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ECONOMIC INTELLIGENCE REPORT

THE ECONOMIC DEVELOPMENT OF COMMUNIST CHINA THROUGH 1957

CIA/RR 33
30 April 1954

CENTRAL INTELLIGENCE AGENCY

OFFICE OF RESEARCH AND REPORTS

~~SECRET~~

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S-E-C-R-E-T

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FOREWORD

The problem undertaken in this report is the assessment of the economic development of Communist China through 1957 in the light of the internal consumption needs of the population, the human and natural resources of the country, the plans of the regime, trends in production and investment, domestic and foreign trade, and the position of the regime with reference to the Korean War. Communist China, for the purposes of this report, consists of all territories now under the control of the Chinese Communist government -- Manchuria, China proper, Suiyuan, Sinkiang, Tibet, and Inner Mongolia.

It has been assumed for the purposes of this report that in general there will be a continuation of the policies toward Communist China now followed by the USSR and by the NATO powers and the other non-Communist countries.

In a backward country such as Communist China, part of the backwardness is manifested in a lack of reliable statistics for estimating current production of many kinds of goods and services. Even reliable population and labor force figures are lacking for China. The first step the Chinese Communist regime had to take in order to prepare a plan of economic development was to start a national census and set up a statistical bureau to gather the necessary statistics for national planning.

Although any set of quantitative estimates of economic activity in Communist China must suffer from the inherent weakness of the statistical base, there must be a starting point from which to measure the possible rate of growth of the Chinese Communist economy. In lieu of adequate statistical data, many assumptions have been made as to the proportions of the labor force and as to price relationships within and among sectors of the economy, in order to arrive at estimates leading to an estimate of the gross national product (GNP) for 1952. The resulting estimate of GNP is probably conservative. It must be considered provisional and subject to refinement and correction as more complete and reliable data are received, and it must be used with reservation in international comparisons because of the margin of error which is implicit in some of the basic data. The assumptions, data, and methods used in arriving at estimates made in this report are treated only briefly in the appendixes.

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THE ECONOMIC DEVELOPMENT OF COMMUNIST CHINA THROUGH 1957*

Summary and Conclusions

Communist China has reached a crossroads where it must decide a number of crucial policy questions concerning the allocation of its resources and the trend of its international economic relations -- questions which have a vital bearing on its planned economic development. All these questions are summed up under the one general heading of the capital accumulation and investment policy of the regime.

Communist China is beginning its industrialization program as an old but predominantly agricultural economy, largely dependent on agricultural income for support and development, with a low level of industrial production. On this economy is being imposed a system of organization which has been proved by Soviet experience to be highly efficient in attaining rapid industrial growth and an increase of war-supporting capabilities. Many indigenous factors raise the question of whether China is suited for this system of ultra-rapid organizational and industrial development.

One great problem of Communist China is to increase agricultural exports to the extent needed to finance imports of capital goods, in the face of the consumption needs of its huge and growing population. The population of Communist China in 1950 has been officially estimated at 487 million.** If, in the absence of war, the Chinese Communist regime continues its policies of welfare improvement, epidemic prevention, flood control, and food distribution, and if it does not drastically limit food consumption, the population might increase from 1 to 1.5 percent per year. Thus, based on the 1950 population, an increase of 33 million to 53 million might be realized by 1957 giving a total of about 520 million to 540 million. This increase would

* The estimates and conclusions contained in this report represent the best judgment of the responsible analyst as of 15 March 1954.
** Recent information indicates that this estimate may have been too low.

normally necessitate an increase of the food supply of 5 percent to 8 percent during this period. An increase of about 5 percent probably can be realized under average conditions, and this, coupled with better distribution of available supplies, should make possible an increase of population within the range of 1 to 1.5 percent per year through 1957. Recent official statements from Peiping suggest that the Communist regime may follow the Soviet example of the years 1929 to 1934 -- to increase exports of agricultural crops even if this entails the limiting of food consumption and of population growth. Rapid industrialization does not offer significant relief to the pressure of Chinese population on the land, for the urban population is already large enough to provide sufficient unskilled labor -- presently underemployed or engaged in native trade and industry -- for the modern industries that may be established by 1957.

Another great problem of Communist China is to find skilled labor and technicians for its industrialization program. The repatriation of Japanese from Manchuria and the withdrawal of thousands of the most competent Chinese Nationalist technical personnel have left gaps in responsible positions in manufacturing and mining industries which have been only partially filled by Soviet nationals and newly trained Chinese. The regime has attempted to reshape its educational system to meet its expanding needs, but the educational reform undertaken appears to be inadequate to provide the 150,000 to 200,000 technicians estimated by the Chinese Communists to be required for their economic development and educational program each year for the 5-year period 1953-57. Soviet educators have been assigned to assist in technical training, and thousands of Chinese students have been sent to the USSR for study, while the recently announced Soviet aid program provides for Soviet supervision of factory personnel for an initial period of operations after new industrial installations are completed. Thus the solution of this problem depends to a considerable extent upon continued Soviet technical aid.

In the relatively short period they have been in power, the Chinese Communists have made considerable progress toward complete control of economic activities. Having passed through the stage of reconstruction of existing plants and having established the framework for detailed statistical reporting and planning, the Chinese Communist economy reached a new stage in August 1953 with the announcement of a more detailed type of over-all economic development

plan, the Five Year Plan (1953-57). The Plan calls for the building and reconstruction of 91 new enterprises and the installation of equipment for 50 enterprises already in existence. The USSR is to provide technicians and equipment, project supervision, training for Chinese cadres, and management through the stage of initial operation. The Plan includes projects in the fields of iron and steel and non-ferrous metallurgy, coal mining, oil production and refining, hydro-electric and thermal power, conservancy, machine building (automobiles, tractors, antifriction bearings, blast furnaces, rolling mills, turbines, generators, lathes, mining equipment), chemical and synthetic rubber factories, and pharmaceutical products.

In summarizing Chinese Communist progress in economic planning and implementation thereof to date, it may be said that the three most important over-all objectives are industrialization, particularly the expansion of heavy industry; a higher degree of self-sufficiency; and military preparedness. There are also regional policies stressing development of the Northeast (Manchuria) and the Northwest. Plans for industrialization give emphasis to technical training in the educational system and in industry; increased geological exploration to discover additional mineral resources; employment of unskilled manpower wherever possible, as in the transportation sector; and Soviet technical and material assistance. Resources are to be diverted from the agricultural and consumer goods industries to heavy industry through direct allocation of scarce resources and also through fiscal and price policies.

Accumulation of capital is to come primarily from abstention from current consumption, this abstention being enforced through profit-inflated prices on products from the socialized sector, through taxation of various kinds, through exactions from agriculture, and through voluntary saving by the population. Current allocation of investment favors the development of heavy industry at the expense of possible further expansion of internal trade and light industry. Foreign trade is controlled by the government to support the industrialization program by giving priority to imports of investment goods.

Probably the most important export of the USSR to Communist China is a system of social organization comprising techniques for political and economic regimentation; for the development of the economy under centralized planning; and for manipulation of population, labor force, and material resources to further the achievement of economic plans. The dependence of Communist China on the USSR for guidance in planning and for technical aid and equipment is an important factor in Soviet

influence on Communist China. The economic integration of Communist China within the Soviet Bloc will undoubtedly increase in proportion to the amount of Soviet aid extended. As the Chinese Communist investment program develops, the need for such aid will continue rather than decrease, and integration probably will become closer, therefore, during the period of this estimate.

The budget of Communist China for 1950-52 showed an increase in expenditures from approximately US $3.4 billion in 1950 to US $8.1 billion in 1952, the latter being about one-third of the estimated GNP of the same year. The planned budget figure for 1953 represented a further increase to US $11.6 billion. Although military expenditures in absolute terms remained at about the same level between 1951 and 1953, the percentage of total expenditures devoted to the military establishment fell during the 1950-53 period from 40.7 percent of actual expenditures in 1950 to 22.4 percent of planned expenditures in 1953. The budget figures for economic development projects showed substantial increases over the same period. The 1951 figure was 99 percent over 1950, and the 1952 figure was double that of 1951. A further increase of 40 percent over 1952 was planned for 1953.

The sharp rise in expenditures from 1950 to 1953 was underwritten in large part through appreciable rises in industrial and commercial taxes and in profits from government enterprises. In 1949 the primary tax basis for Chinese Communist political and military power was the grain tax in kind, when about 30 percent of the main crops were taken in the agricultural tax. Since then, the proportion of total revenue from the socialized establishment has increased, rising from 12.5 percent in 1950 to 30 percent in 1953, while the percentages of revenue from the agricultural tax and the taxes of private industries and commercial enterprises have relatively diminished, dropping from 27.5 percent and 43 percent, respectively, in 1950 to 11 percent and 37.5 percent in 1953. The increase in revenue from state enterprises and cooperatives reflects the rapid seizure of control by the state over much of the economic activity in domestic and international trade and banking, and the even more rapid expansion of the socialized sector of industry.

The tentatively estimated gross national product (GNP) of Communist China in 1952 was 524.5 trillion yuan, equivalent to approximately US $25.5 billion. Of this total, agriculture contributed 41.7 percent; and trade, food processing, handicraft, and native transportation contributed 29 percent. The modern industry sector

contributed only 13.6 percent, and the government sector 10.3 percent, of the total GNP. The primary concern of the Chinese Communist regime is to achieve a substantial increase in the production of modern industry during the period of its First Five Year Plan (1953-57). A projection of estimates based on Chinese Communist production goals for 1953 and a Soviet general description of the Five Year Plan indicates that the regime will attempt approximately to double the product of the modern industry sector by 1957. This achievement would involve an annual rate of increase of the total industrial product of about 15 percent compounded annually for the 5-year period 1953-57. Considering merely the natural resources, the existing capacity, and the growth potential of the modern industry sector, it is estimated that the Chinese Communist regime, with Soviet technical aid, can approximately achieve the goal of industrial production by 1957. Considering the food supply and educational difficulties already mentioned, however, the actual growth may well be somewhat less during this period.

Even granting the possible achievement of this goal, Communist China would still have a very small total industrial product as compared with any modern industrial nation. Its 1957 rate of production of machine tools is planned to be only 22,750 units; of electric power, 15 billion kilowatt-hours; of crude steel, 5 million metric tons*; of rolled steel, 2.2 million metric tons; and of coal, 73 million metric tons. Its total GNP would increase only about 26 percent through 1957.

Although these figures and comparisons reveal the inadequacy of the Chinese economy to support a modern war, it would be misleading to conclude that Communist China does not possess significant capabilities for defensive, local, and harassing warfare in the Asian milieu. Communist China stands today as the foremost Asian military power. The Korean War has demonstrated not only the immediate dependence of Communist China on the USSR for all types of heavy mechanized military equipment but also the assimilation by the Chinese Communists of a certain degree of proficiency in the use of Soviet-supplied equipment. The Five Year Plan of Communist China is designed to alleviate somewhat its dependence on Soviet military equipment by 1957.

The notable progress of Communist China in restoring production of many key commodities and services nearly to, or in some cases above, the highest peaks achieved previously under Japanese and Chinese

* Tonnage figures given for commodities in this report, if not otherwise indicated, are in metric tons.

Nationalist administration brings the Chinese Communists to a point of departure where their own essential competence and Soviet aid must determine further progress in achieving planned increases of production.

Agricultural production lags behind industrial production, having reached an over-all level in 1952 of only about 98 percent by value of the 1936 peak. Communist China still remains a predominantly agricultural economy, 70 percent of its total labor force being employed in agriculture and 70 percent of its total exports for 1952 consisting of agricultural productions. An increase of agricultural production and control of harvested output are basic factors in the ability of the regime to accumulate capital for investment in industry. For this purpose, the regime may attempt to enforce control of consumption by price-fixing, collection of higher taxes in kind, and further forced purchases of food products for export. Collectivization of agriculture is the goal of the regime, but enforcement of this policy probably will be tempered during the period through 1957 by considerations of reducing resistance on the part of the peasants and of maintaining production at a high level. Present agricultural taxes in kind extract for state use as much as 30 percent of total grain production. This facilitates state control over food prices, makes possible large profits for government trading corporations, permits state allocation of supplies for export, and contributes to the capital accumulation objective.

It is not anticipated that any major increases in agricultural output can be achieved during the period of this estimate as a result of the state's irrigation and land reclamation projects of mechanization of agriculture. Since the percentage increase of total cultivated land resulting from such projects would be very small, a large increase in agricultural production could come only from other forms of increased capital inputs, especially in the form of fertilizer. These measures, if undertaken on a large scale, would conflict with the immediate aims of the state in allocating capital resources to industry. It is believed, however, that under average crop conditions total agricultural production in Communist China during the period of this estimate may be increased by 8 to 10 percent over estimated 1952 production. The over-all possible increase of agricultural exports that might be achieved during the period of this estimate is believed to be as much as US $200 million over the 1953 level.

In the modern industry sector the performance of Communist China in restoring production to previous peak levels, thanks to Soviet aid, has been outstanding, especially in the fields of railroad transportation services, electric power, and iron and steel production. The output of coal in Communist China is adequate for its own needs and for some exports. The Five Year Plan calls for a 60-percent increase in annual coal output, with use of additional modern mining equipment, from 46 million metric tons in 1952 to 73 million metric tons by 1957.

Because of the removal of electric power generating equipment by the USSR from Manchuria in 1945, power production reached a low of 3.8 billion kilowatt-hours in 1946. Recovery began after the Communists assumed power. By 1953, Soviet replacement of generating equipment and some installations of new capacity had restored total Chinese production to 7.6 billion kilowatt-hours, only slightly below the previous peak. The Chinese Communists' Five Year Plan, as described by the USSR, calls for doubling power production by 1957. Development of the power industry is a primary factor in the whole industrial development scheme and probably will be a limiting factor in progress in the metallurgical industries during the period of this estimate. Only if Soviet aid is forthcoming in the measure promised -- which is uncertain -- would it be possible to attain the stated goal of doubling 1953 power production by 1957.

In the ferrous metals industry, Communist China reached its peak production of 1,875,000 metric tons of pig iron, 1,222,000 metric tons of crude steel, and 850,000 metric tons of refined steel in 1952. This accomplishment was possible mainly because of Soviet aid in restoring blast and open-hearth furnaces and rolling mill facilities which the USSR had removed from Manchuria in 1945, and also because of the fact that the Japanese had never used to full capacity the furnaces and milling equipment which they had originally installed. The Five Year Plan calls for increasing the production of crude steel by 4 to 4.5 times and of rolled steel by 2.5 times over 1952. The accomplishment of this Plan, which is deemed feasible, will depend largely on further Soviet assistance in supplying technical equipment and in increasing furnace and mill capacity. If the Plan is achieved, production will reach the rate of 5 million metric tons of crude steel per year and 2.2 million metric tons of rolled steel per year by the end of 1957.

The current production in Communist China of nonferrous metals, with the exception of copper, is sufficient for the needs of the country and leaves a surplus for export. Communist China is still the world's major producer of antimony and tungsten. It exports most of its production in the form of concentrated ores and must import nonferrous metals in finished form, largely because of its lack of smelting and refining facilities. Exports of antimony, tungsten, lead, and zinc concentrates and of refined mercury are important sources of foreign exchange for the industrial program of Communist China. The Five Year Plan calls for installation and improvement of Chinese Communist refining facilities for tin and probably for the other nonferrous metals. Meanwhile, exports of the concentrated ores and of refined mercury probably will increase as means of capital accumulation, if foreign markets can be expanded.

Communist China has increased the production of refined petroleum products from indigenous sources (including oil shale). Production in 1953 reached the highest level yet recorded, 555,000 metric tons per year. This amount is about equal to civilian requirements for refined products, leaving all military requirements, about 1 million metric tons in 1952, to be imported from other Soviet Bloc countries.

The industrial chemicals industry in Communist China is in its incipient stage. Although restoration to previous peak capacity has been fairly complete, production is far short of requirements for industrial development purposes and will remain so during the period of this estimate. The announced Soviet program of economic aid includes the construction of new fertilizer plants to help cover Chinese requirements for chemical fertilizers, which are in short supply in the world market and in the Soviet Bloc. It is estimated that, even with its planned increases in chemicals production, Communist China will be proportionally almost as dependent on imports of chemicals for its industrial and fertilizer requirements in 1957 as at present.

The rubber industry in Communist China has been reoriented toward producing more of the country's requirements of truck and automobile tires, besides continuing to produce rubber footwear and bicycle tires for national requirements. From the estimated production of more than 300,000 sets of motor vehicle tires per year in 1953, it is estimated

that production may increase by 1957 to 700,000 tire sets, which would be sufficient to meet national requirements. The industry is dependent on imports of natural rubber from Ceylon.

The engineering industries of Communist China are heavily dependent on the USSR for capital goods and technical assistance. The Five Year Plan is designed to reduce this dependence. The production of machine tools in 1952 is estimated at approximately 6,500 units, and the production of antifriction bearings at about 430,000 units (the latter being about one-fourth of Chinese Communist requirements). The USSR has promised to help Communist China increase production of machine tools to 22,750 units by 1957, and the required expansion of antifriction bearings output is estimated to approximate 1 million units by that time. The estimated annual requirements of bearings in Communist China then will be about 2 million units. Integrated production of heavy industrial equipment probably will be undertaken before the end of 1957, including trucks, tractors, locomotives, electronic devices, and marine engines. Communist China probably will still be dependent, however, on imports of all these items and on Soviet technical assistance to meet its requirements for such items in its Five Year Plan.

The armaments industry of Communist China in the past has been subject to dispersal and regional orientation in accordance with the demands imposed successively by local war lords and by the Chinese Nationalist, Japanese, and Chinese Communist regimes. There are no recent comparable periods of armaments production for the whole of China, because of the different regional jurisdictions under which local production was divided. Indigenous munitions production has not been adequate for the military needs of any political administration in recent decades and is not now adequate for Chinese Communist military needs. The Chinese Communists are shipping a small amount -- about 2,000 metric tons monthly -- of their available supplies of military equipment to the Viet Minh forces in Indochina. It is believed that Chinese Communist munitions production is only approaching the point where it can supply the peacetime requirements of the regime's military establishment for light arms and ammunition. For the period of this estimate, the Chinese Communists probably will continue to depend on the USSR for artillery, tanks, motor vehicles, and aircraft.

The cotton textile industry of Communist China maintains its status as one of the most efficient of Chinese Communist industries. Fifty percent of capacity still remains in private hands, the government having taken over from the Nationalists the other 50 percent of capacity, previously owned by the Japanese. Production is at a high level, consistent with the availability of domestically produced raw cotton.

The cement industry in Communist China -- the principal indicator of construction activity -- is expected to increase its production from 1,750,000 metric tons in 1952 to at least 3 million metric tons in 1957. An increase of 20 percent per year in cement production would be practical through 1957, according to requirements.

The railroad transportation system of Communist China is being extended to meet the expanding needs of the economy. New lines are being built to connect the Ch'eng-tu - Chungking line with the Lung-hai Railroad at T'ien-shui, thus providing a rail link from Szechuan Province to the coast. The Lung-hai line also is being extended westward from Lan-chou toward Sinkiang, and construction is under way on another line from Pao-t'ou in Suiyuan Province to Ulan-Bator in Inner Mongolia. These ambitious projects probably will not be completed by 1957. When finished, they will provide two more links connecting Communist China with the USSR. The Chinese Communist park of freight cars was about 52,000 to 59,000 in 1952. Freight originated in 1952 amounted to approximately 131 million metric tons, and performance was estimated at 59,461 million ton-kilometers. The planned increase of freight haulage for 1953 is 7.4 percent. Particular weaknesses of the Chinese Communist railroad system are the high rate of utilization of rolling stock; slowness of line replacement; and the existence of a single connecting link between China proper and Manchuria, the Chu-chou - Heng-yang single-track bottleneck between two lines in Kwangtung, the train ferry crossing at Nanking - P'u-k'ou, and the transshipment ferry crossing at Hankow - Wu-chang. More double tracking is needed on the main lines in Manchuria and on the north-south lines.

Highway construction is being pushed, especially in Sinkiang to connect with the USSR and in the south to link with Indochina roads. Soviet highway engineers are assisting in the extension and reconstruction of roads, and new bridges are of Soviet design. The civilian truck park, mainly government-owned, is only about 52,000 vehicles, but this is being increased with US, UK, Soviet, Czechoslovak, and German models.

The formerly efficient inland water transport system of the Chinese Nationalists is now underutilized by the Communists because of the reorientation of internal trade from east-west to north-south. The Yangtze, Sungari, and West rivers, however, are still heavily utilized for link traffic between systems, and north-south traffic is important between Dairen, Yingkow, Chinwangtao, Ta-ku, and Tsingtao in the north and Shanghai and Canton in the south. Coal and grains are the most common bulk commodities shipped. The dependence of Communist China on Soviet Bloc and chartered Western vessels for ocean shipping represents a serious weakness of the Chinese water transport system. Coastal and river shipping in the various areas is closely controlled by regional navigation administrations.

The Chinese Communist telecommunications system is seriously underdeveloped in relation to the present needs of the government and the expanding economy. Services are concentrated mainly in the industrialized and heavily populated areas of the East and North China regions. Types and makes of equipment are many and varied, and lack of standardization handicaps efficiency. The Chinese Communists are now beginning to manufacture their own equipment, depending heavily on Soviet Bloc exports and technical assistance. Telegraph wire lines increased 24 percent and telephone lines 15 percent from 1949 to 1952. Radio telegraph and broadcasting continued to fill the gaps where wire lines have not yet been extended. The government depends heavily on radio broadcast and receiver facilities for news services and for maintaining order, cohesion, and discipline in the country. Extension of telecommunications services and equipment manufacture is an important item of the Five Year Plan, but Communist China probably cannot even approach self-sufficiency in equipment manufacture during this period.

Domestic trade is one of the Chinese Communist government's principal sources of revenue. Control of trade within China has been vested in about 30 state trading organizations, and although private enterprise still handles the largest share of domestic trade, the government exercises strict control through price-fixing and monopolies of wholesale, storage, and transport media. Cooperatives handled about 60 to 70 percent of all government purchases of agricultural products in 1952. Through taxes in kind, commodity taxes, purchases at low fixed prices, charges for government services, and profits of government trading enterprises -- all connected with domestic trading operations -- the government collected about

75 percent of its total revenue in 1952. Domestic trade, associated with the tax system, is thus a principal source of capital accumulation for investment in industry and probably will continue to be so through the period of this estimate.

The pattern of prewar Chinese foreign trade can be summarized in two general points: (1) the trade was almost exclusively with the West, and (2) it consisted of exchange of primary products for food, industrial raw materials, and manufactured goods. Compared to this the 1953 trade pattern shows two significant changes: (1) the geographical reorientation, so that over 70 percent of total Chinese trade is now with other Soviet countries, and (2) increasing emphasis on imports of heavy industrial and military items -- at the expense of food and consumer goods. The 1953 trade turnover increased over the 1952 estimate of US $2,000 million and is tentatively estimated at approximately US $2,400 million. The percentage of trade with the rest of the Bloc and with the West remained approximately the same as in 1952. The volume of the foreign trade of Communist China for the period 1953-57 will depend largely on (1) its ability to increase its exports of agricultural and nonferrous mineral products, (2) a further expansion of markets resulting either from possible relaxation of Western trade controls or from further demand from Bloc markets or from both, and (3) the size of Soviet credits to Communist China. It is believed that Communist China can increase its total exports by at least 25 percent over 1953.

In weighing, from the point of view of economic policy, the advantages and disadvantages to the Chinese Communists of cessation or intensification of hostilities in Asia, it is necessary to take a particular moment in time -- the present -- on which to balance the choices of alternative uses of resources and labor and available material wealth. The costs of the Korean War up to this point have been borne and accounted for; the choice now lies between allocating resources in the same way or using them more constructively. The possibility that Communist China can carry through the Five Year Plan while supporting further military operations of the magnitude of 1952 in the Korean War or even more intensified hostilities is very doubtful.

I. Human Resources and Technology.

A. Population and Population Pressures.

1. Total Population.

The size of the population of China is unknown. Until very recently there had been no census in an official sense, nor had any reliable vital statistics register been maintained either by the local governments or by the central government within the past century. A detailed census by households was begun in preparation for the 1953 elections of representatives to the Chinese Communist People's Congress, but this has not yet been completed. The range of official estimates in recent decades is wide. The Chinese Post Office census of 1926 reported a total of over 485 million for China proper* and Manchuria. The addition of 11 million for Inner Mongolia, Sinkiang, and Tibet gives a round total of 496 million. The 1910 census of the Chinese Board of the Interior concluded that the population for China proper and Manchuria was between 323 million and 343 million. 1/** The latest official estimate of Chinese population is one of 487 million for 1950, which was promulgated by the Chinese Communists for adoption and use throughout China. 2/*** Although there may be some controversy over the population estimate, it is generally agreed that China now has a population of about 500 million. The base estimate of Chinese population used in this report is the Chinese Communist official figure of 487 million for 1950.

* China south of the Great Wall -- that is, exclusive of Inner Mongolia, Suiyuan, Ningsia, Tsinghai, Sinkiang, and Tibet.

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*** This figure is believed to represent the Communist efforts at registration in areas where land reform was effected, with estimates for cities added. A recent claim indicates that the government believes the current census will show a considerably higher total.

2. Population Densities.

China is characterized by an extraordinarily uneven spatial distribution of population. Demographic studies show that in China proper there are 350 million to 400 million persons living on only about one-third of the land area. Over the whole of Communist China, densities vary from about 1 person per square mile in Tibet to over 1,000 persons per square mile in the valleys and deltas of the Yangtze and Yellow rivers. 3/ The average density is about 250 persons per square mile in China proper, but the 8 most densely settled provinces have over 350 persons per square mile. Table 1 gives the population densities in Communist China as of 1950.

Table 1

Population Densities in Communist China 4/
1950

Region a/	Total Population (Millions)	Estimated Area (Thousand Square Miles)	Average Population per Square Mile
Northeast (I)	42	350	120
Inner Mongolia (II)	2	260	8
North (III)	67	230	291
East (IV)	141	250	532
Central and South (V)	137	440	311
Southwest (VI)	71	520	137
Northwest (VII)	23	1,230	19
Tibet (VIII)	4	470	2
Total	487	3,750	

a. Regions, numbered from I through VIII, are as designated in Section V, A, below. See also CIA Map 12577, 2-53, China: Communist Administrative Divisions - 1953.

3. Population Growth.

For the next decade population growth in Communist China will be determined by the extent of control achieved over the death rate, since the birth rate probably will remain high and vary within rather narrow limits. If, in the absence of war, Communist China improves its public health service, completes irrigation and flood control projects, extends the tilled area by mechanized farming in regions of light rainfall, constructs railroads and roads, and industrializes, then the rate of growth for the period of this estimate might easily equal that of India between 1931 and 1941, about 1.5 percent per year. If it is assumed that the population in 1950 was 487 million people, then the population increase through the period of this estimate would be about 53 million, to a total of about 540 million by 1957. If fewer of the improvements mentioned above are accomplished or if food consumption is restricted, or both, then the population increase might not exceed 1 percent per year. This might result in a population increase of about 33 million, or a total of 520 million by 1957. Thus the total population by 1957 may be between 520 million and 540 million.*

4. Emigration.

For centuries the Chinese have been a colonizing race. Their movement from heavily populated areas to sparsely occupied regions has been limited, however, by (a) the reluctance of the Chinese to leave their ancestral homes and (b) foreign immigration barriers. During the last several centuries, Southeast China has witnessed an increasing stream of emigrants from the thickly populated coasts of Fukien and Kwangtung to the southern tropical peninsulas and islands, where they have contributed to the development of the wealth of the area. In the crowded areas of Shantung, Hopeh, and Honan, the people have been less venturesome until recent decades. The development of railways, commerce, and industries in Manchuria has attracted millions of settlers and migratory laborers from North and East China. Besides this area

* A Chinese Communist broadcast from Peiping on 29 March 1954 indicated that incomplete results of the current census suggest a present total population of about 560 million. This would indicate that the 1950 population estimate was too low and that an increase of 1 to 1.5 percent would bring the population by 1957 to 582 million to 594 million. 5/

of colonization, the nearby districts south of the Gobi Desert offer good pastoral opportunities, especially since the opening of the Peiping - Kalgan - Pao-t'ou railway. The light and unreliable rainfall of this region, however, makes settlement and livelihood risky until irrigation can improve productivity. Notwithstanding climatic conditions, North China has thus had an open area for colonization adjacent to its entire northern border, but the movement has nearly reached the practical limit, pending further irrigation, 6/ except in parts of Manchuria. It is estimated that at present over 1 billion people live in East and South Asia. There remain no great open areas to be settled. The unsettled or sparsely settled tropical areas of Asia -- Borneo, New Guinea, Sumatra, parts of the Philippines, Indochina, and Burma -- are subject to colonization by their own nationals and are not open to free settlement and exploitation by the Chinese.*

Emigration as a permanent solution would be quite inadequate even if much greater opportunities were available. European experience has shown that when populations are large and when death and birth rates are high, the loss even of great numbers of people by emigration does not do a great deal to relieve population pressure, unless industry is developing so fast as to absorb the major portion of the natural increase. In the Asian countries of low average income, where industry is developing slowly and some emigration has been going on for centuries, temporary relief of pressure on subsistence reduces the death rate, so that more of the children born survive, and the gaps caused by emigrants are quickly filled by those children saved from an early death. 7/

5. Human Fertility.

The underlying cause of the mass poverty of many districts -- and indeed of many of the economic problems of China -- is the extremely high birth rate, variously estimated at 40 to 45 live births per 1,000 persons per year. Because of the fundamentally social origins of this tendency, a radical modification in the inherited social philosophy of the people is required if the birth rate is to be reduced significantly. The original economic justification for the propagation of large families was the need for

* The USSR has not indicated that Siberia is open to large-scale immigration of Chinese.

maximum cooperative effort in bringing swamps and jungles under cultivation in the early, formative periods of Chinese history. Ancestor worship and the later Confucian teaching gave to this need the authority and strength of religious practice. The custom, having survived that phase of economic development in which it was formed, now contributes to excessive multiplication of the population. The continued social value that is placed on male progeny to perpetuate the family has caused early marriage, concubinage, and a high birth rate.

In the existing situation, Chinese Communist economic policies must inevitably influence both birth and death rates. Unless the Chinese Communists are to fail in their attempt to build a powerful society, they must face the urgent problem of the waste of human energy involved in rearing children and in training workers who die before their labor and skill can be utilized. That the Chinese Communists have recognized this necessity has been evidenced by their programs of training midwives, establishing health centers, instituting compulsory inoculation, moving food supplies to deficit areas, and providing regular food supplies to selected groups of workers. The extension of these programs must inevitably lead to a declining mortality rate and an increase of population. Sooner or later the Chinese Communists may be forced to the conclusion that, in order to realize investment from increases in national income, population growth must be held in check. They may thus reach the conclusion, as the government of India has done, that the most practical method of limiting population growth would be to promote the use of mechanical or chemical methods of controlling human fertility.

At present, however, the Chinese Communists do not acknowledge the logic of this argument. They have said that "the employment problem, that is, the feeding problem, in Shanghai and other places is entirely the outcome of the brutal and ruthless exploitation of imperialism, feudalism, bureaucratic capitalism, and the Kuomintang reactionary government. Under the People's Government, only a few years are needed to solve entirely the unemployment problem, or the feeding problem ... in North China, Northeast China, and other places." The Chinese Communists go further, indeed, to assert:

> "The fact that China has a vast population is an excellent thing. Even if her population increases many-fold, she fully has the means to deal with this -- this

means is production. The absurd theory advanced by Western bourgeois economists like Malthus that the increase in food cannot keep up with the increase in population has not only been utterly refuted theoretically by Marxists, but has also been entirely refuted by facts in the post-revolution Soviet Union and liberated areas in China." 8/

Assuming the official Communist population estimate and the above-mentioned rates of increase, China will require from 5 to 8 percent more food in 5 years and from 10 to 16 percent more in 10 years in order to maintain its present level of subsistence and maintain the current percentage of food production allocated to exports. The potential increase of agricultural production will be required largely to support the growing population, and the allocation for export, therefore, of a larger proportion of agricultural production, compared with the present, would require further reduction of the already low subsistence level. By corollary, lowering the subsistence level to increase exports would tend to raise the mortality rate.

There exists a considerable degree of inefficiency and underemployment in small-scale and service industries in the cities of China, so that as modern industries are developed, they will find that the available urban labor force is more than adequate in numbers (if not in training and skills) to meet the possible requirements for industrial labor for the 5-year industrial development program. Thus industrialization alone, during the first few 5-year plans, cannot reduce subsistence pressure on the land resulting from the normal increase in agricultural population unless there is a corresponding increase of capital investment in agriculture to increase agricultural production. This would conflict with the immediate need for capital for industrial investment. Given the base figure of 487 million population in 1950, and the estimated percentage increases in population and in agricultural production, however, over-all population pressure probably will not reach explosive proportions by 1957. If, however, the census now under way in Communist China 9/ reveals a present population substantially higher than these estimates, a rapid rate of increase in population will compound the difficulties that the Communists face in implementing their plans.

6. Health and Nutritional Requirements.

In China, where there has been less than 1 modern medical doctor per 40,000 people, the influence of public health and medical programs on the population has thus far been more exemplary and local than generally effective. Of the estimated mortality of 35 per 1,000, or 15,750,000 per year, about 6.7 million (that is, three-fourths of those not dying from old age) die from preventable diseases such as gastrointestinal infections, tuberculosis, and the infectious diseases of infancy and childhood, especially tetanus, smallpox, dysenteries, and diarrheas. Missionary influence, the few Western-trained doctors, and US aid probably have produced more results than government measures. Scientific health programs have hardly touched more than the educated elite, while general sanitation programs, such as the New Life Movement of the Nationalists and the cleanup campaign instituted by the Communists under the stimulation of their bacteriological warfare propaganda, have apparently had little effect other than a modest improvement of cleanliness in public places. Outside the model urban centers, medical and health practices are those of a primitive society. Maternal and infant mortality and control of epidemics have been the focus of public health measures under both the Nationalists and the Communists, but war, famine, and disease have been the principal determinants of the rate of growth. After World War II the National Health Administration of the Nationalist Government had little opportunity to resume the splendid work which it had initiated prior to 1937 and which it has since resumed in Taiwan. The Communist regime recently has taken up the work under a small allocation of funds from the national budget under the social, cultural, and educational category.

A few nutritional surveys made during the war among certain groups, such as school children and their families, suggest a fair nutritional status, characterized by the usual Far Eastern imbalance. These surveys indicate an average caloric intake varying from a low of 1,960 calories a day in Shantung to a high of 3,500 in Kiangsi - Hunan. Despite great famine tolls in the past, the average nutritional standard observed in Chinese urban and rural areas appears more favorable than in India. The Chinese peasant is not prevented by religious scruples from obtaining as much of a balanced diet as he can produce.

Most Chinese live on a diet comprised almost exclusively of cereals and vegetables, to which a little vegetable oil may be added in the course of preparation. Rural families derive 86 percent of their caloric intake from grains and seeds and their byproducts; only 6 percent is derived from meat, fats, and fish. Unlike the Mongols and Tibetans, the Chinese practically never use milk, cheese, and butter. They are fond of eggs, pork, and fowl, and of fish, crabs, and other seafoods, but most of these animal proteins are beyond the means of the masses of workers. 10/

Table 2* shows the estimated supply and utilization of food in Communist China for the crop year of 1952-53, with the per capita caloric intake equivalent of each kind of food available for consumption for an estimated total population of 480 million. Table 2 indicates a net average caloric intake of 2,011 calories per capita per day. This estimate provides a rough definition of the "subsistence level" of the population referred to above. It suggests that, unless increasing agricultural production keeps pace with the increase in population, an official policy of augmenting food exports may have serious consequences in undernourishment and debility and possibly social unrest among the affected population.

This brief description of the standards of health and nutrition in China indicates that an energetic program of public education in the principles of public health, hygiene, sanitation, and nutritional diets is required if the mortality rate is to be reduced generally, or even particularly among the trained personnel employed in government administration and industries. Such a program would be particularly important among government workers, whose resistance to infectious diseases is lowered by overwork and long hours. Improvement in this respect was recognized as urgent in 1952, when, for example, an examination of employees of the People's Bank in Shanghai showed that 60 percent were suffering from active tuberculosis. A more vigorous public health program has been instituted under the current Five Year Plan, including compulsory inoculations where epidemic diseases threaten, training of midwives, and establishment of public health centers. The Five Year Plan calls for the annual graduation of 40,000 medical and nursing personnel. Whether this goal and the improvement of general health and nutrition standards among the masses of

* Table 2 follows on p. 21.

Table 2

Food Supply and Utilization Pattern in Communist China a/* b/
1952-53

Commodity	Supply (Thousand MT)			Utilization c/									
				Nonfood Uses (Thousand MT)				Supply for Food					
											Per Capita		
	Production	Stocks and/or Net Trade	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross (Thousand MT)	Extraction Rate (Percent)	Total Net Food (Thousand MT)	Kilograms per Year	Grams per Day	Calories per Day
Cereals													
Wheat	22,482	-100	22,382	3,131	216	479	3,826	18,556	85	15,773	32.86	90.03	314
Rice, Nonglutinous	45,207	-570	44,637	2,712		439	3,151	41,486	74	30,700	63.96	175.23	629
Rice, Glutinous	2,519		2,519	153		151	304	2,215	70	1,550	3.23	8.85	32
Subtotal Rice	47,726	-570	47,156	2,865		590	3,455	43,701		32,250	67.19	184.08	661
Other Grains													
Barley	6,997		6,997	881	2,449	490	3,820	3,177	80	2,542	5.30	14.52	48
Oats	814		814	93	203		296	518	50	259	.54	1.48	6
Corn	10,783	-220	10,563	887	1,266	212	2,365	8,198		8,198	17.08	46.79	167
Millet	9,663	-200	9,463	578	946	189	1,713	7,750	90	6,975	14.53	39.81	136
Proso Millet	1,393		1,393	103	125	97	325	1,068	90	962	2.00	5.48	18
Kaoliang	10,730	-200	10,530	771	1,580	1,264	3,615	6,915	90	6,223	12.96	35.51	122
Miscellaneous Grains	1,300		1,300	121	d/	780	901	399	80	319	0.66	1.81	6
Subtotal Other Grains e/	41,680	-620	41,060	3,434	6,569	3,032	13,035	28,025		25,478	53.07	145.40	503
Total All Grains	111,888	-1,290	110,598	9,430	6,785	4,101	20,316	90,282		73,501	153.12	419.51 f/	1,478

* Footnotes for Table 2 follow on p. 23.

Table 2

Food Supply and Utilization Pattern in Communist China a/ b/
1952-53
(Continued)

Commodity	Supply (Thousand MT)			Utilization c/									
				Nonfood Uses (Thousand MT)				Supply for Food					
											Per Capita		
	Production	Stocks and/or Net Trade	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross (Thousand MT)	Extraction Rate (Percent)	Total Net Food (Thousand MT)	Kilograms per Year	Grams per Day	Calories per Day
Potatoes													
Sweet Potatoes	31,859		31,859	5,097	6,372	1,593	13,062	18,797		18,797	39.16	107.29	104
White Potatoes	2,362		2,362	614	165	142	921	1,441		1,441	3.00	8.22	6
Subtotal Potatoes	34,221		34,221	5,711	6,537	1,735	13,983	20,238		20,238	42.16	115.51	110
Cane Sugar	375	+59	434					434		434	0.90	2.47	10
Pulses and Oilseeds													
Vegetable Oilseeds	16,470 g/	-1,175 h/	15,295	1,815	507	7,885	10,207	5,088		5,088	10.60	29.04	102
Broad Beans	3,478 i/		3,478	452		70	522	2,956		2,956	6.16	16.88	58
Field Peas	2,972		2,972	381	743	178	1,302	1,670		1,670	3.48	9.53	33
Fruits and Vegetables											55.0 j/	150.68	39
Meat													
Beef and Veal	624	-5 k/	619					619		619	1.29	3.53	6
Buffalo	355		355					355		355	0.74	2.03	3
Pork	4,408	-73 k/	4,335			908 l/	908	3,427		3,427	7.14	19.56	40
Mutton and Lamb	131	-4 k/	127					127		127	0.26	0.71	1
Goat	122		122					122		122	0.25	0.68	1
Poultry Meat	285	-5 k/	280					280		280	0.58	1.59	3
Subtotal Meat	5,925	-87	5,838			908	908	4,930		4,930	10.27	28.10	54

Table 2

Food Supply and Utilization Pattern in Communist China a/ b/
1952-53
(Continued)

Commodity	Supply (Thousand MT)			Utilization c/									
				Nonfood Uses (Thousand MT)				Supply for Food					
											Per Capita		
	Production	Stocks and/or Net Trade	Total Supply	Seed and Waste	Feed	Industrial	Total	Total Gross (Thousand MT)	Extraction Rate (Percent)	Total Net Food (Thousand MT)	Kilograms per Year	Grams per Day	Calories per Day
Eggs m/	645	-50	595					595		595	1.24	3.40	5
Fish	4,000	9	3,991					3,991		3,991	8.31	22.77	14
Fats and Oils													
Vegetable Oils	1,590	-50	1,540			237	237	1,303		1,303	2.71	7.42	66
Pork Fat	908		908					908		908	1.89	5.18	42
Subtotal Fats and Oils	2,498	-50	2,448			237	237	2,211		2,211	4.60	12.60	108
Total											295.84		2,011

a. Excluding alcoholic beverages.
b. Estimated to include 90 percent to 95 percent of food supplies available for consumption.
c. Because of the lack of information on stocks or reserves, it has been necessary to assume in the food balances that stocks were canceling.
d. Included in Industrial column.
e. Excludes wheat.
f. May not add to total due to rounding.
g. Includes soybeans, peanuts, rapeseed, sesame, cottonseed, and miscellaneous.
h. Includes oilseeds for military requirements in North Korea.
i. Includes estimate of 340,000 tons for Manchuria.
j. Estimated per capita consumption.
k. Meat equivalent of liveweight exports.
l. Pork fat, cuts, and bacon listed below as pork fat.
m. Shell egg equivalent.

population can be accomplished within the period of this estimate is questionable in view of the magnitude of the undertaking. Probably principal emphasis will be placed on improvement of health standards among students, laborers, and government workers and generally in urban areas, where better results are essential to the success of the industrialization programs and where health measures can be better enforced.

