the total export value, followed by Hongkong with 10 percent, Great Britain with 6 percent, and the United States with 5 percent. The four areas accounted for 71 percent of the total import value. Trade areas in the secondary group are, for imports, Malaya and Arabia, 2 percent each; for the exports, Malaya, India, Republic of Korea, Arabia 2 percent to 4 percent each.

Some Weaknesses of Taiwan Foreign Trade

(1) Inasmuch as our reliance upon U.S. aid is concerned, about 40 percent of our imports are U.S. aid materials of which practically all fall within the category of daily necessities such as beans, wheat, chemicals, hardwares, etc., and which, unlike luxuries, we cannot do without. Thus, there is little, if any, elasticity in our demand for U.S. Aid materials, the island's economy and the livelihood of the masses would be seriously jeopardized should U.S. aid be stopped or curtailed.

(2) Both historically and geographically, Taiwan's foreign trade has been closely related to Japan. Of its total export, about 50 percent goes to Japan, whereas only 30 per cent of its total import comes from Japan. Aid imports from the U.S. account for half of the total import, but exports to the U.S.

do not exceed 5 percent of the total. The barter U.S. dollars derived from our exports to Japan cannot be used for payment against U.S. goods. Consequently, there is no balance between the receipt and expenditure of U.S. dollars. Insufficiency of U.S. dollars coupled with a surplus barter dollars in our trade with Japan impose a restriction upon our purchasing power as well as on the freedom of choice in our procurement from abroad.

(3) Items that claim to have earned the greatest amount of foreign exchange are sugar, rice, tea, fruits, etc. These by nature are bulky, and do not land themselves to easy storage. Consequently, early disposal is often restored to, often at an unfavorable world market price, which reflects the inherent weakness in their competitive value.

(4) Agricultural and industrial products are not at all in a ready shape for keen competition.

To promote our foreign trade the following steps are necessary:

(1) Increase export goods so as to effect a readjustment of international balance of payments.

(2) A readjustment of trade area by rearrangement of U.S. aid procurement.

(3) Stabilize prices of imported goods as well as the prices of local products for home consumption, and correct market malpractices, if any. Priority allocation of foreign

exchange for importing raw materials and equipment assistance in joint operation on export trade.

In an examination of our international trade, the main emphasis would be laid on the increase of exports and extension of trade areas. To promote the export trade some measures should be applied:

(1) Help to expand the equipment of export industries; strengthen their management; improve their products' quality; raise the level of technique employed; and reduce the cost of production.

(2) For export of farm products and processed farm products, encouragement or assistance should be extended in accordance with the comparative advantage of international trade. A program should be worked out to stimulate the productive area through extension of loans and allocation of fertilizers.

(3) Stimulate export by awarding preferential treatment, such as tax rebate or even tax exemption.

(4) Grant financial assistance to export business in the form of, say, raw material procurement, loans, etc.

(5) Improve inspection on all exports and readjust their floor prices skillfully for export in order to maintain the trade reputation through rigorous exercise of quality control.

Extension of Trade Area

Utmost effort must be exerted not only to maintain the trade volume in our trade with Japan and other countries already existing, but also have to increase our trade with other areas. For this purpose, a systematic survey must be conducted into the market requirements of other countries, like some Asian countries and Western European countries.

More Trade with Asian Countries. Owing to the Four-Year Economic Development Plan, industrial development in Taiwan has resulted in increased production. The products must now seek an outlet. To promote international trade with our neighboring Asian countries offer many advantages. Firstly, the geographical propinquity helps trade. Secondly, industrial development in these countries sometimes lags behind that of Taiwan. And thirdly, the vast number of overseas Chinese are a great help to promote the trade.

In most of Southeastern Asian countries, industry is not well-developed, with the supply of industrial products and daily necessities depending on imports, the situation is especially true in Tailand, Vietnam, Laos and Cambodia. Taking Korea for instance, from 1952 to June 1956, Chinese exports to Korea totalled more than US $18 million while imports only amounted to US $860,000. The trade balance is a high US $17.2 million, the import value is only on twentieth of the export value. Therefore, Southeastern Asia today is a wonderful mar-

ket for our industrial products. We must try our best to improve the foreign trade situation in this area.

Trade with Western Europe. Countries of Western Europe are mostly industrialized whose manufactured goods we need may well be traded for our agricultural products. If new trade relations with such countries could be created and maintained it would relieve the trade deficit with Japan. Already there has existed a trade pact between Free China and France, which, if satisfactorily implemented, could pave the way for similar agreements with other countries such as Belgium, West Germany, Italy, Spain, etc. To promote trade with this area, contact teams should be sent, and some promotion agency should be set up. However, in countries of Western Europe and Southeastern Asia, the control over foreign exchange is very strict. It would be easier to trade with them if trade could be carried out in barter form or under some mutual agreement of payment. Consequently, it is desirable that the pioneer work of creating new trade relations should be led by some state enterprise, after which private trade should maintain the market.

International trade of today is no longer a simple economic calculation. It also embodies technical, empirical and political considerations as well as commercial conventions. International trade can prosper only when all these factors have been taken care of. In the past, international trade has not been satisfactory. Sometimes criticism came about

partly because of the inherent defects in our foreign exchange and trade policies and partly because of lack of consideration of all these above-mentioned factors. These factors will receive consideration in future.

CHAPTER V

LABOUR PROBLEM AND INDUSTRIAL EDUCATION

1. Labour Problem

Labour Supply

Taiwan has a labour force of about three million workers, most of whom are engaged in agriculture and the remainder in commerce, personal service, and manufacturing industries. The working-age population and the labour force for 1955 are shown in Table XV.

The 238,000 workers employed by various manufacturing industries make up less than 10 percent of the total labour force. Table XVI shows the latest figures on number of workers employed by industry, mining, transportation and communication.

The number of persons employed by industry has increased, especially during the past few years, due to the stepped-up industrial activities which account for a 40 per cent increase in the total industrial production in 1955 as compared with 1941. Unskilled labour is not lacking in Taiwan. According to the government statistics, in 1956, 219,800 male persons (age 12 and over) were not gainfully employed. This, plus some surplus agricultural labour, would be capable of meeting any requirements in the foreseeable future. The

TABLE XV

LABOUR FORCE [1]

Working-age Population (12 years of age & over)	5,422,000 Persons
Labour Force	2,906,000
Agriculture	1,811,700
Mining	57,300
Manufacturing	237,900
Transportation & Communication	54,900
Commerce	251,200
Government Service	119,700
Liberal Profession	74,600
Personal Service	225,900
Other	72,800
Working-age Population in Percentage of Total Population	64.26
Labour Force in Percentage of Total Population	34.37
Labour Force in Percentage of Working-age Population	53.60

[1] Source: The Statistics, Provincial Department of Accounts and Statistics, Provincial Government, Taipei, Taiwan, 1956.

TABLE XVI

THE DISTRIBUTION OF LABOUR FORCE [2]

Classification	Number of Workers Employed
Industry[3]	238,000
Mining	51,055
Transportation	46,948
Storage & Warehousing	1,779
Communication[4]	6,164

[2] Statistics from Provincial Department of Reconstruction. "Workers" include laborers and salaried employees.

[3] Ordnance factories, which employ a considerable part of the labour force are not included.

[4] It includes postal service, telecommunications, and radio communications.

skilled labour, however, is generally in short supply. Now and then, we have heard that factories in Taiwan have to secure personnel from Hongkong or invite U.S. technicians to demonstrate on mechanical techniques.

Some Characteristics of Labour Force in Taiwan

(1) Most of the workers engaged in industry, mining, transportation and communication are male, they make up about 76 percent of the total.