B. Industrialization, Urbanization, and Availability of Industrial Labor.

Numerous influences in Communist China are effective toward delimiting the importance of the family and breaking down the observance of social traditions and customs. Among these is modern industry.* The effects of industrialization are mainly felt locally in the cities of the Yangtze and Canton deltas, at the seaports, at focal points along the railways (north and south, and especially in Manchuria), and in the parts of West China in which factories were established during the Sino-Japanese War, 1937-45. A considerable and expanding mass of industrial workers -- a new type in China -- is concentrating in the urban areas and separating from the family-centered life of the countryside and from the direct influence of old traditions and social customs. A great many of these workers are women, whose participation in factory industry signifies their increasing economic independence and the gradual disintegration of the old clan system. 11/ This industrial development is greatly needed, both to strengthen all sectors of the economy and to initiate social changes which would affect many more people than those immediately involved. China's excessive population prevents the solution of its growing problems of support through the automatic social processes which were occasioned by industrialization in Europe and Japan. Any real solution of these problems must be effected through modernization together with educational developments to influence the fertility of the Chinese peasant population.

Of a total labor force of 229 million to 267 million workers in 1950-51, about 195 million to 227 million (85 percent) are rural workers, of which number 172 million to 200 million are farm workers 12/ -- that is, about 75 percent of the total labor force. 13/ The figures for farm labor are of necessity only approximate, because of the wide seasonal fluctuation in the agricultural labor force. The percentage of the total labor force which is in agricultural work varies according to season from a probable low of 60 percent to a

* The term modern industry as used by the Chinese refers to those shops using electric or steam motive power and employing 30 or more workers.

probable high of 90 percent. Subsidiary employment is important for many farmers who perhaps might more properly be classified as part-time farmers. The forestry labor force, numbering about 200,000, is comprised almost completely of part-time farmers. About 18 million fishermen on the inland rivers, lakes, and ponds likewise are part-time farmers.

Only 20 to 25 percent of total employment is in non-farm work, a small part of which (not over 4 million to 5 million workers) is absorbed in modern industry. Table 3 gives an estimated division by industrial categories of the numbers of laborers in modern industry in 1950-51.

Table 3

Estimated Breakdown of the Labor Force of Modern Industry in Communist China 1950-51

Thousands

Industry	Labor Force
Coal	400 to 480 14/ a/
Ferrous Metallurgy	80 to 100 15/
Other Mining	275 to 450 16/
Textile	600 to 700 17/
Electric Power	95 to 110 18/
Engineering	225 to 275 19/
Rail Transport	550 to 600 20/
Water Transport	1,000 to 1,200 21/
Communications	50 to 100 22/
Munitions	260 to 400 23/
Miscellaneous	600 to 700 b/
Total	4,135 to 5,115

a. For 1950 only.
b. Composed of building materials, chemicals, tobacco, clothing, and food processing.

The urban population of China -- besides that part dependent on modern industry -- consists of families dependent for their livelihood on old-style industry (shops without power machinery and employing less than 30 workers), handicrafts, wholesale and retail distribution, construction, native transportation, trades, commerce, coolie labor, government administration and services, office work, schools, and the professions. The labor force of these groups is estimated at 30 million to 35 million. 24/ The distribution of urban population in city groups is set forth in Table 4.

Table 4

Urban Population of Communist China 25/
1950

Population Group	Number of Cities	Population (Millions)	Population as Percent of Total
Over 1 Million	8	16	3.3
100,000 to 1 Million	76	20	4.1
10,000 to 100,000	1,200	25	5.1
Total		61	12.5

The figure of 61 million for the total urban population of China may be compared with a similar total for the US of 63 million. The urban population of China, which is already large in relation to industrial employment, indicates a serious condition of unemployment or underemployment among city dwellers. At least it represents a characteristically low productivity per worker which the industrialization plan would seek to improve by mechanization. The Communist policy of eliminating a considerable portion of private trade and service employment has probably contributed to urban unemployment to an extent not fully compensated by increased employment in government service. Industrialization would also displace many more workers now employed in small-scale and handicraft industries.

The modern industry sector of the Chinese economy presently includes only from 8 to 10 percent of the total potential urban labor force. The urban population thus contains a potential labor force sufficient -- at least in numbers of workers -- to support an industrial development of considerably greater magnitude than the current program.

Table 5* shows different stages of industrial development reflected in the occupational distribution of the population in various countries. It will be seen that the process of industrialization does not simply involve the absorption by industry of part of the agricultural population. The most important fact to be observed is that, as the portion of the population engaged in industry increases, so also does the percentage of all the other major occupational groups except agriculture. In particular, the part of the population engaged in commerce and transportation increases along with that in manufacturing. It is probable that at the end of the Five Year Plan, in 1957, the distribution of population in the labor force in Communist China will not differ greatly from the present, because of the limited capacity of the nonagricultural sector to absorb the unemployed and underemployed labor in the cities and to provide for the growth of population, much less to absorb any considerable part of the surplus agrarian labor force.

Accurate quantitative data on the supply of skilled and technical personnel are lacking, but the rough estimates which are presented in Table 6** indicate that skilled labor is as scarce as common labor is abundant. There is a fair supply of foreign-trained Chinese in a few categories of top-level engineers and scientists. In fields needed for the development of heavy industry, the supply of top-level personnel is short, and in all industrial fields the supply of middle-grade technicians and skilled supervisory personnel is wholly inadequate for the proposed expansion of industry outlined in the Five Year Plan. In the most industrialized area, Manchuria, skilled and supervisory personnel was provided for the most part by the Japanese. Repatriation of the Japanese, a great many of whom were in responsible positions in manufacturing, mining, or transportation, left a large gap which has been only partially filled by Soviet nationals and by migration

* Table 5 follows on p. 28.
** Table 6 follows on p. 29.

Table 5

Percentage Distribution by Economic Sectors of the Economically Active Population of Selected Countries a/ 26/

Country	Year	Agriculture and Fishing	Mining and Quarrying	Manufacturing and Handicraft	Construction and Building	Administrative, Personnel, Domestic, and Professional Services	Commerce and Transportation
I. Typical Industrial Countries							
US	1940	18	2	23	7	22	22
UK	1931	6	6	41	N.A.	24	23
Belgium	1930	17	6	36	6	14	21
Germany	1939	26	2	32	7	17	15
Italy	1936	48	0.7	22	5	10	12
Japan	1947	53	2	17	4	2	12
USSR	1951	58		16 b/	4	10	11
II. Less Industrialized Countries							
Chile	1940	35	6	17	3	12	14
Portugal	1940	49	0.7	15	5	16	9
Hungary	1941	48	1	23	N.A.	11	9
Finland	1940	57	0.1	16	2	7	9
Poland	1931	65	1	16	N.A.	7	8
III. Countries Lagging in Industrial Development							
Egypt	1937	71	0.1	8	2	7	10
Brazil	1940	67	3	10 c/		7	9
Colombia	1938	73	2	10	2	3	3
India	1931	67	0.2	10	N.A.	9	7
China	1952	75	3	6	0.2	2	3

a. Variations in statistical methods and practice detract from the precision of the percentages; also, the figures refer to different years. Thus the percentages shown for the different countries are not strictly comparable, although they show with sufficient accuracy the differences among countries in occupational distribution and, by implication, the changes in distribution resulting from economic development.
b. Includes mining.
c. Includes construction.

Table 6

Estimated Breakdown a/ by Level of Training
of the Labor Force Employed in Modern Industry
in Communist China 27/
1952

Thousands

Industry	Total	Managerial	Technical	Skilled	Unskilled
Coal	480	18		462 b/	
Ferrous Metallurgy c/ 28/	100	10		16	74
Other Mining d/	360	36		324	
Textile e/	700	70		630	
Electric Power	100	17	8	25	50
Engineering	250	10	12	80	148
Rail Transport f/	560	40	20	50	450
Munitions	260	52		91	117
Miscellaneous g/	1,825	200		1,625	
Total	4,635	493		4,142	

a. The estimated breakdowns of persons employed in modern industry are extremely rough and are intended only to provide indications of the orders of magnitude involved.
b. 1950 figure.
c. Excludes persons engaged in the mining of iron ore, and in the mining and processing of manganese, tungsten, and other minerals used primarily as ferroalloys.
d. Total is the rounded median value given in Table 3. Breakdown of the total obtained by applying percentages estimated for antimony, gold, and cement, amounting to about 11 percent of total employment.
e. Breakdown was obtained by applying that obtaining in the USSR in 1938, which is believed to be typical for China.
f. The percentage distribution for line maintenance was applied to the total. Apprentices are included in unskilled.
g. Includes water transport (employing 1 million to 1.2 million); communications (employing 75,000); and building materials, chemicals, tobacco, clothing, and food processing (employing 600,000 to 700,000). The distribution was obtained by averaging the distributions for the other industries except engineering and munitions. This total miscellaneous category differs from the miscellaneous shown in Table 3, above, because in this table is included a large amount of small-scale native industrial and services employment.

from other parts of China. Next to the demographic problem and the related capital scarcity, the most serious problem of Communist China in carrying through its first Five Year Plan will be to provide the necessary numbers of managerial, skilled, and technical personnel for its industries and for government administration.

C. Status of Education and Technical Training.

The Chinese Communists have inherited four basic problems in the educational system of China: lack of facilities, high degree of illiteracy (80 percent), the traditional preference of students in China for cultural education rather than practical training, and the complicated system of writing in ideographic symbols. The Chinese People's Political Consultative Conference in Peiping, facing these problems (among others) in September 1949, set forth the state policy toward education in the cultural and educational section of the Common Program* adopted at that time. The two articles in the Common Program dealing most specifically with education are as follows: 29/

> Article 46: The method of education of the People's Republic of China is the unity of theory and practice. The People's Government shall reform the old education system, subject matter and teaching method systematically according to plan.
>
> Article 47: In order to meet the widespread needs of revolutionary work and national construction work, universal education shall be carried out, middle and higher education shall be strengthened, technical education shall be stressed, the education of workers during their spare time and education of cadres who are at their posts shall be strengthened, and revolutionary political education shall be accorded to young intellectuals and old style intellectuals in a planned and systematic manner.

* The Common Program expressed the policies and concepts which would guide the government until the People's Congress, which was to be called in 1953, could adopt a constitution.

Under this general directive the Ministry of Education opened a drive against illiteracy. A system of adult classes and schools for workers was inaugurated in which condensed or accelerated courses are taught. Using a simplified method of alphabetic script to facilitate learning the Chinese characters, winter literacy schools for adults were opened; courses and teaching methods were simplified; and on-the-job, part-time, and short courses of technical training for workers were established. In further implementation of the directive the Chinese Educational Workers' Handbook divided the formal school curriculum into 6 years of primary school, 6 years of middle school (junior and senior high school), and 4 years of higher education. Under the previous system in China, the majority of rural schools comprised only the first four grades. Thus the expected substantial expansion of middle school and higher educational enrollment must await development of the upper primary grades. It is believed, therefore, that at least 5 years will be required to provide sufficient primary and middle school graduates for the projected increase of enrollment in higher educational institutions. Enrollments for 1951-52, as announced by the Minister of Education, 30/ were 49 million primary school students, 3 million middle school students, and 219,000 students in higher educational institutions.

Chinese students have been traditionally unwilling to enter training for vocations as engineering and technical specialists. As late as 1937 there were three classical students to each student in science. Subsequent strenuous efforts by the Nationalists to redress this balance resulted in practically equalizing the two groups. The Communists have gone much further under the Ministry of Higher Education in drastically reorganizing universities and colleges along more specialized lines, with particular emphasis on engineering. Table 7* shows the distribution of enrollment in 1946-47, by specialized curricula, under the Nationalists as compared with that of the new registrants in 1952. In order to enforce further specialization of students in subjects needed for the reconstruction of the economy, the Chinese Communists have completely eliminated private control of the educational process and as far as possible have replaced professors of Western leanings with trusted Communists. Those removed consisted of a nucleus of well-trained professors, Western-trained Chinese for the most part, and a number of Western nationals.

* Table 7 follows on p. 32.

Only a few of the Western-trained Chinese were retained in responsible positions, and only after being subjected to Communist indoctrination.

Table 7

Distribution of Students in Specialized Curricula in Colleges and Universities in China 1946-47 and 1952

	Percent of Total 31/	
	1946-47 (Enrollment)	1952 (Registration)
Arts	12	7
Law and Government	22	1
Commerce and Economics	11	4
Engineering	19	51
Science	7	8
Medicine	8	10
Teaching	14	13
Agriculture	7	6

There were 215 higher institutions in China in 1948 -- 55 universities, 79 independent colleges, and 81 technical institutes. 32/ The Chinese Communists claim that the total of higher institutions in 1951 was 251. Most of the increase probably is accounted for by the founding of new technical institutions and teacher-training colleges and by the subdivision of previously existing higher educational institutions. 33/ The teaching profession has been assigned top priority (jointly with construction activity) in the job allocations of graduates. The announced plan provides for an increase of the number of teacher-training institutions by $2\frac{1}{2}$ times in the next few years. In view of the removal of the Western-trained professors and the withdrawal of the Nationalist teaching staffs, the contemplated expansion in science and engineering courses would appear to be too

rapid for the available supply of competent professors if quality of instruction is to be maintained. This limitation is especially noteworthy in view of the fact that the same skills are sorely needed for the expansion of industry.

The official Chinese Communist forecast of personnel requirements for national economic construction during the ensuing 5 or 6 years was announced in late 1951. The annual requirements are approximately 100,000 technicians, 300,000 teachers, 40,000 medical and nursing personnel, and at least 150,000 workers in government and commerce. If the enrollment claim of 3 million middle school students is accepted as accurate, it is evident that the output of vocational graduates is still considerably below the requirements. To these must be added 80,000 to 100,000 middle school graduates who are needed to enter higher training, making a total required middle school output of nearly 700,000 annually. Since the total enrollment is spread over 6 years and since some attrition occurs in the progress to higher levels, little more than one-tenth of the 3 million middle school students, or 300,000 per year, can complete the full middle school course. Total enrollment in higher institutions is now in the neighborhood of 220,000 students, with an annual graduation of 16,000 to 20,000. These rates of graduation are less than one-half the rates necessary to supply the 150,000 to 200,000 "high level" technicians, teachers, and medical personnel estimated by the Chinese Communists as required for the economic development program each year for the next 5 years. The graduation rate could be measurably increased only at the sacrifice of quality, by advancing graduation and by further relaxing standards to reduce the number who drop out before graduation. Deficiencies in general technical training and the lowering of academic standards, however, will have an adverse effect on efforts to train personnel for higher professional and administrative grades. Simultaneously, extreme specialization will make for occupational immobility of labor and tend to increase rigidity in the economic structure.

The shortage of qualified personnel emerges as one of the most serious weaknesses of the Chinese Communist program for development of heavy industries under the first Five Year Plan. Communist authorities, in reviewing the first 6 months' progress of this plan, revealed their displeasure with the bungling of their poorly trained technicians and executives. The Peiping People's Daily, while stoutly defending the plans and goals set by the government, lashed out at administrative and labor organizations for the following

technical and administrative mistakes: "Many factories failed in their first half year program because of disorder in enterprise control and unstabilized methods of promoting production; failure to effect proper use of workers' creative ability and working character, causing poor discipline among workers and thereby seriously injuring production programs; failure in the task of reinforcing political consciousness in enterprises." Another commentary stated: "Disorder is a direct result of the serious phenomenon of absence of responsible men in factories." 34/

Thus it seems evident that the existing higher educational system in Communist China, even with the sending of many Chinese students to the USSR for technical studies and with the presence of Soviet teachers and educational advisers in China, is inadequate as yet to overcome serious shortages of various grades of skilled personnel. In view of the rapid rate of planned industrial growth over the next 4 years, these shortages will probably not be proportionately reduced.

D. Soviet Technical Aid.

The systematic elimination of Japanese and Western nationals from the mainland economy has left the Chinese Communists more and more dependent on the USSR for technical assistance to compensate for their own lack of trained personnel. Communist China has recently acknowledged substantial present and prospective assistance from the USSR in the renovation and construction of 141 "large" projects. The announcements from both the Soviet and the Chinese sides indicate that in each case where Soviet engineering assistance or equipment is used, the aid envisions the assignment of Soviet personnel who are to remain to see the project through to completion and into the operating stage of the plant, at which time trained Chinese personnel can take over.

No reliable totals are available on the number of Soviet nationals assigned to Communist China. Nor is it possible to indicate the extent to which Soviet technical missions have replaced Japanese personnel and former Nationalist technicians. Soviet technical assistance may have fluctuated considerably, for the Chinese press contains expressions of thanks to numbers of teams who have returned after completing their missions. 35/ [redacted] 50X1 [redacted] an estimated 70,000 Soviet military personnel and technicians arrived in China in the spring of 1950. [redacted] 50X1 50X1

[redacted] 50X1

[redacted] It 50X1

appears that during 1950 and 1951 advisers and technicians on railway maintenance and operations, military construction, and military end items production predominated. During 1952 and 1953, more emphasis was placed on economic planning and on other technical capacities discussed below. The general nature of the assignments of Soviet personnel in Communist China in 1952 may be inferred from a Japanese broadcast based on information from Japanese repatriates, whose accuracy as to numbers, however, cannot be verified. 36/ The numbers given were as follows: Army, 12,000; Air Force, 4,000; Navy, 3,000; "political," 5,000; industry and communications, 10,000; educational, 2,000; agricultural, 2,000; and financial and economic, 2,000. 37/ Table 8 contains a summary of available information [redacted] 50X1

[redacted] concerning the advisory and technical capacities 50X1 of some 600 Soviet technical nonmilitary personnel. They are presumed to be a representative sample of an unknown total of such personnel assigned to China. This is probably the best available indication of the mutual Sino-Soviet interest in fulfilling the relative needs of Communist China in these categories.

Table 8

Analysis of Sample of About 600 Soviet Advisers and Technicians Sent to Communist China in 1953

	Percent of Sample a/*
Technical Trade and Procurement Representatives	21.3
Education, Printing, and Publishing Specialists	12.5
Agriculture, Forestry, and Fishery Specialists	10.3
Health and Social Services Specialists	8.2
Information Services	8.0
Machine Building	4.8
Light Industries	4.7
Railroad Transportation	4.2

* Footnote for Table 8 follows on p. 36.

Table 8

Analysis of Sample of About 600 Soviet Advisers and Technicians Sent to Communist China in 1953 (Continued)

	Percent of Sample [a]
Nonferrous Metallurgy	4.0
Paper and Pulp Industries	3.5
Electric Power Industry	3.2
Ferrous Metallurgy	3.2
Telecommunications and Equipment Industries	1.8
Road Communications	1.8
Motor Transport	1.7
Defense, Finance, Economics, and Geology Advisers	1.5
Water Transportation	1.3
Trade Union Advisers	1.0
Coal Industry	0.8
Chemical Industries	0.8
Geodesy, Meteorology, and Cartography	0.5
Construction Materials Industry	0.2
Architecture	0.2

a. Because of rounding, percentages do not total 100.

It should be noted that the relative percentages of technicians in Table 8 do not indicate their relative capabilities or their influence in the economic planning and development of Communist China. Some categories of technicians, such as those in the "Defense, Finance, Economics, and Geology Advisers" and the "Architecture" categories, for example, may have much greater influence in the over-all planning and direction of the 5-year development program than those in the larger percentage categories. Likewise, the advisers in the "Coal," "Chemical," and "Electric Power" industries may have much greater influence in increasing production than those in the larger categories.

Table 8 gives merely an indication of the relative numbers of Soviet personnel in various categories assigned to Communist China. In this ranking it is important to note especially the percentages of personnel assigned in the first 5 categories, which include more than 60 percent of the total sample. It is apparent from these percentages that the numerical ranking of Soviet technicians assigned to China emphasizes (in this order) Soviet and Chinese Communist interests in the fields of Sino-Soviet trade development; development of the Soviet type of education in Communist China; increase of production in the extractive industries of Communist China; improvement of the health, welfare, and demographic control services of Communist China; and the exchange of information between Communist China and the USSR.

Aside from the matter of numbers of technicians, several general conclusions can be drawn from available information on the course of developments in Communist China as to the nature and importance of Soviet technical aid to Communist China:

1. A form of the Soviet system of economic planning and control is being imported into Communist China and is in process of application in the national economy. This form prescribes detailed statistical reporting of production facilities and output in all fields of economic activity; centralized allocation of certain basic raw materials, semimanufactured goods, machine tool equipment, electric power, and transportation services; centralized planning and control over foreign trade; and over-all economic planning which attempts to take into account the scheduled needs and requirements of the various sectors and branches of the economy. The Chinese Communists themselves admit their dependence upon Soviet advisers and experience in the planning and execution of their economic development program.

2. Soviet technical aid to Communist China takes many forms in actual application: dominating control by the Russians in the industries and government of the Dairen-Port Arthur area; joint participation of the two parties in joint-stock companies under Soviet administrative control in air transport services and in mineral and petroleum development companies in Sinkiang; Chinese administration with Soviet subordinate directors in the economic enterprises of Manchuria; Soviet engineering project supervision and initial operational control in construction projects undertaken under the Five Year Plan; a teacher-pupil advisory relationship in

over-all economic planning and detailed execution of parts of the plan; procurement and sales relationships in international trade; and a creditor-debtor relationship between the USSR and Communist China in Soviet financing of Chinese Communist economic development. All of these relationships are matters of mutual agreement and give-and-take.

3. The trend of Soviet technical aid is toward greater control over Chinese investment. The Chinese Communist Five Year Plan, beginning from a year of "basic construction" in 1953, with production goals for each industry and sector, has been integrated to a certain degree with the Soviet Five Year Plan, with the USSR supplying the technical aid and scheduling the production of equipment for 141 "large" renovation and construction projects, and with Soviet training of Chinese personnel to take over operation of the enterprises after an initial period of Soviet direction. The USSR has taken over for Communist China many procurement and trade services and the clearing of some foreign exchange transactions with the Soviet Bloc.

4. Both ideologically and through the Party apparatus, the Soviet-Chinese Communist relationship takes the form of a partnership, with the USSR in the senior position. This relationship involves Chinese Communist amalgamation, economic and political, with the Soviet Bloc, both by reason of Chinese Communist desires for integration with the international Communist order, with the consequent prestige which is associated with the leading position of Communist China in Asia, and by reason of the economic backwardness of Communist China and its desire to obtain more and more Soviet technical assistance and equipment to support its development, both military and industrial. In this sense, Soviet technical personnel are officially welcomed in Communist China as members of the international Communist fraternity, kindred spirits in the enterprise to extend Communist world domination.

5. Thus Soviet technical aid to Communist China is one of the means of implementing the separate aims of the USSR and Communist China, as well as their mutual aim of demonstrating to the rest of Asia the effectiveness of the Soviet system and the advantage of association with the Soviet Bloc.

II. Administration and Planning.

A. Administrative Framework.

In the Chinese Communist constitutional structure the highest organ of state power is to be an All-China People's Congress, chosen by the elective process with universal suffrage -- as the Communists understand these terms. This body was to be called into being in 1953.* Until it is established, the Chinese People's Political Consultative Conference (CPPCC), which approved the Common Program in September 1949, has the title to supreme authority. The CPPCC meets only once in 3 years and will act only in an advisory capacity after the establishment of the All-China People's Congress. A National Committee which meets semiannually is authorized to act for the CPPCC, but the real power lies with the Chinese People's Government Council (CPGC), which is scheduled to meet every 2 months and which is analogous to the Presidium of the Supreme Soviet in the USSR. This council consists of a chairman, 6 vice-chairmen, and 56 members, all elected by the CPPCC. It includes most of the ranking members of the Chinese Communist Party. Under the CPGC are four subsidiary organs (see Figure 1**): (1) the Government Administrative Council, which has the functions of implementing policy directives, directing subordinate committees and ministries, and supervising regional governments; (2) the People's Revolutionary Military Council, which directs the armed forces; (3) the Supreme People's Court, which is the highest judicial organ; and (4) the People's Procurator-General's Office, which is responsible for enforcing government laws and regulations.

Under the Government Administrative Council, which is comparable to the Soviet Council of Ministers, is the Committee of Finance and Economics (CFE), which is presently the senior organ for administering the economy. In late 1952 the Central Planning Bureau was replaced by a high-level State Planning Committee, which is composed of 15 leading Communists concurrently holding key positions in the other administrative agencies. A State Statistical Bureau has also been set up as part of a general reorganization for implementation of the Five Year Plan. These new organs are apparently centralized coordinating agencies for enforcing uniform reporting of production and inventories and the precise allocation of resources. It is possible that the CFE may be superseded by these organs.

* Up to 15 April 1954 this Congress had not assembled.
** Following p. 44, below.

Under the CFE come the Economic Ministries listed in Figure 1. In late 1952, 2 ministries of Machine Industry were set up; a Ministry of Trade was replaced by a Ministry of Foreign Trade and one of Commerce (domestic trade); and a Ministry of Food was established in addition to the 3 Ministries of Agriculture, Forestry, and Water Conservancy. Also, a Ministry of Construction Engineering and a Ministry of Geology were set up.

Six administrative regions were established by the central government: the Northeast (Manchuria), North, East, Central-South, Southwest, and Northwest. In addition, an Inner Mongolia Autonomous Region and a Tibetan Autonomous Region were established, and a certain degree of autonomy within the regions was given to smaller minority groups. In each of the administrative regions there are military committees and administrative committees. Under the administrative regions are the provinces and also municipalities which are independent of the provincial governments.

In late 1952 a reorganization set out to combine the administrative and military committees into single regional committees. The general result was to strengthen administrative control of the central government by minimizing the role of regional governments, increasing the direct administrative authority of the central government over the provinces and municipalities, and giving the central ministries greater local responsibility. The provinces in turn are divided into hsien, or counties.

Parallel with the administrative hierarchy is the administrative structure of the Communist Party itself, organized on the principle of "democratic centralism." The role of the party as "the leader of the revolution" is reinforced by the dual membership of Communists in the Communist Party hierarchy and in the constitutional structure. All Politburo members in the top echelons are senior Communists with party membership running back 20 to 25 years and, almost without exception, predating the "long march" of the mid-1930's. With the exception of Po I-Po, the former Minister of Finance, no officials of note have been purged. There is no firm evidence of significant factional splits which Mao Tse-tung has been unable to control. 38/ The multiparty front and the five-sector class society function in a practical way only to provide the focus for issues of Communist class warfare through which certain groups are progressively expropriated, liquidated, exploited, or impoverished for the benefit of the state's capital accumulation program. The secret police function for the same purposes as elsewhere in the Soviet Bloc.

During the period from 1949 to 1952 the Communists consolidated their power under a smokescreen of educational and propaganda campaigns. The "Agrarian Reform" movement was one of these campaigns. The "Resist America and aid Korea" movement and the "Counter-revolutionaries Suppression" movement were accompanied by more systematic police control over all parts of the society and the elimination or "re-education" of individuals and groups that had had close ties with the West. The "Increase Production, Practice Economy" movement and its predecessor, the "Three-Anti's and Five-Anti's" movement, were part of the process of establishing tighter inspection controls over managers and accounting departments of all firms and of enforcement of capital levies and heavy tax schedules required for military and economic mobilization. A continuing Marxist indoctrination campaign and a "culture" campaign at one and the same time establish tighter control over workers, the educational system, and the arts and glorify Soviet regimentation over Western "imperialism."

Huge numbers of associations have been set up on every conceivable basis from pseudopolitical parties to international friendship associations, such as the Sino-Soviet and the Sino-Indian Friendship Associations. Semiofficial organizations like the trade unions, various professional associations, and the All-China Federation of Industry and Commerce for local business groups also are channels for Communist regimentation of Chinese society.

B. Economic Planning and Implementation of Plans.

Once a Communist regime has established its political security by means of the Party apparatus, the regional military commands, the police system, the cadre corps, and the civil administrative organization, its first concern is to gain control of all economic resources and to organize the manpower to exploit these resources to the end that all economic activity is directed toward accumulation of capital under the control of the state for investment in heavy industry, military end items, and (to a lesser extent) consumption goods industries. In the relatively short period they have been in power, the Chinese Communists have made considerable progress toward complete control of economic activities.

Under compulsion of their ideology, as well as of their own technical inadequacy and inexperience, the Chinese Communists have resorted to the USSR as a model of economic organization in the same

way that they have sought the advice of Soviet technicians in steel mill operations and have emulated Soviet organizational techniques in the Party and government. Probably the most important export of the USSR to Communist China is a complete system of economic organization comprising techniques for political and social regimentation, for the planned development and allocation of resources, and for control over the population and labor force.

Within the framework of the organization described in the preceding section, the State Planning Committee and the State Statistical Bureau function to make precise estimates of direct investment requirements and of indirect investment effects. These estimates must be internally consistent in maintaining a proper proportion among the major components of each: for example, within the industrial sector among coal, steel, electric energy, and so on. Estimates of capital equipment requirements must be realistic in relation to available supplies. The planners must then allocate capital goods to the individual producers in accordance with their current and future production goals. Material inputs for semifinished goods and end items must be estimated by the Committee, and flow schedules of raw materials and semifinished goods must be constructed which will insure that each producer is allocated, and receives, sufficient inputs to maintain his production schedule, but no more. Efficient operation of such an economy requires great refinement of technique, balanced judgment, knowlege, experience, and centralized control by the responsible planners. With its long experience the Soviet planning apparatus still appears to suffer from inherent shortcomings; many of its more refined methods are no more than 5 to 7 years old. It is indeed a tremendous task for the Chinese -- even with Soviet help -- to create an apparatus, train cadres, and operate an allocational economy in a society that has not realized close political unification for decades and is economically fragmented to a degree not experienced in most Western countries for two centuries.

The central planning and administrative organs require a vast and continuous flow of statistical information from the field. Detailed, timely statistical data fed to the central organs from the field provide the raw material from which over-all plans can be constructed and allocations of resources for investment and consumption can be made. Such detailed reporting of all categories of agricultural and industrial assets and production must be regularly scheduled and submitted by due dates so that the central organs can formulate general plans and can check and revise sectional plans submitted by industries and by provincial and regional administrations.

The ministries listed in Figure 1* are the channels through which reports are submitted to the central statistical and planning organs and through which administrative control is exercised. Immediately superior to the ministerial structure is the Committee on Finance and Economics (CFE), which is charged with budget administration and with supervision and coordination of the economics ministries, and which reports directly to the Government Administrative Council. In 1952-53, three important changes occurred: (1) a central State Statistical Bureau (attached for the time being to the CFE), was formed, charged with collecting all statistics for the use of central organs and with coordinating and supervising statistical work on all levels; (2) the Government Administrative Council incorporated an important new staff in the form of the State Planning Committee (replacing the old Planning Bureau of the Committee on Finance and Economics); and (3) the regional administrations lost a great deal of their autonomy to the central government organs. It was particularly significant that the previously pioneering Northeast Administration became the prototype for the over-all planning and control administrations. Kao Kang, its former head and apparently a rising star in the Communist hierarchy, moved up to head the Planning Committee.**

Revising the previous system of conflicting, too numerous, over-complicated, and detailed forms which had previously handicapped the planning system under the Committee on Finance and Economics, the new State Statistical Bureau on 7 September 1953 promulgated a directive reforming the reporting system. 40/ A strictly coordinated and centralized statistical system was adopted, as ordered in the directive establishing the Bureau. 41/ On 2 October 1953 the Statistical Bureau released its first communique on economic development, which covered the year 1952. This communique illustrates one of the difficulties faced by the Bureau and the Planning Committee in their over-all planning -- namely, that the relative proportions of private to state industry are still rather large, 42/ private industry being still responsible for about 42 percent of the total value of industrial output in 1952.

* Following p. 44, below.

** In line with Soviet experience, it is possible that in the near future the CFE will be abolished and its functions taken over by the Administrative Council and its staff, the Planning Committee, to which the Statistical Bureau will then be attached or moved up as a separate staff to the Council. 39/

The most recent statements on the subject indicate that the regime is about to follow in the footsteps of the USSR after it abandoned the New Economic Policy in the late 1920's. The general policy to be pursued is one of limiting consumption to secure greater output of producer goods and to increase exports of agricultural products. This policy in turn requires tightened controls over private industry and its gradual absorption. Popular resentment against the government for the suffering caused by this policy will be minimized by placing the blame on private traders and private businessmen. On 27 October 1953, Li Wei-han, Vice Chairman of the Government Administration Council, made what appears to be a major policy statement to a plenary session of the All-China Federation of Industrial and Commercial Circles, an organization representing private industrialists and traders. The major points of Li's speech may be summarized as follows 43/:

> That China is in the stage of "gradual transition to Socialism"; that the state has adopted a policy of "utilization, restriction, and reconstruction toward private industrial and commercial enterprises," which still constitute an important segment of the economy;
>
> That, having encouraged and assisted the private enterprises to develop into a system of state capitalism, the state will continue and intensify this policy so that the state capitalist enterprises will gradually be transferred into Socialist enterprises; and
>
> That the principal objectives are greater production, efficiency, and better integration of the private sector with state plans.

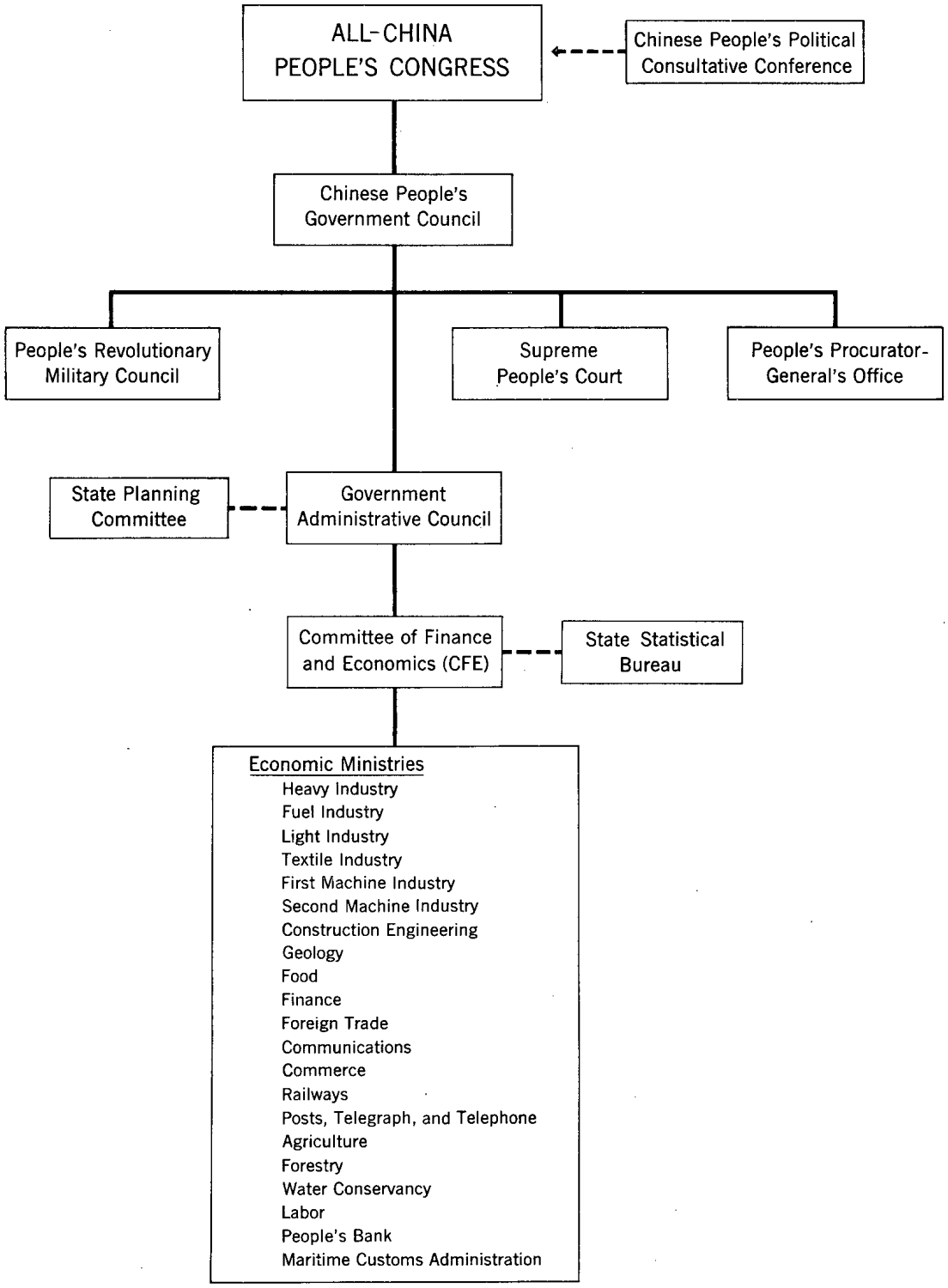
It is impossible to estimate precisely how far the government's policy of absorbing private industry will have proceeded by the end of 1957.

Several other important defects existed in the economic planning and allocational system. National economic plans, particularly construction plans, were primarily compilations of projects sent up from below. These were often overambitious, ill-conceived in design, oblivious of the availability of requisite raw materials and capital equipment, and so unrealistic and mutually inconsistent that the central organs could not readily revamp them in proper proportions without having more precise, detailed information at hand. In the spring of 1953 it was found necessary, after checking the individual projects sent up from below, to cut back the over-all capital

50X1

Figure 1

COMMUNIST CHINA
MAJOR ORGANS OF THE CENTRAL PEOPLE'S GOVERNMENT



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50X1

construction about 30 percent. The 1953 goal for electric power, which originally called for an increase of 27 percent over 1952, was reduced to approximately 18 percent. 44/ For machine tools the original goal of an increase of 34 percent in 1953 over 1952 was revised downward to an increase of only 4.6 percent. 45/ The more precise and detailed reporting system established under the State Planning Committee and State Statistical Bureau is designed to eliminate these planning defects.

Having passed through the state of reconstruction of existing plans, and having established the framework for detailed statistical reporting and planning, the allocational economy of the Chinese Communists reached a new stage in August 1953 with the announcement of a more detailed type of over-all economic development plan. This consisted of the building and reconstruction of 91 new enterprises and the installation of equipment for 50 enterprises already in existence, for which the USSR was to provide technicians and equipment, project supervision, training for Chinese cadres, and management through the stage of initial operation. In describing the progress of Chinese Communist economic development to date and Soviet assistance in the projected Five Year Plan, a Pravda article of 28 September 1953 stated:

> "The scope of the tasks for the first Five Year Plan may be described by the fact that in 1953 alone reconstruction and building is scheduled for 21 metallurgical and chemical plants, 24 large machine building plants, 24 thermal and hydroelectric stations and railroad lines with an overall distance of more than 600 kilometers.
>
> "The objective of the recently signed Soviet-Chinese Agreement is to render economic and technical assistance to China in fulfilling the first Five Year Plan. It /the agreement/ anticipates the fulfillment by the S.U. of projected plans and the supply of equipment for the building and reconstruction of 91 new enterprises, and the equipment for 50 enterprises now in existence, as well as other types of technical aid ... . /The Plan includes projects in the fields of iron and steel and nonferrous metallurgy, coal mining, oil production and refining, hydroelectric

> and thermal power, conservancy, machine-building (automobiles, tractors, ball bearings, blast furnaces, rolling mills, turbines, generators, lathes, mining equipment), chemical and synthetic rubber factories, and pharmaceutical production./ ... Aside from the fulfillment of projected work and the supply of machinery with Soviet organization, China will be given technical aid in construction, the assembly of equipment, and expansion in operation.
>
> "In the process of setting up national cadres for the building and operation of new enterprises, by request of the governments of the People's Republic of China and of the Soviet Union, a considerable number of Soviet specialists will be dispatched to China. Many Chinese workers and technical engineers will study the production practices in Soviet enterprises."

In summarizing the progress to date of the Chinese Communists in economic planning and the implementation thereof, it may be said that their broad policy aims are the same as Soviet aims. The three most important over-all objectives of Communist China are these: self-sufficiency, military preparedness, and industrialization. There are also regional policies stressing development of the Northeast (Manchuria) and the Northwest.

Plans for heavy industry give emphasis to technical training in the educational system and in industry, increased geological exploration to discover additional natural resources, employment of unskilled manpower wherever possible (as in investment in the transportation sector), and Soviet technical and material assistance. Resources are to be diverted from the agricultural and consumer goods industries to heavy industry through direct allocation of scarce resources and through fiscal and price policies.