(2) The majority of the workers are literate. For workers employed by various manufacturing industries, the illiterate rate is 17.45 percent; for transportation and communication 14.6 percent, the rate is much higher with mining which stands at 49.6 percent, compared with the illiterate rate 40 percent for the total population, these illiterate figures are not high at all.

(3) Labour turnover, according to a rough estimate, is not high. For the year 1955, the turnover for manufacturing industries is something around 0.3 percent a year, the turnover is higher for mining which is 2.5 percent a year.

(4) Employment of labour is usually through free contract, collective bargaining is practically nil.

(5) Labour unions on this island were first organized and developed in the private industries and trades, it was not until 1953 that labour union organizing activities achieved great progress in most of the publicly operated industries.[5]

5 In 1955 only 35 percent of the total employed workers had participated in the labour union movement.

Employer-Employee Problem

So-called "employer-employee problems" have an apparent conflict which results from a desire on the part of the employee to secure shorter working hours, increasing wages and improved working conditions and a desire on the part of the employer to secure increased efficiency, greater productivity and quality workmanship. But any enduring solution to the problem must assure to each group the possibility of achievement of these objectives within the limits of fairness to the other group. In Taiwan, due to governmental control and guidance, the weakness of labour unions, and relative elasticity of labour supply, the conflict between employer and employee is avoided. The working conditions as well as workers' living standard has been raised, as indicated in Table XVII.

Governments concerned have made every effort to improve the laborers' conditions, since a satiafactory solution of the labour problem will eventually bring economic security and stability to the society. Many measures have been introduced by governments, among which the most significant one is the Labour Insurance Regulations.[6] According to these Regulations, all workers employed in public and private factories, mines, salt-fields, communication services, and public utilities

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6 These Regulations had been promulgated by the Taiwan Provincial Government on April 13, 1950, and amended in 1953 and 1956.

TABLE XVII

WAGE AND PRICE INDICES[7]
IN TAIPEI CITY, 1949-1956

Period	Wage Index	Price Indices	
		Wholesale	Retail
1949	10.4	11.1	12.9
1950	32.5	45.1	52.2
1951	54.8	74.7	81.9
1952	80.1	91.9	95.7
1953	100.0	100.0	100.0
1954	113.3	102.4	100.3
1955	125.2	116.8	114.3
1956	141.1	131.6	126.3

[7] Industry of Free China, Indicator of Taiwan Economy, Vol. VII, No. 3, Sept., 1957, p. 36.

should be insured under this programme. It is compulsory. The premium is 3 percent of the insured worker's monthly wage. The cost of insurance is borne and shared in the following manner: Provincial Government 20 percent, employer 60 percent, and employee 20 percent. Premium is paid on a monthly basis. Benefit payments amount from one month's full pay to defray burial costs of a deceased family member of an insured worker, to 37 months full pay for the survivors of personnel meeting death as a result of performance of duty. In case of injury, laborers will receive three months to twelve month compensation.

2. Industrial Education

It is not to be denied that in the process of industrial development, such material requisites as capital, machinery, equipment, raw materials, etc. play an important role. Equally important are the men who are to harness these material requirements. For this undertaking, industrial education stands out as the most effectual. In the past few decades the so-called new education of China has divorced itself from the demand of society. The result is that right man is seldom in the right place. As industrialization is being developed step by step, its progress is bound to be seriously handicapped without the coordination of education in training the required personnel.

Industrial education can be divided into three categories. First, there is the university or industrial college for future engineers. Secondly, the vocational technical education turning to blue print designers, laboratory assistants and senior technical equipment clerks. Finally, there is the vocational industrial school training skilled labours, putting emphasis on skilled manual work as well as certain measures of scientific training. Generally, industrial education in underdeveloped countries means only the third and part of the second categories.