The fiscal measures to be used were described at length by Kao Kang in a speech commemorating the third anniversary of the founding of the Communist regime. Accumulation of capital is to come from three sources: profits and special capital replacement funds from the income of industry, taxation, and savings deposits of the people. Profits are to be channeled from light industry and textiles and from internal trade to heavy industry. International

trade also is controlled to push the exchange of consumer goods for those commodities required in the industrializing of the country. In addition, savings deposits have been promoted to drain off consumer purchasing power into investment expenditures.

C. Soviet Influence in Chinese Communist Economic Planning and Development.

The extent of Soviet aid to Communist China is clearly a key element of the development program. Aside from their membership in the international Communist party, which looks to the Kremlin for leadership, the Chinese Communists seem to have taken the Soviet system as their working model and their blueprint for the future. There is little concrete evidence as to the degree to which Soviet influence -- other than ideological -- is decisive at the policy-determining level of the Chinese Communist Government Administrative Council. The Soviet relationship to the Chinese Communists appears to be generally advisory, or teacher-pupil, in nature. Soviet technicians exercise considerable influence over Chinese Communist economic planning at both the national and industry levels. The Chinese cadres, managers, and others directing economic activities are continually urged to take full advantage of Russian "advanced" technology and greater experience. Manchuria and Sinkiang are the regions where the USSR exercises the greatest direct control over the economy. In general, however, it is certain that Soviet control over the Chinese Communists is not so direct as Soviet military control of the European Satellites. The extent to which the USSR is willing to give the Chinese Communists important assistance in their investment program probably depends on Soviet confidence in the loyalty of Communist China to the direction of the Kremlin in international relations. Soviet influence is probably most effectively exerted through the dependence of Communist China on Soviet military and technical aid and equipment to implement its rise in political power and prestige. This means that the administrative integration of Communist China with the Soviet Bloc will undoubtedly increase in proportion to the amount of Soviet aid extended, because, as the investment program of the Chinese Communists develops, their own technical requirements will necessitate their continued dependence on Soviet technical aid. Hence, the connection between Communist China and the USSR probably will become closer during the period of this estimate, in economic planning, in the interchange of Chinese

agricultural and raw materials for Soviet industrial and military equipment, in Soviet technical aid and supervisory instruction to Chinese industrial and military establishments, and in the extension of the Soviet system of economic organization within the Chinese economy. On the other hand, Chinese Communist economic capabilities for independent action will increase in proportion to the growth of Chinese heavy industry. The eventual aims of the Chinese Communist ruling hierarchy, like those of their Soviet prototypes, remain the achievement of industrialization, military preparedness, and national self-sufficiency. The inconsistency of the Chinese Communists' aim of self-sufficiency with their present dependence on Soviet aid constitutes a possible source of resentment or friction between the two regimes during the period of this estimate.

III. Functional Aspects of the National Economy.

A. Financing of Economic Development.

The process of industrialization in a backward country involves a radical shift in the pattern of resource allocation, reducing the proportion allocated to the production of raw materials, food, and other consumer goods and increasing the proportion allocated to the production of plant and equipment. If expansion can be financed by borrowing from abroad, the normal supply of consumer goods will still be available or may even increase significantly. To the extent, however, that industrialization cannot be financed by foreign loans, capital formation must depend on domestic savings or the use of unemployed resources. For rapid industrial growth, it is essential that a considerable proportion of any increase that occurs in GNP be saved and invested in industry and associated services. Both the government budget and the banking system are instruments for carrying out this program.

B. National Budget.

Total figures on the budget of Communist China for the years from 1950 to 1952 46/ which are given in Table 9* (and graphically presented in Figure 2**) show an increase in expenditures from US $3.4 billion*** in 1950 to US $8.1 billion in 1952, the latter being about one-fifth of the estimated GNP of the same year. The budget figure for 1953 (also in Table 9) showed a further increase to US $11.7 billion. Even when this figure is deflated to allow for changes in the price level, it is evident that a substantial increase has taken place.

1. Expenditures.

a. Military Expenditures.

Military expenditures in the budget of Communist China rose from US $1.4 billion in 1950 to US $2.5 billion in 1951 and are said to have dropped to US $2.1 billion in 1952, excluding funds for military construction which probably were included under investment expenditures. As much as one-third of total military expenditures in 1952 may have gone for military construction. Of current expenditures on the armed forces, a relatively small part went for air forces and naval forces (in that order), by far the greater part being allocated to the ground forces. 47/ Expenditures of US $2.6 billion were planned for 1953.

* Table 9 follows on p. 50.
** Following p. 50, below.
*** At the exchange rate of 20,040 yuan to US $1.

Table 9

Communist China: Total Budget Figures
and Percentage Increases
1950-52, 1953 Plan

	1950	1951	1952	1953 (Plan)
Budget (Billion Current US $) a/	3.4	5.9	8.1	11.7
Percent of Increase per Year		74	37	44
Budget (Billion 1952 US $) a/	4.2	6.1	8.1	11.9
Percent of Increase per Year		45	33	47

a. Calculated on the basis of 20,040 yuan to US $1.

Although military expenditures in absolute terms remained at about the same level for 1951-53, the percentage of total expenditures devoted to the military establishment fell during the 1950-53 period. In 1950, military expenditures were 40.7 percent of total expenditures; in 1951, 35.6 percent; and in 1952, 22.6 percent. They amounted to 22.4 percent of planned expenditures in 1953. A breakdown of budget figures for 1950-53 is given in Table 10* and graphically illustrated in Figure 3.**

b. Investment in "National Economic Construction."***

The budget figure for what is called "National Economic Construction" shows substantial increases, the figure in 1951 being double that of 1950, and that of 1952 being almost double that of 1951. From 1950 to 1953 the percentages of total allocations in this category increased from 25 percent of the total budget to almost 45 percent. In 1953 an increase of about 40 percent over 1952 was planned, a rough breakdown of which is shown in Table 11.****

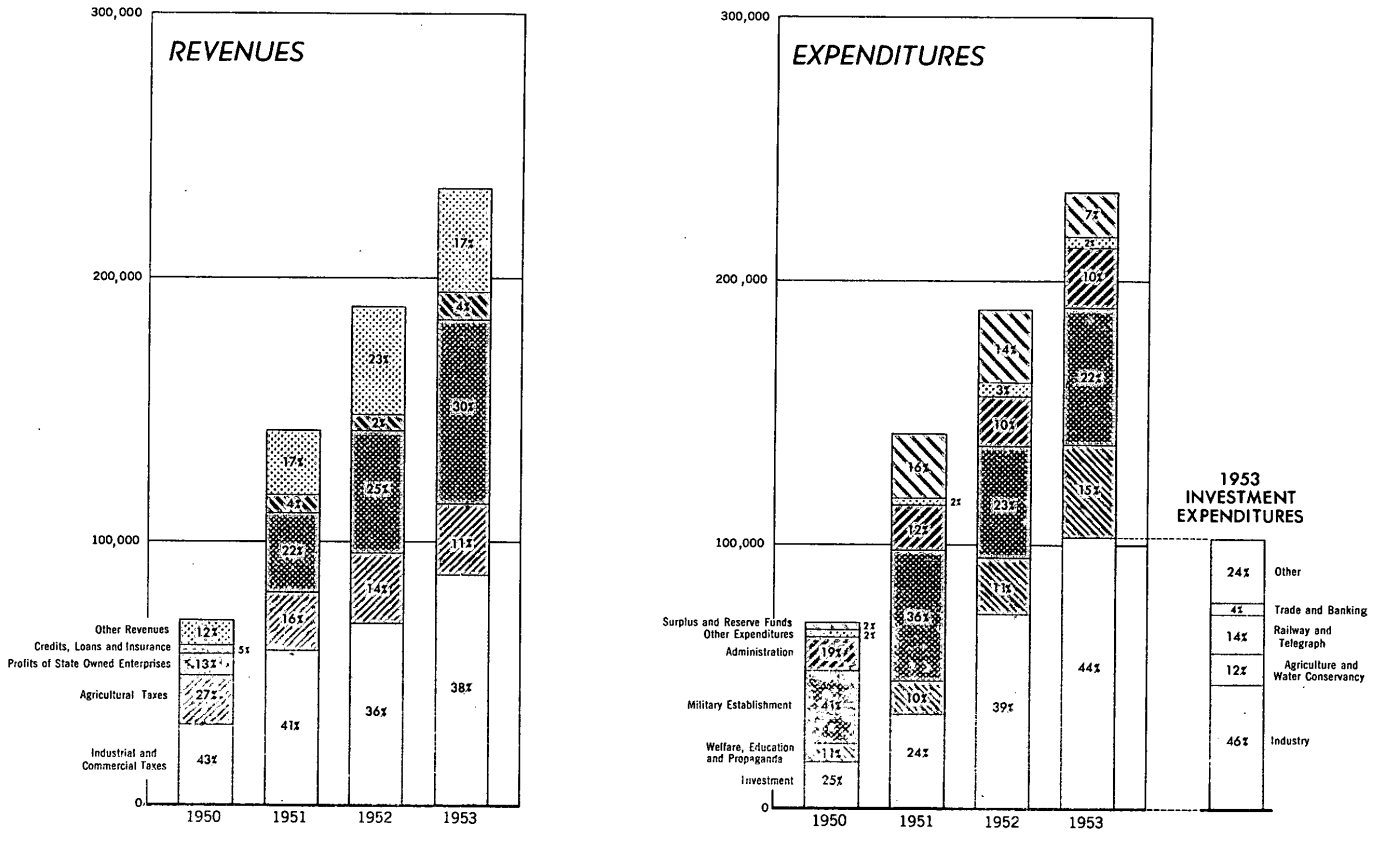
* Table 10 follows on p. 51.
** Following p. 56, below.
*** "National Economic Construction" is to be distinguished from the more comprehensive term "National Construction" (see Table 10), which includes investment in welfare, education, and propaganda.
**** Table 11 follows on p. 53.

50X1

Figure 2

BUDGET OF COMMUNIST CHINA, 1950-53[a]

(Billions of Current Yuan)



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[a] *This interpreted to be a consolidated budget including expenditures and revenues of municipalities and administrative areas.*

50X1

Table 10

Budget of Communist China a/*
1950-52, 1953 Plan

Values in Million Current Yuan

	1950 Actual	Percent of Total	1951 Actual	Percent of Total	1952 Actual	Percent of Total	1953 Plan	Percent of Total
Expenditures								
Military Establishment	28,274,282	40.68	50,608,137	35.62	42,777,000	22.62	52,253,700	22.38
National Construction								
Economic Construction	17,354,457	24.98	35,106,331	24.70	73,069,900	38.62	103,527,600	44.34
Welfare, Education, and Propaganda	7,552,453	10.91	13,436,569	9.45	22,332,500	11.80	34,807,500	14.90
Administration	13,132,648	18.91	17,457,229	12.28	19,336,900	10.20	23,779,600	10.19
Other Expenditures	1,767,385	2.55	2,413,364	1.71	5,702,300	3.00	3,647,000	1.56
Surplus and Reserve Funds (including unspecified allocations)	1,352,900 b/	1.95	23,063,570 b/	16.24	26,059,500 b/	13.76	15,483,700	6.63
Total Expenditures	69,434,394	100.00	142,083,600	100.00	189,278,100	100.00	233,499,100	100.00

* Footnotes for Table 10 follow on p. 52.

Table 10

Budget of Communist China a/
1950-52, 1953 Plan
(Continued)

Values in Million Current Yuan

	1950 Actual	Percent of Total	1951 Actual	Percent of Total	1952 Actual	Percent of Total	1953 Plan	Percent of Total
Revenues								
Taxes								
Agricultural	19,104,788	27.51	21,699,218	15.27	25,602,326	13.53	25,661,551	10.99
Industrial and Commercial	29,878,314	43.03	58,477,836	41.16	68,983,051	36.44	87,468,763	37.46
Other	5,324 b/	.00	950,621 b/	.67	1,632,823 b/	.85	1,554,886 b/	.67
Profits of State-Owned Enterprises	8,694,678	12.52	30,535,709	21.49	46,578,800	24.61	69,985,200	29.97
Credits, Loans, and Insurance	3,276,181	4.72	5,681,881	4.00	2,510,000	1.33	10,280,000	4.40
Other Revenues and Balance from Preceding Year	8,485,109	12.22	24,738,335	17.41	43,971,100	23.24	38,548,700	16.51
Total Revenues	69,434,394	100.00	142,083,600	100.00	189,278,100	100.00	233,499,100	100.00

a. This is interpreted to be a consolidated budget including expenditures and revenues of municipalities and administrative areas.
b. These figures include some residual amounts which were not detailed by Po I-Po but are added here to complete the total balance of expenditures and revenues which he specified.

Table 11

Expenditures on Investment
in "National Economic Construction"
in Communist China
1952, 1953 Plan

Billion Current Yuan

Year	Industry	Agriculture and Water Conservancy	Railroad and Telegraph	Trade and Banking	Others	Total
1952	N.A.	7,289.2	9,001.4	N.A.	N.A.	73,069.9
1953 Plan	47,633.8	11,768.3	14,850.5	4,483.2	24,791.8	103,527.6

c. Welfare, Education, and Propaganda.

Increases in absolute amounts of current yuan expenditures for welfare, education, and propaganda from 1950 to 1953 are substantial. The percentages of total expenditures on this account also increased by about 30 percent from 1950 to 1953, as shown in Table 12. The increase represents primarily the expansion of technical training for industrial development.

Table 12

Trend of Expenditures for Welfare, Education,
and Propaganda in Communist China
1950-52, 1953 Plan

Percent

	1950	1951	1952	1953 Plan
Increase over Previous Year		78	66	56
Proportion of Total Expenditures	11	9	12	15

d. Administrative and Other Expenditures.

Administrative and other expenditures have increased in absolute amounts but not so much as expenditures for investment or for welfare, education, and propaganda.

2. Revenues.

The sharp rise in expenditures from 1950 to 1953 has in large part been underwritten through appreciable rises in industrial and commercial taxes and in profits from the socialized enterprises.

a. Agricultural Taxes.

The primary tax basis for Chinese Communist political and military power in 1949 was the grain tax in kind. It is estimated that at that time 30 percent of the main crops were taken in the agricultural tax. The Minister of Finance 48/ stated that the 1950 tax burden of the peasants would be more than 21 percent of the total agricultural income in the "old liberated areas" and would average more than 19 percent of the total for the whole country. It is believed that local and provincial surtaxes, which were abolished in 1952-53, were not included in this estimate. In any case, the tax burden on the peasants has probably been understated.

On 16 June 1952 a directive was issued to establish a system of progressive rates and to eliminate local surtaxes, which often exceeded the official rate of 15 percent of the regular taxes of the central government. The central agricultural tax is levied on an estimated normal yield, thus penalizing those farmers who produce below it and giving an incentive for producing over the norm. In North China, for example, the central government tax is 22 percent of the officially estimated normal yield, with surtaxes bringing the total tax up to about 25 percent of the output of taxable acreage -- that is, everything except the output of the first mou of land. The revenue appears to have varied in about the same proportion as Chinese Communist claims of increases in yields of the main crops. As a component of total income, however, the agricultural tax has sharply decreased relative to industrial and commercial taxes and profits of state-owned enterprises.*

* See Table 10, p. 51, above, and Figure 3, following p. 56, below.

b. Industrial and Commercial Taxes.

There are 11 general nonagricultural taxes in Communist China, the most important of which are the customs and salt levies, taxes on manufactures and on wholesale sales, the capital tax, stamp taxes, and various other excise and license taxes. Some of these revenues are collected and retained by the local governments, and some are collected by the central government and are shared by the two levels of government.

The business and industrial tax system of Communist China is concerned both with fiscal aims and with social and political aims, allowing tax concessions to government enterprises and groups which the government wishes to build up, and discriminating against private commerce which it wishes to delimit or destroy. Thus tax rates on the middleman's profits, generally considered as unearned income in Communist countries, are high. On the other hand, heavy basic industry and iron and steel receive a tax reduction of 40 percent; chemicals, a tax reduction of 30 percent; and books and stationery, a tax reduction of 20 percent. With respect to excise taxes, necessities are taxed at a lower rate than luxuries like wines and cigarettes, which are taxed at 28.57 percent and 55.54 percent respectively. These two taxes, together with the tax on yarn at 13.04 percent, represent more than 60 percent of the total commodity tax for 1950.

c. Profits of State-Owned Enterprises.

Profits of state-owned enterprises have increased substantially from 1950 to 1952. The increase in 1951 over 1950 was 25 percent, and in 1952 was 52 percent over 1951. An increase of 50 percent over 1952 was projected for 1953, compared with the 27-percent increase budgeted for revenue from industrial and commercial taxes. Table 13 shows the annual increase in the share of total revenues contributed by profits from state-owned enterprises during 1950-53.

Table 13

Proportion of Total Revenues of the Chinese Communist Government Contributed by State-Owned Enterprises, 1950-52, 1953 Plan

Percent

	1950	1951	1952	1953 Plan
Proportion of Total Revenues	12.5	21.5	24.6	30.0
Annual Increase in Proportion of Total Revenues		72.0	14.4	22.0

The percentage of total revenue derived from profits of state enterprises has increased from 12.5 to 30 percent, whereas the percentages of revenue from the agricultural tax and the taxes on private industries and commercial enterprises have relatively diminished from 27.5 percent and 43 percent, respectively, in 1950 to 11 percent and 37.5 percent in 1953.* The increase in revenue of state enterprises and cooperatives reflects the rapid acquisition by the state of much of the economic activity in domestic and international trade and banking and a more rapid expansion of the state-operated industries, which are favored by state policies.

d. Credits, Loans, and Insurance.

Revenues under the heading of Credits, Loans, and Insurance are believed to include the proceeds of bond sales to the public, borrowing from the People's Bank (that is, expansion of the currency issue), interest on loans of the People's Bank which had been made to other banks and government enterprises, premiums on government insurance, and possibly the credit received from the USSR on trade account.

Two loan drives have been made within Communist China. In 1950 a bond issue of 200 million shares was floated, each share to be worth enough yuan to buy a selected list of commodities. This drive was planned to bring in between 2.25 trillion and 4 trillion yuan, depending on the expectations of the budget planners as to the average price of a "fen" unit for 1950. In 1951 a drive for funds for heavy armaments was launched to help finance the Korean War. It was claimed that 5,025 billion yuan were raised in this drive. The credit from the Soviet loan of 1950 would account for an average of at least 1,200 billion yuan each year from 1950 through 1953.**

e. Other Revenues and Balance from Preceding Year.

The item "Other Revenues and Balance from Preceding Year" is believed to include, besides the funds carried over from the preceding year, the foreign exchange profits on foreign trade transactions and inward remittances of overseas Chinese, book profits from revaluation of government assets, capital levies

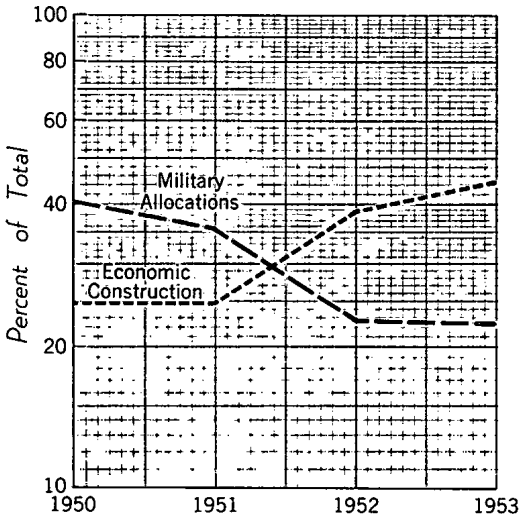
* See Table 13, p. 55, above, and Figure 3.

** Proceeds of US $60 million per year computed at the exchange rate of 20,040 yuan equal US $1, in effect during 1952. The new official exchange rate introduced in December 1952 is 23,430 yuan equal US $1.

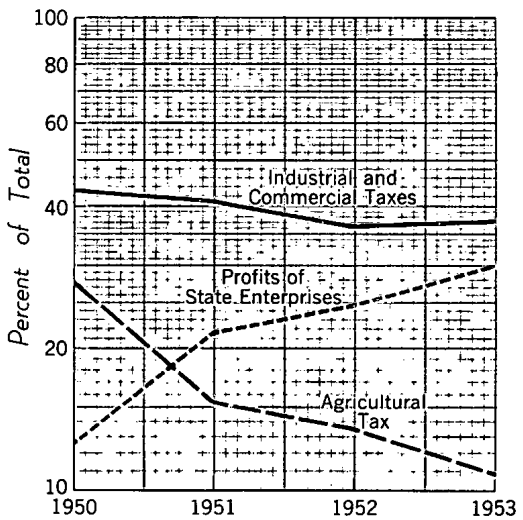
CHINA

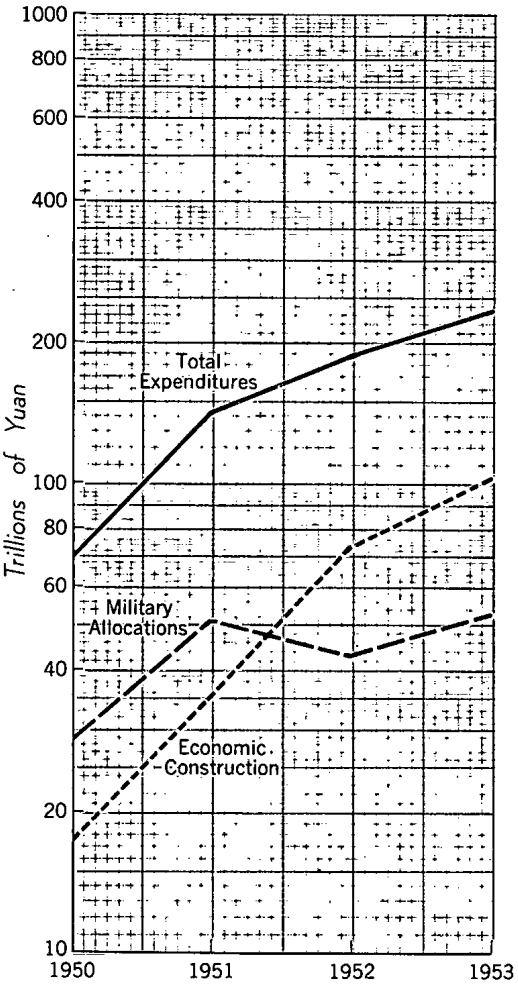
SELECTED BUDGET ITEMS, 1950–53

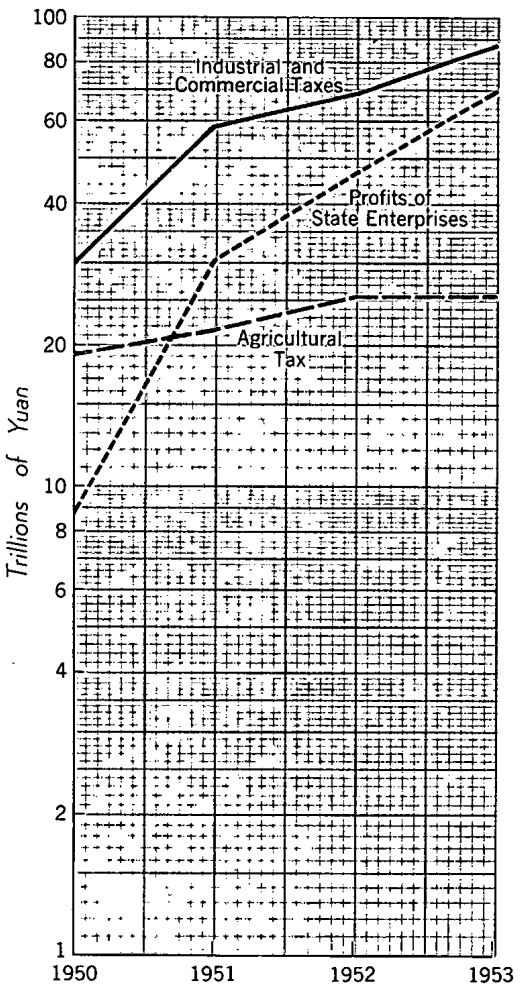
TOTAL AND PRINCIPAL ITEMS OF BUDGET EXPENDITURES



PRINCIPAL ITEMS OF BUDGET INCOME







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Graphs plotted on semi-logarithmic p

50X1

against offenders in the so-called anticorruption drives, seizures of gold and silver bullion, and possibly the proceeds of export sales of opium.

These entries probably reflect considerable juggling of the accounts from year to year. The campaign against tax evaders as part of the so-called anticorruption campaign in the first half of 1952 probably contributed a substantial part of this figure by recovery of past taxes and collection of fines. Before this campaign the government was faced with a serious budgetary crisis, which was surmounted by the capital levies made in the drive. The variability of the "other" revenues from year to year indicates their unpredictable nature resulting from improvised, extreme measures adopted to garner "surpluses" for the state from the victims of its policy of eliminating the propertied classes.

C. Banking System.

Toward the close of the Kuomintang period there were already visible trends toward the development of the four government banks and the diminution of the importance of the private banks. After the Communist government came into power, the Central Bank of China with its sole issuing authority and clearinghouse was renamed the People's Bank of China and was designated the central bank of China.

On 3 March 1950 the Government Administrative Council promulgated "Decisions on the Unification of State Financial and Economic Work," in which the People's Bank was officially appointed as the central organ for the control of the money supply of the country, and in which it was indicated that all state banks would set up additional branch offices to act on behalf of the national treasury. Up to the end of October 1951, more than 5,300 offices of the People's Bank were established and nearly every hsien (county) had access to facilities of the bank. Branches and agencies of the People's Bank have been extended to streets, factories, schools, and government organs in the cities and towns and in markets in rural areas.

1. Private Banks.

Commercial banks are under the close control of the People's Bank but are forced to serve the public in handling about 40 percent of routine banking transactions on behalf of the People's Bank. Private banks cannot accept deposits from any government agency and have to submit to the People's Bank various detailed

periodic reports, including a weekly report on all deposits and loans. As the examining agency, the People's Bank can investigate any bank at any time. Banking reserves, based on average weekly deposits, have to be maintained in the People's Bank in the amount of 7 percent to 15 percent for demand deposits and 3 percent to 8 percent for time deposits. The banks also are required to keep a cash reserve of 10 percent against demand deposits and 5 percent against time deposits.

Beginning in 1950, the People's Bank sponsored a movement to consolidate individual private banks into syndicates in order to permit pooling of their resources, to direct their loan policies, and to participate with them in the making of industrial loans.* This policy resulted in the following developments: the establishment of five consortia of private banks; a number of mergers of formerly independent banks; the formation of several "joint" banks with participation of the People's Bank in stock ownership; the participation of all of these and the People's Bank in joint enterprises, such as agricultural loan extension and investment in industrial, mining, and cooperative enterprises; the general use by all banks of the People's Bank's facilities for bill collection and check clearance; and a great reduction in the number of banking institutions. On the receiving side of the credit which became available as deposits increased were the industries, mining enterprises, and agricultural producer cooperatives approved by the government as worthy recipients of credit. The producer credit cooperatives have increased in number and size in parallel development with the centralization of the banking business. 49/

2. Functions of the Government Banks.

The banks of Communist China appear to be restricted to the minimum functions of a banking system. There is no investment activity of banks in common stocks and bonds or in the sale of securities or commodities. The aim is mostly to assist in the development of the national economy by channeling capital into approved productive enterprises.

The centralized clearing function is the most powerful device for controlling the economy. All national and local government organs and enterprises, military units, public schools,

* Those with government participation in stocks and management.

hospitals, cooperatives, and other popular organizations must set up accounts with the local People's Bank. All transactions, whether local, national, or international, must be cleared through the People's Bank, and no direct cash payment is allowed. Duplicate copies of the business contracts of all government organs are deposited in the Bank, and funds received from and sent to the national treasury by all the aforementioned "units" are handled through the bank. No commercial credit relations such as loans, drafts, and advance payment for goods ordered are allowed among the various "units." Loans contracted for a specific purpose cannot be used for any other purpose. In this way the government is able to maintain surveillance over the activities of its agencies and employees, to observe the progress of its plans, and to enforce budgetary allocations.

Private enterprises are required to deposit their currency holdings in banks and to use the checking system more extensively 50/ so that the People's Bank will be able to observe private transactions also.

The interest rate, another instrument of control, is used to force state enterprises to practice cost accounting -- by making interest an explicit cost -- and to speed the turnover rate of capital. It influences private business to engage in desired types of development, attracts individual economic activity toward cooperative enterprises, and encourages savings and investment. With respect to savings, the interest is highest for fixed long-term deposits which can be utilized for industrial investment, and it declines as the period of the deposit becomes shorter. As for loans, the rate of interest for heavy industry is lower than for light industry and lower for industry in general than for commerce and trade.

In order to encourage saving on the part of the public, the People's Bank initially tied the value of deposits to a bundle of goods in order to preserve the real value in the face of rising prices. This measure mitigated the inflationary hoarding of goods, and, in June 1952, when prices became stabilized, it was discontinued. Another device was the "prize winning" deposit, a lottery system in which depositors participated in the hope of winning one of several large prizes.

The branches of the People's Bank throughout the country serve not only to promote and centralize savings deposits, thus facilitating currency control, but also to collect taxes on behalf of the government. The vigor and efficiency with which this function has been performed apparently have aided the government greatly in its fiscal management.

D. Currency, Prices, and Consumption.

The Communists came to power in 1949 in a period of hyperinflation, and much of their effort has been directed toward stopping inflation. Extreme shortages were lessened by expansion of output from 1950 to 1952. Because of increasing control over available supplies of consumer goods by state trading and cooperative organizations, the government was in a position to reduce inflationary pressures by allocating commodities to those regions where there were shortages. In addition, the money supply was held in check by unifying the currency in the issue of the People's Banks, by enforcing a tight money policy, by capital levies, and by vigorous collection of taxes. At the end of 1950 the average price index was about twice as high as that for the end of 1949, an appreciable price rise but less rapid than in the days of hyperinflation in early 1949. In 1951, prices increased only 13.7 percent over the previous year, and by the end of 1952 it was claimed by Po I-Po in his budget speech that wholesale prices of 52 principal commodities in 6 important cities had fallen by 6.2 percent.

What happens to prices over the period 1953-57 will depend largely on the methods used to finance the industrialization program. If a good part of investment is financed by use of the printing press or by bank credit, then there will be an increase in aggregate demand for real resources, which will be inflationary in effect. Taking money on deposit from individuals is generally counterinflationary to the extent that individuals thereby are influenced to refrain from bidding for goods. Securing funds by taxation also is counterinflationary in that the effective demand on the part of the public for goods and services is reduced to enable the government to invest more in heavy industry.

That the Chinese Communists expect to finance their Five Year Plan, with its primary aim of developing heavy industry, by extracting sacrifices of consumption from the people is revealed

in an editorial of 30 October 1953 in the People's Daily, organ of the Central Committee of the Chinese Communist Party. The editorial indicates that the regime is drawing on Soviet experience in the early 1930's, when the USSR exported food to pay for its imports of industrial equipment, and when the industrialization program was pressed in spite of a crisis in agricultural production that led to millions of deaths from starvation. The editorial stated that the Soviet people "did experience shortages of agricultural products and consumer goods during the national industrialization period. Also, because of the above situation, a goods distribution system requiring goods purchasing certificates was enforced." The Chinese people were informed that they "must be willing to sacrifice, to practice rigid economy in all matters, to be economical of food, education expenditure, and yardage goods." Thus forced saving by means of strict control of consumption through rationing, price fixing, forced purchases, and taxation is the method of capital accumulation by which the Chinese Communist Party will attempt to carry out its first Five Year Plan.

IV. Growth of the National Economy.

The period from 1931 to 1952 in China was complicated by the series of political upheavals resulting from the Sino-Japanese war and the civil war that followed. Data on the Chinese economy are scanty at best, and economic information from 1936 to 1945 is even harder to get because the economy of China was under various political jurisdictions. In general, trends are manifested in four time-spans from 1931 to 1952. From 1931 to 1936, economic trends were relatively homogeneous for what is now Communist China. From 1937 to 1945, Manchurian development proceeded rather rapidly, but the picture was spotty for the Japanese-occupied areas of China proper, including the important industrial cities, while local developments also occurred in the areas under the control of the Chinese Nationalist government. The years 1945 and 1946 were low years for economic output for all parts of China. From 1945 to 1949, there was a period of increasing production in most sectors, ending in a drop resulting from the disruptions of civil war. In the period from 1949 to 1952, production again increased, generally reaching in Manchuria the level attained under the Japanese from 1941 to 1946 and in China proper the level attained in the period from 1935 to 1938.

Table 14* shows the production trends in principal sectors of the economy from 1931 to 1952.

A. Gross National Product.**

The over-all index for the gross national product (GNP) of China shows an increase of 13.3 percent in 1952 compared with 1936. From 1950 to 1952 the yearly increase in GNP reflected mainly restoration to previous levels of production rather than new additions to productive capacity. In 1950, GNP was 99.2 percent of 1936. Output in 1951 was 6 percent over 1950, and output in 1952 represented an increase of 7.7 percent over 1951. Table 15 shows the sector indexes, 1931-52.*** These are graphically represented in Figure 4.****

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* Table 14 follows on p. 64.

** The methodology used in computing GNP is explained briefly in Appendix B.

*** Table 15 follows on p. 66.

**** Following p. 66, below.

Table 14

Production Trends in Modern Industry in China, by Economic Sector a/*
1931-52

	Unit	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941
Textiles	Million US $	970.0	935.0	969.0		896.0	970.0					
Electric Power	Billion KWH	2.4	2.4	2.7	2.9	3.3	3.8	4.0	4.5	5.0	5.6	6.3
Pig Iron	Thousand MT	478.1	522.5	606.7	631.4	558.4	689.1	909.4	970.1	1,389.6	1,572.8	1,507.0
Coal	Million MT	27.3	26.4	28.5	32.8	35.8	39.3	36.9	31.9	38.5	46.8	58.8
Chemicals	Million US $						33.9					
Engineering	Million US $	80.3	95.7	106.0	128.2	152.1	200.0	145.3	136.8	186.3	213.7	229.1
Railroads	Billion MT Km						17.0			25.3	26.4	35.5
Cement	Thousand MT	397.0	622.0	559.0	840.0	1,026.0	1,245.0	1,309.0	1,332.0	1,286.0	1,377.0	1,490.0
Nonferrous Metals	Million US $	37.2	32.5	34.9	36.7	42.3	53.9	48.4	44.5	48.6	45.8	56.0
Munitions	Million US $										(76.4) b/	(96.8) b/
Grains	Billion US $	8.8	9.5	9.3	8.3	9.2	9.5	8.6	8.8	8.8	7.6	7.7
Meat and Fish	Billion US $				5.1	4.8	4.7	4.4	4.3	4.2	4.1	4.0
Steel (Finished)	Thousand MT					25.4	135.3	369.6	413.9	458.1	450.0	452.0

* Footnotes for Table 14 follow on p. 65.

Table 14

Production Trends in Modern Industry in China by Economic Sector a/
1931-52
(Continued)

	Unit	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952
Textiles	Million US $						927.0	910.0	728.0	1,038.0	843.0	974.0
Electric Power	Billion KWH	6.9	7.5	8.0	5.0	3.8	4.2	4.3	4.8	5.2	6.3	7.6
Pig Iron	Thousand MT	1,857.7	1,885.1	1,215.0	110.6	1.3	5.7	24.6	205.0	915.0	1,150.0	1,875.0
Coal	Million MT	65.1	62.8	62.5	19.3	17.3	20.4	20.2	22.7	30.0	37.2	45.8
Chemicals	Million US $		43.0						7.5	15.2	31.0	38.5
Engineering	Million US $	247.9	290.6	290.6	217.1	116.2	114.5	92.3	75.2	148.7	217.1	333.0
Railroads	Billion MT Km					3.8	5.3	3.9		39.7	51.5	59.5
Cement	Thousand MT	1,908.0	1,829.0	1,442.0	42.0	208.0	609.0	700.0	466.0	900.0	1,500.0	1,750.0
Nonferrous Metals	Million US $	49.9	43.3	27.0	11.6	7.3	12.0	14.8	14.2	28.7	36.2	45.0
Munitions	Million US $	(100.4) b/	(90.5) b/	(85.8) b/	(138.4) b/			(229.9) b/		230.7	356.5	521.6
Grains	Billion US $	8.0	7.8	8.7	7.9	9.3	9.3	9.7	8.6	8.9	8.9	9.3
Meat and Fish	Billion US $	3.9	3.8	3.7	3.7	3.7	4.1	4.2	4.4	4.7	4.8	4.8
Steel (Finished)	Thousand MT	463.6	493.4	382.4	12.0	8.6	60.8	30.0	81.2	320.4	564.0	824.0

a. Where dollar values are given, the Chinese output is valued in terms of 1952 US prices.
b. Figures exclude output of Manchuria and of Communist controlled territory.

Table 15

Sector Indexes for China
1931-52

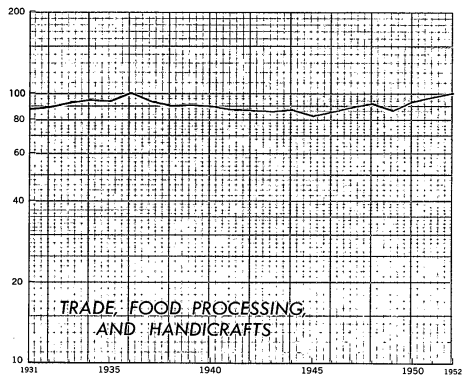
Percent

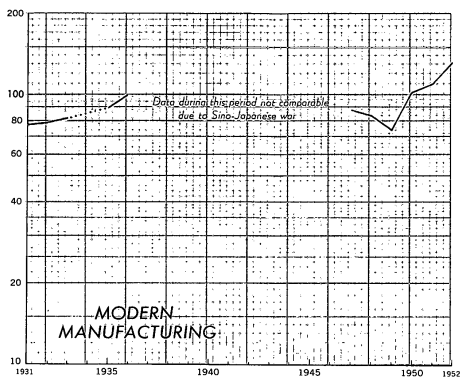
	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952
Total Agricultural Output				92.3	95.2	100.0	94.1	86.5	86.6	81.7	81.6	81.0	80.3	85.0	80.9	90.7	92.6	96.3	90.0	94.2	95.9	98.3
Modern Manufacturing	77.9	79.0	82.3		89.8	100.0											88.4	84.1	74.2	102.0	110.3	133.5
Military End Items						100.0				109.0										274.6	424.4	620.8
Iron and Steel					45.0	100.0	213.8	236.5	281.6	289.4	285.6	311.9	326.4	237.9	11.9	3.8	26.4	14.4	47.3	193.1	311.7	455.9
Minerals and Metallurgy	51.9	54.8	57.9	65.7	80.7	100.0	99.5	92.1	100.1	111.0	125.6	140.9	137.9	117.0	33.6	30.3	44.5	50.2	46.0	83.9	109.7	136.0
Modern Transportation						100.0			148.9	155.6	209.0					22.1	31.0	23.1		233.7	303.1	349.8
Trade, Food Processing, and Handicrafts	87.4	89.1	92.4	94.2	93.7	100.0	93.6	90.0	90.3	89.0	86.9	86.4	85.4	87.1	82.1	85.9	89.1	91.0	85.9	93.2	96.4	100.0
Government	73.3	73.3	76.0	85.7	93.6	100.0														170.5	202.8	247.9
GNP					93.6	100.0														99.2	105.1	113.3

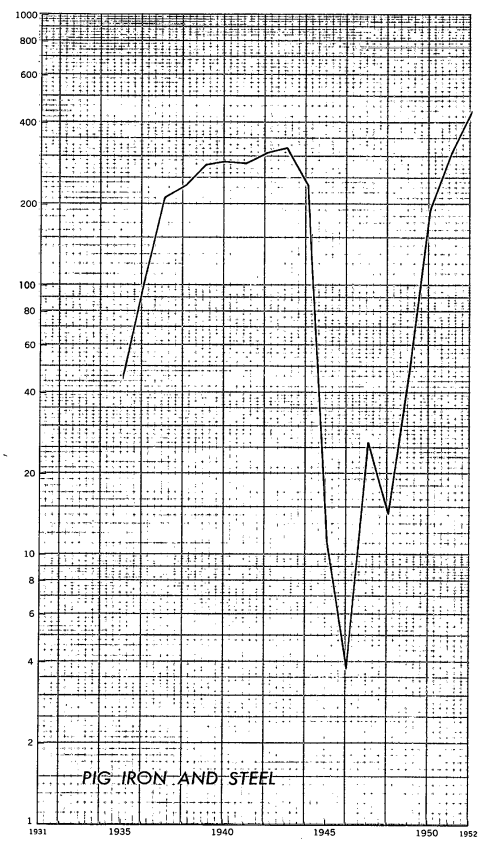
Figure 4 50X1

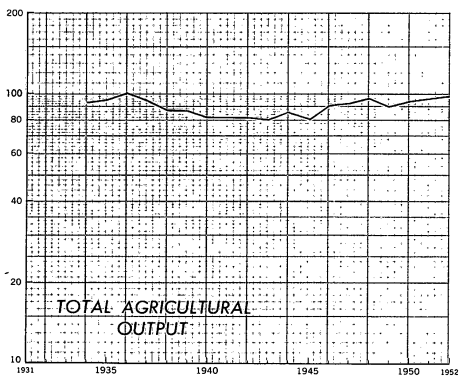
CHINA
SECTOR INDEXES, 1931–52

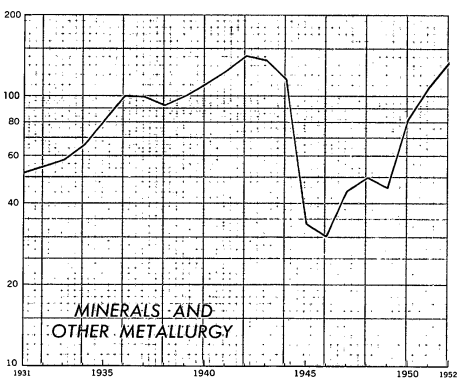
(1936 = 100)











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Graphs plotted on semi-logarithmic 50X1

The growth in the government sector was the most important change in the economy from 1936 to 1952. The Chinese GNP in 1952, other than the government sector, was 106.6 percent of 1936, but when the government sector is included, the index is 113.3 percent. The large expansion in the army, in the administrative bureaucracy, and in large-scale construction under the Communists accounts for the fact that the 1952 index for the government sector is 247.9 percent of 1936.