At present, many pressing issues are waiting for a solution in Taiwan:

(1) In Taiwan, industrial education is handled by industrial colleges, senior vocational schools and junior vocational industrial schools besides colleges of engineering. They command different levels of prestige and have no distinct objectives, thus presenting a picture of confusion.

(2) Vocational industrial education has failed its mission largely because priority has been given to the consideration that graduates should be groomed for college studies. The general educational standard of the vocational industrial school is still lower than that of the ordinary middle school, the reason being that parents in general wish their sons and daughters to study abroad after going through middle schools and colleges. They look down on the vocational

school as refuge for students who have failed in middle school entrance examinations. Some vocational schools have discouraged industrial courses in order to enable their students to prepare for studying in higher institutions.

(3) Industrial education has separated itself from the factories. A graduate is not willing to go into a factory as a mere "apprentice", but this training does not qualify himself to be a "foreman".

(4) A widespread shortage of modern teaching facilities in the vocational industrial school.

(5) Too many general courses in the school, this tendency not only imposes too heavy a load on students, but may turn out a host of young who know a little about everything but nothing special.

In view of the shortage of skilled labour for industrial development, efforts have been directed to the training of technicians and managerial personnel on the Government part, great emphasis has been laid on industrial education and several U.S. engineering professors have been invited to Taiwan for this purpose. Public enterprises have now and then sponsored technical training classes for their own staff. Besides, under the TAA Programme,[8] a number of experienced Chinese engineers and managerial personnel are being sent over to the United States each year for advanced training and a number of U.S. technical experts are invited to study this industrial

8 U.S. Technical Assistance Authorization.

educational programme. The central idea is to improve the quality and to expand the supply of technicians and managerial personnel through whom the supply of skilled labour as well as low-grade technicians will be expanded. The Ministry of Education drafted the "Plan for Reconstruction-Education Cooperation" and established the Reconstruction-Education Cooperation Committee in an attempt to enhance the effects of this programme.

Professor S. Lewis Land, made a speech before the Rotary Club of Taipei, on September 2, 1954, maintained that:

> A sound and effective programme for the training of skilled workers for industry must recognize three separate functions of the training programme: (1) A programme designed to give to the prospective workers the necessary skills of the trade or occupation; (2) A programme designed to give to the prospective workers an appreciation of his responsibility to his family, his fellow worker, his employer, his community and his nation; (3) A programme designed to impart the required related technical information. All these phases of the programme are important. The second phase of the programme calls for the development of a "state of mind" on the part of worker. The programme will fall short of its overall objective if it does not create in the mind of the prospective worker a recognition of the dignity of labour and the worth of the laboring man.[9]

These basic conceptions must be kept in mind.

In carrying out the industrial education programme, the first prerequisite is to attract the public interest.

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[9] Prof. Land is the Director of Vocational Teacher Education, Pennsylvania State University. Industry of Free China, The Dignity of Labor, Vol. III, No. 1, July, 1957, p. 1.

The next step is to establish according to our industrial environment a system of our own based on America's present industrial education with its advantages and disadvantages, its general and specific features. Besides, much remains to be done:

(1) An island-wide investigation of Taiwan's industrial development will increase the student's chances of employment and help their selection of subjects for specialization.

(2) We shall succeed in our effort to provide a training program which will contribute immediately and effectively to the economic development of the nation if workers who are trained have a deep and abiding appreciation of the dignity of labour and the worth of the labouring man. Young people preparing for skilled work in industry must develop the traits of character which make of them "builders of Cathedrals".

(3) Improving educational standard of the vocational industrial schools. The Government has to encourage the schools to make improvements, give more scholarships, guarantee jobs for graduates and offer more opportunities for advanced study.

(4) Strengthening the link between the schools and the factories. The best method is to have the factories sponsor the vocational schools, to allocate the courses with

reference to specialized training, to recruit engineers as part of the faculty and to adopt a work-and-study[10] plan for training the students. If this is out of the question for the moment, at least the schools must keep close contact with the factories.

(5) Teachers may be chosen from among engineering college graduates, i.e. mechanical engineering, chemical engineering, etc.

(6) Improve on the present textbooks and courses. Experts or field engineers should be invited to work out new textbooks and training materials in order to elevate the general industrial educational level.

(7) An improved industrial relationship between employer and employee must have its fundamental basis in wiser choice of lifework on the part of all young people. The public schools have a responsibility here for the establishment of a guidance service in the schools to provide young people with factual information about work opportunities. Factors which are important in this connection are one's innate ability and technical knowhow in terms of the demands of the wide variety of occupation from which the individual young person may choose, one's ability to adequately prepare himself or herself for the successful pursuit of the chosen occupation.

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10 Learn while you work.

CONCLUSION

Dr. Chien-Tien-Ho, Chairman of JCRR, in his essay on "Population and Agriculture",[1] divides the countries in the world into three groups: the "haves", the "almost Haves", and the "have-nots". The first group, consisting of North America, Western Europe, Australia and New Zeland, counts nearly 500 million persons, takes in half the world's income, and has an annual increase in population of 1.2 percent. The second group, consisting of Russia, Eastern and Southern Europe, Japan and Argentina, has more than 500 million people and a potential annual growth in population of 1.5 per cent. The third group, Africa and most of Asia and Latin-America, has a population of 1.5 billion and a potential increase in population of 3 percent a year. The first two groups consist of those countries that are either highly industrialized, or are already far on the way toward industrialization. The third group comprises underdeveloped agricultural countries.

The growth of Taiwan's agriculture and industry is checked by its overgrown population. It is difficult for Taiwan to become a country of the first group (the "haves")

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[1] Chien Tien-Ho, Agriculture and Population, Industry of Free China, Vol. V, No. 1, Jan., 1956, p. 7.

but it is certainly possible for Taiwan to become a country of the second group (the "almost-heaves"). Our neighbouring country, Japan, is even poorer than Taiwan in natural resources, yet it has become an industrialized country. Therefore, there is no reason why Taiwan cannot industrialize in a similar manner. The key to success lies in the close coordination between the work of agriculture and industry, and assistance with the expansion of our foreign trade. Both agriculture and industry should be developed simultaneously.

Taiwan's economic reconstruction program is not merely to achieve economic stability and economic growth, but to convert a relatively backward economy into a modern one. Taiwan is a small economic unit and limited in resources; we must utilize our surplus products in exchange for what we need from other countries. Hence, to increase output at home and expand our foreign trade are the only solutions in sight for Taiwan's economic problems.

With reference to the utilization of agricultural resources, almost full use has been made of Taiwan's arable lands, but there still exists a great possibility of increasing the production of per unit area or per unit of labour. Even though Taiwan's industry is still in its infant stage, there are a good many fields to be developed. If the goals mentioned above can be attained, Taiwan will be blessed with a comparatively modern production system, and a more diver-

sified economy. The realization of these goals will be difficult. But we must make our plans in accordance with these goals and strengthen our efforts along these lines.

I feel certain that we cannot have a political stable world unless it is also one in which economic progress is being made. It is also true that only in a nation which provides a reasonable degree of economic stability and progress will the nation's security and liberty can be maintained. As Eugene R. Black, President of the International Bank, has said:

> It is something more than a coincidence, I think, that the trouble spots of recent years--parts of the Far East, of the Middle East, and of Africa--are also areas whose actual standards of living are in sharpest contrast with the standards to which people aspire. I do not mean to say that the causes of international tension, of big wars and little wars, begin and end with economics. But I do deeply doubt that we can have a politically stable world unless it is also one in which economic development is being made.[2]

Today, the world is confronted with the Red menace everywhere, huge amounts of money have already been spent for recovery and defense. I do think that the industrialization of Taiwan's economy would yield large benefits not only to her own people but also to the promotion of regional economic strength in the family of free nations in the Southeast Asia area.