1. Gross National Product in 1952.

The tentatively estimated GNP of Communist China in 1952 was 524.5 trillion yuan. Of this total, agriculture contributed by far the largest portion, 41.7 percent. Trade, food processing, handicraft, and native transportation (all being in the nature of agricultural or small-scale handicraft industry) together contributed the next largest portion of the total, 29 percent. The modern industry sector (including manufacturing, minerals and metallurgy), and modern transportation (so classified by its use of modern motive power and the larger number of workers per enterprise) contributed the third largest portion, but this was only 13.6 percent. The government sector, consisting of services paid for by the government and including not only administrative personnel and the armed forces but also workers on various construction projects and teachers and students, constituted the only other large portion of the GNP, 10.3 percent. The totals for the sectors in yuan and in percentages are summarized in Table 16.* Figure 5** shows the contributions of the various sectors graphically. It will be noted from these comparisons that agriculture is the main support of the Chinese economy and that the agricultural, small scale, and handicraft enterprises are still more important than modern industry.

2. Comparison with US Gross National Product.

The GNP of China and of the US in 1952 have been valued in both yuan and dollars to the extent permitted by the available price data. The ratios of output in Communist China to output in the US are quite different when valued in yuan from what they are when valued in dollars. There is a particularly great difference in the industrial sector. The industrial sector is of much greater importance in the

* Table 16 follows on p. 68.
** Following p. 68, below.

Table 16

Gross National Product of Communist China by Economic Sector
1952

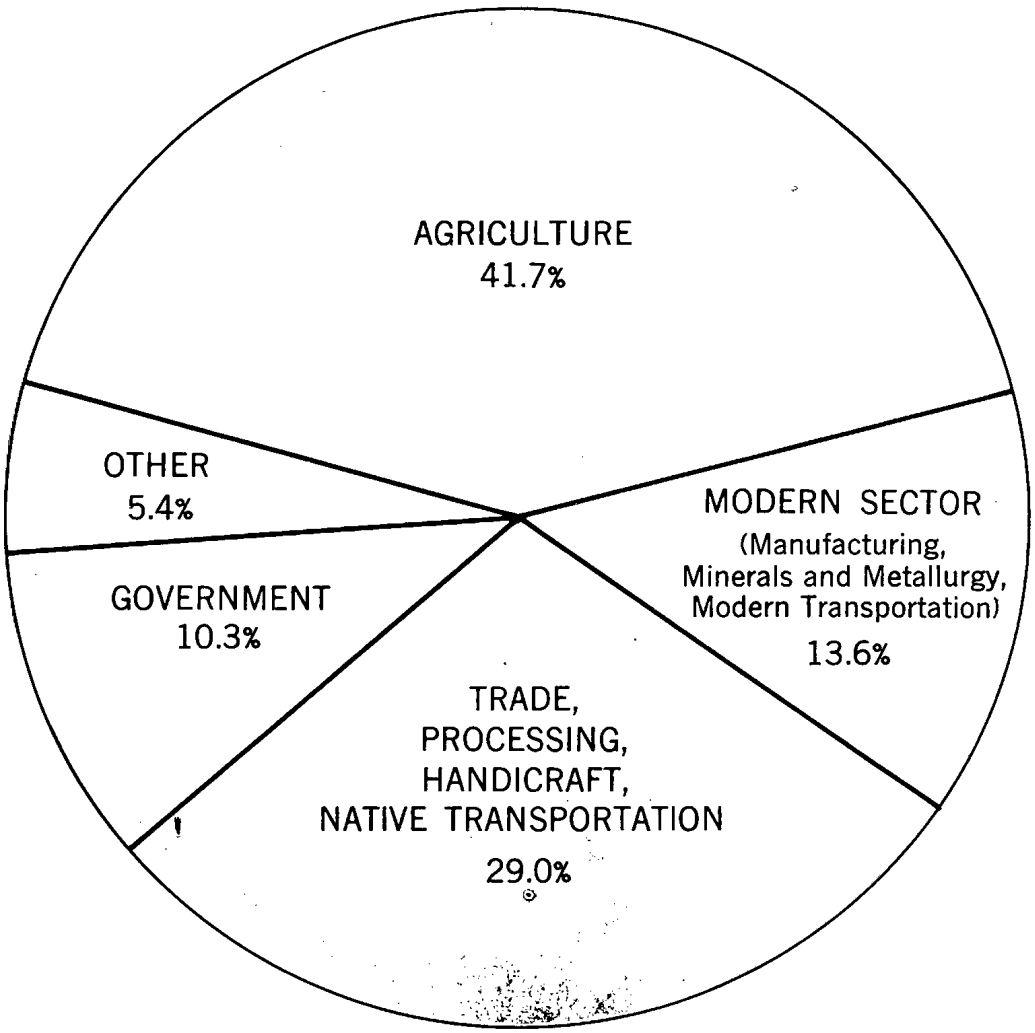
	(1)	(2)	(3)	(4)	(5)
	Value Added (Trillion Yuan)	Percent (Yuan)	Value Added (Million US $)	Percent (US $)	Ratio (Thousand Yuan per US $)
Agriculture	218.8	41.7	20,259	53.0	10
Modern Industry Sector					
Manufacturing	(39.6)	(7.6)	(1,105)	(2.98)	36
Minerals and Metallurgy	(26.7)	(5.1)	(520)	(1.32)	51
Modern Transportation	(4.8)	(0.9)	(320)	(0.81)	15
Total	71.1	13.6	1,945	5.0	
Trade, Food Processing, Handicrafts, and Native Transportation	152.3	29.0	10,153	26.2	15
Government	53.8	10.3	4,138	10.7	13 a/
Other					
Domestic Service	(10.0)	(1.9)	(770)	(1.96)	
Imputed Rent	(18.5)	(3.5)	(1,422)	(3.62)	
Total	28.5	5.4	2,192	5.7	
Total	524.5	100.0	38,687 b/	100.0	

a. Weighted average of preceding GNP sectors.
b. This total, which is the sum of the column, does not represent the equivalent US $ total of value added by the various sectors of the Chinese Communist economy. The equivalent total, US $25.5 billion, is reached by using the geometric average of the ratio of the total yuan figure in column (1) to the yuan value of the US GNP in 1952 and the ratio of the dollar figure in column (3) to the dollar value of the US GNP.

Figure 5 [redacted] 50X1

COMMUNIST CHINA

GROSS NATIONAL PRODUCT
PERCENTAGE CONTRIBUTION OF SECTORS
1952



524.5 trillion yuan = 100%

[redacted] 50X1

GR1500 CIA, 12-53

GNP of the US than in that of China, and largely for this reason the ratio between the total GNP of China and that of the US in dollars is significantly different from the ratio in yuan. When the two GNP's are valued in dollars, Chinese output in 1952 is 11.2 percent of US GNP. Valued in yuan, however, Chinese GNP is only 4.8 percent of US GNP. The geometric average of these two ratios is 7.4 percent and is considered to be the best basis for comparing the over-all output of goods and services in the two countries. Using this geometric average, the value of the Chinese GNP is $25.5 billion at 1952 prices.

Table 17 gives the geometric average of the ratios between Chinese output for major sectors of GNP and US output for these sectors. This comparison is also presented graphically in Figure 6.*

Table 17

1952 Gross National Product of Communist China
Compared with the US

Sector	Chinese Output As Percent of US Output a/
Agriculture	90.7
Industry (including Handicraft and Processing)	2.7
Transportation	2.0
Government	12.1
All Other Services	5.6
Total	7.4

a. Geometric average of the percentages. See Appendix B.

This comparison emphasizes the small share of industry and transportation in the Chinese economy. The Chinese GNP is 7.4 percent of US GNP, but the output of Chinese industry, even when handicraft output is included, is only 2.7 percent of the output of US industry. Transportation is only 2 percent. Agricultural output, on the other hand, is very nearly equal.

* Following p. 70, below.

There is no simple relationship between the sector contributions to GNP in China and in the US and the relative economic capabilities of the two countries. Comparative outputs of specific commodities of strategic significance are described below in this report. The ability of Communist China to support military campaigns in Asia is only partly dependent on large-scale industry. Nevertheless, this comparison of GNP's does show the relative stage of development of Chinese Communist industry in the modern world and the distance the Chinese Communists' program of industrialization will have to go before Communist China can be classed as an industrial country.

3. Comparison with Pre-Communist Peak Production.

The index of estimated pre-Communist composite peak production* for the sectors of GNP other than the government sector is 110.5 percent of 1936; the 106.6 index for 1952 is still short of the pre-Communist peak.

Table 18** compares output of the various sectors of GNP in 1952 with the estimated composite pre-Communist peak. The peak is estimated on the basis of the highest output of each of the various commodities in the years from 1931 to 1948. Where possible, different regional peaks were also taken into account to arrive at a combined peak.

The failure of GNP (except for the government sector) to reach its pre-Communist composite peak is more than accounted for by the shortfall of agriculture and the trade, food processing, and handicraft sectors. Thus in the remaining portion of GNP, including the modern industrial sectors, the Communists have achieved by 1952 an increase in effective capacity over any past period. Specifically, modern manufacturing, iron and steel, and military end item production are above past peaks.

* See Figure 10, following p. 94, below, and accompanying explanation.
** Table 18 follows on p. 71.

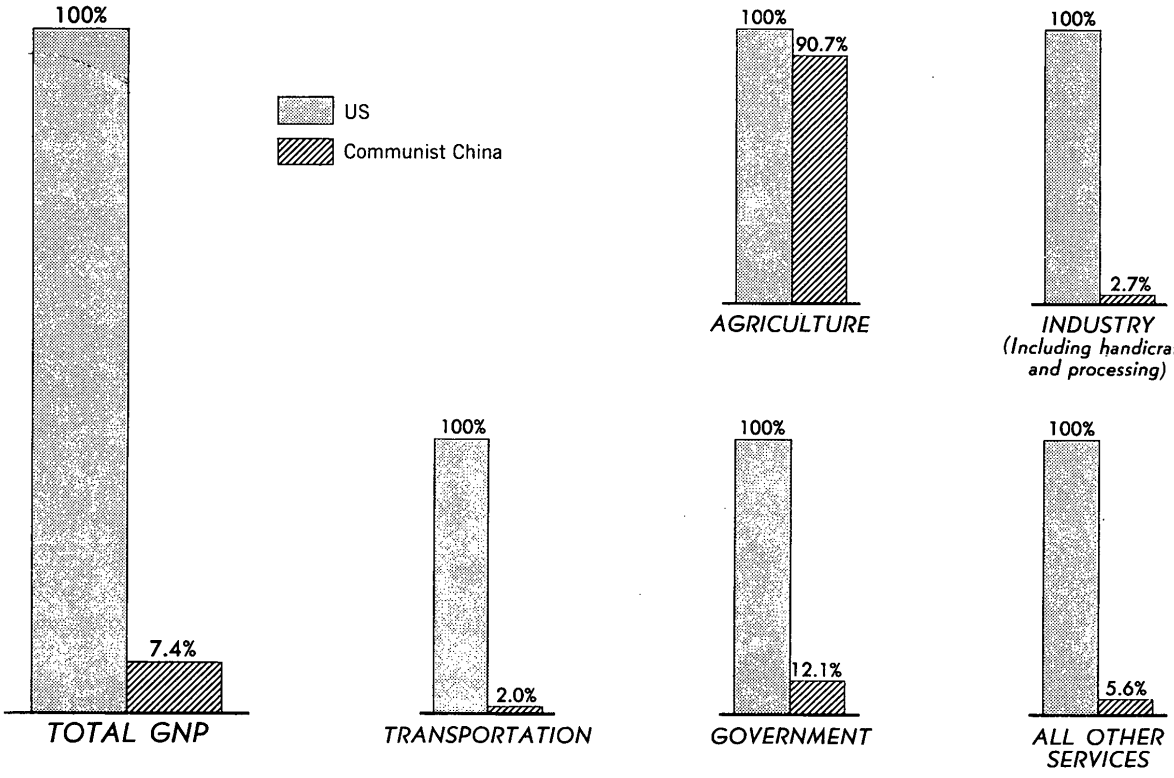
Figure 6

50X1

COMMUNIST CHINA

GROSS NATIONAL PRODUCT BY SECTORS

(Compared with the US)



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50X1

Table 18

1952 Gross National Product of Communist China
Compared with Composite Pre-Communist Peak Production

1936 = 100

Sector	Percent of GNP (1952)	1952	Index for Estimated Pre-Communist Peak
Agriculture	41.7	98.3	104.9
Modern Manufacturing	6.1	133.5	131.5
Military End Items	1.5	620.8	319.0
Iron and Steel	2.3	455.9	326.4
Minerals and Other Metallurgy	2.7	136.0	163.2
Modern Transportation	0.9	349.8	209.0
Trade, Food Processing, and Handicraft	29.0	100.0	105.6
GNP (excluding Government)		106.6	110.5

B. Factors Determining Growth.

1. Agriculture.

The importance of the agricultural sector in the Chinese Communist economy may be judged from the facts that (a) agricultural taxes in kind (grossly undervalued for tax purposes) contributed about 13.5 percent of the national budget revenues in 1952; (b) agricultural product amounted to an estimated 41.7 percent of GNP in 1952, the largest share contributed by any one sector of the economy; (c) the agricultural labor force (including underemployed and surplus labor living on the land) amounted to about 70 percent of the total labor force; and (d) exports of agricultural products amounted to an estimated 70 percent by value of total exports in 1952. It is because of this heavy dependence on agriculture -- for the livelihood and support of so large a share of the population, for budget revenues, and for exports -- that an increase of agricultural production becomes a primary determining factor in the ability of the regime to accumulate capital for investment in industry. Control of consumption

may be enforced to some extent by price-fixing, by the collection of taxes in kind, and by forced purchases of food products from which the allocation of supplies for export provides the means of exchange for capital imports.

a. Production.

By making strenuous efforts to increase production, to push exports, and to control consumption, the Chinese Communists achieved an agricultural supply situation in 1952 which permitted substantial exports of agricultural products. Production then represented roughly 98.3 percent of the peak of 1936. The agricultural supply situation of 1952, including imports and exports, is set forth in Table 19.*

b. Productivity.

Approximately 80 percent of the 500 million population of China cultivate 14.4 percent of the total land area of China. 51/ This percentage of cultivated land is based on the Communist claim of 122 million hectares under cultivation. 52/ The area of 122 million hectares actually includes multiple crops so that the actual land area under cultivation is less than 122 million hectares. This compares with an estimate of 109 million hectares (272 million acres) from independent sources. The amounts of additional land suitable for exploitation for agricultural purposes is unknown. An additional area of roughly 85 million acres classed as "arable" undoubtedly includes grazing land and land that could be brought under cultivation by extensive development efforts. 53/ With substantial investment in irrigation facilities and machinery and other operating equipment, more land can undoubtedly be opened for agricultural purposes. However, this is an expensive as well as a relatively slow process. In sum, the Communists are faced with a difficult problem in the expansion of agricultural production. Indeed, much of the terraced land already under cultivation yields very low returns per man-year. With too many people on the cultivable land, increased output can more readily be realized from better seeds and cultivation practices and more fertilizer, -- that is, from higher productivity per unit of land -- than from bringing more land into cultivation. Overpopulation has the attendant phenomenon of extremely small, fragmented farms. Before the Communist land reform program, Suiyuan Province in the Northwest had the largest average farm (11.26 acres), Kwangtung Province the smallest (only 1.94 acres); the**

* Table 19 follows on p. 73.

** Text continued on p. 76.

Table 19

Agricultural Supply Situation in Communist China
1952

Thousand Metric Tons a/*

Commodity	Production	Exports	Imports
Broad Beans	3,478	Negligible	Negligible
Field Peas	2,972	Negligible	Negligible
Barley	7,000	0	0
Otas	810	0	0
Wheat	22,480	100	0
Flour (Wheat)	14,990	0	0
Rice (Paddy)	47,730	570	0
Millet	11,060	200	0
Kaoliang	10,730	200	0
Corn	10,780	220	0
Sorghum and Other Grains	1,300	0	0
Potatoes	29,600	0	0
Sugar (Raw Value)	375	7	
Sugar (Refined)			65.7
Oil Cake b/	6,200 to 6,700	125	N.A.
Tung Oil	88	40	0
Soybeans c/	8,900	875	0
Soybean Oil	260	35	0
Rapeseed	2,950	15	0
Rapeseed Oil d/	750	N.A.	0
Peanuts e/	2,300	250	0
Peanut Oil	210	0	0
Sesame	800	25	0
Sesame Oil	228	0	0
All Other Vegetable Oils f/	175 to 200	N.A.	N.A.
Poultry g/ h/	438	7	Negligible
Poultry Meat i/ h/	285	Negligible	Negligible
Eggs h/	645	50	Negligible
Fish h/	4,000	8	1.5
Sheep and Goats j/ h/	602	10	Negligible

* Footnotes to Table 19 follow on p. 74.

Table 19

Agricultural Supply Situation in Communist China
1952
(Continued)

Thousand Metric Tons

Commodity	Production	Exports	Imports
Swine j/ h/	6,482	70	Negligible
Cattle and Water Buffalo g/ h/	2,180	10	Negligible
Meat k/ h/	5,640	25	Negligible
Industrial Woods l/	10,000	0	60
Fuel Wood m/ (Million Cubic Meters) n/	15,000	0	Negligible
Paper Products o/	410	Negligible	140
Hemp, Flax, Ramie, and Jute	44	N.A.	15 p/
Silk (Raw Basis) q/	4.4	1.4	0
Cotton (Ginned Basis)	609	1	40
Cotton Cloth (Million Linear Meters)	1,200	N.A.	N.A.
Cotton Yarn	410	N.A.	1
Wool (Grease Basis)	34	11	6.8

a. Unless otherwise stated.
b. This is roughly 90 percent of the difference between weight of the raw seeds produced and the oil output of the same.
c. Yellow.
d. Factor used: 10 percent food, seed, waste: 28 percent oil 1950-53A0J. For lower exports of seeds.
e. Unshelled basis.
f. Consists of total of rough figures for cottonseed oil, flax oil, hemp oil, tea seed oil, castor oil, perilla oil, and sunflower.
g. Estimated liveweight.
h. Does not include Tibet, Sikang, or Sinkiang.
i. Estimated dressed weight.
j. Estimated liveweight of animals produced for slaughter or export.

Table 19

Agricultural Supply Situation in Communist China
1952
(Continued)

k. Includes beef, veal, buffalo, pork, mutton, lamb, and goat meat, and slaughter fats, fat cuts, lard, and bacon, and estimated carcass weight of live animals exported. This estimated carcass weight in 1952 amounted to 50,000 metric tons.
l. Defined as all wood not burned for fuel. Includes all processed and fabricated products derived from industrial wood.
m. Includes all wood burned for heat, generation of power, and so on, for domestic or industrial purposes.
n. Cubic meters (roundwood), which is a measure of solid wood content, not a stock measure.
o. Includes all productions of pulp and paper, including newsprint, paperboard, writing papers, and other papers.
p. Raw jute, Hessian cloth, and gunny sacks: Conversion factors - 10 oz. for Hessian cloth, 2-1/2 pounds for gunny sacks.
q. Does not include silk waste or wild silk.

mean size in China was 3.67 acres. 54/ The average amount of cultivated or arable land per family of five is very low; at the Communists' population figure of 487 million, it is only 2.7 acres.

In a predominantly agricultural economy, cereals form the bulk of the diet. An estimate of the composition of the supply of foodstuffs in 1952 which was recently published by the Chinese Communists gives the following percentages of gross food output for several commodities: rice, 41.6 percent; millet, corn, kaoliang, and potatoes, 40.0+ percent; and wheat, 10.0+ percent.* 55/ For the major cereals, productivity per unit of land approximates that in the US, but the output per man is much lower; in China 4 workers out of 5 are required to provide subsistence for the population, as compared with 1 out of 7 in the US, which also has a better balanced diet. 56/ Despite the very large labor inputs, productivity per unit of land hardly exceeds that of the postwar US. Chinese agricultural productivity reflects very low capital inputs, which are primarily restricted to buildings and land, a few hand tools, and perhaps a draft animal, all used with a primitive technology. Table 20** compares productivity per acre for wheat and rice in China with productivity in selected other countries.

c. Agricultural Policies.

Chinese Communist policy on the organization of agricultural production may be divided into three distinct stages: land reform, the present mixed policy of encouraging various types of cooperative cultivation (but not at the expense of decreasing production), and the collectivization scheduled for the future. In carrying out the land reform program, the Chinese Communists had two objectives: to achieve political power and (within the limits set by that objective) maintain the level of production.*** 57/ For this reason the kulaks**** were not liquidated. Only the landowners were dispossessed, although some of the kulaks lost part of their land. The result was a

* Presumably broad beans, peas, green vegetables, meat, and fish account for the remainder. In any event, this breakdown approximates the relative order of magnitude.

** Table 20 follows on p. 77.

*** Land reform was carried out under the provisions of the "Law" of the National Agrarian Conference of September 1947. Owing to certain "excesses" which it encouraged, and to confusion of "kulaks" with landowners and middle class peasants with kulaks, the law was replaced in 1950 with a law more favorable to the kulaks. East and South China were reformed under the 1950 law.

**** The classification system varied from province to province, and was related to ownership of draft animals and implements as well as to land.

Table 20

Wheat and Rice Yields in Selected Countries 58/
Selected Years, 1934-52

Bushels per Acre

Year	Japan	India	US	USSR	China
	Wheat				
1934-38	12.8	6.9 a/	8.7	7.9	10.6 b/
1947	13.3	4.8	12.4	7.8	10.9
1948	15.8	6.6	12.1	7.3	11.9
1949	17.2	6.5	10.0	7.4	9.4
1950	17.6	6.5	11.1	7.8	9.6
1951	20.3	6.6	10.8	8.3	9.9
1952	21.3	6.2	12.4	8.4	9.4
	Rice				
1934-38	36.3	13.6	24.7	21.5	25.3 c/
1948	40.8	11.7	24.1	20.5	26.0
1949	40.1	11.5	24.8	20.5	24.0
1950	40.1	10.2	26.8	20.5	24.5
1951	37.6	10.6	26.1	20.5	24.1
1952	41.3	N.A.	27.7	20.5	24.8

a. 1937-39.
b. 1931-37.
c. 1934-38, Manchuria, 17.9.

vast leveling process which transformed the majority of the peasants into "middle peasants." Reducing the average size of the plot, by giving the poorer and landless peasants an average-size plot, tended to reduce the margin between production and consumption and thus to inhibit capital accumulation. Substitution of more capital for labor by any means other than collectivization thus became more difficult.

The Chinese Communists are presently attempting to encourage various types of cooperative production units. The first is the "mutual aid team," in which draft animals and implements are pooled for the most important field tasks. Accounts are settled after the harvest on a basis of "work units." Land and equipment remain private property, and membership varies from year to year. In the second type -- the agricultural producer cooperatives -- land, labor, and equipment are pooled, and the land is cultivated jointly. Each household, however, retains a garden and/or orchard plot. It appears that some of the implements and draft animals are joint property and some are still formally private property. Division of produce is based upon work units, with allowances for privately owned land units and for jointly and privately owned tools; thus a part of the produce accrues to the cooperative for the purchase of more tools, seeds, and fertilizer. In 1952, various types of mutual aid teams reportedly numbered more than 8 million, while there were some 3,600 agricultural producer cooperatives, mainly concentrated in the northeastern provinces. 59/

During 1953, emphasis was placed on consolidating and strengthening existing mutual aid teams and agricultural producers' cooperatives. In North China, for example, some 2,600 producers' cooperatives were changed into mutual aid teams. 60/ Recently there have been signs that the campaign for socialization of agriculture is to be stepped up. The Communists, however, assert that peasants should organize into groups "spontaneously" as the benefits of the alleged higher productivity of socialized agriculture becomes apparent.

A broadcast from Peiping on 9 November 1953 quoted an editorial from the People's Daily which exhorted the cadres to publicize among the peasants the part they must play in economic construction during the period of transition to socialism:

> "If the peasants do not carry out large-scale production, they will be unable to meet the needs of the nation and those of the peasants themselves, and will also cause difficulties for national industrial construction and for a portion of the peasants who are desirous of making a living from agricultural production. ... If the peasants do not unite to carry out large-scale production, not only will it be impossible for the rural living standards to keep up with those of the cities, but owing to the inherent weakness of the 'small-farmer' economy and expansion of capitalist fleecing, there will surely be many poverty-stricken peasants. ... The method of consolidation ... is entirely on a voluntary basis. First, ... mutual aid teams ... next ... agricultural producers' cooperatives and supply and marketing cooperatives. In the future, ... collective farm and supply and marketing cooperatives ... ."

This report and the introduction of rationing* clearly suggest that Communist China is continuing its version of a Soviet-type program of state control of agricultural output for capital accumulation purposes, possibly involving lowering the subsistence level and raising the mortality rate. This evidence indicates that the regime is preparing to promote higher forms of collectivization and to increase the pressure on peasants in carrying out its crop collection and allocation program.

Collectivization remains the eventual goal, but the attainment of this goal, the Chinese Communists admit, presupposes a more advanced stage of industrialization to make available the necessary capital equipment. It is believed likely that collectivization will proceed more rapidly in the Northeast, where cultivation units are larger and where mechanized dry land farming can be applied on presently uncultivated areas. Planned irrigation projects in the

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* Rationing of wheat and flour in Harbin, Peiping, and Tientsin may be related to the underfulfillment of crop production goals in 1953. There have not been reports of the bringing in of supplementary supplies of other grains to alleviate a shortage.

Northwest and in Suiyuan and Chahar Provinces may also provide the land for investment of capital equipment on large-scale state-owned collective farms. The success of these collective enterprises might then stimulate the incentive to extend the socialization of agriculture in the present areas of small-unit intensive cultivation. This development, however, depends on the completion of the irrigation projects and on the availability of capital equipment from imports and from the developing industry of Communist China. Limited progress may be anticipated in this effort during the period of this estimate. In view of the emphasis on increasing production and the apparent resistance of peasants to further stages of collectivization, however, it is believed unlikely that any forced major changes in agricultural organization will be attempted through 1957 in areas where the traditional agrarian institutions are so firmly rooted.*

The agricultural taxation policies of the Chinese Communists have three basic objectives: (1) to eliminate the advantage of land ownership, (2) to assure the state a large and stable supply of grain, and (3) without compromising these two objectives to stimulate productive efforts by eliminating the capriciousness of the agricultural tax system as it existed under previous regimes.

In 1952 in Communist China there were four basic systems of agricultural taxation in force. They were alike in that all agricultural taxes were in kind and the peasant was responsible for transporting the grain to the collecting point. In Manchuria the tax was levied as a proportion of estimated normal yield with no exceptions; the rate varied by province from 21 percent to 23 percent except in Jehol, where it was only 15 percent. 61/ In North China a somewhat similar system obtained: a uniform rate of 24.2 pounds of millet per taxable mou with an exemption of one mou per household.** 62/ Where agrarian reform had recently been carried out -- in the Central-South, East, Northwest, and Southwest areas -- a progressive system obtained. Rates varied from 7 percent to 30 percent of normal yield, with an exemption of 165 pounds of grain per capita. In those areas where agrarian reform had not yet been carried out -- largely restricted to a few minority areas by 1952 -- progressive

* The conflict in Chinese Communist motives in respect to collectivization is referred to under I, above.

** A taxable mou is defined as one producing 1 picul, or 110 pounds, of millet. (A mou is approximately one-sixth of an acre.)

rates ranging from 3 percent to 42 percent were levied.* 63/ Surtaxes levied by local authorities were not to exceed 15 percent of the basic tax but often did so. 64/

In 1953, after the establishment of a tax policy of class differentiation in the villages of the so-called "old areas" -- where land reform was implemented before 1950 -- the Chinese Communists planned to extend the progressive tax rates. 65/ All local surtaxes were abolished in 1952. 66/ To what degree the new rates have been promulgated in the old areas is not clear, but the changes in the land tax in 1953 in Kwangtung Province are apparently typical of rates which have been and are being introduced elsewhere. All households in which the "average annual agricultural income per capita is not over 150 shih catties /195 pounds/" of the staple foodstuff are exempt from the tax. Households with larger average incomes are taxed at progressive rates, ranging from 6 percent for incomes in the range of 151 catties to 200 catties to 25 percent for incomes of 1,451 catties and above. 67/ Income is calculated on the basis of the "average normal yield," and the cadres are strictly admonished to estimate the yield fairly and to permit no abuses. If yields exceed the estimate, the peasant is permitted to retain the surplus; the tax rates remain stable. On the other hand, the peasant must bear the burden of the normal tax on a poor harvest when this is not occasioned by a natural disaster. Special reductions or exemptions are promised in case of severe floods or other natural calamities. 68/ Table 21** sets forth the agricultural tax rates in Kwangtung.

It is not clear how much of total agricultural income is paid in taxes, but it was reported as 17 percent of gross output in the areas controlled by the Communists in 1949. The Communists claim that the share of the agricultural tax in total state income has declined since their accession to power, as shown in Table 22.*** By means of this tax the government procures an estimated maximum of 30 million tons of grain for its purposes.****

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* It is not clear whether or not any tax exemption was allowed on these areas.

** Table 21 follows on p. 82.

*** Table 22 follows on p. 83. See III, above, for relative proportions of agricultural taxes in state revenues.

**** An additional 10 million tons is purchased at low fixed prices by the state-controlled cooperatives. Total tax and obligatory sales of grain to the state thus constitute as much as 30 percent of total grain production. 69/

Table 21

Agricultural Tax Rates in Kwangtung Province, Communist China
1953

Grade	Average Annual Agricultural Income Per Capita in Kind (Catties) a/	Taxation Rate b/ (Percent)
1	151 to 200	6
2	201 to 250	7
3	251 to 300	8
4	301 to 350	9
5	351 to 400	10
6	401 to 450	11
7	451 to 500	12
8	501 to 550	13
9	551 to 600	14
10	601 to 670	15
11	671 to 740	16
12	741 to 810	17
13	811 to 880	18
14	881 to 950	19
15	951 to 1,050	20
16	1,051 to 1,150	21
17	1,151 to 1,250	22
18	1,251 to 1,350	23
19	1,351 to 1,450	24
20	1,451 and above	25

a. A catty = 1-1/3 pounds.
b. Agricultural households with a per capita income of 150 catties or less are exempt.

Table 22

State Income from Agricultural Taxes in Communist China 70/
1950-52, 1953 Plan

1950		1951		1952		1953 Plan	
Sum (Trillion Yuan)	Percent of Total	Sum (Trillion Yuan)	Percent of Total	Sum (Trillion Yuan)	Percent of Total	Sum (Trillion Yuan)	Percent of Total
19.1	27.6	21.7	15.3	25.6	13.5	25.7	11.0

Traditionally, credit has been one of the most serious problems of the Chinese peasantry. Although precise figures are lacking, most of the rural credit came from pawn shops and private loans, always at very high interest rates. It is estimated that interest charges on most loans averaged 3 percent to 6 percent per month. 71/ The Chinese Communists have greatly expanded the role of the state banking system in the rural areas, and some rural credit cooperatives have been formed, mostly in North China. The press in Communist China reports that agricultural credit is more plentiful and much cheaper than in the past, but this assertion is doubtful in view of the magnitude of the need.

Total investment in the agricultural sector is difficult to estimate because (1) a large part of total investment is made by the peasantry from resources which do not pass through the market and for which there are no statistics, and (2) the state's monetary outlays for major conservancy and reclamation projects are probably more or less limited to the food consumption of the workers and much *corvée* labor is used. Thus the data for agricultural investment consist only of certain reported outlays by the state, certain known minimum peasant purchases, and very rough estimates of investment from the peasants' incomes. In any case, major changes in agricultural output in the short run can result only from increased capital inputs in the form of fertilizer and to a lesser extent from conservancy projects.

Comparison of the budgetary allocations to agriculture with those to industry, transportation, and other sectors is possible only for 1952 and 1953 (see III, above). According to the communique issued by the Statistical Bureau, the share of the Ministries of Agriculture and Conservancy in total investment in 1952 was 16 percent, compared to 56 percent for the six industrial ministries and 28 percent for the transportation and communications sector.* 72/

A very limited amount of data is available concerning the introduction of Soviet-type animal-drawn field equipment and other types of agricultural machinery into North and Northeast China. The Department of Agriculture of the Northeast Administrative Area plans to lend to farmers 170,000 sets of such implements in the period 1953-57. 73/ Production of Soviet-type implements and machinery (including cotton gins and rice threshers) was reportedly 80,000 units in the Northeast in 1951, 20 percent of these being plows. Plans for 1952 called for production of 340,000 units. 74/ Reports of sales of implements in China proper are numerous but usually concern only small areas, preventing any precise aggregation. It is believed that Manchuria and Northwest China are the only areas where any significant numbers of animal-drawn implements will be introduced in the near future. In the remainder of China, most of the "implements" being produced are of the hand type -- factory-made hoes, spades, rakes, and the like -- which are a real improvement over handmade wooden implements.

It is estimated that in 1952 some 5,850,000 tons of oil cake were available for use as fertilizer. 75/ In addition 400,000 tons of chemical fertilizers were applied to the land. Of these amounts, 2.5 million tons of oil seed and chemical fertilizers moved through the Supply and Marketing Cooperatives in 1952, the planned allocations of which to the major crops were as follows: rice, 32.5 percent; wheat, 17.0 percent; tobacco and industrial crops, 12.0 percent; and cotton, 38.5 percent. 76/

* It is also estimated that, if the investment made by local authorities were included, total investment in the agricultural sector would be about double that made by the Central Government. It is not known precisely what the Chinese Communists include in the term which is rendered as "investment."

It is apparent from the foregoing that allocations for agricultural investment in the national budget are small, both absolutely and in relation to the importance of building up agricultural production as a means of capital accumulation.

d. Range of Possible Increases of Agricultural Production and Exports.

The over-all future goals and policies of the Chinese Communists are not ascertainable from their many published discussions of economic plans. Only generalized production goals for agriculture have been given, in a speech by Teng Tzu-hui, Director, Rural Work Department, Central Committee, Chinese Communist Party. In this speech, entitled "Rural Works; Its Basic Mission and Policy," Teng asserts that the development of agricultural production (especially food production) is the first objective of Chinese Communist agricultural policy. Teng gives 160 million metric tons as the food production of 1952. He then states the objective for the first Five Year Plan as an increase of 30 percent over 1952 output. That is to say, the 1957 goal in food production is to be 208 million metric tons. Further, he states, "It is hoped that after two Five Year Plans, or a little more time than that, we may attain or approach the goal of the annual production of from 275 to 300 million metric tons of food."

Chinese Communist agricultural production can be increased in two ways: either by increasing inputs into agriculture or by more rational combination of inputs. The major input factors which could be beneficially imported fall under two headings -- capital inputs and inputs of technical services. Under the first heading fall capital inputs (1) for the extension of cultivation to land not now used; (2) for increasing the yield on land presently cultivated, by means of additional fertilizer, irrigation, chemicals to control plant disease and pests, and draft power and equipment for more timely cultivation; (3) for mechanization where it will result in more intensive cultivation. Under the second heading fall inputs of technical services (1) in engineering fields dealing with irrigation and water conservancy; (2) of genetic specialists for improving plant types and animal breeds; (3) of agriculturalists to provide management for the more efficient combination of inputs.

All the above-listed inputs are relatively scarce in Communist China. Unless imports of the above input factors, especially

fertilizer, are made in large quantities, the stated production goals can probably not be achieved.

Even with unlimited access to sources of supply in both the Soviet Bloc and the Western world, it is doubtful that technological and management imports could affect production in Communist China within the length of time specified. The experimental and testing procedures for improved seed and livestock are long-term projects. Even after improved and adapted types are created, they must be widely distributed before having an effect on total production. The time lag between the creation of a new type and its general use is substantial.

It is generally accepted that Chinese Communist agriculture is on a low technological plane as compared with Western agriculture. By and large, its cultivating practices are the same today as during the past several centuries. Crops are cultivated with simple hand tools and with a limited dependence on animal draft power. Seed selection and animal breeding for increased production are not widely practiced by the peasant, except for certain rudimentary selective practices which are age-old. The weaknesses of Chinese agriculture are low output per man and inflexibility in respect to transforming land use, cultivating practices, and technology to a higher plane in order to achieve greater output per man. That such a system can be transformed only at great cost and over a long period of time would seem to be the prospect, according to the previous experience of other nations.

As to the possibility of increasing agricultural production by the use of additional fertilizer, the experience of Japanese agricultural supervisors in Formosa prior to 1945 and of Chinese specialists working with the US ECA mission to China in 1948-49 indicated that, under conditions of proper control and distribution, the rational application of chemical fertilizers to the present acreage of rice (besides the organic fertilizers presently applied) would yield approximately double the tonnage of chemical fertilizers in additional rice.* Other crops would be similarly benefited by additional chemical fertilizers. A large increase in availability of chemical fertilizers commensurate with Communist China's needs could come about only through

* For example, the properly controlled application of 7.5 million tons of chemical fertilizers to present rice acreage in China might increase total rice production from the present 47,730,000 tons per year to 62 million tons per year.

increased fertilizer production not only in Communist China but in other manufacturing countries. Only relatively small additional agricultural yields by this means may be accomplished by the end of 1957. Table 23 shows the estimated figures of production and consumption of chemical fertilizers in the Bloc in 1952. Each of the producing countries in this group consumes all of its production.

Table 23

Rounded Estimate of Production and Consumption of Chemical Fertilizers in the Soviet Bloc 1952

Million Metric Tons

Country	Quantity
USSR	4.5
East Germany	2.7
Communist China	0.4 a/
Poland	0.4
Czechoslovakia	0.2
Bulgaria	0.1
Hungary	0.1
Rumania	0.05
Total	8.45

a. Including imports.

The best prospects for substantially increasing Chinese Communist supplies of chemical fertilizers within the period of this estimate appear to lie in the possible resumption of trade with Japan, in the promised rehabilitation by the USSR of the chemical industries of North Korea, in the possible expansion of trade with the Western world, and in the increase of Chinese Communist production. Japan might possibly be able to supply 300,000 to 400,000 metric tons from its existing chemical factories. If the rehabilitation of the chemical industries of North Korea begins in early 1954, supplies at the rate of 200,000 to 300,000 metric tons per year might begin to be available to Communist China by mid-1955. An additional 200,000 to 300,000 metric tons might possibly be obtained from the expansion of Chinese Communist

trade with the West. The projected increase of Chinese Communist production of chemical fertilizers might begin to yield an additional 200,000 metric tons per year by mid-1955. Thus, depending upon the rate of progress in all these possible developments, Communist China might possibly be able to obtain additional supplies of chemical fertilizers to a maximum of 1 million metric tons per year by 1955. Since an increase of agricultural production remains the principal source of investment funds for Chinese Communist industrialization goals, it is believed that high priority may be assigned to such a program.

The ability of Communist China to expand its export of agricultural products and the ability of the rest of the world to import them are subject to a number of limiting factors both political and economic. Historically, China has been both an importer and an exporter of agricultural commodities. Analysis of the agricultural trade of China in the pre-Communist period reveals two important general points: (1) Imports of agricultural commodities have been mainly for food and clothing, consisting of rice, wheat and flour, sugar, and raw cotton; and (2) exports of agricultural commodities have consisted mainly of industrial raw materials and some foods -- hog bristles, silk, tung oil, soybeans, soybean oil, various other vegetable oils, eggs, egg products, and tea.

Of these commodities, the various oils and oilseeds are at present the most important potential export group. Rice occupies a special position as a possible export commodity. Whereas rice, prior to the period of Communist control, was imported, now it is being exported to India and to Ceylon in exchange for rubber. In view of the Chinese grain position, the rice export program represents a serious effort to secure rubber for Communist China and for reexport to the other Soviet Bloc countries. With some sacrifice of consumption, Communist China has obtained rice for export by efficient tax collection and by the government purchasing program, even though rice production has not reached the prewar peak.

As for vegetable oils, the export aims of the Chinese Communists appear to be twofold: (1) To maintain the maximum level of exports of vegetable oils and seeds commensurate with the requirement of the domestic economy, and (2) to provide a sufficient supply of raw materials to keep the oil processing facilities, primarily under government control, operating at near capacity. Although production is only slightly below the prewar level, existing trade in

vegetable oils and oilseeds is well below the prewar level. The Korean War occasioned the first major exports from China to its former markets in Western Europe, where the demand was largely to build up stocks; as soon as this was accomplished, non-Soviet Bloc European demand fell sharply. In 1952, European imports of vegetable oils fell to only a fraction of the 1951 level. Prospects of re-establishing the prewar trade relationships with Japan are indeterminate. Japan could be expected to import about 250,000 to 500,000 metric tons of oilseeds and an equal amount of oilseed cake. With fulfillment of production plans for fats and oils in the European Satellites, their imports of vegetable oils and oil materials from China should diminish. Exports from China to the Bloc countries thus appear dependent upon the success or failure of production plans in those countries. The USSR is importing finished oils in greater amounts from other sources but apparently depends upon imports from China to raise the standard of consumption under its present policy.