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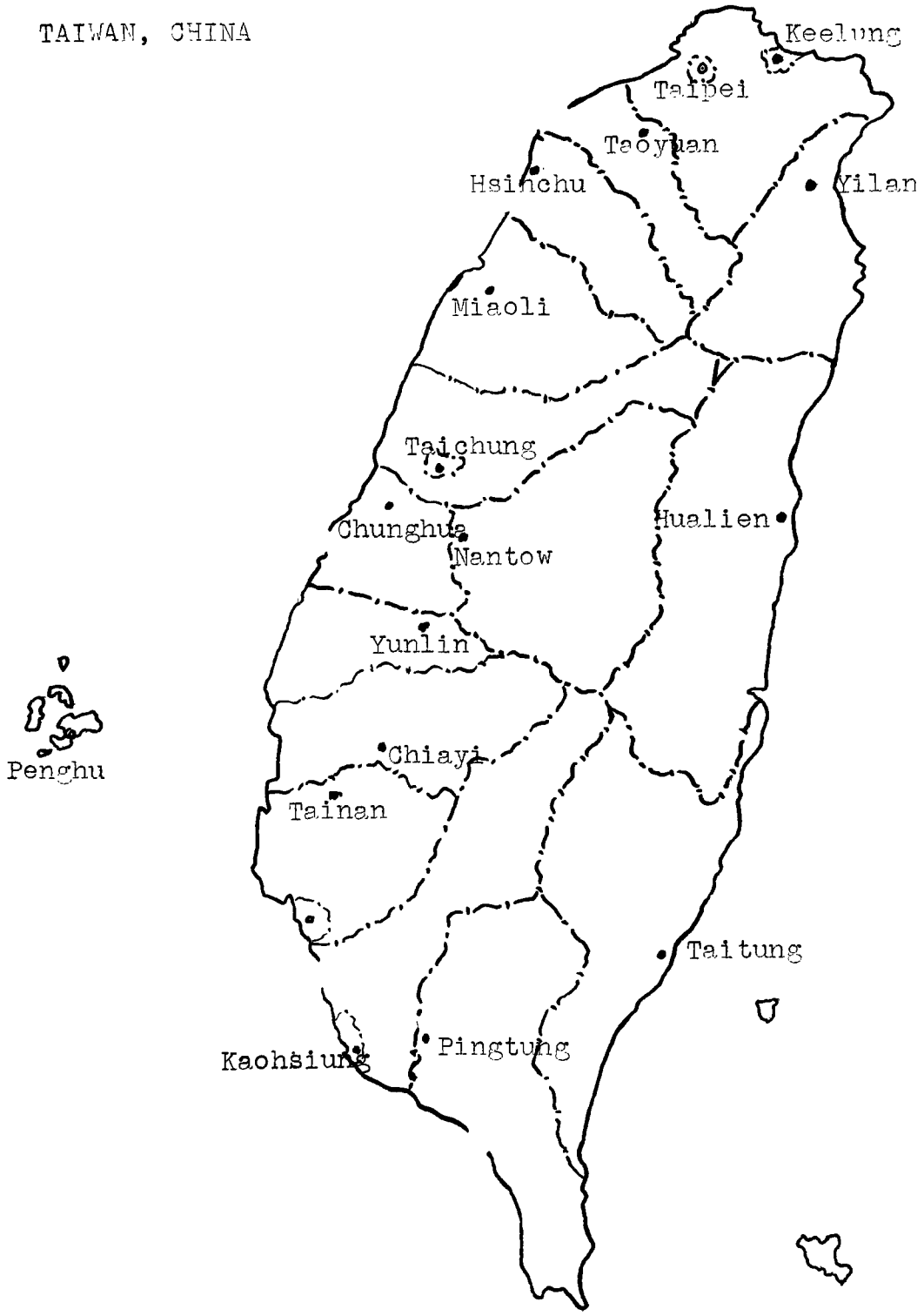
[2] Robert L. Heilbroner, The Growing World, International Bank, Washington, 1956, p. 7.