In respect to cotton textiles, if the Chinese Communists approach their goals of increased cotton production, the markets of the Satellites and Asia would provide sizable demand for textile exports under conditions of free trade. A 30-percent increase in cotton production over the 1952 estimate is considered reasonable. The positions of other miscellaneous potential exports are varied. The tea produced in China has generally been a low-quality product in comparison with other Asian tea production. In the past, exports have been of the brick type, largely going to the USSR. There is no reason to expect much change in this position. China has the potential to supply hog bristles near any previous export level, depending on demand, which has been somewhat reduced by the development of synthetics as substitutes. Silk is in much the same position. Eggs and egg products can probably be exported in greater quantities than now, since Western Europe was previously a major market and probably would become so again, political aspects aside.

In summary, it appears that if the Chinese Communists assiduously pursue a program to obtain and apply additional supplies of chemical fertilizers, they can increase their export surplus of rice, especially to India (without, however, raising the consumption levels of their own people), although a partial crop failure in any year would wreck the program. In respect to vegetable oils and oilseeds, it appears that the present level of production of between

1.7 million and 1.8 million metric tons of vegetable oils and over 17 million tons of oil-bearing materials can be substantially increased. Thus the Chinese Communists have the ability to meet any reasonable export opportunities for vegetable oils and oilseeds; they have currently lost their Western European markets to the US, but the USSR is striving to raise its consumption standards partly by use of Chinese agricultural products. Tea and silk exports may be increased slightly, and exports of hog bristles, eggs, and egg products may be increased substantially. It is estimated that the maximum possible increase over 1953 resulting from all these efforts might be as much as US $200 million per year in additional capital funds obtained from increased exports of agricultural products within the period of this estimate.

It is not possible to predict whether all the conditions will obtain to enable the Chinese Communists readily to achieve the level of agricultural production which their ambitious industrialization and export programs require. Rather, it is possible only to project the level of production through 1957 on the basis of past performance of the economy: this would give an over-all increase of roughly 8 to 10 percent, with increases of some export crops as high as 30 percent by 1957. Larger capital inputs and more rapid assimilation of improved techniques, as discussed above, might enable earlier realization of these possibilities. The projected estimates of agricultural production are given in Table 24.*

2. Modern Industrial Sector.**

a. Coal Industry.

Since the rise to power of the Chinese Communists, coal production has increased from 22.7 million tons in 1949 to 45.8 million tons in 1952. Production in 1953 reached an estimated 50.2 million tons. Thus it would appear that the Chinese Communists have sufficient coal for their own consumption and for export to the USSR, Japan, and North Korea. 77/

* Table 24 follows on p. 91.

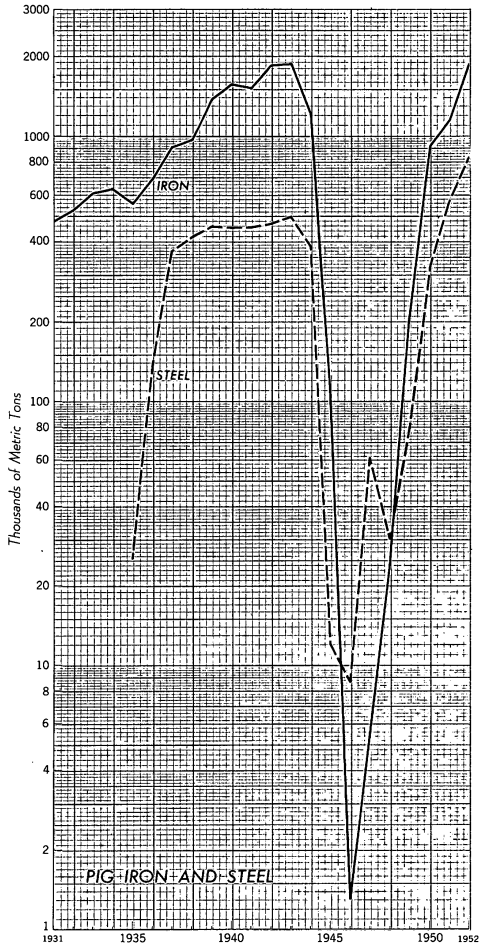
** Table 25, which follows on p. 93, presents a summary of production statistics from 1931 to 1952 of the important industrial commodities which are discussed under the Modern Industrial Sector. These figures are presented graphically in Figures 7, 8, 9, and 10, which follow p. 94.

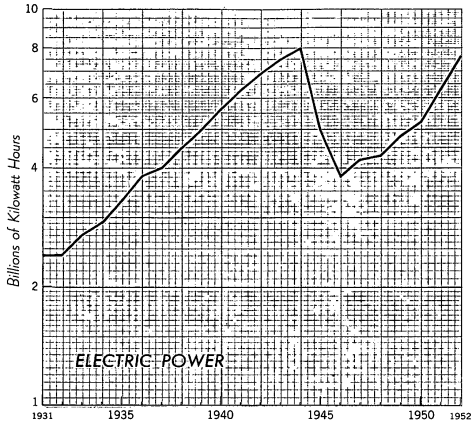
Figure 7

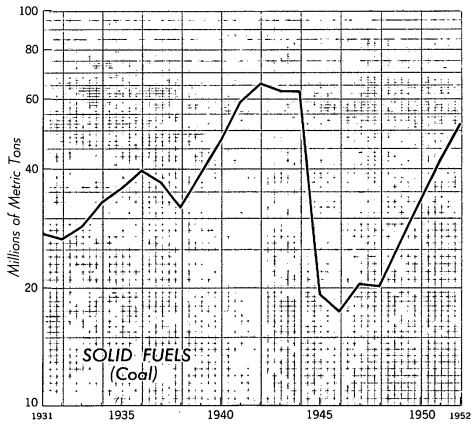
50X1

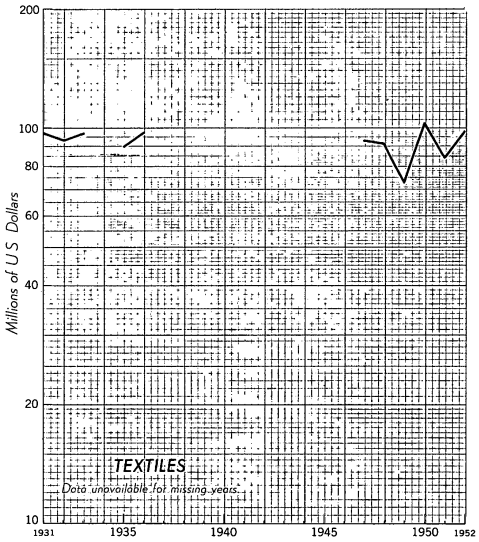
CHINA

PRODUCTION TRENDS FOR SELECTED COMMODITIES 1931–52









GR1502 CIA, 12-53

Graphs plotted on semi-logorithmic paper.

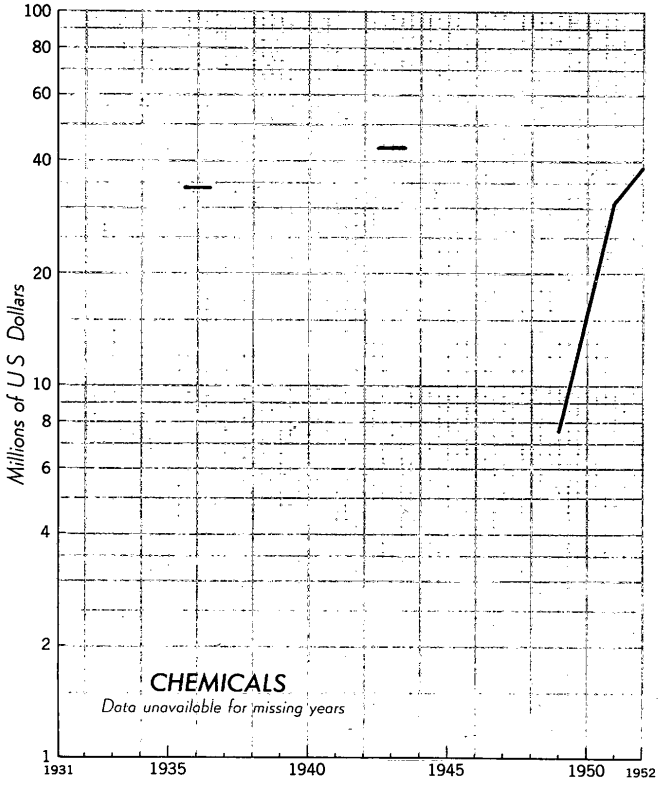
50X1

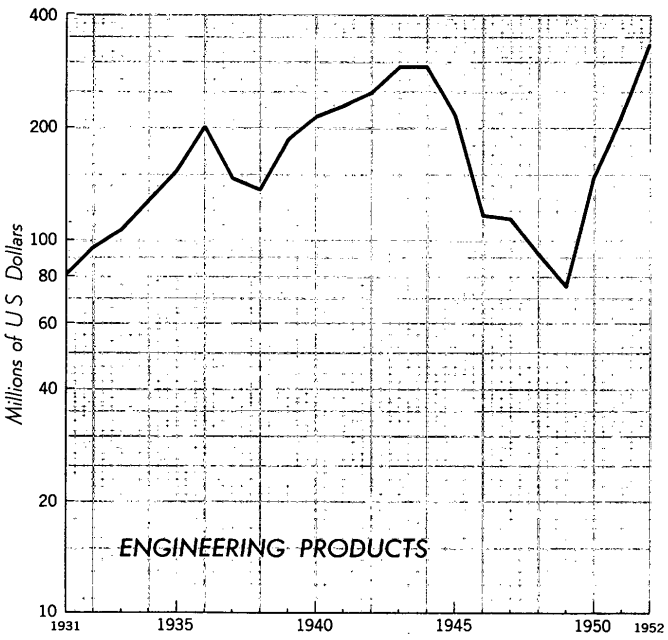
SECRET

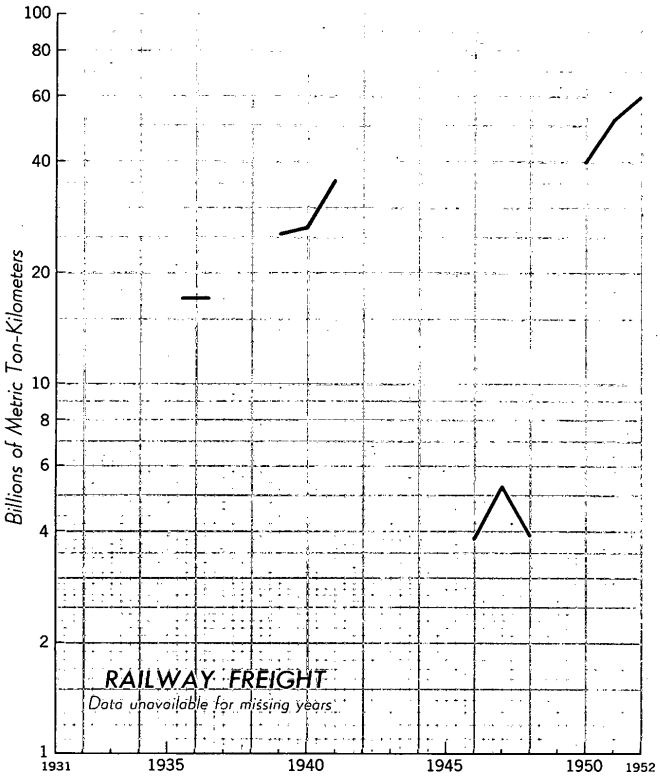
Figure 8

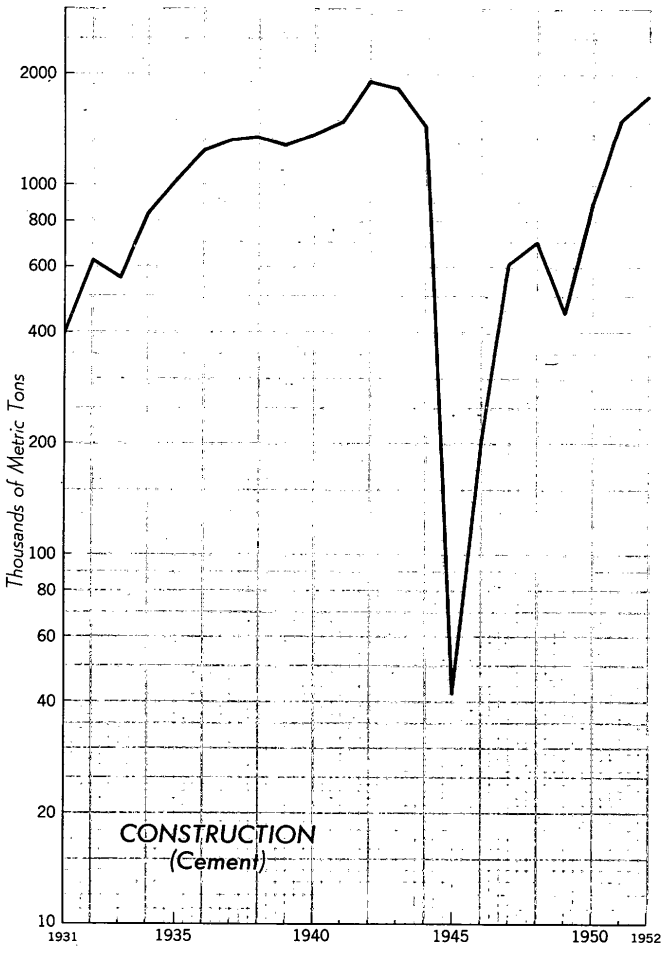
50X1

PRODUCTION TRENDS FOR SELECTED COMMODITIES, 1931-52









GR1503 CIA, 12-53

Graphs plotted on semi-logarithmic paper.

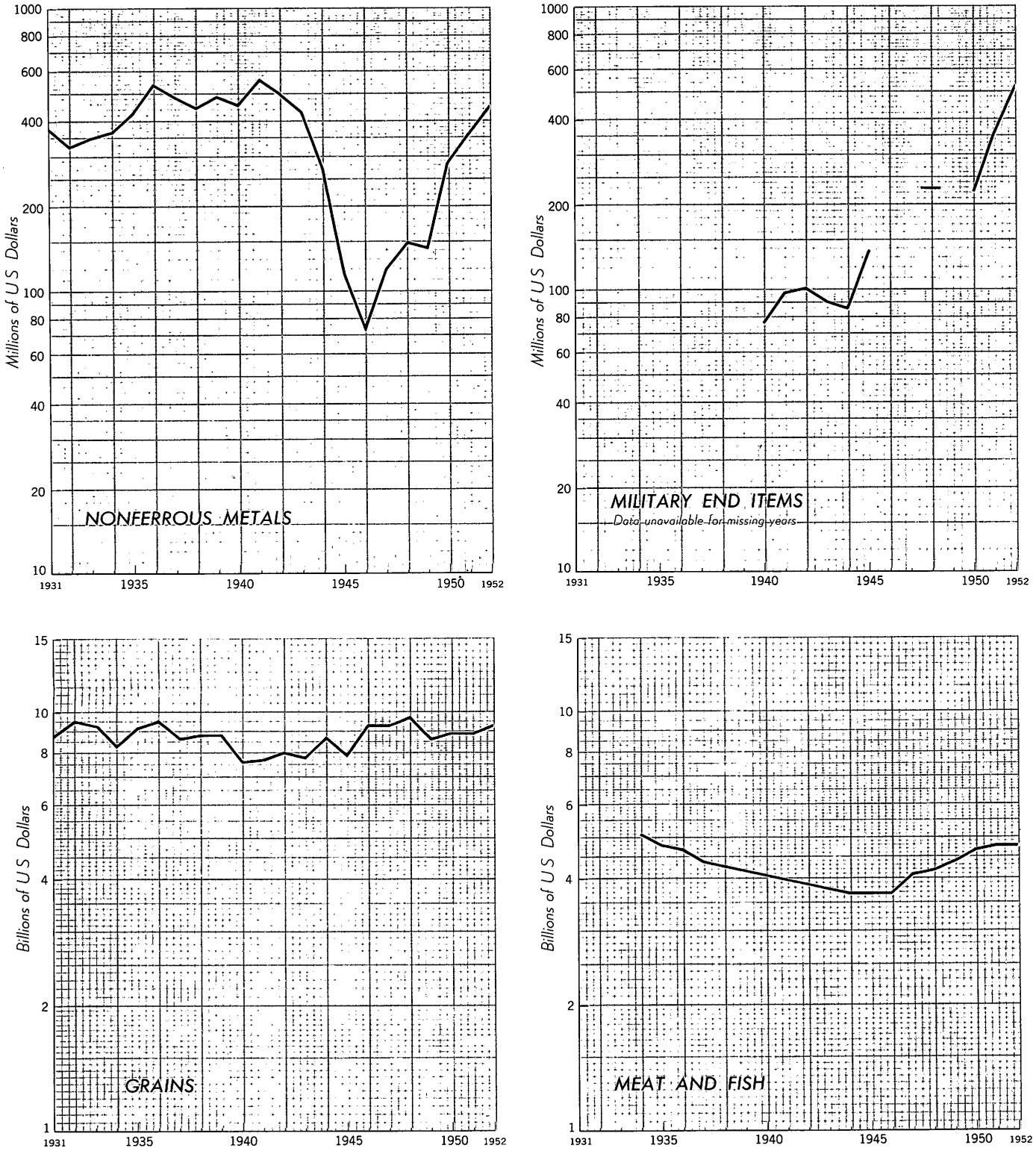
50X1

Figure 9

50X1

CHINA

PRODUCTION TRENDS FOR SELECTED COMMODITIES, 1931–52



GR 1504 CIA, 12-53

Graphs plotted on semi-logarithmic paper.

50X1

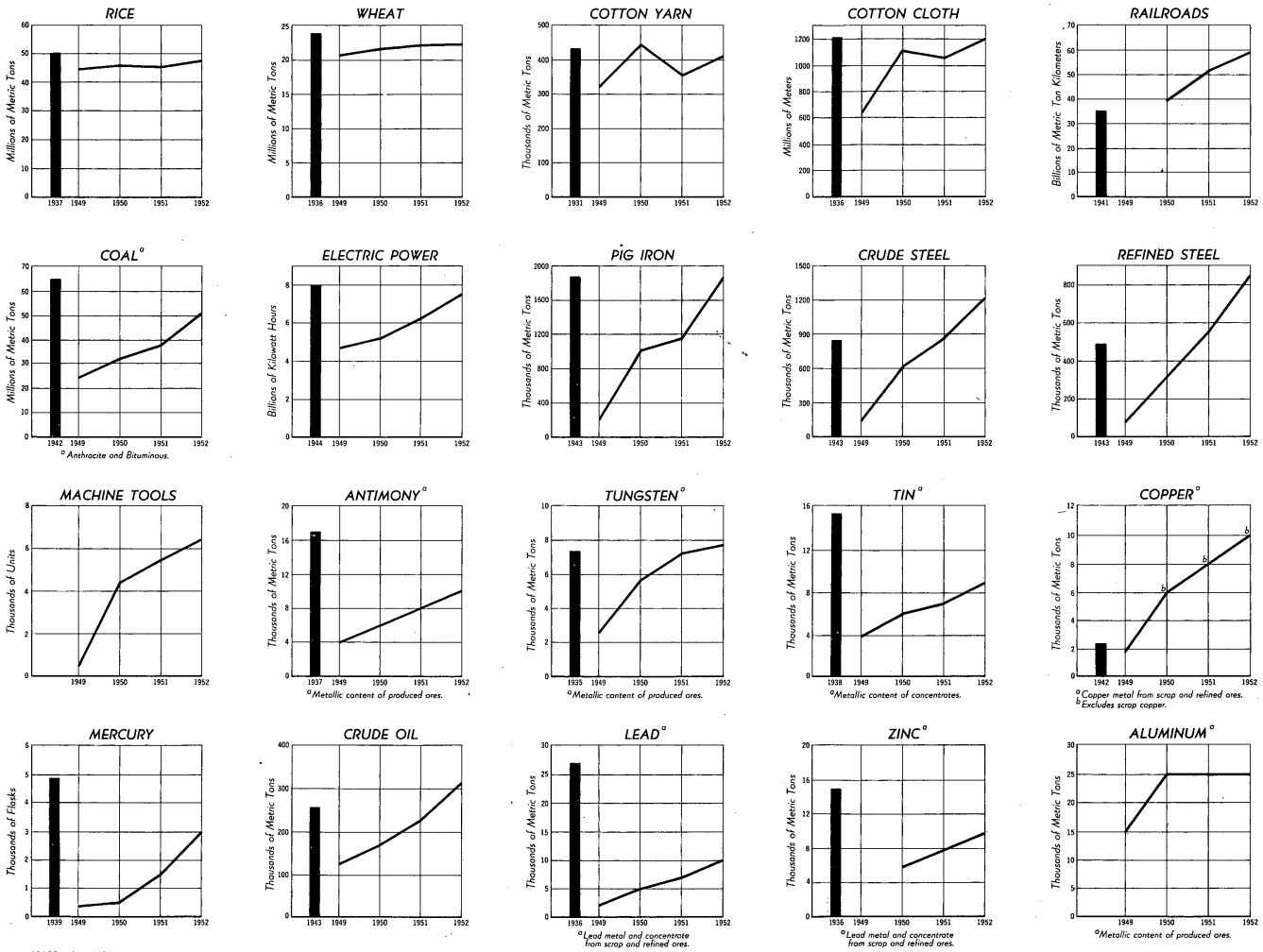
50X1

Figure 10

COMMUNIST CHINA

PRODUCTION OF SELECTED COMMODITIES AND SERVICES

Peak Year and 1949-52



13133 CIA, 4-54

50X1

Table 24

Estimated Annual Production of Agricultural Commodities in Communist China 78/
1953-57

Million Metric Tons (except as indicated)

Commodity	1953	1954	1955	1956	1957
Silk	5	5	5	5	5
Hemp	44	44	44	44	44
Cotton Cloth a/*	1,300	1,400	1,500	1,600	1,700
Cotton (Ginned Basis)	653	700	750	800	860
Cotton Yarn	466	486	506	526	550
Wool (Grease Basis)	34.7	35.4	36.1	36.7	37.4
Tung Oil	85	85	85	90	100
Soybean Oil	250	275	300	325	350
Rapeseed Oil	750	790	800	815	825
Peanut Oil	200	200	200	200	200
Barley	6,800	6,800	6,900	6,900	7,000
Sugar	383	391	400	408	416
Wheat	22,200	22,700	23,100	23,500	24,000
Potatoes	34,837	35,453	36,068	36,683	37,300
Corn	10,500	10,600	10,600	10,700	10,800
Kaoliang	10,300	10,300	10,400	10,400	10,400
Millet	10,400	10,400	10,500	10,600	10,600
Rice (Paddy)	46,500	47,500	48,000	48,500	49,000
Flour (Wheat)	14,800	15,100	15,400	15,700	16,000
Oats	800	800	800	800	800
Sorghums and Other Grains	1,300	1,300	1,300	1,300	1,300
Peanuts	2,000	2,000	2,100	2,200	2,300
Soybeans	8,500	9,000	9,000	9,400	9,600
Sesame Oil	200	200	200	200	200
Rapeseed	2,750	3,000	3,000	3,200	3,300
Sesame	775	800	800	810	820
All Other Vegetable Oils	175	185	190	195	200
Oilcake	6,500	6,750	6,850	6,950	7,000
Paper Products	450	490	525	575	600

* Footnotes for Table 24 follow on p. 92.

Table 24

Estimated Annual Production of Agricultural Commodities in Communist China 78/
1953-57
(Continued)

Million Metric Tons (except as indicated)

Commodity	1953	1954	1955	1956	1957
Industrial Wood b/	11	12	13	13	14
Fuelwood b/	15	15	15	15	15
Meat c/	5,750	5,870	5,960	5,970	5,970
Cattle and Water Buffalo d/	2,224	2,270	2,270	2,270	2,270
Swine d/	6,611	6,743	6,878	6,880	6,880
Sheep and Goats d/	614	626	639	652	665
Fish	4,000	4,000	4,000	4,000	4,000
Eggs	658	671	684	698	712
Poultry d/	447	456	465	474	483
Poultry Meat	291	297	303	309	315
Field Peas	2.9	3	3	3	3
Broad Beans	3.2	3.5	3.5	3.5	3.5

a. Million meters.
b. Million cubic meters.
c. Carcass weight.
d. Estimated live weight of animals slaughtered.

Table 25

Production of Selected Commodities and Services in China 79/
1931-52

	Unit	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941
Coal	Million MT	27.3	26.1	28.5	32.8	35.8	39.3	36.9	31.9	38.5	46.8	58.8
Electric Power	Billion KWH	2.4	2.4	2.7	2.9	3.3	3.8	4.0	4.5	5.0	5.6	6.3
Pig Iron	Thousand MT	478.1	522.5	606.7	631.4	558.4	689.1	909.4	970.1	1,389.6	1,572.8	1,507.0
Crude Steel	Thousand MT		26.0		50.0	181.8	394.4	466.6	484.9	546.9	538.8	568.4
Refined Steel	Thousand MT					25.4	135.3	369.6	413.9	458.1	450.1	452.0
Crude Oil	Thousand MT						129.0		113.0	118.0	118.0	137.0
Machine Tools	Thousand Units											
Copper a/*	Thousand MT	0.5	0.4	0.5	0.5	0.4	0.3	0.4	0.4	1.3	1.6	2.1
Aluminum c/	Thousand MT											
Antimony c/	Thousand MT	14.4	14.1	14.2	16.3	15.2	14.3	17.1	10.6	13.3	7.6	8.0
Tungsten c/	Thousand MT	3.4	1.1	2.9	3.2	7.4	5.0	7.2	7.3	6.1	4.8	6.4
Tin d/	Thousand MT	8.6	7.2	8.3	8.0	11.0	12.9	13.4	15.4	14.2	10.7	11.4
Mercury	Thousand Flasks	0.6	0.01	0.01	0.01	1.3	1.7	1.7	2.1	4.9	2.7	3.6
Lead e/	Thousand MT	8.5	8.2	9.1	8.5	12.3	27.7	9.9	5.5	6.6	9.2	10.3
Zinc f/	Thousand MT	14.7	10.6	10.6	13.3	12.9	15.3	12.7	6.9	5.3	7.3	9.9
Railroads	Billion MT Km						17.0			25.3	26.4	35.5
Cotton Yarn	Thousand MT	431.8	414.3	423.2		381.2	406.7					
Cotton Cloth	Million Meters	801.4	864.8	938.6	999.4	1,035.6	1,219.2					

*. Footnotes for Table 25 follow on p. 94.

Table 25

Production of Selected Commodities and Services in China 79/
1931-52
(Continued)

	Unit	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952
Coal	Million MT	65.1	62.8	62.5	19.3	17.3	20.4	20.2	22.7	30.0	37.2	45.8
Electric Power	Billion KWH	6.9	7.5	8.0	5.0	3.8	4.2	4.3	4.8	5.2	6.3	7.6
Pig Iron	Thousand MT	1,857.7	1,885.1	1,215.0	110.6	1.3	5.7	24.6	205.0	915.0	1,150.0	1,875.0
Crude Steel	Thousand MT	741.8	893.1	450.7	160.2	7.5	25.1	11.4	140.0	611.0	866.0	1,222.0
Refined Steel	Thousand MT	463.6	493.4	382.4	12.0	8.6	60.8	30.0	81.2	320.4	564.0	850.0
Crude Oil	Thousand MT	186.0	260.0	191.0	188.0	87.0	70.0	95.0	125.0	172.0	228.0	315.0
Machine Tools	Thousand Units								0.5	4.4	5.5	6.5
Copper a/	Thousand MT	2.4	2.2	2.4	0.6	0.9	0.9	0.5	1.8	6.0 b/	8.0 b/	10.0 b/
Aluminum c/	Thousand MT								15.0	25.0	25.0	25.0
Antimony c/	Thousand MT	5.1	0.4	0.7		0.4	1.9	3.2	4.0	6.0	8.0	10.0
Tungsten c/	Thousand MT	6.1	4.6	1.6	1.4	1.2	3.3	6.3	2.6	5.7	7.2	7.7
Tin d/	Thousand MT	7.8	7.2	2.2	3.3	3.0	3.9	5.9	4.0	6.0	7.0	9.0
Mercury	Thousand Flasks	4.4	3.4	2.9	1.8	1.4	0.3	0.3	0.4	0.5	1.5	3.0
Lead e/	Thousand MT	10.6	11.9	5.4	0.6	0.01	0.8	0.8	2.1	5.0	7.0	10.0
Zinc f/	Thousand MT	11.0	10.8	9.1	0.3		0.3	0.3		5.8	7.9	9.8
Railroads	Billion MT Km					3.8	5.3	3.9		39.7	51.5	59.5
Cotton Yarn	Thousand MT						408.0	400.0	322.0	446.6	354.0	410.0
Cotton Cloth	Million Meters						840.7	840.7	640.0	1,116.4	1,050.0	1,200.0

a. Copper metal from scrap and refined ores.
b. Excludes scrap copper.
c. Metallic content of produced ores.
d. Metallic content of concentrates.
e. Lead metal and concentrate from scrap and refined ores.
f. 1931-41 metal content of concentrate about 35 percent zinc; 1942-44 and 1950-52, about 48 percent.

Investment plans for 1953 envisage concentration on sinking and equipping new shafts and improving extraction facilities at open pit mines as well as continuing mine rehabilitation projects already initiated. Total capital investment for 1953 is planned at 3 times the total for the preceding 3 years. Investment in construction constitutes 50 percent of total investment; of this, 69.4 percent is to be allocated to "new construction," 25.2 percent to remodeling, and 5.4 percent to restoration. These percentages indicate the priority that is given to expansion of coal production capacity. 80/

Chinese coal reserves have been estimated at approximately 275 billion tons, of which North China contains 135 billion; the Northwest, 105 billion; the Northeast, 11 billion; and the Southwest and Central-South, 10 billion each; East China and the Inner Mongolian Autonomous Region divide the remainder of approximately 2 billion tons each. Although the Northeast ranks fourth in total coal reserves, it ranks first in coal production because of the heavy concentration of industry in that area. The Northeast produces probably as much as one-half the total production of Communist China. 81/

Chinese Communist exports of coal in 1952 amounted to an estimated 3.8 million tons, of which the USSR received 3 million tons, North Korea, 750,000 tons, Hong Kong, 28,000 tons, and Japan, 25,000 tons. 82/ Soviet requirements on the Trans-Siberian Railroad accounted for most of the exports to the USSR; other Soviet Bloc imports of Chinese coal are not expected to increase during the period of this estimate, mainly because of the long haul involved. Among the non-Bloc countries, Japan is by far the best potential importer of Chinese coal. [redacted] 50X1
[redacted] the maximum of coking coal that 50X1
could be imported per year from China would be 1,750,000 tons. 83/ Pakistan is importing 200,000 tons of Chinese coal under a barter agreement, and Ceylon is interested in importing Chinese coal. 84/ China faces competition from India and Australia in the Asian markets but may be relatively better able to supply coking coal.

The development of new coal mines in Communist China is dependent on sizable imports or manufacture of new equipment and supplies. Among the items required are steel cable, large pumps, compressors, hoists, electric motors, mining combines, cutting machines, drills, conveyors, mine cars, and mine locomotives. For technical services, China will probably continue to be somewhat dependent on the Soviet Bloc, particularly the USSR, until Chinese technicians show

themselves capable of engineering their own coal mines. It is significant that the failure to meet planned quotas for the first half of 1953 is attributed by the Chinese themselves "to lack of scientific planning and management." 85/

The chief vulnerability of China in the coal industry is the separation of the heavily populated areas from the coal fields. Generally, coal is shipped from North China to Central and South China, where local production and shipment via railroad and barge cost more than North Chinese production and shipment by sea. Other problems include the continued use of old, worn-out equipment; ageing mines; present inability to produce new equipment; and a shortage of technicians and skilled workers. 86/ Soviet technicians are helping to supply these deficiencies and are assisting the Chinese Communists to build a coal mining machinery plant at Fu-shun. Improved technical equipment is said to have enabled the Chinese Communists to increase their production of coal from the same mines by 2-1/2 times, while the completion of the mining equipment plant will nearly double the Chinese Communist output of mining machinery. 87/

It is estimated that by 1958 the Chinese Communists will still be dependent upon outside sources for some of the capital goods required for the improvement of production facilities but will probably be in a better position in regard to technicians and skilled labor. Based on the wartime level of coal production, Communist China is capable now of an annual production of about 65 million tons of coal. It is estimated that, with the projected improvements, Communist China can expand its coal production from the 1953 estimated production of 50 million tons to 72.8 million tons per year. The actual level of production will depend on internal requirements and export demand.

b. Electric Power Industry.

Since 1949 the fundamental tenet of Chinese Communist planning has been the development of heavy industry, which is largely dependent upon the generation of electric power for expansion of production. By the end of 1952, the production of electricity in China had increased from 4.8 billion kilowatt-hours in 1949 to approximately 8 billion kilowatt-hours. Revised plans for 1953 call for an added increase of 18.3 percent over the 1952 figure, which would result in a production of about 9 billion kilowatt-hours. 88/

Announced 1953 plans for capital investment in the electric power industry are shown in Table 26. 89/

Table 26

Indexes of Investment in Capital Construction in the Electric Power Industry in Communist China a/ 1950-52, 1953 Plan

Year	Index
1950	100.0
1951	175.0
1952	462.0
1953 (Plan)	2,032.8

a. Each year given as a percent of the 1950 base year.

The present capability of Communist China for manufacturing equipment for power plants is extremely limited. Hence, almost all heavy generating equipment must come from other Soviet Bloc countries, specifically the USSR. In February 1953 a special agreement was signed in Moscow which outlined Soviet assistance to China for the expansion and construction of new power stations. 90/ Restoration of the Suiho hydroelectric power plant was specifically mentioned in connection with the Soviet grant of 1 billion rubles to North Korea for rehabilitation. This plant formerly supplied about 200,000 kilowatts -- about half its capacity -- to Manchuria. Its temporary denial to Manchuria decreased the amount of power available to the Chinese Communist economy as a whole by an estimated 10 percent.

The production of electric power in Manchuria increased from 1.4 billion kilowatt-hours in 1949 to 3.9 billion kilowatt-hours in 1952. Announced plans call for an increase in 1953 of 44 percent over 1952, but if the cutback of the over-all planned increase from 27 percent to 18.3 percent for all China is applied

proportionately to Manchuria, the increase there will be 29.8 percent in 1953. Present production of electric power in Manchuria amounts to over 50 percent of the total power production of China. Other important power production regions in China are East China, 24.6 percent; North China, 13.2 percent; Central-South China, 7.2 percent; and the rest of China, less than 5 percent. 91/

The major input to the electric power industry, other than labor, is fuel for the thermal power plant. With the exception of a few scattered small hydro, diesel, and gasoline-driven plants in China proper and three of the major power plants in Manchuria, all the power plants are steam powered. Even the power plants in the coastal cities, which formerly at times used fuel oil rather than coal, now use coal almost exclusively. It is estimated that in 1952 in Manchuria, 2.4 million tons of coal were consumed in power production, and in China proper, 3.7 million tons. In addition to fuel, there is also a need for water-treatment chemicals, lubricating oils and greases, and repair parts for all equipment. 92/

Communist China is heavily dependent upon Soviet technicians for the improvement of existing facilities and for the construction of additional capacity. The Communists are placing great emphasis, however, on the training of Chinese engineers and technicians for the power industry. It now appears that the principal deterrents to expansion of the Chinese Communist power industry are the lack of capacity to produce generating equipment and of technicians to operate the required generating equipment. Since this equipment is not plentiful anywhere in the Soviet Bloc, Communist China cannot procure the necessary supplies of major power station equipment except under its agreement with the USSR. 93/ A recent Soviet announcement indicates that, with Soviet technical aid and equipment plus Chinese production of small generators, projects already committed will result in an increase of 100 percent over 1952 production. 94/ Therefore, if the present and promised level of Soviet assistance, in the form of technical aid and generating equipment, is continued throughout the period of this estimate, it is possible that power production in Communist China may reach an annual rate of 14 billion to 18 billion kilowatt-hours by 1957.* Actual performance under this plan may be somewhat

* Methodology: This estimate was arrived at by estimating a gradual increase in the rate of utilization of electric power and applying this increasing rate of utilization to the previously estimated available power production capacities; that is, applying the rate of increase

less than this figure; earlier statements by the Chinese Communists indicated they expected to achieve some of their goals by 1959.

c. Ferrous Metals Industry.

The estimated production of iron ore in Communist China in 1952 was 4 million tons; of pig iron, 1,875,000 tons; of crude steel, 1,222,000 tons; and of refined steel, 850,000 tons. 95/

The iron and steel industry is centered at Anshan in Manchuria. Pig iron is also produced at Penhsihu in Manchuria and to a lesser degree at Shih-ching-shan and Taiyuan in North China. Ingot steel is produced at Anshan and Taiyuan and at smaller plants in Tangshan, Tientsin, and Shanghai. The chief rolling mill facilities are in Anshan, Chungking, Shanghai, Taiyuan, Dairen, and Tientsin. Anshan is the only modern integrated steel plant in Communist China, however, and has the largest facilities for producing coke. 96/

Announced plans for 1953 call for an increase of 14 percent in pig iron production over 1952, to reach a total of 2,100,000 tons, a 23 percent increase in crude steel output to reach a total of 1,610,000 tons, and a 34 percent increase in refined steel output to reach a total of 1,140,000 tons. Iron ore production is considered to be adequate, with a possible export surplus of 500,000 tons. Most of the export will probably go to the European Satellites.

Information concerning the volume of investment is lacking, but, as the reconstruction phase nears completion, investment is presumed to be heavy and increasing. The reconstruction and expansion of the Anshan metallurgical plant alone is one of the major investment items in industry. It accounts for a major share of the crude and finished steel output. Although only 4 of this plant's 9 blast furnaces are now operating, the USSR has promised to reconstruct one of the inoperative furnaces so that it will soon be the largest in China, and to convert three preparatory open hearths into open hearth furnaces. In addition, a sheet steel mill and a seamless tubing mill*

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in power production in proportion to the projected increase in industrial activity. Assuming that China receives adequate supplies of generating equipment, the average annual increase in production of electric power would be about 1.6 billion kilowatt-hours in 1953 through 1957.

* [redacted] these mills probably began operations in January 1954. 50X1

are under construction at Anshan, while the rolling mill facilities of the latter are being expanded to achieve a planned annual production of enough steel rails to lay 2,200 miles of single-track line. Since the Chungking rolling mill No. 101 is estimated to be producing enough steel rails to lay 535 miles of single-track line per year, Communist China now has two strategically located rail-producing centers -- one in the Northeast and one in the Southwest -- to satisfy its current rail needs. 97/

Considerable dependence is now placed and will continue to be placed on Soviet engineers and technicians, who have already trained several hundred Chinese workers in the practice of modern metallurgical techniques. The expansion of the iron and steel industry of Communist China is directly dependent on the continuance of Soviet Bloc exports of heavy production machinery and other assorted fabricated steel products. The USSR has promised to assist Communist China during the next 4 years in increasing crude steel production by 4 to 4.5 times the 1952 production and in increasing by 2.5 times the 1952 production of refined steel. Therefore, if the USSR provides sufficient technical aid and equipment for the expansion of the Chinese Communist steel industry, it is estimated that the production of crude steel in China by the end of 1957 will be at the rate of approximately 5 million metric tons per year, and the production of refined steel about 2.2 million metric tons per year.*

d. Nonferrous Metals Industry.

Current production of nonferrous minerals in ore or concentrate form in Communist China is sufficient for the country's needs of such metals, and leaves a surplus for export, with the exception of copper. However, nonferrous metals in semifinished or finished form in some cases are lacking because of the dearth of smelting and refining facilities in China. Table 27** presents the estimated current nonferrous metals position of Communist China in 1952.

Communist China is still one of the world's major producers of antimony and tungsten. Except for a few hundred tons consumed

* This estimate was obtained by multiplying the estimated 1952 crude steel production figure by 4, and the estimated 1952 refined steel production by 2.5. 98/

** Table 27 follows on p. 101.

Table 27

Estimated Nonferrous Metals Position of Communist China 99/
1952

Metric Tons

Mineral	Production	Exports	Refined Metal Imports	Refined Metal Requirements
Copper	10,000 a/	225	2,900	20,000
Aluminum	25,000 b/	25,000	N.A.	11,200
Antimony	10,000 c/	9,500	0	500
Tungsten	15,000 d/	15,000	N.A.	N.A.
Tin	9,000 e/	9,000	0	500 to 700
Mercury	3,000 f/	1,500	0	1,500
Lead	10,000 g/	0	500	10,000
Zinc	9,800 h/	9,300 i/	1,400	8,000

a. Copper metal from scrap and refined ores.
b. Metallic content of produced ores.
c. Metallic content of concentrates and possibly some refined metal.
d. Concentrates, 65 percent WO_3.
e. Metallic content of concentrates and possibly 1,000 tons to 2,500 tons of refined tin.
f. Flasks of 76 pounds net, pure mercury.
g. Lead metal from scrap and refined ores.
h. Concentrates and 500 tons of refined metal.
i. Concentrates.

per year, production is allocated primarily for export, entirely to the Soviet Bloc since the Chinese Communists came into power. 100/ In tin resources, Communist China is potentially the most important tin-producing area in the Bloc (which is not self-sufficient in tin), having an estimated reserve of 1.5 million metric tons of contained tin. 101/ The entire production of tin concentrates in Communist China, amounting to an estimated 12,000 tons of tin content in 1953, is exported to other Bloc countries. Development plans call for the doubling of refined tin production at Kochiu, Yunnan, which means a total refined tin ingot production capacity of 5,000 tons by 1957.