APPENDEX A

TAIWAN, CHINA



APPENDIX B

STATUTE ON INCOME TAX RATES FOR 1956[1]

ARTICLE 1. This Statute is promulgated according to the provisions of Article 11 of the Income Tax Law.

ARTICLE 2. The New Taiwan Dollar shall be used in the computation of all amounts prescribed in this Statute.

ARTICLE 3. In addition to the deduction in accumulative income tax which shall be computed according to the provisions of section 3, Clause 1, Article 17 of the Income Tax Law the exemptions and reduction shall be computed according to the following stipulations:

A. Exemptions--the amount of exemption per year for the taxpayer shall be $2,500 for himself but the exemption total shall be $5,000 if he has a spouse.

B. Deductions:

(1) For dependents--an annual $600 deduction shall be made for each senior direct lineal relative by blood. For other cohabitating relatives, the deduction rate shall be $300 each per year.

(2) For education--$300 per year per head.

ARTICLE 4. The tax ranges and progressive tax rates of the accumulative income tax shall be as follows:

(1) 5 percent for annual net accumulative income of less than $5,000.
(2) 6 percent for the part exceeding $5,000 but less than $10,000.
(3) 7 percent for the part exceeding $10,000 but less than $15,000.
(4) 8 percent for the part exceeding $15,000 but less than $20,000.
(5) 9 percent for the part exceeding $20,000 but less than $25,000.

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1 Industry of Free China, Vol. V, No. 1, Jan. 1956, p. 51.

(6) 10 percent for the part exceeding $25,000 but less than $30,000.
(7) 11 percent for the part exceeding $30,000 but less than $35,000.
(8) 12 percent for the part exceeding $35,000 but less than $40,000.
(9) 13 percent for the part exceeding $40,000 but less than $45,000.
(10) 14 percent for the part exceeding $45,000 but less than $50,000.
(11) 16 percent for the part exceeding $50,000 but less than $60,000.
(12) 18 percent for the part exceeding $60,000 but less than $70,000.
(13) 20 percent for the part exceeding $70,000 but less than $80,000.
(14) 22 percent for the part exceeding $80,000 but less than $90,000.
(15) 24 percent for the part exceeding $90,000 but less than $100,000.
(16) 27 percent for the part exceeding $100,000 but less than $150,000.
(17) 30 percent for the part exceeding $150,000 but less than $200,000.
(18) 33 percent for the part exceeding $200,000 but less than $250,000.
(19) 36 percent for the part exceeding $250,000 but less than $300,000.
(20) 39 percent for the part exceeding $300,000 but less than $350,000.
(21) 42 percent for the part exceeding $350,000 but less than $400,000.
(22) 45 percent for the part exceeding $400,000 but less than $450,000.
(23) 48 percent for the part exceeding $450,000 but less than $500,000.
(24) 54 percent for the part exceeding $500,000 but less than $600,000.
(25) 60 percent for the part exceeding $600,000 but less than $700,000.
(26) 66 percent for the part exceeding $700,000 but less than $800,000.
(27) 72 percent for the part exceeding $800,000 but less than $900,000.
(28) 78 percent for the part exceeding $900,000 but less than $1,000,000.
(29) 85 percent for the part exceeding $1,000,000.

ARTICLE 5. The starting taxable points, tax ranges and tax rates of the profit-seeking enterprise income tax shall be as follows:

A. A profit-seeking enterprise having less than $5,000 in its annual income is exempted from the profit-seeking enterprise income tax.

B. An enterprise shall be taxed 5 percent of its annual income ranging between $5,000 and $50,000.

C. Another 10 percent shall be levied on the part exceeding $50,000 but less than $100,000.

D. Another 25 percent shall be levied on the part exceeding $100,000.

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