An important export of Communist China to the Soviet Bloc is mercury, since the Bloc is believed to be barely self-sufficient. It is probable that increasing amounts of mercury are being consumed in the Bloc in the production of fulminate of mercury, which is used as a detonator in bombs, grenades, artillery shells, and mines. Soviet technicians have been engaged in mercury mining activities in Southwest China, thus further indicating the emphasis placed on the need of the Bloc for mercury. 102/

The Chinese Communists have never had more than an experimental pilot plant for aluminum production and are, therefore, dependent on imports of aluminum metal. China has large reserves of commercial-grade aluminum ores, a considerable part of which is accessible to transportation. The development of an aluminum industry in China must necessarily follow or parallel the development of large power installations, either thermal or hydroelectric. 103/ Current Chinese Communist official planning envisages an increase in the output of aluminum at Fu-shun, Manchuria, with Soviet aid. 104/

Copper is in quite short supply in Communist China, its domestic requirements possibly being as high as 20,000 tons a year, or twice the estimated 1952 production; these requirements will probably increase rapidly as industrialization progresses. Although China is devoting strenuous efforts to increasing production of copper from deposits in Yunnan and Manchuria, it will remain dependent on the rest of the Soviet Bloc for imports of its refined copper needs during the period of this estimate. The present known copper ore reserved in China -- as well as the possibility of increased copper production from reserves -- render economically feasible an expansion of production of copper to the extent of self-sufficiency. Meanwhile, since the Bloc as a whole is a copper deficit area, the Chinese Communist deficit in copper metal necessitates Bloc procurement from outside sources. 105/

In August 1952 a Ministry of Geology was set up for the purpose of expanding the planning and creation of geologic surveys and the organization of recruitment and training of geologists. The aim is to expand geological work 10 to 25 times in 1953, and further measures are planned for 1954 and 1955. According to plan, in 1953 over 3,500 geology students were to be trained in the Peiping Institute of Geology and by 1956 over 9,000 students will have been admitted for training each year. 106/

Some of the factors which must be overcome if China expects to increase its mining production are the following: lack of modern know-how and equipment for proving of geological ore reserves; generally primitive mining and treatment methods; lack of modern production and local transportation equipment and facilities and improved roads; and lack of skilled labor, engineers, geologists, statisticians, and management. Table 28 shows the estimated nonferrous metals production that Communist China can achieve by the end of 1957, assuming that the other countries of the Soviet Bloc continue to furnish increasing quantities of mining, drilling, extracting, and refining equipment, plus technical advice.

Table 28

Estimated Annual Rate of Production of Nonferrous Metals in Communist China a/
End of 1957

Metric Tons

Mineral	Annual Production
Copper	16,000
Aluminum	60,000 b/
Antimony	16,000
Tungsten	20,000
Tin	15,000
Mercury	4,500 c/
Lead	15,000
Zinc	12,000

a. Methodology: These estimates are based on an analysis of nonferrous metal ores production in China from 1949 to 1953, taking into account prewar peak production, existing production capacity, and Soviet Bloc aid, by projecting the current rate of production increase through 1957.
b. Including possibly 12,000 tons of refined metal.
c. Flasks of 76 pounds net, pure mercury.

e. Petroleum Industry.

The current production of refined petroleum products in Communist China, including Fu-shun production from oil shale, is about 555,000 metric tons per year (3,885,000 barrels). The main oil fields are located at Yumen in Kansu Province and at Wu-su in Sinkiang. The important crude oil refineries, with total capacity of 555,000 metric tons of refined products per year, are located at Yumen, Wu-su, Tihwa (Sinkiang Province), and in Manchuria, and the major shale oil refinery is located at Fu-shun. The extension of the Lan-chou rail line, which should reach the Kansu fields by the end of 1954, should ease the distribution of petroleum and petroleum products originating in the Yumen area. It is quite likely that the Dairen refinery, the Dairen shale oil plant, and the Chin-hsi petroleum refinery, all operating on crude oil received from Sakhalin, may currently be providing approximately 250,000 tons of refined products per year to the Chinese economy. 107/

Current requirements of the civilian economy are estimated at 500,000 tons per year, while military consumption under conditions of the Korean War is estimated at 750,000 tons per year. During 1952, China imported an estimated 1 million tons of petroleum products from the Soviet Bloc. It was expected that this figure would be exceeded in 1953. Most of these imported petroleum products are transported over the Trans-Siberian Railroad through the border towns of Man-chou-li and Sui-fen-ho. Oil also is imported in bulk from the USSR via the Amur river and thence via the Sungari. In 1952 a total of 60,000 tons of oil was imported over this route. The present bulk storage capacity, which is believed to be little greater than the 1949 capacity of 1.4 million metric tons, is located mainly in port cities, Shanghai having the largest oil storage capacity of any city, that is, over 430,000 metric tons. There is a growing need, however, for increased bulk storage facilities at the main inland centers of industrial development. 108/

Under the current Five Year Plan, much emphasis is placed on exploration, exploitation, and refining of oil, particularly in Sinkiang Province, whose oil reserves, according to a Peiping announcement, are estimated at 160 million metric tons, or about 60 percent of the total petroleum reserves of China. Refinery capacity at Yumen, Kansu, is to be "greatly increased." Allocations to geological prospecting in the 1953 budget, which increased 600 percent over 1952, reflect the effort being devoted to petroleum exploration. Almost

all refining equipment and many of the engineers and technicians as well must be imported from the Soviet Bloc. 109/

Since it is very probable that the extension of the Lan-chou rail line to Yumen oil fields will be in operation before the end of 1957, it is estimated that Chinese production of POL products will average about 700,000 metric tons per year through the Five Year Plan period.*

f. Chemical Industries.

Since the current Five Year Plan of Communist China stresses the expansion of heavy industry, a high priority is placed on increasing the total output of such industrial chemicals as sulphuric and nitric acid, caustic soda, soda ash, synthetic ammonia, calcium carbide, and coal tar chemicals. Table 29** shows the estimated 1952 supply situation in Communist China as regards these chemicals.

Only fragmentary information is available concerning the production of chemical fertilizers for agriculture, although an expansion of production capacity is planned. Most of the ammonium sulphate now being produced is in the form of fertilizer, of which the production capacity is estimated to be 187,000 metric tons (20 percent nitrogen) per year. It is estimated that 290,000 metric tons (20 percent nitrogen) of ammonium sulphate comprised at least 95 percent of total fertilizer imports in 1952.

In March 1953 the USSR agreed to assist Communist China in equipping the chemical industry. Announced goals do not indicate the extent of planned expansion, but it is evident that chemical industry planning for increased production is concentrated first on restoring or replacing facilities built during the Japanese era of industrialization in Manchuria and North China. In May 1953 it was announced that a new caustic soda plant was being built in southern Manchuria and that a fertilizer plant had been built in Szechuan Province in Southwest China. Two sulphuric acid plants are

* This estimate is based on an analysis of current oil refinery operating capacities, allowances for current expansion of old and construction of new refining facilities, and an allowance for an increase in production of approximately 100,000 metric tons per year.

** Table 29 follows on p. 106.

Table 29

Estimated Chemicals Position of Communist China 110/
1952

Metric Tons

Chemical	Production	Exports	Imports
Sulphuric Acid (100 Percent)	110,000	0	300
Nitric Acid (100 Percent)	14,000	0	100
Synthetic Ammonia	25,000	0	0
Caustic Soda (98 Percent)	25,000	7,500	50,000
Soda Ash	115,000	41,000	22,000
Chlorine	6,900	0	800
Calcium Carbide	8,000	600	500
Ammonium Sulphate (20 Percent N)	120,000	0	290,000
Refined Benzol	8,600	1,200	100
Toluol	2,160	450	30
Phenol	209	150	800
Xylol	720	20	Negligible
Refined Naphthalene	3,300	500	500
Cresol	417	130	70

reported to be in the planning stage, one in Lan-chou in Northwest China and another in Hsiang-t'an in Hunan Province in South China. Soviet Bloc assistance during 1953 and 1954 is expected to speed up the completion of a total of 3 large and 5 small basic chemical plants. In addition, 1 synthetic rubber plant and 2 large and 1 small pharmaceutical plants are or soon will be under construction. 111/

The chemical industry has three basic requirements for the fulfillment of planned production increases. These are production equipment, technical personnel, and raw materials. These three basic requirements are the major limiting factors on Chinese chemical production. Table 30* shows the estimated chemicals production that Communist China will have attained by the end of 1957, assuming that Soviet Bloc assistance is adequate to satisfy these conditions.

* Table 30 follows on p. 107.

Table 30

Estimated Annual Rate of Production of Chemicals in Communist China a/
End of 1957

Metric Tons

Chemical	Production
Sulphuric Acid (100 Percent)	230,000
Nitric Acid (100 Percent)	44,000
Synthetic Ammonia	55,000
Caustic Soda (98 Percent)	55,000
Soda Ash	205,000
Chlorine	10,000
Calcium Carbide	24,000
Ammonium Sulphate (20 Percent N)	270,000
Refined Benzol	17,700
Toluol	4,500
Phenol	430
Xylol	1,500
Refined Naphthalene	6,900
Cresol	860

a. This estimate was based on an analysis of present operating plant capacities, with due consideration given to promised Soviet Bloc technical and material assistance, by projecting current annual rates of increase for each chemical through 1957.

With the exception of the motor tire industry, very little current information is available concerning the production of rubber goods.

The synthetic rubber industry of Communist China is still in the experimental phase. It is estimated that it will take many years for China to become self-sufficient in natural rubber. In the meantime, Chinese Communist rubber requirements are being satisfied mainly by Ceylon. 112/ [redacted] up to 45 percent of the natural rubber imports of Communist China have been re-exported to other Soviet Bloc countries. 50X1

Much emphasis is being placed on the development of rubber tree plantations on Hainan Island. It is possible that 10,000 metric tons of indigenous natural rubber may be produced by 1960, but a more probable production estimate is that slightly more than half, or 5,600 metric tons, will actually be produced. Consumption meanwhile is estimated at 30,000 to 35,000 metric tons per year, with the rubber footwear industry consuming the largest proportion.

Since 1950 the Chinese Communists have been striving to expand production of motor vehicle tires, particularly truck tires. It is estimated that there are some seven tire plants in operation in Shanghai, Tsingtao, Shen-yang (Mukden), Canton, and Tientsin. The plants in Tsingtao and Mukden are the largest producers. By the end of 1953, motor vehicle tire production in Chinese plants may exceed 300,000 sets. 113/

Current planning envisages increased Soviet Bloc exports of production equipment to provide for the replacement of worn-out machinery, as well as to provide for the expansion of the Mukden and Tsingtao plants, whose capacities are expected to be doubled. Recent information reveals that at least one of these plants (probably the Tsingtao Plant) has been equipped to produce tires for MIG-15's in use in North Korea. 114/

Chinese imports of Soviet Bloc and non-Bloc tires have steadily declined in quantity since 1951 and are now believed to consist only of special-size tires which either are not produced or are in limited supply in China, that is, 10.00 x 20 heavy duty truck and bus tires, and tires for farming and roadbuilding equipment.

In view of present operating plant capacities and prospective imports of tire machinery from the Soviet Bloc, it is estimated that Communist China by the end of 1957, will have the capacity to produce about 700,000 sets of motor tires per year, which will completely satisfy its requirements (except for special sizes).*

* This estimate has been formulated on the basis of annual production capacity increases of about 50,000 sets per year.

g. Engineering Industries.

The Chinese Communists are heavily dependent upon imports for capital goods. Their investment program for the period of this estimate has been designed to reduce this dependency, particularly as regards capital inputs in the basic industries -- coal, electric power, iron and steel, and machine building. The estimated 1952 production of metal-cutting machine tools was approximately 6,500 units, and of antifriction bearings 430,000 units (the latter representing about one-fourth of the Chinese Communist current estimated requirements for bearings). 115/ Production of machine tools in 1953 was expected to be increased by 4.6 percent, to approximately 6,800 units.

Tables 31 and 32* present the major new construction and reconstruction projects under way in 1953-54 in the machine building industries.

Fulfillment of the present Chinese program of industrial expansion and development probably will be achieved mainly by imports of technical aid and industrial machinery, and of electrical, electronic, and transportation equipment from the Soviet Bloc. In view of the small number of engineers and skilled workers and their generally inadequate technical knowledge, it appears evident that the immediate problem is to train enough engineers and skilled workers so that a skilled manpower base may be established upon which future industrial expansion may develop. At the present time, domestically trained technical and administrative personnel continue to be inadequate in number and knowledge, so that the deficit developing with industrial expansion must be filled with Bloc personnel. 116/

By the end of 1957, the Chinese Communists will have undertaken integrated production of such items of heavy industrial equipment as trucks, tractors, locomotives, electronic equipment, and marine engines; but it is estimated that, to obtain supplies of these items sufficient for further industrial expansion, Communist China will continue to find it necessary to rely on imports of most of these items within the period of this estimate. It is further estimated that by the end of 1957, in view of the priority on expansion of producer goods production in Communist China, the annual production of

* Tables 31 and 32 follow on p. 110.

Table 31

Major New Construction Projects in the Machine Industry
in Communist China
Under the Five Year Plan

Industry	Name of Plant	Location	Date of Initiation	Completion Target Date
Machinery, General	Northeast No. 1 Measuring Instrument Plant	Harbin	1953	1954
	T'ai-yuan Heavy Machine Building Plant	T'ai-yuan	1950	1955
Machinery, Textile	Ching Wei Textile Machine Plant	T'ai-yuan	1951	1953
Machinery, Farm	Farm Machinery Plant	Mukden	1953	1954
Machinery, Electric	Northeast No. 4 Electric Machinery Plant	Harbin	1951	1953
Automotive	No. 652 Automobile Plant	Harbin	1953	1954
Shipbuilding	Shipbuilding Plant	Whampoa	1953	1956

Table 32

Major Reconstruction and Expansion Projects
in the Machine Industry
in Communist China
Under the Five Year Plan

Industry	Name of Plant	Location	Date of Initiation	Completion Target Date
Machinery, General	Northeast No. 1 Machine Tool Plant	Mukden	1953	1954-55
	Northeast No. 2 Machine Tool Plant	Mukden	1953	1954-55
	Pneumatic Tool Plant	Mukden	1953	1954-55
Machinery, Mining	Fu-shun Machinery and Electrical Equipment Plant	Fu-shun	1953	N.A.
Machinery, Electrical Machinery	Northeast No. 7 Electric Machine Plant	Mukden	1953	1954-55

antifriction bearings -- a critical item -- will be about 1 million units; this will be considerably less than the Chinese Communist estimated annual requirements of about 2 million units, thus indicating continued reliance on foreign imports. (As regards machine tools, annual production is planned to reach 22,750 units by 1957, depending on Soviet aid and the schedule of activating newly constructed plants.)

h. Armaments Industry.

The armaments industry of Communist China today is in the midst of a modernization program, but is not yet capable of meeting all equipment requirements of the Chinese Armed Forces. Arsenals have suffered looting by the USSR, by the Chinese Communists (when they were afraid of recapture by the Nationalist), and by the Chinese Nationalists when they were retreating to Formosa. The building of a modern armaments industry is stated to be of highest priority in current economic plans. The Chinese Communists have acknowledged Soviet assistance in this effort, and it would be logical to assume that standardization based on Soviet types of equipment is to be enforced as in the European Satellites. As the Chinese Communists proceed toward that goal, they are concentrating their productive effort on infantry regiment equipment -- that is, small arms, machine guns, mortars, and some light artillery 117/ -- and are still receiving the large-caliber artillery, tanks, and other heavy equipment from the USSR.

Small arms equipment is the major end item in the Chinese Communist armaments program. At least 200,000 pieces are known to have been produced in 1952. 118/

Production of light artillery pieces is on the increase. Production of recoiless rifles and rocket launchers does exist. 119/ It is indicated that the industry has been modernized so that it is now on a level of production of about that of World War II. This level of production is still inadequate for the needs of Communist China.

The geographical distribution of the armaments industry differs substantially from that of other engineering industries in Communist China, since the location of armaments plants has in the past been determined more by considerations of short-range political and military strategy than by longer-range, basic economic factors. Most of the larger armament plants are located in or near large urban areas with ready access to transportation and power facilities. Many

of the small establishments, however, are located in areas remote from cross-country transportation routes. Adjacent to past military frontiers, they utilize portable generators for power supply and pack animals for transport. In all, there are reportedly about 160 arsenals in operation, employing about 260,000 workers. During 1950 and 1951, many small arsenals and repair shops were consolidated particularly in the Central-South China area. 120/

At the present time the most important center of armaments production in China is Mukden. [redacted] 50X1 the Mukden arsenal and its branches are operating at 100 percent capacity, employing about 30,000 workers, and accounting for about one-half of the armaments production of Communist China. 121/ Mukden arsenals reportedly are producing small arms, machine guns, and mortars at a very high rate. [redacted] 50X1

[redacted] 50X1

Reputedly, the second most important arsenal is located at T'ai-yuan. This arsenal [redacted] was reconstructed along Soviet lines in mid-1950 and is now capable of producing light artillery and various kinds of automatic weapons. 50X1 In 1949 it was reported as having a monthly production rate of 5,000 rifles, 1,300 machine guns, 300 mortars, and 48 mountain guns.

Other important arsenals are located in Chungking, Canton, and Nanking. Soviet equipment for weapons manufacture was furnished to the 21st, 24th, and 29th Arsenals in Chungking in 1950. The 21st Arsenal is considered the fourth largest in China.

At Canton, the former Stonewell (Shih-ching) Arsenal (renamed the South China Arms Factory) was expanded between September 1950 and June 1951 under plans drawn up by the Soviet Advisory Commission. 123/ This plant is important in supplying the Viet Minh forces in Indochina. It was reported in 1951 to be producing weekly 200 rifles, 100 machine guns, 56 mortars, and 4 antitank guns. 124/ Monthly production of ammunition was 3,000 rounds of mortar shells, 300,000 small arms rounds, and 5,000 land mines. 125/

The 60th Arsenal at Nanking was reported modernized by early 1950, having been reequipped after the Nationalists had moved out with the machinery. 126/ In 1951 it was engaged in producing submachine guns, small arms ammunition, mortar ammunition, and in rebuilding rifles.

[redacted] 50X1

Ammunition is being produced both at the arsenals and in countless small workshops throughout China. Table 33 presents a comparison of ammunition production in Nationalist China in 1948 with ammunition production in Communist China in 1950 and 1952. Ammunition production is a field in which the Chinese have had long experience and, are well able to turn out large quantities, particularly in the small arms field. Nevertheless, huge quantities have been required from the USSR to meet wartime consumption rates.

Table 33

Production of Ammunition in China
1948, 1950, and 1952

Thousand Units

Item	1948 a/	1950 b/	1952 c/
Small Arms Ammunition	403,700	432,640	532,800
Mortar Shells	3,059	1,740	2,040
Artillery Shells, All Types	182	98	5,436
Grenades	10,751	15,072	19,800

a. The 1948 estimate excludes Communist production in the Northeast District for which no data were available.
b. 1950 estimates were based on (1) past production, [redacted] and (3) the condition and capacities of the arsenals reported making the items in question. 50X1
c. Data were quoted [redacted] on a monthly basis applying to the first 3 months of 1952. Annual estimates were obtained by multiplying by 12. 50X1 50X1

In addition to the above more important centers of production there are many smaller ones about which little is known. [redacted] following the departure of the Nationalists, arsenals were gradually put back into operation. 50X1

After the intervention in Korea, there ensued a phase in which machinery was removed from the arsenals in reach of aerial attack to other locations in China. When the attacks did not materialize, modern Soviet equipment was brought in, together with Soviet technicians, and the arsenals were modernized along Russian lines. Thus it is logical to assume that production in 1952 was substantially higher than in 1951.

The armaments equipment needs of Communist China are tremendous both because of Chinese ambitions in Asia and because of the nature of a Communist state. It must supply its regular field forces (of which 878,000 were in Korea as of November 1953), the Public Security Troops (a special burden of the Communist state), and in addition the Peoples' Militia. These forces are broken down as follows 127/: field forces, 2,233,000, public security troops, 1,450,000, and Peoples' Militia, 6 million -- a total of 9,683,000.

Communist China is making progress but is not yet self-sufficient in the production of small arms, light and heavy machine guns, mortars, and certain types of light artillery. The same holds true for the production of ammunition for these types of weapons. Communist China is now and probably will continue throughout the period of this estimate to be heavily dependent upon Soviet Bloc technical assistance and exports of such armaments as tanks, antiaircraft and antitank guns, rocket launchers, and most types of heavy field artillery, as well as their ammunition supply.

Any estimate of future Chinese strength must also consider the extent of this Soviet aid. Supplies of weapons have been streaming in at a rate of approximately twice that of Chinese production. If, then, Soviet aid continues at the present high level and Communist China produces to the utmost of its capacity, the accomplishment of the Five Year Plan begun in January 1953 would result in a modern army of over 2 million men in Communist China, which would greatly enhance the military power of the Soviet Bloc.

i. Cotton Textile Industry.

The cotton textile industry, which is still 50 percent in private hands, is among the most modern enterprises operating in Communist China. It has made rapid recovery since the advent to power of the Communists. At the beginning of 1952, the Chinese Communist cotton spinning industry had a total of 5.1 million spindles, of which approximately 4.8 million were in operation, thus ranking Communist China third in Asia and seventh in the world in cotton yarn production. 128/

Strict government supervision is exercised through the China Cotton, Cloth, and Yarn Corporation, a government agency which allocates raw cotton to mills and controls the disposal and price of the finished product. Increasing government control is now the most significant aspect of the industry, not only because textile manufacture is of major importance to the Chinese economy but also because it is the leading industrial producer and employer of labor (over 50 percent) and is a major contributor to Chinese domestic and international trade. 129/

Between 80 and 90 percent of Chinese cotton textile producing capacity is concentrated in the Shanghai, Tientsin, and Tsingtao areas and in Southern Manchuria. Shanghai alone has about 46 percent of Chinese spindlage. In 1952 and 1953 the emphasis was on the development and expansion of the textile industry in such areas as Wuhan, Canton, Sian, Lan-chou, Tihua, Nanking, and Chungking.

Table 34 gives cotton yarn and cotton cloth production figures for the period 1949-53, based on Communist claims. These figures have been projected through 1957 on the basis of an expected average annual increase of about 10 percent for cotton cloth and one of about 5 to 10 percent for cotton yarn.

Table 34

Cotton Yarn and Cotton Cloth Production in Communist China 130/
1949-52, 1953 Plan, and 1957 Plan

	1949	1950	1951	1952	1953 Plan	1957 Plan
Cotton Yarn (Metric Tons)	322	446,615	354,000	410,000	466,000	550,000
Cotton Cloth (Million Meters)	640	1,116	1,050	1,200	1,300	1,700

j. Construction Industry.

The current Five Year Plan envisages the expansion of such Chinese basic heavy industries as the metals, fuel, power, heavy machinery, and basic chemicals industries. The present trend is to build up the existing industrial centers, particularly in Manchuria, and simultaneously to develop and build new centers deep in the interior so as to provide a relatively invulnerable base in the event of attack. The cement industry is centered largely in the Northeast, where 14 plants were built by the Japanese. A second but less dense concentration is in North China. Other plants are scattered throughout the country. The cement industry is taken as the key to construction activity, since it furnishes the principal ingredient of new installations. Its development is vital to the growth of the Chinese economy.

The Communist program of industrializing the country creates a large demand for industrial buildings to house manufacturing plants and offices and to provide roads and airfields to modernize the transportation system, all of which require large quantities of cement. In addition, military end items such as bunkers, pill boxes, coast defenses, and other defensive measures require large quantities of cement in their construction. Estimated production of cement for 1952 was 1,750,000 metric tons. Cement production in 1953 is expected to increase by about 30 percent over 1952 to about 2,275,000 metric tons. 131/

In view of the large quantities of cement that will be needed to accomplish the main goals of the current Chinese Communist Five Year Plan, it is estimated that by 1957 China will be producing cement at the rate of about 3 million metric tons per year.*

k. Communications.

(1) Railroads.

The ability of Communist China to support industrial expansion and retain economic cohesion and political control, as well as its ability to support possible military operations, depends upon the capability of its transport network. The Communist government

* A rough projection allowing an average annual rate of increase of about 10 percent over the 1952 estimated production figure.

recognizes this situation, as evidenced by their 1953 State Budget, 132/ in which transport and telecommunications are to receive 6.36 percent of the 1953 state expenditures, following "national defense," "industry," and "social, cultural, and educational."

In capital outlay, the rail system probably receives the greatest emphasis. When the Communists ascended to power, they took over a rail net located primarily in the Northeast, North, and East China regions with a few long extensions to the West, which loosely connected nodes of industrial production and consumption. Since then the railroads have been under complete government controls, and the government has devoted attention to rehabilitating the existing lines and constructing new lines to extend the existing net. At the end of 1952, the net totaled 24,232 kilometers. New construction is primarily concentrated in the western regions and is undoubtedly based strongly on strategic considerations, although economic factors are also important. The Ch'eng-tu - Chungking line was completed in 1952, and work to extend this line through to T'ien-shui is now in progress. When completed, it will provide the rich Ch'eng-tu Basin with a through rail connection to the eastern part of the country for the first time. Also completed in 1952 was the T'ien-shui - Lan-chou line, which is being extended into Sinkiang. This railroad serves the dual purposes of connecting the Northwest with the rest of China and of stimulating the USSR to connect its rail system in Kazakh ASSR with this line via Tihua. Planned for future construction is another line from Pao-t'ou in Suiyuan Province to Ulan-Bator in Mongolia. These are ambitious projects and will probably not be completed by 1957, but it should be noted that with their eventual completion Communist China and the USSR will be connected by two more lines, which will markedly increase the capabilities of the USSR to move material to China.

At the present time the rail net is capable of satisfying the demands of the economy in 1952, it originated approximately 131 million metric tons of freight, this being an increase from 110.5 million metric tons originated in 1951, 133/ and 99.2 million metric tons originated in 1950. 134/ Total tonnage in 1952 included such bulk goods as coal (33 million metric tons), timber (4,350,000 meter tons), iron ore (4 million metric tons on short hauls), and grain (3,750,000 metric tons). 135/ Since the Communists took over the rail system, there has been a trend to utilize rail lines wherever possible for movement of manufactured goods which had traditionally been carried over water routes. Rail traffic volume is concentrated on North China and Manchurian lines.*

* See Figure 14, following p, 156, below.

The Chinese plan to increase rail transport from 59,461 million ton-kilometers achieved in 1952 136/ to 63,800 million ton-kilometers in 1953, a 7.4 percent increase. 137/ It is to be noted, however, that a primary weakness of the Chinese Communist rail system is the continual capacity utilization of freight cars under present operating methods; little or none of the car park is held in reserve.

The Chinese railroad system is believed to have other weaknesses. Although rolling stock is in good repair, 138/ rail replacement may be behind schedule. This weakness may be overcome within the next five years by additional production from the new steel-fabricating plant at Anshan, scheduled to begin operation late in 1958 with a planned yearly rail production sufficient to lay 2,200 miles of single-track lines per year. 139/

The rail net as it is presently constituted has four major weaknesses. The first is that the Peiping-Mukden line via Tientsin and Lin-yu, and running for a considerable part of its length on the coast, is at present the sole link between China proper and Manchuria, and by through connections with the Trans-Siberian Railroad. The Peiping-Jehol line is an alternate to the Peiping-Mukden railroad and is presently being rehabilitated. With it in operation, the burden on this route will be lessened; this alternate route, however, will probably have a low capacity. With the completion of the rail lines through Mongolia and Sinkiang mentioned above, the railroad traffic capacity between the USSR and China will be further enhanced. Second, the 75-mile section of track between Chu-chou and Heng-yang is a serious bottleneck on the main railroads connecting Canton and Indo-china with Hankow and Shanghai, as it forms the center of a large X, carrying the burden of two main lines. This weakness could be overcome by double tracking, but as far as is known, this is not planned. The third major weakness is the fact that the Chinese rail net is cut in two by the Yangtze River. Connections across the river are necessarily by ferry at Nanking-Pukow, where the ferries are estimated to be capable of handling line capacity, and at Hankow-Wuchang, where facilities are not adequate. A railroad bridge across the Yangtze at Hankow is planned, but it probably will not be completed within the next five years. 140/ The fourth major weakness of the existing rail net is the lack of double track on main trunk lines; the Peiping-Mukden and Harbin-Dairen lines are the only double track lines in the entire system. Although the present system can adequately handle present tonnage allocations, planned industrial expansion during the next 5 years should tax main

lines in industrial areas. Double tracking on these lines could be the answer, although no double tracking plans have been noted.

An offsetting factor to these weaknesses is the centralized control of all lines in the Ministry of Railroads which adds an element of flexibility in the use of the transportation equipment and should permit a higher rate of utilization than might be possible under decentralized management.

(2) Highways.

Highway construction is being planned on conjunction with rail and water routes and with new highways connecting with rail lines and/or ports to facilitie a more rapid movement of goods in the interior areas. In addition to internal construction, the Communists are pushing construction on roads to the Northwest in Sinkiang Province to link up with the USSR, construction or repair on roads to the South to link up with nets in Indochina, and construction to the Southwest on the Tsinghai-Tibet highway designed to strengthen Communist control over Tibet.

The Communists have continued the UNRRA highway rehabilitation program, restoring or constructing new roads at the rate of about 8,000 kilometers per year. Although the Central Ministry of Communications is responsible for regulations relative to management and engineering standards, individual provinces appear to be responsible for construction of all roads, either provincial or national. Labor comes primarily from corvees, "anti-Communist corrective labor" groups, or the military. About 46 percent of all highway mileage is concentrated in the Northwest, with East China, Hunan, and the coastal areas in Hopeh receiving a large concentration also. 141/ Generally, the roads are not paved, except in urban areas, crushed-rock surfacing predominating.

Construction efforts of the Chinese Communists are being supported by the USSR. New fixed structures, such as bridges, are of Soviet design; Soviet technicians are involved in all important projects; and most of the new roadbuilding equipment is of Soviet make. Soviet influence on Chinese highways is significant in that new and stronger methods of road construction being introduced are increasing the physical capacity of the roads for supporting heavier equipment. Road maintenance is well organized but not extensive at present.

The Chinese Communists are primarily dependent upon the USSR for their motor-powered rolling equipment. The Chinese Communist government, however, is presently increasing its civilian truck inventory with US, UK, Czechoslovak, and German models as well as with trucks of Soviet make. The estimate of Chinese Communist truck inventory for 1952 is 52,350 units. 142/ Military vehicles add considerably to trucking potential. Animal-drawn vehicles, pack animals, and porters still carry much of the tonnage moving over Chinese highways.

The importance of the highway system to the economic scheme of individual areas varies greatly, from being the main trunk transport system in areas such as interior Fukien and numerous areas in the Northwest and Tibet, to being feeder routes to the rail and water networks over most of the country. Long-distance motor transport is not feasible in most areas; fuel is at a premium and under strict government control. In 1952 the average length of haul was about 63 kilometers. 143/

Consumer goods, mainly foodstuffs, make up the bulk of tonnage carried over the highways; building equipment, industrial equipment, and petroleum products rise in proportion in and around urban areas; the Wu-wei - Lan-chou highway carries heavy truck traffic in POL. Total highway tonnage, however, is relatively small compared to railroad and water traffic.

Trucking enterprise is at present primarily carried out by government-sanctioned firms or by government-owned and -operated joint transportation organizations, which have been set up to consolidate supplementary transport, such as trucks and junks, so that produce could be moved out of the rural areas more efficiently and the main transport lines could be utilized in the most effective manner. These organizations have improved rural transport and are at present an integral part of the national transport system. This centralized, integrated commodity flow is probably one of the more important innovations of the Chinese Communist regime in the improvement of the economy.

(3) Water Transport.

Water transport is traditionally one of the most important facets of the Chinese economy; on the lower order, small sampans operate on creeks and canals with local produce, working up through larger streams and canals to the main trunk river routes, the Yangtze, the Yellow, the Sungari, and, to a lesser extent, the West and North River systems in Kwangtung, and the north and south trunk coastal routes.

Realizing its importance, the Communists have socialized water transport almost completely through ownership, licensing, and commodity control. Primary responsibility for shipping lies in the Central Ministry of Communications, and is executed through the Sea Transport Main Bureau and the River Transport Main Bureau on the national level, and the Provincial Departments of Communication and Joint Transport Corporations on the local level. Inland and ocean transport account for about 10 percent of all ton-kilometer performance of the Chinese Communist transport network. In 1952, it is estimated that inland water transport accounted for 5,400 million ton-kilometers and ocean transport for 600 million ton-kilometers. This is far below 1936 levels when inland water transport totaled an estimated 20,300 million ton-kilometers and ocean transport 2,200 million ton-kilometers.

The North China coastal area -- that is, that area north of Wen-chou in Chekiang Province -- is under the administration of the East China and North Sea District Sea Transport Administration Bureau of the Sea Transport Main Bureau. It is estimated that these organizations operate about 90 percent of the tonnage in the area, and control virtually all of it. Shanghai is the shipping center of this area, with repair and construction facilities for the area, and for the Yangtze. Dairen, Tientsin - Ta-ku, Tsingtao, Chinwangtao, Chefoo, Ying-k'ou, Hai-chou - Lienyunkang, Wei-hai-wei, Lung-k'ou, and Shih-tao rank in about that relative order of importance within the area. The shipbuilding and repair facilities of Dairen are Chinese-owned but controlled by the USSR; no Chinese ships are repaired at Dairen, except in cases of emergency. Coal from Chinwangtao and Dairen and POL from Tsingtao, Dairen, and Ying-k'ou, moving to Shanghai, are the principal oceanborne commodities going south; grains, the principal commodity moving north. Approximately 2.5 million tons of cargo were moved by government shipping during 1952 in this area.

The inland system in South China transports primarily foodstuffs and consumer goods. The South China District Sea Transport Administration Bureau administers the South China coastal area -- that is, that area south of Swatow. Canton is the shipping center, both for the coastal section and for the inland waterways system extending up the West and North Rivers. Cargoes along the coast are primarily strategic in nature, supporting military establishments in the delta region and especially on Hainan. Swatow, Hoihow, Pakhoi, Tsamkong, and Yulin are the other major ports in this area. The Chinese Communists are building up the merchant fleet in this area, indicating their possible interest in opening the coastal

route up the east coast between Swatow and Wen-chou, which is at present served only by limited junk trade. British, Norwegian, and Danish flag shipping sails out of Hong Kong on scheduled runs up the coast. Sporadically, armed Communist merchantmen penetrate the area from either the north or the south.

The Yangtze River Navigation Affairs Administration Bureau at Hankow is the control for shipping on the Yangtze, which is the only connection at present between the rich Ch'eng-tu Basin and the rest of China, and which is the major east-west trunk route of the country. The Yangtze River system carries by far the largest amount of commerce of the Chinese waterways. During the first half of 1953, over 2.5 million tons of cargo were transported over it. 144/ Coal and grain are the primary commodities transported on the lower reaches, while the stretch between Hankow and Chungking, being the only link between the two areas, carries all classes of consumer goods upstream and local produce, ores, and local manufactured goods downstream. During 1952, building materials and industrial goods replaced grain, cotton, and local agriculture as the principal products carried on the system as a whole. Under the Communists, towboats are replacing the traditional junks. Government shipping handles over 70 percent of all transport on the river, most of the remainder being controlled by the government through Joint Transport Corporations. 145/

The Sungari River in northern Manchuria is important in that it is a convenient transport link between China and the USSR. Indications are that operations, centered at Harbin, are still in the early stages of development. POL from the USSR, timber, and coal are the main commodities moving on the river. Although frozen from November to April and subject to flood conditions in the spring and fall, the Sungari probably will remain significant because of its link with the Amur River and the USSR.

Chinese Communist water transport is adequate to handle present internal requirements. Because of the reorientation of traffic requirements to a north-south direction, the Communists have not utilized fully the existing river transport capacity. A major problem facing the Communists has been obtaining cargoes to fill the existing bottoms for river shipping. Communist shipbuilding plans have been oriented toward replacement of existing barge tonnage and repair of powered units, rather than toward expansion of river transport capacity.

The outstanding weakness in the Chinese Communist flag ocean transport is its dependence upon other nations to furnish vessels to handle large-scale overseas commerce. The largest vessel known to be in the ocean fleet is less than 7,000 gross tons. Trade controls brought about by the Korean War and Nationalist harassment from Formosa have also been retarding factors in any possible expansion beyond Chinese Communist waters for Chinese Communist flag merchantmen.

Water transport policy in Communist China is along the following lines. First, it is aimed at obtaining complete control over commodity movements and shipping organization. This phase of policy has been implemented generally, and has had the effect of greatly improving commodity flow. Second, it attempts to improve operating procedures and centralized control. This phase of the policy is now being implemented and will probably govern operations for the next 5 years. Third, it attempts to lower passenger fares and freight rates.

Water routing will probably be expanded chiefly in the area along the east coast, if possible. Improvements on river segments in Northwest and West China are planned, but will be important primarily only to the local economy. Expansion to overseas flag service depends on a peaceful conclusion to the Korean War, no further Chinese Communist aggression, and elimination by the Communists of Nationalist interference. Until these requisites are met, the Chinese Communists will continue to rely upon Soviet Bloc and non-Bloc shipping for foreign commerce, and will utilize their own vessels in overseas commerce very little.

In summary, the Chinese Communist communications system is now under complete government control. The Korean War has had the negative effect on the system as a whole of diverting capital investment to support the war effort instead of placing it on domestic economic development. Thus major improvements on the transport net to support the war effort were made in Manchuria, where the nets were already the best in China. Because of the war, the Chinese Communists have had to depend more upon Soviet transport technology than would have been the case possibly if war necessity had not moved the West to restrict trade in technical equipment. In the past the USSR furnished a negligible part of such requirements.

Since assuming power, the Communists have united the transport networks to a degree never before known to the country. This unification was a necessary measure for their enforcement of economic controls; it will probably continue to be a motivating factor in their planned industrial expansion during the next 5 years.

(4) Telecommunications. 146/

In Communist China an estimated 80 percent of the available telephone and telegraph service is consumed by industry and government (civil and military). Telecommunications services are concentrated in the more industrialized and more heavily populated eastern section of the country: East China is estimated to handle about 45 percent of all telecommunications services in China; North China, about 21 percent; Northeast China, 20 percent; and Central-South China, about 11 percent; thus totaling 97 percent for these 4 regions. The Southwest, Northwest, Tibet, and the Inner Mongolia Autonomous Region then account for the remaining 3 percent. 147/

The types and makes of equipment are many and varied, with little attempt made at standardization, thus influencing the quality, continuity, speed, and costs of operation. In the larger cities where dial-system telephone equipment and modern telegraph equipment exist, the systems are probably fairly efficient. Elsewhere, efficiency is undoubtedly low. Efficient operation of the telecommunications industry requires skilled manpower, which is scarce. Other limitations contributing to this inadequate and inefficient system are: a primary lack of production facilities needed to build up and maintain the industry, difficulty in importing equipment and apparatus, and lack of technological "know how" and technicians.

The Soviet Bloc is capable of aiding China in respect to production of equipment, technical knowledge, and skilled personnel. Aid has been rendered, but its extent is not known.

The 1953 investment plant 148/ indicates that telecommunications services are recognized as a vital element in the buildup of the national economy of Communist China. Telegraph wireline has been increased 24 percent since 1949 to 133,000 kilometers of line and 212,800 kilometers of wire in 1952; telephone line has been increased 15 percent since 1949 to 435,000 kilometers in 1952. This stress will probably continue, and additions to the presently inadequate plant are in process. The program for increasing automatic dial telephone facilities and plant, as well as for modernization of

telegraph equipment and operation, probably will be continued. Radio broadcasting and receiver facilities will probably be increased and improved, especially in the sparsely populated sections of the country, as this medium can play a vital role in achieving order, cohesion, and discipline among the populace. Service generally will probably continue to be available primarily to the government.

C. War-Supporting Capabilities.

1. Elements of Weakness.

A good short-run measure of the limitations of Communist China in waging a modern mechanized war is the present state of development of certain important industries necessary for waging such a war. These are the heavy metallurgical, machine tool, aluminum and magnesium, chemical, civil aviation, railroad, and electric power industries. The reason for selecting civil aviation as one of the criteria is that, in addition to providing an important supply of pilots and personnel trained in aircraft maintenance and operation, this industry can also supply planes, especially of the transport type, for military operations. Civil aviation also stimulates the construction and maintenance of airfields that can be used for both civil and military purposes.

Table 35* indicates that those industries which are important in waging a modern mechanized war are relatively small or undeveloped in China. If the status of these eight industries can be considered as a reasonable criterion for setting limits to the capacity of a country to wage a modern war, it must be concluded that China alone cannot support a war against a typical industrial country. Of all the large countries, India is the only one whose industries are about on a par with those of China.

Japan, a much smaller but more highly industrialized country, has a higher production in all the commodities listed except crude oil. Japan exceeds China in the production of pig iron by 2 times, crude steel by almost 6 times, machine tools by 1-1/2 times, sulfuric acid by 21 times, chlorine by 7 times, calcium carbide by 60 times, nitrogen and hydrogen in the form of synthetic ammonia by 20 times, and electric power by almost 6 times. Japan also has about 8 times the petroleum refining capacity of China. By 1952, Japan had not been allowed by the Allied powers to establish civil aviation lines.

* Table 35 follows on p. 126.

Table 35

Comparison of Communist China with Other Countries in the Production of Selected Commodities and Services 149/
1952

Item	Communist China	India	Japan	USSR	UK	US
Iron and Steel (thousand MT)						
Pig Iron and Ferroalloys	1,875	1,884	3,588	25,100	10,668	55,812
Crude Steel	1,222	1,608	6,996	34,300	16,380	84,516
Machine Tools (Machines)	6,500	2,700	9,000	85,000	60,000	180,000
Aluminum (thousand MT) (Smelter Production)	0	3.6	42.72	220	28.4	850.8
Magnesium (thousand MT)	0	0	0	33	8	105.8
Chemicals (thousand MT)						
Sulfuric Acid	110	101 a/*	2,350 d/	2,500	1,355	11,700
Chlorine	6.9	5.1 b/	49.5 e/	265	200 h/	2,300
Soda Ash	115	45 c/	468.0 f/	865	2,500 i/	4,260
Calcium Carbide	8	5	485 g/	300	93 j/	620 k/
Nitrogen and Hydrogen (in the form of synthetic ammonia NH_3)	25	10 l/	510 m/	616	300 n/	2,000
Oil (thousand MT)						
Crude Oil	315 o/	273	286	44,000	55	306,000
Refining Capacity	550	282	4,356	52,375	26,319	357,213
Civil Aviation (thousands)						
Passenger Kilometers	37,732	378,468	0	N.A.	1,978,524	25,030,572
Cargo (net-ton kilometers)	3,333	24,252	0	N.A.	71,412	650,928
Railroads (billion net-ton kilometers)	59.5	46.9	38.0	738	36.0	897.6
Electric Power (billion KWH)	7.6	6.2	43.2	117.0	62.0	398.9

* Footnotes for Table 35 follow on p. 127.

Table 35

Comparison of Communist China with Other Countries in the Production of Selected Commodities and Services 149/
1952
(Continued)

a. 1950.
b. 1950.
c. 1950.
d. 1951.
e. 1951.
f. 1951.
g. 1951.
h. 1949.
i. 1950.
j. 1948.
k. 1949.
l. 1950.
m. 1951.
n. 1949.
o. Chinese figure includes shale oil; the others do not.

Table 36* compares US production in the same industries in 1952 with that of China and the USSR combined. Column 3 shows that the US production of the commodities listed surpasses production in the two Soviet Bloc countries from 2 to 8-1/2 times. These comparisons must be made with caution, however, because the US, to achieve minimum goals, must allocate a portion of the output of these industries to many uses which the Russians and the Chinese Communists regard as of low or negligible priority.

It appears, in addition, that the contribution of Communist China to the USSR-China combination is quite small: 7 percent in pig iron; 3.4 percent in crude steel; 7 percent in machine tools; no contribution in aluminum and magnesium; 4.2, 2.5, 11.7, and 2.6 percent in sulfuric acid, chlorine, soda ash, and calcium carbide, respectively; 3.9 percent in synthetic ammonia; 0.7 percent in the production of crude oil; and 0.1 percent in refining capacity. China also has 7.5 percent of the total USSR-China railroad freight net ton kilometers and 6.1 percent of the electric power. These percentages would be considerably smaller if the contribution of Communist China to the whole Soviet Bloc were calculated.

2. Elements of Strength.

Although Communist China does not have the industrial capacity to support a modern mechanized war, it does have the capability to fight a limited war in Indochina, Malaya, Burma, or practically any other place in South Asia. To engage in warfare with an unindustrialized country, Communist China needs only manpower, small arms and ammunition, small field pieces, and the necessary transportation.

As shown in Table 37,** both the total population and the number of persons in the 15- to 65-year age group of China are considerably greater than those of any other country in South Asia. Communist China is also overwhelmingly superior over these countries in the production of light weapons and ammunition. Assistance from the Western countries probably could compensate for the deficiency of other South Asian countries in small arms production and ammunitions but the great superiority of Communist China in manpower cannot be overcome. The terrain and the type of warfare which the Chinese

* Table 36 follows on p. 129.
** Table 37 follows on p. 130.

Table 36

Comparison of Communist China and the USSR with the US in the Production of Selected Commodities and Services
1952

Item	Combined Production of Communist China and USSR	US Production 1952	Ratio of Column (2) to Column (1)	Contribution of Communist China as a Percentage of Column (1)
Iron and Steel (thousand MT)				
Pig Iron and Ferroalloys	26,975	55,812	2.1	7
Crude Steel	35,522	84,516	2.4	3.4
Machine Tools (Machines)	91,500	180,000	1.96	7
Aluminum (thousand MT)	220	851	3.9	0
Magnesium (thousand MT)	33	106	3.2	0
Chemicals (thousand MT)				
Sulfuric Acid	2,610	11,700	4.5	4.2
Chlorine	272	2,300	8.46	2.5
Soda Ash	980	4,260	4.3	11.7
Calcium Carbide	308	620	2.0	2.6
Nitrogen and Hydrogen (in the form of synthetic ammonia NH_3)	641	2,000	3.1	3.9
Oil (thousand MT)				
Crude Oil	44,315	306,000	6.9	0.7
Refining Capacity	52,925	357,213	6.7	0.1
Civil Aviation a/				
Railroads (billion net-ton kilometers)	798	898	1.1	7.5
Electric Power (billion KWH)	125	399	3.1	6.1

a. No estimates available for the USSR.

Table 37

Population of Communist China and Selected Countries
of South and Southeast Asia
Selected Years

Country	Year	Total Population	Population of Age Group 15 to 65
China 150/	1950	487,000,000	283,000,000
India	1952	367,000,000 151/	212,860,000 152/
Indochina 153/	1952	30,000,000	17,400,000
Thailand 154/	1947	17,443,000	9,607,000
Burma 155/	1952	18,900,000	10,395,000
Ceylon 156/	1946	6,657,339	3,949,397
Malaya 157/	1947	4,878,438	2,685,342

probably would utilize would, moreover, preclude the use of large amounts of mechanized equipment, in the production of which the West is superior.

Despite the seeming inadequacy of the Chinese economy, in terms of the capacity of basic industry, it would be misleading to conclude that Communist China does not possess significant capabilities for engaging in defensive, peripheral, and harassing warfare. The economy of Communist China possesses more than adequate military manpower to substitute for more complex weapons and firepower. The limited industry of Communist China has demonstrated its capability of mass production of simple but effective light weapons, including small arms and light artillery. Logistical support, from the economy to the combat zone, can be maintained with the abundant manpower (using such devices as the primitive A-frame and carrying sticks) and light transport equipment of the Chinese. The economy lying behind the Chinese military machine is fully capacle of engaging in large-scale land warfare on the Asiatic mainland, in harassment, in peripheral encounters, or in defense of its boundaries.

The Korean War has demonstrated the dependence of Communist China on the USSR for all types of heavy and mechanized equipment, as well as its limited ability to maintain logistical support to the front lines for heavy offensive action.

D. Economic Growth, 1953-57.

There are two principal factors which prevent a forecast of economic growth in Communist China through 1957 being made with firmness -- the inapplicability of historical Chinese growth trends and the necessity for making a series of assumptions with respect to the principal parameters which govern future development.

Past economic development, unfortunately, provides no reliable index to the future. The period from 1950 to 1952 was a period of restoration of industrial production to pre-Communist peaks and therefore a period of rapid growth over the low level of 1949. Henceforth industrial growth will depend primarily upon new plant construction, which in turn will depend upon the amount of capital accumulation achieved. The absolute amounts of production achieved from new capacity will depend upon the assimilation of Soviet industrial techniques by the present Chinese labor force, which has relatively few higher-level technicians. Moreover, the application of the Soviet system to the Chinese environment, under conditions of national unification under a strong police-state regime which is firmly committed to industrialization, makes the only previous period which shows a trend -- 1931 to 1944 -- an inadequate and unsatisfactory criterion by which to judge the untried capabilities of the Chinese Communists.

The approach to the problem used in this report is to estimate the future production of each important industry on the basis of announced Communist goals and of estimates of potential increase of production and then to aggregate the projections and compare the result with the estimated possible rate of investment (savings) and prospects for importing capital equipment. The performance of the USSR during the period from 1928 to 1932 in terms of rate of growth and equipment imports is used as an analogy. The preliminary individual industry projections are not careful forecasts but merely samples to form the basis for sector forecasts. Only for agriculture is the forecast a careful estimate based on the potentialities within the industry. The resulting forecasts, therefore, are theoretical projections of estimates of possible growth for the modern industrial sector as a whole and for GNP as a whole, but not for any particular industry except agriculture.

The assumptions which are necessary in order to draw conclusions from this theoretical discussion relate to certain possible difficulties of the economic development program of Communist China. The assumptions are as follows:

1. The next 4 years will be a period of relative peace.

2. There will be no loss of production due to serious social unrest or resistance.

3. The Soviet Bloc will continue to be willing to sell capital equipment and technical aid to Communist China, and Communist China will be able to pay for such imports.

4. The supply of skilled manpower -- managerial and administrative as well as technical -- will grow as fast as real capital.

5. Soviet technical aid will be sufficient to assure that the organizational efficiency of Communist China will grow concomitantly with the rest of the economy.

6. Savings will increase relative to consumption. The Chinese Communists will not be forced to allocate a higher proportion of resources to consumption than planned, because of

a. Major crop failures.
b. Increase in population.
c. The need to provide incentives to agricultural workers in order to maintain or increase production.

Table 38* shows the rates of increase of industrial production in China from 1936 to 1943, in 1953, and projected from 1953 through 1957. Column (1) of this table shows past trends of production of certain selected items, which are taken as representative samples of the modern industry sector in China. Column (2) shows the official plan for 1953, Column (3) the official plan for 1957, and Column (4) the preliminary projections based on the trends and plans.

The targets of the Chinese Communist government announced in Pravda seem to indicate a goal of self-sufficiency. Although the planned increase in machine tool output is large -- 28.5 percent per year -- this item makes up a relatively small portion of total engineering output. It is supposed that general machine output will increase at about the same rate as output of mining equipment, for

* Table 38 follows on p. 133.

Table 38

Rates of Increase of Industrial Production in China
1936-43, 1953, and 1953-57 158/

Industry	(1) 1936-43 Trends Annual Compound Rate, Percent of Increase	(2) Plan for 1953 Percent of Increase over 1952	(3) Plan for 1957 Annual Compound Rate of Increase	(4) Estimated Annual Increase 1953-57 Annual Compound Rate
Engineering	16.5 a/*	64.7 b/		14.4 c/
Machine Tools		4.6	28.5	28.5
Electrical Equipment				17.0
Power Generators		190.6		
Electric Motors		41.2		
Other General Industrial Equipment		153.0		15.0
Mining Equipment			15.0	15.0
Transportation Equipment				10.0
Railroad Equipment				10.0
Automotive Equipment				15.0
Shipbuilding Equipment				10.0
Textiles				6.0 d/
Cotton Cloth		10.5		
Cotton Yarn		9.0		
Paper and Pulp		7.9 e/		8.0 d/
Electric Power	10.0	18.3	15.0	15.0

* Footnotes for Table 38 follow on p. 135.

Table 38

Rates of Increase of Industrial Production in China
1936-43, 1953, and 1953-57 158/
(Continued)

Industry	(1) 1936-43 Trends Annual Compound Rate, Percent of Increase	(2) Plan for 1953 Percent of Increase Over 1952	(3) Plan for 1957 Annual Compound Rate of Increase	(4) Estimated Annual Increase 1953-57 Annual Compound Rate
Building Materials				8.0
Cement	6.0	29.7		12.0
Chemicals	5.0	30.0		15.0 f/
Caustic Soda		31.0		
Nitric Acid		34.3		
Ammonium Nitrate		32.0		
Modern Food Processing				1.0
Rubber				8.0 g/
Mining and Metallurgy	12.0			12.0 h/
Zinc		32.0		15.0 d/
Lead		34.6		15.0 d/
Copper		28.6		15.0 d/
Tin		49.0	15.0	15.0
Coal		0	10.0	10.0
Limestone		29.7 i/		12.0
Petroleum		29.0		18.0 j/
Iron and Steel	4.5			23.7
Crude Steel		13.3	39.0	39.0
Rolled Steel			20.0	20.0
Military End Items	15.0 k/			15.0
Weighted Arithmetical Average for the Modern Industry Sector				14.5 l/
Possible Range of Annual Increase for the Modern Industry Sector				12 to 18

Table 38

Rates of Increase of Industrial Production in China
1936-43, 1953, and 1953-57 158/
(Continued)

a. This was the trend in Manchuria, 1936-43.
b. Exclusive of railway equipment.
c. Weighted average of the others.
d. CIA estimate.
e. It is assumed that the Chinese Plan for 1954 refers only to modern paper manufacturing.
f. It is estimated that chemicals will increase 30 percent the first year, as planned, and will then increase 10 percent annually during the next 4 years.
g. Approximately three-fourths of rubber production is used for the manufacture of shoes, which, it is estimated, will grow at the same rate as textiles. Most of the remaining one-fourth is used for the manufacture of rubber tires, which probably will increase as fast as the output of automotive equipment. See B, 2, f, above, for estimate of latter.
h. This is a weighted average calculated from the nonferrous metals in Table 27, Section IV, B, 2, d plus coal, limestone, and petroleum.
i. Since limestone is the chief ingredient of cement, it is assumed that the planned increase in the latter will also apply to the former.
j. It is assumed that petroleum output will increase the first year by 29 percent as planned and then fall to 10 percent per year for the next 4 years as the base becomes larger.
k. 1940-52 trend.
l. Average per year for the whole 5-year period.

which a goal has been announced, and that output of electrical equipment will grow somewhat faster than electric power, which has a planned annual increase of 15 percent. The production of transportation equipment, an import item, probably will rise at a more rapid rate than planned increases in transportation capacity.

Wherever announced targets of 1957 production were available, average annual compound rates were calculated from them and used in the projections shown in Table 38. It is estimated that output of the textile industry, which is one of the most efficient industries in China, will increase slowly. Since 40 percent of the supply of paper is imported, it is believed that efforts will be exerted to eliminate the necessity for purchasing so much paper abroad. The yearly rates of increase from 1954 to 1957 in building materials, chemicals,* and mining and metallurgy (excluding coal) are smaller than the announced rates for 1953 because it is believed that the initial rate cannot be maintained in the 4 subsequent years. Although the past record of production of military end items is unreliable as a basis for predicting a future trend, it has been projected at the approximate average rate of 15 percent a year which prevailed from 1940 to 1952 because of the emphasis the Chinese Communists have placed on production of such equipment. The consumption requirements for small arms and ammunition have declined as a result of the termination of the Korean War, but considerable attention probably will be given to attaining self-sufficiency in heavy artillery and similarly complicated weapons.

On the basis of industry-by-industry projections, the preliminary rate of increase of the modern industry sector is estimated to be between 12 percent and 18 percent per year for the period through 1957.

Growth of industry is generally associated with an increase in the supply of real capital, and the rate of growth of the modern industry sector in Communist China will be largely determined by the ability of Communist China to obtain machinery and equipment from industrial countries and to allocate resources to the building of plants, buildings, and public utilities.

In 1952, gross investment through the budget in Communist China was about 14 percent of GNP, investment in industry was about

* See B, 2, f, above.

46 percent of total investment, and gross industrial investment was approximately 60 percent of total value added by industry. Table 39 shows the investment of Communist China in industry, 1950-53.

Table 39

Government Investment in Industry
in Communist China
1950-53

	(1) 1950	(2) 1951	(3) 1952	(4) 1953
1. Gross Investment (Billion Yuan)	17,356	35,110	73,699	103,528
2. Gross National Product (Billion Yuan)	N.A.	N.A.	524,500	N.A.
3. Ratio Line 1/Line 2	N.A.	N.A.	0.14	N.A.
4. Gross Industrial Investment (Billion Yuan)	N.A.	N.A.	33,902 a/	47,631
5. Total Value Added by Industry (Billion Yuan)	N.A.	N.A.	56,300	N.A.
6. Ratio Line 4/Line 5	N.A.	N.A.	0.60	N.A.

a. 1953 gross industrial investment was to be 46 percent of total gross investment. It is assumed that the percentage is the same for 1952. This percentage is consistent with Po I-Po's statement that output of heavy industry and machine industry in 1953 would be 47.13 percent greater than in 1952.

Caution is advised in using the budget allocations as a basis for estimating investment, for the following reasons:

1. It is not known what part of total investment comes from the budget. It is assumed that the volume of private investment is quite small.

2. It is not known what part of the annual returns (profit and loss accounts) of government enterprises are entered in the national budget.

3. It is not known how much of gross investment is for net addition to plant and capital equipment and how much is for repair and replacement of obsolescent plant and machinery.*

4. In addition, it is not known whether gross industrial investment includes working capital.

5. It is not known whether the budget investment category includes subsidies to industry.

Table 40 presents comparisons between the Soviet economy in 1928 and the Chinese Communist economy in 1952 -- both then being in the initial stage of their first Five Year Plans.

Table 40

The Industrial Sector and Industrial Investment in the Economy of the USSR in 1928 and the Economy of Communist China in 1952

	USSR 1928	China 1952
Industrial Sector as Percentage of GNP	31 159/	13
Gross Industrial Investment as Percentage of GNP	6 160/	6
Industrial Investment as Percentage of Gross Value Added by Industry	15	60

As can be seen in Table 40, the industry sector was much larger in the USSR even before the first Five Year Plan than in

* It is estimated that 44 percent of engineering output in 1952, for example, was devoted to repair.

Communist China in 1952. Table 40 also indicates that industrial investment is larger in relation to industrial output in Communist China in 1952 than in the USSR in 1928.

It is a reasonable hypothesis that, of the total amount of approximately 34 trillion yuan allocated to gross industrial investment in Communist China in 1952, about 50 percent* is used for building factory buildings and other types of structures. Labor and materials for this branch of activity are available in Communist China. About 17 trillion yuan would then be left for machinery and equipment. Converted into dollars, this would be about US $736,956,000.** Some simple machines probably can be fabricated domestically, but the complex machines -- the types of heavy capital equipment -- which are characteristic of an industrial society will have to be imported if Communist China is to industrialize rapidly. The supply of and the demand for Chinese exports will determine the amount and character of these imports, as illustrated by the following figures for 1952:

	Million US $
Value of exports of Communist China in 1952	1,050
Deduct roughly estimated imports of raw materials and consumer goods	350
Balance available for imports of capital equipment, etc., in 1952	700

Since one of the objectives of Communist China is to enlarge and modernize its military establishment and since it does not have the capacity to produce many complicated military end items, part of the export surplus probably will be devoted to the purchase of military equipment such as airplanes, heavy artillery, and vehicles. Because of the priority which the Chinese Communist regime assigns to military development, it is assumed that 25 percent of future imports, not including raw materials and consumer goods, will be devoted

* In the USSR the figure was 60 percent.
** Using the official rate of 23,000 yuan per dollar.

to this purpose, which would leave about US $525 million for machinery. Add to this, say, US $60 million per year in the form of credits from the USSR, and it can then be said that Communist China will have in the neighborhood of US $600 million to spend for capital equipment, which will contribute to the future increase of production.

Since the value of the output of all kinds of machinery in the Soviet Bloc is about US $14 billion,* the Bloc presumably can supply these commodities without great difficulty, if the Kremlin wishes. This amount of machinery would be about 4.3 percent of the value of Bloc machinery production. Exports of these items by the other countries of the Bloc would probably retard their own development somewhat, but the effect would be small. One of the assumptions underlying this discussion is that, during the period of this estimate, the rate of population growth will not force a decrease in the proportion of agricultural production that is exported over present levels. Depending on world markets, over-all exports, including the industrial, agricultural, and nonferrous mineral products, may grow to the extent of 50 percent by 1957 as compared with 1952. Thus Communist China would be able to pay for its imports of machinery, and this requirement would not be a bottleneck in the industrialization program. Soviet policy toward the industrialization of Communist China is nevertheless a critical factor in the forecast of the rate of growth. The USSR could retard the rate of development through restrictions on the volume of capital goods exports to China and through manipulation of the terms of trade to the disadvantage of Communist China.

Table 41** shows that Communist China in 1952 and the USSR in 1928 were both dependent on imports of capital equipment in their industrialization program. In addition, it can be seen in Table 40 that industry was relatively more important in the USSR when its first Five Year Plan was initiated than it is in Communist China today. Table 40 also shows that Communist China in 1952 invested proportionately 4 times as much of its gross product of industry in capital equipment as the USSR did in 1928. These comparisons suggest that, if this rate of investment continues, the gross industrial production of Communist China during the period from 1953 to 1957 could increase at least as rapidly as 15 percent per year, the average rate at which gross industrial production increased in the USSR from 1928 to 1937.

* US $10 billion for the USSR and US $4 billion for the European Satellites.

** Table 41 follows on p. 141.

Table 41

Comparison of Imports of Capital Equipment
by the USSR in 1928 and Communist China in 1952

	USSR 161/ 1928	China 1952
Imports of Capital Equipment as Percent of GNP	2.7	2 to 4
Gross Industrial Investment as Percent of GNP	6.0	6.0
Imports of Capital Equipment as Percent of Gross Industrial Investment	45.0	30 to 50
Imports of Capital Equipment as Percent of Gross Value Added by Industry	9.0	20 to 30

In view of the estimated rate of investment of the Chinese Communist government and the predicated capacity to save, it is believed that an annual rate of growth of about 15 percent for the modern industry sector is reasonable for the next 4 years, with 12 percent to 18 percent as a range. If this rate of growth is realized, the real output of the modern industry sector in 1957 probably will be about double that in 1952.

On the basis of the foregoing estimate for the modern industry sector and Table 41, the best estimate that can be made for the other sectors, the GNP of Communist China would increase annually at a rate between 4 and 5 percent from 1952 through 1957, or about 26 percent for the 5-year period. The probable range would be from 3 to 6 percent per year. A wider range is given for GNP than for industrial production because of uncertainties in agriculture. (The Soviet GNP increased about 6.75 162/ percent per year from 1928 to 1937.)

Table 42* summarizes the estimate of the estimated annual rate of increase of the GNP of Communist China from 1953 to 1957.

* Table 42 follows on p. 142.

Table 42

Estimated Rates of Increase of Gross National Product in Communist China by Economic Sector 1953-57

Sectors	Percent
Modern Industry	14.5
Agriculture	1.6 163/
Modern Transportation	7.0 a/
Government b/	7.0
Trade, Food Processing, and Handicraft	3.0 c/
Personal Services	1.6
Gross National Product	4.6 d/

a. The 1953 plan calls for a 7.4 percent increase in railroad capacity over 1952. It is estimated that all modern transportation will increase at about the same rate through 1957.
b. This item includes labor force for construction projects. It is estimated that the government sector will increase faster than the GNP but not so fast as the modern industry sector.
c. It is estimated that trade will increase at about the same rate as industrial and agricultural production, that food processing will increase as fast as increases in agricultural production, and that handicrafts will remain constant.
d. This is a weighted index (weighted by estimated value added in 1952).

Although it is possible that the modern industry sector will increase about 15 percent annually through 1957, the industrial base of Communist China is so small that at the end of the 5-year period it would still be a relatively undeveloped country according to Western standards.

V. Regional Distribution of Economic Activity.

Compared with other nations in their early historical stage of industrialization, Communist China has a relatively advantageous spatial dispersion of economic activity and resources. The modest degree of concentration of industrial activity that is apparent in China today is in considerable measure a function of the requirements of economy from large-scale operation and a slender investment outlay rather than a function of the concentration of the available physical resources. China has the population and natural resources for a well-dispersed and nationally and regionally self-sufficient industrial society. The historical pattern of industrial investment has tended to create an uneven distribution of industrial capacity by industrial sector and by economic region, and the diverse character of foreign investments in various parts of China has led to diverse local and regional production complexes. The division of modern China into opposed warring camps has led to further regional and local dispersal of economic activity. This division has also resulted in a significant degree of regional autarky.

The intranational and intraregional dispersal of economic activity which obtains in Communist China today may be expected to continue -- indeed, to increase in intensity -- over the period 1952 through 1957. The regional ubiquity of dense settlement patterns, of fuel and power, and of ferrous metallurgical resources creates a basic condition for further regional and local dispersal of economic activity.

A. General Description.*

Northeast China (Region I) continues to dominate the modern industrial production of China, although its importance to China as a whole in this respect probably has diminished somewhat since 1936, and its importance has diminished markedly compared with 1943. Region I has a strong agricultural base, producing about 10 percent of the food supply, although the region has less than 9

* The Communist Administrative Divisions established by the Chinese People's Republic define the boundaries of the regional framework of the Chinese economy used in this report. See CIA Map No. 12577, 2-53, China: Communist Administrative Divisions - 1953. U.

percent of the population. The region exports to the rest of China and to the world coal, heavy manufactures, and vegetable seeds and oils and receives industrial raw materials, complex capital goods, and some textiles and food.

The Inner Mongolia Autonomous Region (Region II) remains a largely undeveloped agricultural region. The region is an exporter of animals, animal products, and vegetable oil seeds and oils and is an importer of grain and light manufactures.

North China (Region III) achieves regional prominence as the seat of the government and for its agricultural poverty and mineral abundance. The area produces a substantial crop of wheat and coarse grains but must import large quantities of grain to support its population. The exports of the region (besides political controls and edicts) are coal, animal by-products, textiles, groundnuts, heavy industrial machinery, and chemicals. As the seat of government and military headquarters, the national center of education, and a transit area for interregional and international trade and transportation, it maintains its regional status probably not seriously below the level of economic activity and income of the national economy.

East China (Region IV) has been the historical site of Chinese manufacturing, the center of light industry primarily owned and operated by foreign capital. Today the region remains the center of light industry, although its percentage share of this output has been reduced. Inward orientation of the Chinese economy has brought with it an effort to increase the heavy industrial base of East China and to diversify its industrial structure. Region IV has significantly increased its percentage share of iron and steel, appliances, shipbuilding, and machine production, although its percentage share of the textile industry has declined. These gains have been made largely at the expense of a decline in the percentage share of industrial production in Central and South China (Region V). The large urban population of Region IV makes it a food deficit area, although it has a rich agricultural hinterland. The principal interregional exports of the area are textiles and light engineering products.

Central and South China (Region V) is the principal agricultural region of China and the major mining center of ferroalloying metals and nonferrous minerals. The importance of Region V is emphasized by the fact that over 40 percent of the Chinese GNP is produced by the agricultural industry. Region V is a large exporter of agricultural

commodities, particularly rice, to East and North China. The area also exports a significant value of ferroalloys and nonferrous minerals. Central and South China has lost a considerable part of its 1936 percentage share of income from manufacturing, although it has an excellent heavy industrial base and a large rather highly concentrated population. The area is a net importer of textiles and light manufactures and trade services.

Southwest China (Region VI) has enjoyed a rather meteoric rise in economic activity in the past 15 years as a result of its position as the bastion of the Chinese Nationalists in the Sino-Japanese War and World War II. The region of the upper Yangtze is relatively remote from the main channels of communication and trade in China. Yet Southwest China has today about 15 percent of the nation's population, a largely self-sufficient (in some cases surplus) agricultural sector, and the raw material resources as well as some of the productive capacity for a modern industrial economy. The exigencies of a war situation compelled an accelerated exploration and development of the Southwest, the result of which was the most rapid rate of economic growth of the major regions of China. Region VI is essentially self-contained. It exports some agricultural goods, ferroalloy metal concentrates, and nonferrous metals and receives in exchange some light manufactures and machinery.

Northwest China (Region VII), like the Inner Mongolia Autonomous Region (Region II), is relatively underdeveloped. Until recent years, during which the tempo of exploration and development of mineral resources has increased, the region was characterized by subsistence sedentary agriculture in its eastern reaches and a nomadic civilization based upon animal husbandry in the west. Cotton culture has been rapidly expanded in recent years and cotton constitutes the principal export of the region. Region VII contains the only proved commercial production of crude petroleum in Communist China. The region has the natural resources for at least a modest industrial base, certainly for an industrial base many times its current level of achievement. The region is a net exporter of cotton, wool, rare minerals, and crude and refined petroleum and an importer of light manufactures, engineering equipment, and some grain.

The Tibetan Autonomous Region (Region VIII) has been loosely associated with Communist China largely as a result of the latter's intervention in Tibetan internal affairs. Little detailed information is available about Tibet, which is a land of vast distances

both horizontal and vertical. Most of its area is uninhabitable. Some subsistence agriculture is carried on in the less inhospitable mountain valleys on the periphery of the great central highland. There is a small surplus of fur, wool, and hides moved out by caravan and exchanged for textiles and light manufactures.

B. Regional Distribution of Gross National Product.

The above general description of the regional distribution of production and of the regional flow of commodities in Communist China is based on estimates of physical outputs for a sample of the major producing sectors (shown in detail in Appendix A, Tables 52 to 62). The estimates include, where possible, figures for the years 1936, 1943, and 1951.

The year 1936 was selected because it generally represented the peak level of the pre-World War II economy. The year 1943 was selected because it generally represented the peak level of wartime activity. The year 1951 was chosen because it represented the current regional picture of Communist China and was susceptible to comparison with other regional production available for the Soviet Bloc. In the absence of detailed local price quotations, it is impossible to indicate the precise magnitude of error in the estimates of the value produced in the various regions. The error would be relatively small (plus 5 to 10 percent) in the populous eastern regions, but it might be as large as plus or minus 25 percent in the western regions and Tibet.

An analysis of regional distribution of productive activity based upon physical commodity production necessarily omits a wide range of productive services. No regional breakdown of regional contributions to GNP has been made in the fields of transport and trade services, and no estimates have been made of the regional distribution of government and professional services. Most of these services are a function of population and income, which are, in turn, functionally related to the commodities of which the production has been regionally distributed below. It is believed at this stage that imputation of a distribution of trade and service expenditures based on the distribution of physical production in value terms probably involves a smaller margin of error than any attempt to distribute the value of these activities independently.

It is necessary first to expand the sample of gross production within each sector to the total gross product for the sector. This

step is achieved by use of the production data by industrial sector. It may be noted here that the discrepancy between sample sector total and sector total is accounted for by production for which no information is available to make a regional distribution. The expanded totals are set out in Column 1 of Table 43. It is then necessary to net these gross totals to eliminate intersector purchases and sales. Essentially this procedure consists of an estimate of the value added to the final product by the producing or processing sector. Estimates of value added by production for each of the sectors used were obtained and are presented as percentages in Column 2 of Table 43. The last column of Table 43 represents the net value added by production for each of the eleven sectors for which data were available.

Table 43

Gross Value, Value Added by Production, and Net Value of Selected Commodity Production in Communist China 1951

Billion Yuan

Sector	Gross Value of Output a/	Value Added (Percent) a/	Net Value of Output b/
Agriculture	279,585.19	88	246,034.97
Textiles and Clothing	39,672.00	25	9,918.00
Rubber and Rubber Products	3,623.10	45	1,630.40
Bituminous Coal	6,641.83	65	4,317.19
Crude Petroleum	1,051.88	84	883.58
Electric Power	3,800.00	40	1,520.00
Ferrous Mining and Metallurgy	18,287.00	68	12,435.16
Nonferrous Mining and Metallurgy	1,230.75	74	910.76
Engineering	10,735.00	50	5,367.50
Chemicals	5,510.30	24	1,322.47
Weapons and Ammunition	19,936.79	33	6,579.14
Total	391,230.71	74	290,919.17

a. See Appendix B.
b. Column 1 x Column 2.

The net products obtained in Table 43 have been entered as totals in the last column of Table 44* opposite the appropriate sector. The totals have then been distributed regionally in the same ratio as the gross product of the sector sample shown in Tables 52 to 62 in Appendix A. (Engineering production constitutes an exception to this procedure in that regional employment indices were used to distribute the engineering industry product to the regions.) The sector products of each region have then been added and each regional product divided by the sum of the regional products. The resulting quotients have been employed to represent the respective regional shares of gross product.

C. Regional Variations in Per Capita Production.

A comparison of the regional distribution of economic activity in Communist China (as roughly indicated in Table 44) with the regional distribution of population (shown above in Table 37) shows wide variations in the subsistence level as between regions. The results of such a comparison are shown in Table 45** and Figure 11.***

Examination of North China (Region III) indicates that this region supports about 14 percent of the population with less than 10 percent of the GNP, as represented by the expanded sector samples shown in Table 44. According to this calculation, which does not include government, trade, and transportation services, North China has a per capita GNP of $36.48 (US $ 1951) compared to a $53.52 average for China as a whole. Inclusion of the omitted services in the regional gross products would probably compensate for a significant portion of the discrepancy between the North China and the national average per capita product, since North China serves as the national center of government services (including military headquarters and education). Furthermore, the agricultural sector product is probably undervalued for North China. An understatement of the share of GNP of North China may have resulted from the employment of average prices for the coarse grain category. The average prices of the coarse grain produced in North China are somewhat higher than the average prices employed for China. A detailed analysis of these differences indicates that the maximum distortion

* Table 44 follows on p. 149.
** Table 45 follows on p. 150.
*** Following p. 150, below.

Table 44

Regional Distribution of Selected Commodity Production in Communist China
1951

Billion Yuan (Valued Added)

Commodity	I	II	III	IV	V	VI	VII	VIII	Total
Agriculture	24,849.53	1,722.24	21,651.08	68,397.72	80,699.47	36,659.21	11,317.61	738.11	246,034.97
Textiles and Clothing	664.51	0	1,001.72	7,111.20	495.90	456.23	188.44	0	9,918.00
Rubber and Rubber Products	370.10	0	223.37	1,036.93	0	0	0	0	1,630.40
Bituminous Coal	1,653.48	30.22	1,623.26	246.0	341.06	181.32	241.76	0	4,317.19
Crude Petroleum	0	0	0	0	0	0	883.58	0	883.58
Electric Power	640.58	16.13	166.45	310.21	90.72	27.97	7.97	0.12	1,260.15
Ferrous Mining and Metallurgy	8,592.70	0	1,119.16	870.46	895.33	957.51	0	0	12,435.16
Nonferrous Mining and Metallurgy	457.20	0	0	0	202.18	251.38	0	0	910.76
Engineering	3,113.15	0	751.45	966.14	268.38	214.70	53.68	0	5,367.50
Chemicals	685.04	0	290.94	292.27	29.09	25.13	0	0	1,322.47
Weapons and Ammunition	3,282.99	0	1,013.19	440.80	763.18	894.76	184.22	0	6,579.14
Total	44,309.28	1,768.59	27,840.62	79,671.82	83,785.31	39,668.21	12,877.26	738.23	290,659.32
Percent of Total	15.2	0.6	9.6	27.4	28.8	13.7	4.4	0.3	100

Table 45

Gross Regional Product Per Capita in Communist China
1951

Region		Current US $ Per Capita Product [a]
I	Northeast	93.17
II	Inner Mongolia	66.52
III	North	36.48
IV	East	52.45
V	Central and South	53.68
VI	Southwest	49.48
VII	Northwest	47.74
VIII	Tibet	54.64
	All-China Average	53.52

a. Dollar estimate used for the distribution is the deflated dollar estimate of Chinese GNP given in Section IV, A, 2, above.

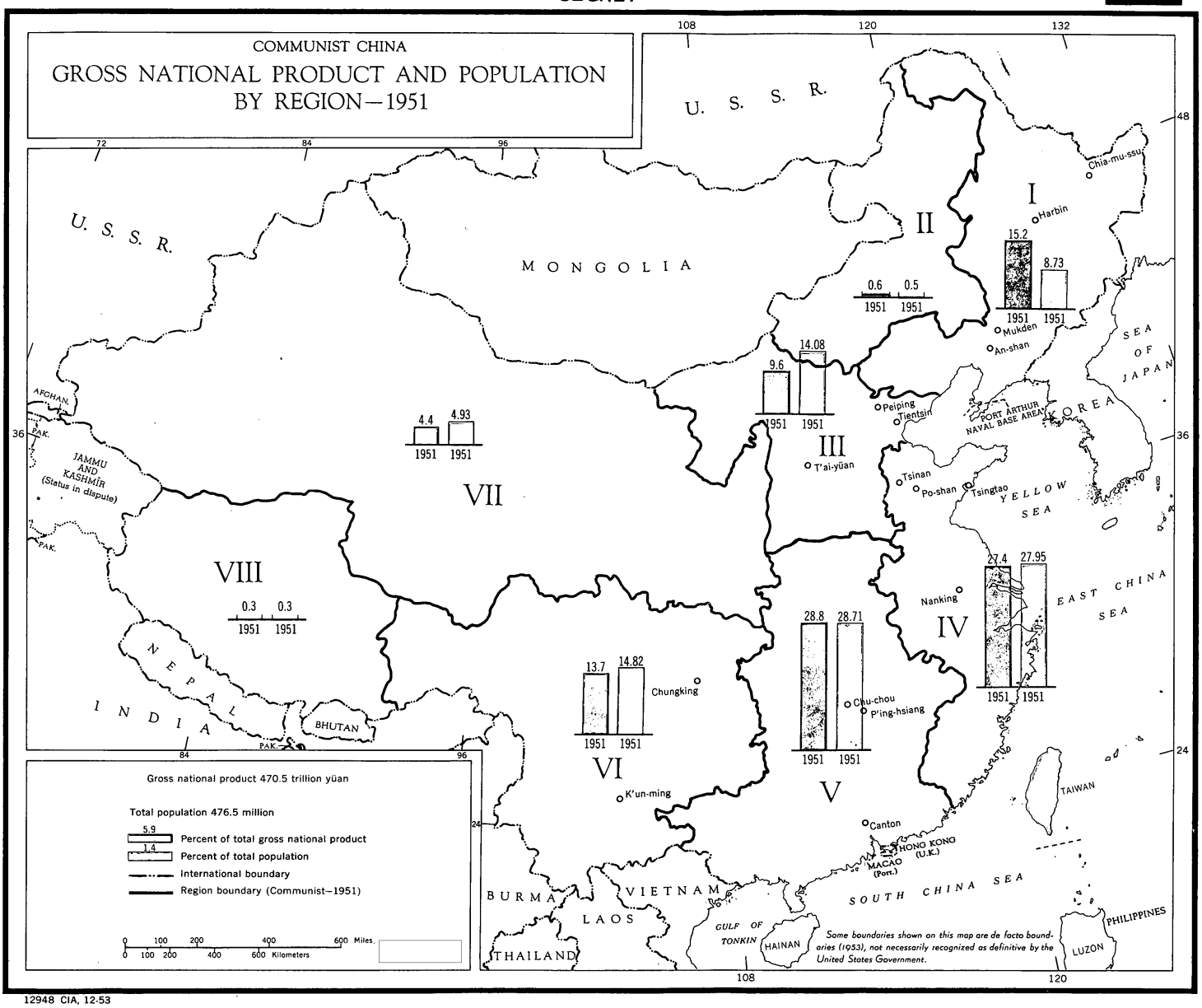
which could have occurred from the price differentials would result in an increase of about 4 percent in the share of North China.

The relatively high level of per capita GNP in Northeast China (Region I) seems intuitively reasonable, although there may be a limited element of overstatement of the region's position because of its more complete statistical reporting system. Region I contains a highly productive agriculture together with the major concentration of Chinese manufacturing industry.

The per capita GNP of the Inner Mongolia Autonomous Region (Region II) appears to be high relative to Northwest China (Region VII) whose economy is similar in most respects. Again, the influence of a more comprehensive reporting system, largely developed under Japanese control over the productive parts of the area, may account for some measure of the apparent discrepancy. The relatively lower population density in Region II would tend to indicate a higher per capita product than would obtain in Region VII.

The high level of per capita production in the Tibetan Autonomous Region (Region VIII) does not seem consistent with available knowledge of the area. The data provide the basis only for an intuitive comparison with other areas.

Figure 11



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Per capita production estimates of the remaining regions appear to be almost routine in their consistency if the fundamental agricultural and processing base of the Chinese economy is kept firmly in mind. Central and South China (Region V) is the agricultural core of the Chinese economy. This region has less variation from optimum crop conditions than any other economic region. The area has a trading complex almost as great as that of East China (Region IV). East China, with a somewhat weaker agricultural base but a stronger manufacturing and trade economy, closely approximates the per capita position of Central and South China. Regions VI and VII, Southwest and Northwest China, respectively, contain the two modern centers of Chinese population and agriculture. Both of these regions have significantly expanded their role in the Chinese economy. The modern program of development, much of it under the impetus of war, has raised the per capita product of these remote regions to a level only slightly lower than that of the representative regions of the established areas of central and eastern China.

D. Relative Importance of Major Sectors by Regions.

The present state of research on the regional distribution of economic activity in China (as in most Western nations) is not sufficiently advanced to permit a detailed accounting for the origin or distribution of regional production by major sector of the economy. Section IV, A, above, indicates the portion of Chinese GNP produced by major sector of the entire national economy. It is not possible to produce comparable data for economic regions because the data which supplement the regional contribution already embrace a certain amount of production from the services and trade sectors, data which cannot be separated without much more detailed information and analysis than can be developed on the subject at the present time.

A division between agricultural production and local processing and manufacturing and mining production has been derived from the material presented in Table 44 and is included here as Table 46.* Table 46 purports only to indicate the relative significance of these two areas in each of the concerned economic regions. The dominant role of agriculture in comparison with manufacturing and mining in the Chinese economy is well demonstrated by the data in Table 46. It is important to

* Table 46 follows on p. 152.

note that only Region I (Northeast China) of those with any significant element of manufacturing and mining activity has an average per capita product in excess of the all-China average.

Table 46

Regional Distribution of the Product of Agricultural and Local Processing Industries and Manufacturing and Mining Industries, as Percentage of Total Regional Surplus in Communist China
1951

Percent

Region		Agriculture and Local Processing Industries	Manufacturing and Mining Industries
I	Northeast	56.1	43.9
II	Inner Mongolia	97.4	2.6
III	North	77.8	22.2
IV	East	85.8	14.2
V	Central and South	96.3	3.7
VI	Southwest	92.4	7.6
VII	Northwest	87.9	12.1
VIII	Tibet	99.9	0.1
	Total	84.6	15.4

The estimates of regional product for each of the economic regions should not be construed as definitive in the sense that they represent an accurate allocation of Chinese GNP by region of origin. It is believed that the above estimates constitute an approximation of the relative regional distribution of economic activity in China, sufficiently reliable to aid substantively a further detailed analysis of the Chinese economy.

E. Degree of Concentration of Economic Activity.

The section of the analysis of regional distribution of economic activity will be confined exclusively to the location of manufacturing and mining activity. Production of specific agricultural commodities in China is localized to some extent by the climate, al-

though China with its wide spread of latitude and elevation, its continental and coastal exposures, possesses almost every known type of crop condition. Because of the range of basic agricultural conditions available, there are no significant barriers to the production of a wide variety of agricultural commodities in large quantities, except for quantity production of tropical rain forest commodities.

The degree of concentration of mining and manufacturing activity is basically a function of the definition of the measure of concentration. Concentration may be measured by three somewhat different criteria: (a) the extent of spatial separation of production and consumption of a commodity or series of commodities; (b) the extent of spatial separation of productive capacity for a single commodity; and (c) the extent of spatial separation of productive activity as a complex. Each of these criteria describes a relevant index of concentration from the point of view of the capability and/or vulnerability of the national or regional economy.

The economic activity of Communist China in 1951 presents a unique condition of highly dispersed economic activity for a nation in the present stage of economic development of China. Although there exists a modest concentration of economic activity on counts (b) and (c) above, this degree of concentration reaches its highest point in the Mukden area, which accounts for less than 5 percent of aggregate mining and manufacturing production and at its highest point only about 10 percent of the production of any major sector shown in Table 46. The highest concentration of a single commodity in Mukden is 50 percent of the machine tool production of Communist China. Anshan contains about 60 percent of the ferrous metallurgical output of China. Production of chemicals is highly localized at present, but output is low and concentration is required to secure an approach to optimum size of plant. Much of the apparent concentration of regional output is a result of the establishment of workable-size plants in industries which are characterized by economies of scale.

Northeast China (Region I) presently accounts for about 40 percent of the modern mining and manufacturing activity of China. The percentage share of this output produced in Region I has declined sharply since 1943. It is also worthy of note that existing levels of production in Region I are distributed over several principal producing centers within the region, of which the principal one is Mukden.

No country in industrial history other than China has been characterized by such a broad (spatially speaking) industrial base at such an early stage in the nation's industrial development. The diverse foreign concessions in the early industrial history of China, the dense settlement pattern over a vast subcontinent, and the division of the nation by modern warfare have all conspired to create a widespread dispersal of manufacturing and mining activity.

The intranational and intraregional dispersion of economic activity which obtains in China today will certainly continue to characterize the economy through 1957. The regional ubiquity of coal and ferrous metallurgy resources, together with the high population densities which characterize the principal economic regions, create a basic condition for the further dispersal of industry. Regional cost data on the production of coal, iron, and steel are presently unavailable. However, if sufficient capital were available it seems likely that the program of additional dispersal of manufacturing activity might well lead to a reduction in the total cost of production of many of the manufactured commodities considered in this report.

In summary, it may be indicated that China in its early stage of economic development has a unique position in that its manufacturing and mining activity is highly dispersed. This dispersal seems likely to be continued over the period of the estimate.

VI. Domestic and Foreign Trade.

A. Domestic Trade.

1. Volume and Selected Commodity Movements.

Quantitative statistics for total volume of trade within China are not available. It is, however, possible to calculate statistics for certain segments of the economy. The Chinese Communists reported [redacted] that in 1952 the railroad system originated approximately 131 million metric tons of freight, 164/ this being an increase over the 110.5 million metric tons originated in 1951 165/ and 99.2 million metric tons originated in 1950. 166/ The bulk commodities carried in internal rail transport in 1952 are estimated to consist primarily of coal (33 million tons), timber (4,350,000 tons), iron ore (4 million tons on short hauls), grain (3,750,000 tons), soybeans (2.7 million tons), and quantities of raw materials and manufactured goods. In addition, goods moving in international trade and military supplies bulked large in the total freight carried. The rail traffic volume was concentrated on the north-south and connecting lines in North China and Manchuria. 50X1

For the waterways system, on the Yangtze River alone in the first half of 1953, the Chinese reported 2.5 million tons of freight transported (this figure not including wooden craft and motor-sail vessels) 167/ Coastal shipping, limited in volume primarily to the northern coastal area, carried approximately 3 million tons in 1952, coal being the principal commodity carried (primarily to Shanghai).

The accompanying traffic flow maps (Figures 12,13, and 14*) are designed to illustrate producing areas, flow, and consuming areas for three selected commodities. Except for Figure 12 (showing the flow of wheat), only general magnitudes of flow are shown, since the estimates on which the maps are based may have a wide margin of error. Figure 12 is illustrative of the flow of most agricultural produce. Although the producing areas differ (notably in the cases of rice in the Szechuan Basin and along the middle and lower Yangtze, and corn, wheat, and soybeans in Manchuria), the flow patterns are similar in that agricultural produce moves primarily over the water network wherever possible. This map, taken from prewar data, does not include Manchuria in its description. At present, most wheat moves into Manchuria through the port of Dairen, as shown by the non-

* Following p. 156, below.

volume line extended from Shanghai.

Figure 14 is illustrative of traffic flow over the Chinese rail net generally. It also shows the continuing reliance which the Chinese place on water transport for coal. Most coal tonnage moving southward by rail and destined for Shanghai is transshipped into Shanghai by water. Thus, if the coastal route from Ch'in-huang-tao to Shanghai were severed, readjustment or restriction of other freight movements would be necessary in order to move the same volume of coal to Shanghai by rail; in such an event, alternative supplies of coal depending on river transport would probably be used.

Figure 13 illustrates an entirely new flow pattern compared with the prewar situation. Whereas before the war all Chinese petroleum was imported by ship, now rail transport from the USSR and production from the Kansu oil field orient the flow pattern from the north and west as well as from the east. Petroleum is imported through the ports indicated, but specific distribution systems are not known.*

2. Trading Organizations and Controls.

The Chinese Communist government has steadily expanded the socialized control of both domestic and foreign trade through state monopoly trading corporations on the wholesale level and cooperatives on the retail level. Private trade, while ostensibly encouraged by the government, is completely controlled by the state direction of all commodity allocations and prices.

Effective trade control was established with the adoption of centralized trade laws in March 1950. Under these laws the Central Ministry of Trade became the center of all state, cooperative, and private trade in China and was responsible for "general planning of all State and cooperative trade, confirming the plans of economic and financial activity of the main State trading corporations ... distributing working capital and goods for the state trading network, establishing State optimum prices, and carrying out public control over private trade." 168/

Following the splitting up of the Ministry of Trade in August 1952 into the Ministries of Commerce and of Foreign Trade, the control of the state trading corporations was also split, with purely

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Figure 12

CHINA: WHEAT TRAFFIC FLOW
(Prior to World War II)

50X1

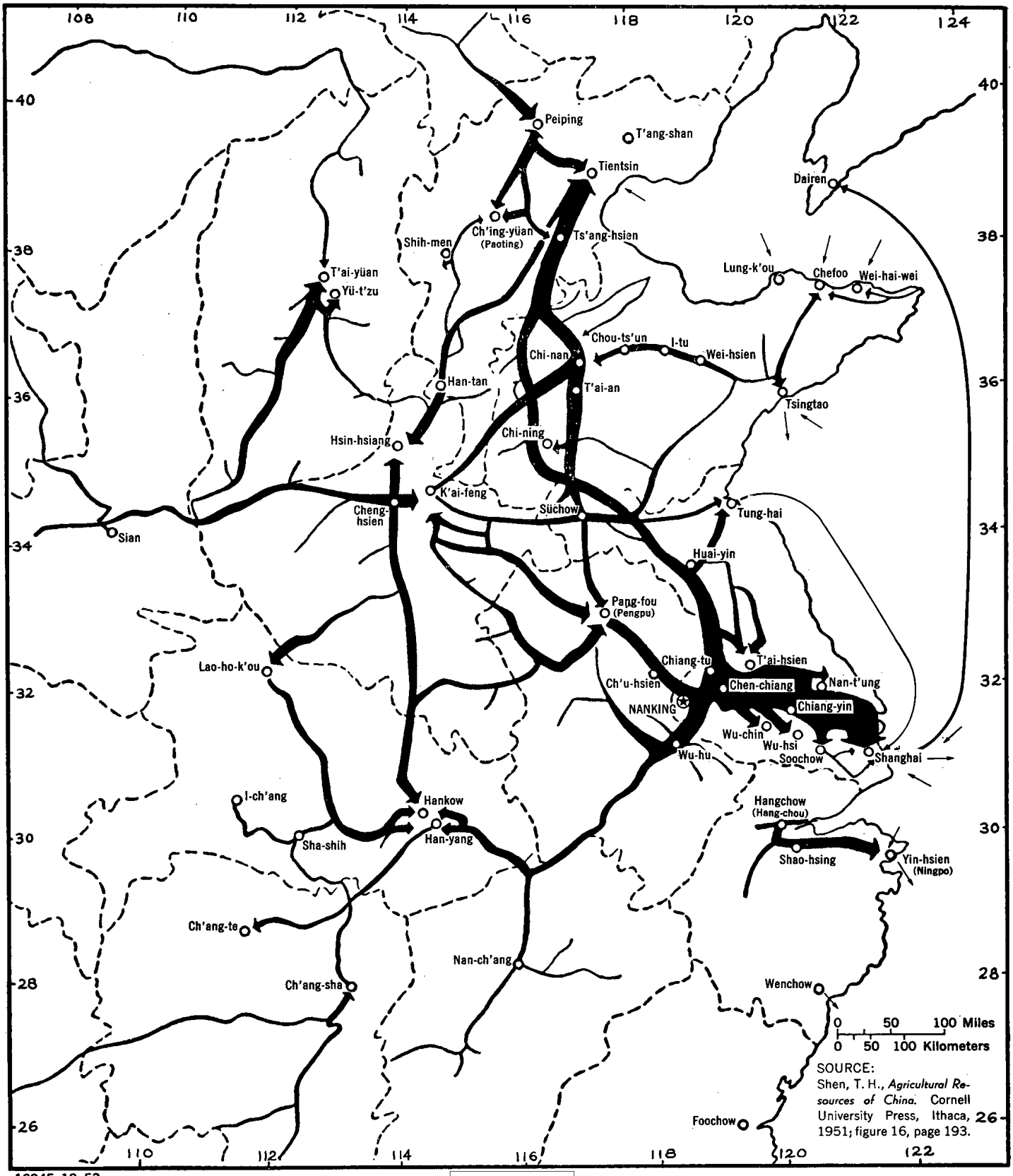

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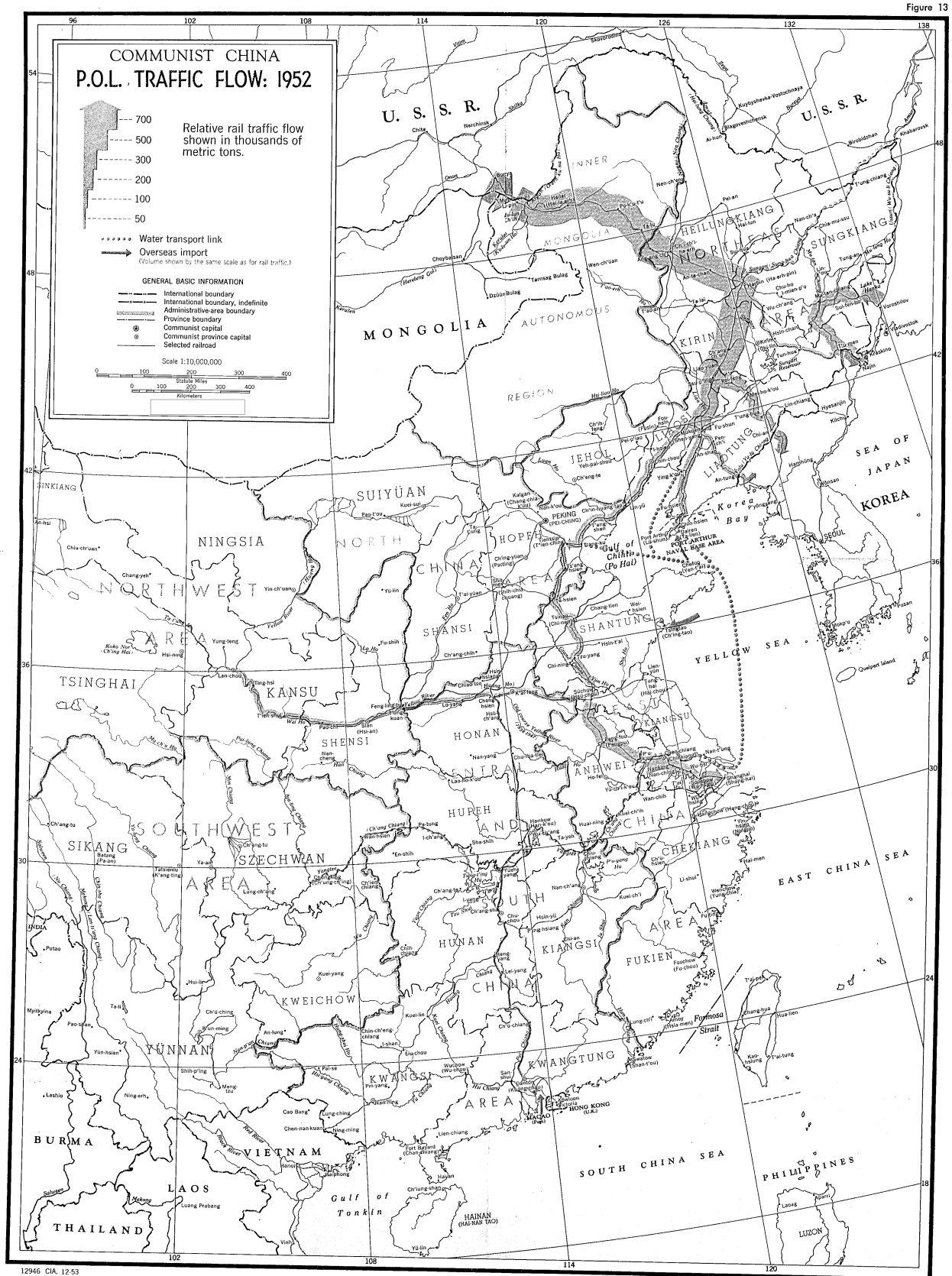
Figure 13



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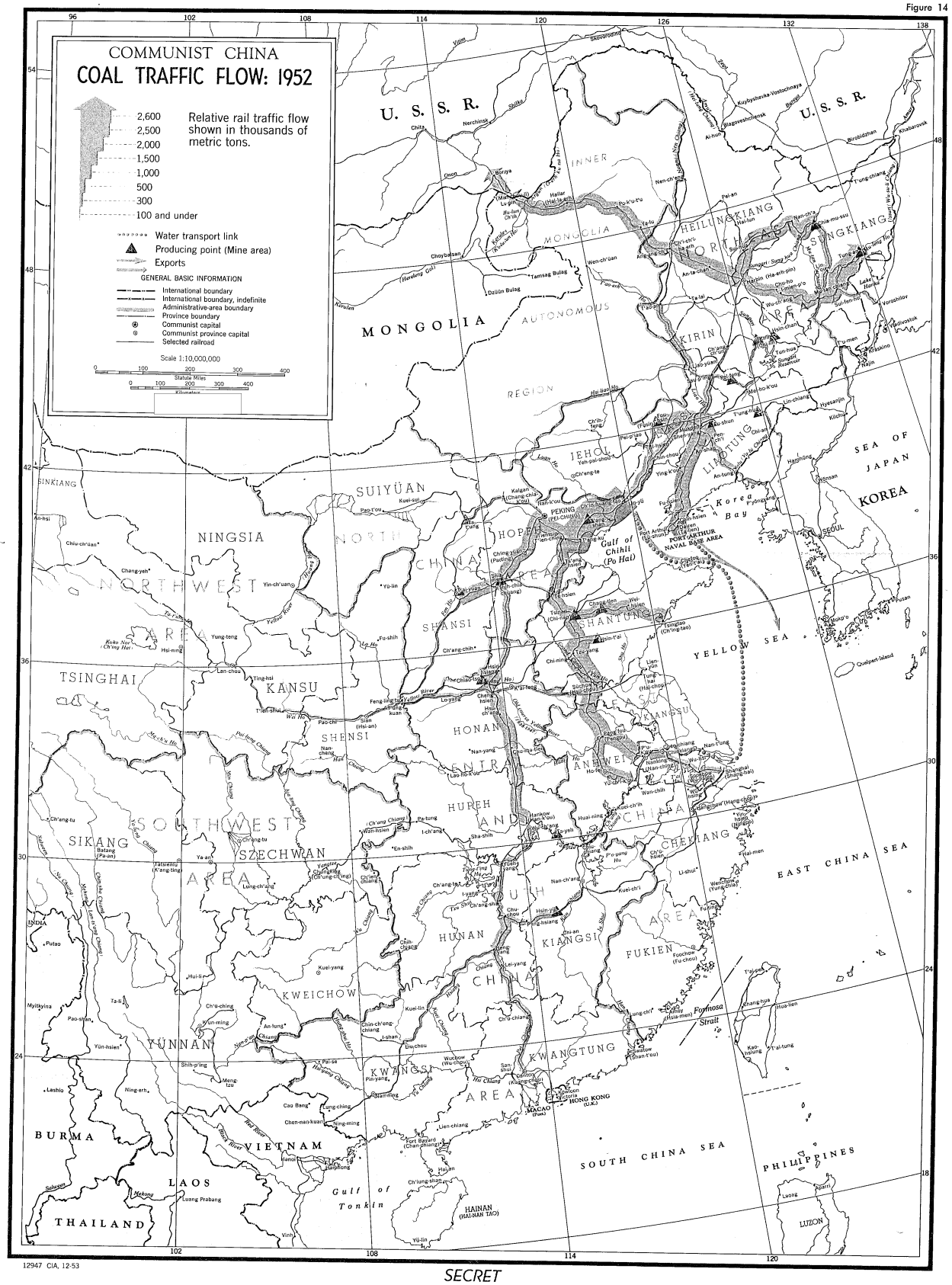
SECRET

Figure 14



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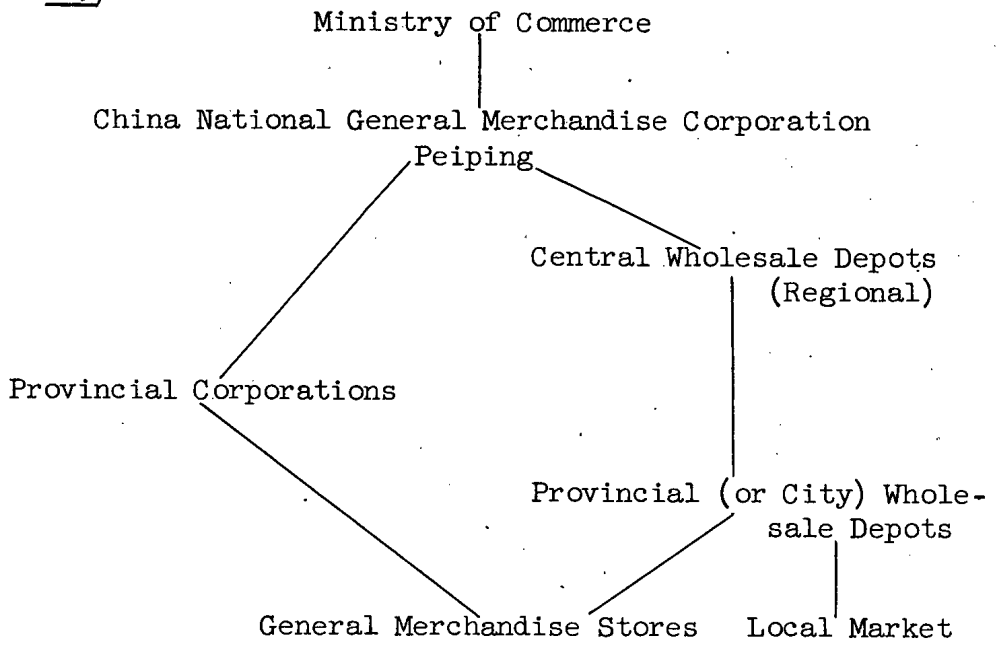
SECRET

domestic organs coming under the Ministry of Commerce and purely foreign organs under the Ministry of Foreign Trade. Organs involving both types of trade were reorganized with units under both ministries. At present, control of all trade with China is vested in 30 state trading corporations. Control of these corporations is centered at Peiping, and generally extends out through regional centers to cities and provinces. Although the operating organization is governed by the type of product handled, the organization of the General Merchandise Corporation is typical of the organization of the other corporations generally.* This corporation, under the central Ministry of Commerce, is organized along two operating channels: control, or administrative, and business, as below 169/:



* During the first part of 1953, trading corporations were reorganized with the purely national, regional, provincial triangular organization replaced by an organization such as the General Merchandise Corporation given above. Indications are that very similar reorganizations have taken place in all state trading corporations.

The Provincial Corporations are the administrative control channel for the main corporation. The Central Wholesale Depots, combining the function of former Regional Depots and National Corporation Procurement and Supply Depots, handle procurement, processing, pricing, and packaging of local light industrial goods, and shipment to provincial and city wholesale depots. These depots, in turn, handle wholesaling for local markets, and supplying goods for General Merchandise (Retail) Stores within their respective areas. Within the three provinces of Honan, Hupeh, and Hunan, the Corporation maintains 48 of these General Merchandise Stores.

Private enterprise still handles the largest share of Chinese Communist domestic trade, although it is heavily controlled by the government's fixing of wholesale and retail prices and its monopolies of wholesales, storage, and transport media. Private trade in China at present is composed of the following: genuine private corporations; so-called "private" corporations wherein the government holds the controlling stock and which, for all practical purposes, are government enterprises; and the individual entrepreneur, whether storekeeper, wandering peddler, or handicraftsman.

In the retail field, cooperatives have received much government emphasis. In 1952, cooperatives handled 10 percent of the total of all state and private retail trade. On the marketing side, they handled 60 to 70 percent of all government purchases of agricultural products in 1952. Organized under the China National Federation of Cooperatives, which is supervised by the Ministry of Commerce, the cooperative movement reaches through regional and provincial federations to county and municipal organs. Cooperative growth has been very rapid under the Communists, with 18 million members at the end of 1949 increasing to 80 million by the end of 1951 and to 140 million by the end of 1952. However, membership is not evenly distributed throughout China, the Northeast, North, and East Regions being the most advanced. Members in the Northeast in 1951, for example, constituted 42.7 percent of the rural and 24 percent of the urban population, 170/ whereas as late as early 1952 they constituted only 3.7 percent of the total population of the Southwest. 171/

3. Domestic Trade as a Source of Government Income.

The Chinese Communist government places a major reliance upon the trading sector of the economy as a means of mobilizing and capturing all types of resoures. Resources are appropriated by the state in four ways -- through commodity taxation, through

purchase at fixed prices, through charges for government services, and through accumulation of the profits of state trading companies.

Other than agricultural taxes in kind, commodity (excise) taxes are levied at the wholesale level. The rates are designed so as to exempt producer goods and tax consumer necessities at a more or less moderate rate but to apply very high rates to luxury commodities. Thus in relation to wholesale prices the effective commodity tax rate is about 3 percent on wheat flour, 13 percent on cotton yarn and matches, 30 to 40 percent on wines and alcoholic beverages, about 30 percent on flue-cured tobacco, and 55 percent on cigarettes. It is roughly estimated that in 1952 the state collected about 20 trillion to 25 trillion yuan, 20 percent of total revenues, from commodity taxes. 172/

Marketing spreads for the government monopolies are kept deliberately large so as to insure a high yield for the state in trade to the advantage of the state budget and simultaneously to reduce the purchasing power of the population. For example, in Shanghai the China National Cotton Yarn and Cloth Corporation paid 5,250,000 yuan in 1952 for a bale of cotton yarn bought from industrial spinners and then sold it wholesale at 7,450,000 yuan. Since all factory-spun cotton yarn must be sold to this corporation, the latter was able to earn more than 40 percent on all sales of yarn. 173/ The China National Salt Corporation, exercising a complete trade monopoly, in 1952 bought salt for 1 million yuan per metric ton and then sold it for 2.3 million yuan (based on Hankow wholesale price), thus realizing 130 percent on all sales of salt. 174/

In the field where most Chinese are affected, the China National Cereals (Food) Corporation was able to procure grains for an average price of 675,000 yuan per metric ton (this average includes grain procured as tax-in-kind, valued at 630,000 yuan per metric ton, as well as grain purchased at 1 million yuan per metric ton) 175/ and sold them for an average price of 1,264,000 yuan per metric ton, thus realizing an average of about 45 percent on sales of all grains.

It can be roughly estimated that in 1952 about 25 trillion yuan, constituting approximately half the total net revenue from government enterprises, were derived from state trading. The total profits of government enterprises, both national and local, constituted 29.97 percent of total budget revenues. 176/

4. Probable Developments in Domestic Trade by 1957.

State control of trade has been achieved by the Communists. Within the next 5 years this control can be little more intensified than it is at present. The state monopoly corporations probably will emphasize operational efficiency, and any reorganization of the state trading program will be oriented along efficiency lines. The cooperative movement probably will continue to grow, according to past trends, with the Northwest and Southwest receiving the greatest emphasis. Private traders probably will suffer from persecution as scapegoats for the government's policy of restricting consumption of consumer goods and maximizing state revenues for the benefit of its capital investment program. Private trade probably will continue to be tolerated under more severe state control, but its share in total retail turnovers will probably diminish. The number of state-controlled corporations probably will increase more gradually than in the past 3 years. The trading sector will continue to be a principal source of state revenue, with the spread between cost and retail selling price adjusted to the government's need for accumulating capital and regulating marketing.

B. Foreign Trade.

The commodity composition and geographical distribution of the foreign trade of Communist China have undergone a drastic reorientation since 1938. The composition of imports has changed from a major emphasis on consumer goods and foodstuffs to a pronounced emphasis on capital goods, fabricated intermediate industrial products, and industrial raw materials. Substantial exports of textiles and fibers have been replaced in part by exports of foodstuffs. Otherwise the commodity composition of exports remains substantially unchanged. Geographically, Chinese foreign trade has shifted from almost 100-percent participation in Western and Japanese markets to less than 30-percent participation in these markets.

The planned program for industrial development of Communist China will continue to require large-scale imports of capital equipment, fabricated intermediate industrial products, and industrial raw materials.

In order to increase exports substantially, Communist China will have to find new markets for its agricultural* and industrial

* See the discussion of possible increases of agricultural exports in Section II, B, above.

raw materials -- new markets for commodities which are at present depressed on the world markets as a whole. China must exchange these depressed raw materials largely for industrial hard goods which are in relatively high demand in the Bloc, or which must be purchased in hard currency areas.

A summary analysis of the requirements of Communist China for capital equipment imports proportionate to the planned industrial growth of the country from 1953 to 1957 has been outlined in Section IV, D, above.

1. Changes in Commodity Composition of Trade.

The pattern of prewar Chinese commodity trade is shown in Table 47.* In general two points stand out: (1) the trade was almost exclusively with the West and (2) it consisted of exchange of primary products for food, industrial raw materials, and manufactured goods. Compared to this the 1953 trade pattern shows two significant changes: (1) a reorientation, so that over 70 percent of total Chinese trade is now with the Bloc and (2) increasing emphasis on imports of heavy industrial and military items -- at the expense of food and consumer goods.

The total 1952 Chinese imports can be broken into three major categories: imports from the USSR, about 54 percent of the total; from the Satellites, about 18 percent of the total; and from the West, about 28 percent of the total. 177/ It is believed that the 1953 division of Chinese imports between the West and the Bloc was about the same as 1952, roughly 30 percent and 70 percent, respectively.

Of the 70 percent of total Chinese imports accounted for by the remainder of the Bloc those from the USSR amounted to between 1,500,000 and 2,000,000 tons, estimated to have been shipped overland, and an additional 120,000 known to have moved by sea. These overland shipments included some 800,000 to 1,000,000 tons of petroleum, 150,000 to 200,000 tons of military equipment, and 500,000 to 800,000 tons of other materials, chiefly iron and steel, machinery, and metal products. 178/ Chinese Communist imports from the rest of the Bloc -- the European Satellites -- amounted to a total of about 670,000 tons. This included 400,000 tons of iron and steel, 100,000 tons of machinery and vehicles, 95,000 tons of sugar, ammonium sulphate and paper, 17,000 tons of petroleum and 58,000 tons of miscellaneous items. 179/

* Table 47 follows on p. 162.

Table 47 a/* 180/

Commodity Composition of the Foreign Trade of China
Yearly Average 1936-38

Thousand $ US

	Total Trade		Value of Trade	
	Value	Percent	With West	With Soviet Bloc
Imports				
Foodstuffs	71,567	13.4	71,550	17
Industrial Raw Materials	30,184	5.7	30,111	73
POL	30,631	5.7	30,578	53
Chemicals	42,174	7.9	41,942	232
Textiles	76,110	14.3	75,819	291
Metals and Manufactures	52,686	9.9	51,987	699
Machinery and Transport Equipment	77,653	14.6	76,737	916
Other Manufactures	45,132	8.5	44,779	353
Miscellaneous Transactions and Commodities	106,781	20.0	105,560	1,221 b/
Total	532,918	100.0	529,063	3,855
Exports				
Foodstuffs	169,024	46.8	168,356	668
Industrial Raw Materials	74,982	20.7	74,888	94
Coal	12,326	3.4	12,323	3
Chemicals	7,242	2.0	7,227	15

* Footnotes for Table 47 follow on p. 163.

Table 47 a/ 180/

Commodity Composition of the Foreign Trade of China
Yearly Average 1936-38
(Continued)

Thousand $ US

	Total Trade		Value of Trade	
	Value	Percent	With West	With Soviet Bloc
Exports (Continued)				
Textiles	25,830	7.2	25,592	238
Metals and Manufactures	8,466	2.3	8,463	3
Other Manufactures	24,087	6.7	24,064	23
Miscellaneous Transactions and Commodities	29,512	10.9	39,338	174 c/
Total	361,469	100.0	360,251	1,218

a. Adjusted to include the foreign trade of Manchuria.
b. Trade of Manchuria with the Soviet Bloc amounting to $95,000 included under Miscellaneous Transactions and Commodities.
c. Trade of Manchuria with the Bloc amounting to $169,000 included under Miscellaneous Transactions and Commodities.

Practically all imports from the Satellites came by ship while almost all imports from the USSR came overland. The estimates of shipments by sea were compiled from ships' manifests, and the description of cargoes therein is not in sufficient detail to provide accurate value figures. The tonnage figures, however, are probably reasonably reliable. The figures on overland shipments are generally speculative in nature, being primarily dependent on consumption and production estimates and refugee and repatriate reports.

Table 48* gives the commodity composition of Chinese Communist trade with Non-Bloc countries 1950-52. Commodity composition of Chinese imports from the non-Communist countries changed substantially during 1953. Raw cotton imports dropped from 43 percent of total imports from the non-Communist countries in 1952 to 5 percent in 1953. During the same period rubber imports increased from 9 percent of the 1952 total to 20 percent in 1953. Iron and steel and machinery and metalwares imports increased from negligible amounts in 1952 to 110,000 tons and 20,000 tons, respectively. Chemical, drug, and paper imports from non-Communist countries also showed advances during the same period 181/

The goods which China has received from the Soviet Bloc fall for the most part into the following categories: (1) machinery, including communication and transportation equipment, to enlarge China's industrial capacity; (2) raw materials and certain chemicals needed in refining and smelting processes; (3) agricultural machinery, fertilizer, and insecticides; (4) fabricated iron and steel; (5) petroleum; (6) paper; and (7) war material. According to refugee reports, Soviet iron and steel is being used on such projects as the Dairen dockyards, construction in Harbin, and construction and repair of mainline railroads. 182/ Despite the increased output of iron and steel in Communist China, requirements for special shapes and high quality materials are believed to have necessitated large imports.

In addition to iron and steel, shipments of heavy machinery and equipment were made to some 50 plants under construction or rehabilitation pursuant to the Sino-Soviet economic aid agreements, which included two blast furnaces, several steel rolling mills, steam and hydro power plants totaling some 300,000 kw capacity, and a number of mines and machinery and chemical plants. The 1953 trade agreement provided for Soviet shipments, in addition to the above items, of supplies for industry and transport and agricultural machinery. Industrial

* Table 48 follows on p. 165.

Table 48

Commodity Composition of the Trade of Communist China with Non-Bloc Countries a/* 183/ 1950-52

	1950 (Thousand Current $ US)	1951 (Thousand Current $ US).	1952 (Thousand Current $ US)	1952 (Percent)
Imports				
Foodstuffs	43,357	7,165	1,732	0.6
Industrial Raw Materials	156,865	198,978	133,012	49.3
POL	12,206	1,461	27	0.01
Chemicals	86,908	98,040	73,799	27.3
Textiles	27,931	4,602	9,038	3.3
Metals and Manufactures	70,188	48,823	6,207	2.3
Machinery and Transport Equipment	26,301	45,222	12,177	4.5
Other Manufactures	42,207	26,596	33,645 b/	12.5
Miscellaneous	51,957	45,870		
Total	519,920	476,757	269,637	100
Exports				
Foodstuffs	188,901	164,175	135,956	38.6
Industrial Raw Materials	152,636	181,756	138,837	39.4
Chemicals	16,044	19,574	6,389	1.8
Textiles	55,398	16,010	15,203	4.3
Metals and Manufactures	6,890	2,421	546	0.1
Other Manufactures	25,748	13,049	55,054 c/	15.6
Miscellaneous	35,021	73,880		
Total	480,638	470,865	351,985	100

* Footnotes for Table 48 follow on p. 166.

Table 48

Commodity Composition of the Trade of Communist China with Non-Bloc Countries a/ 183/ 1950-52 (Continued)

a. Trade statistics in this table are based on an analysis of the trade returns of non-Communist countries trading with China. This method of calculating foreign trade is subject to a number of limitations. The major limitation for purposes of this report is the difference in commodity and country classifications employed by the various "recording countries," thereby making it impossible to determine accurately total trade or its commodity composition. Two reporting factors produce an overstatement of Chinese foreign trade. The first is connected directly with the unique position of Hong Kong as an entrepot for China. Because of the transit nature of the trade of Hong Kong, traders in the recording countries tend to list China as the source or destination on their export and import declarations, although Hong Kong receives and also records this traffic. This double-counting factor was reduced to some extent, for from 1950 to 1951 particularly, many Western traders deliberately indicated Hong Kong as the documentary destination of the bill of lading but then re-routed the ships to China as soon as they were at sea. The second factor, also a result of the recording system, is a variation of the double-counting factor. Since in many countries trade with Hong Kong and Taiwan and perhaps Macao and Korea is reported as trade with China, shipments that are destined for or originate in countries other than China are reported as trade with China. If countries report Hong Kong trade separately, another difficulty arises. The China trade of these recording countries is thus understated to the amount of trade that goes through Hong Kong to China. Generally, adjustments for these factors are impossible when deriving the commodity pattern of trade, although it is possible to make adjustments for a few major commodities. The above values have thus been adjusted only for FOB and CIF.
b. Includes Miscellaneous also.
c. Includes Other Manufactures and Miscellaneous. This figure also includes $90,000 for machinery.

supplies would include important tonnages of such semi-manufactures as nonferrous metals and chemicals, while automotive vehicles have been imported in large numbers [redacted] These 50X1

imports are believed to have accounted for the remaining tonnage of estimated overland shipments.

While the known 1953 figures are in all cases tentative estimates, it is evident that the pattern of Chinese commodity imports is now heavily weighted to those goods needed to build and run a growing heavy industry. With the exception of rubber and cotton, these goods are obtained from the Bloc -- primarily the USSR.

Reflecting the change in source of imports, the export trade of Communist China is now primarily directed toward the Soviet Bloc. 1953 exports to the Soviet Union consisted primarily of agricultural products and industrial raw materials. This is a composition similar to that of exports to the West in prewar years.

As with Chinese imports, its exports to the Bloc can be divided between those going overland to the USSR and those going by sea to the East European Satellites. Chinese shipments to the USSR in 1953 are estimated to have totaled 2.5 to 3.5 million tons. This included 1.5 to 2 million tons of agricultural products, and is reported by defectors and refugees as well as Communist press statements to have consisted of pork, tea, peanuts, soybeans, peanut oil, wool, and silk. These products and others including tobacco, fruit, jute, and hides are included in the 1953 protocol of the Sino-Soviet trade agreement. 184/

Coal exports are even more tentative. [redacted] 50X1
[redacted] the Chinese have a contract to supply 50X1
200,000 tons of coal per year from the Fushun coal mine to the USSR. In addition, Japanese repatriates have reported that considerable shipments were made to the USSR from other coal mines in Manchuria. For present purposes coal exports to the USSR via overland routes are roughly assessed at 500,000 tons, but it is recognized that the volume of such shipments may have been very much higher. Refugee reports also indicate that cement is another major export commodity in terms of tonnage. It is believed that most of the output (180,000 tons per year) of the former Soviet-operated cement plant at Dairen is being shipped to the USSR, and it is conceivable that additional shipments are made from cement plants in northern Manchuria.

China is a major world producer of tungsten and antimony and an important source of tin and magnesite. Most of the production of such ores and concentrates is now exported to the USSR. In addition, the iron and steel industry in Manchuria probably had an ex-

port surplus of several hundred thousand tons of pig iron. Since only small quantities of pig iron have been identified as moving by sea to the Eastern European Satellites, it may be presumed that large quantities are shipped overland to meet steel mill requirements in the Soviet Far East. Finally, part of the output of the former Soviet-operated chemical plant in Dairen is reported to be exported to the USSR, but the specific quantity cannot be determined.

In addition to the above exports to the USSR, the Chinese Communists are believed to have shipped by sea about 100,000 tons of cargo of an unknown composition to the Soviet Union during 1953. 185/

Total 1953 Chinese Communist exports by sea to the Satellites are believed to have amounted to about 770 thousand tons, consisting of 360 thousand tons of iron ore, 170 thousand tons of food products and the remainder mainly unidentified cargo. 186/ Exports to the West fall into a similar commodity pattern. Total exports to the West amounted to about $320 million in 1953, which is about 15 percent higher than 1952.

2. Balance of Payments.

China's total trade in 1953 is estimated to have increased by approximately 15 percent over 1952. This represents an increase over the 1952 estimate of more than $300 million. Although part of this increase resulted from trade with non-Communist countries, the bulk of it was accounted for by an increase in the level of Sino-Soviet Bloc trade. Table 49* indicates the changes since 1938 in the value and geographical distribution of China's foreign trade.

Before World War II, practically all the foreign trade of Communist China was with Japan and the West. In the 1936-38 period, Japan accounted for 40.2 percent of trade turnover and was the major trading partner of China. The US accounted for only 13.7 percent.

After World War II, the West continued to play a major part in China's trade. Even in 1950, after the Communists had seized power, China's trade with non-Bloc countries was still 74 percent of its total trade. In 1951, however, this percentage dropped sharply to less than 40 percent and in 1952 dropped to 28 percent. It is estimated that, in 1953, trade with non-Bloc countries remained at approximately this same percentage even though it increased in value.

* Table 49 follows on p. 169. An index for the foreign trade of Communist China for the years 1950-52 (1938 = 100) is graphically presented in Figure 15, which follows p. 172, below.

Table 49

Value of the Trade of China with Non-Bloc and Bloc Countries 187/
1938, 1948-53

Million Current $ US

Year	Total Trade	Non-Bloc Countries	Soviet Bloc Trade a/	Non-Bloc Trade as Percent of Total Trade
1938 b/	939	935	4	99.5
1948	1,115	1,109	6	99.4
1949	833 c/	833	Negligible	100
1950	1,100	815	285	74
1951	2,164	845	1,319	39
1952	2,100	585	1,515	28
1953	2,415	670	1,745	28

a. It is probable that Communist China has included in Soviet Bloc accounts Western goods imported from or Chinese goods exported to the Bloc or carried on Bloc vessels, regardless of origin or final destination.
b. 1938 is taken as a representative prewar year.
c. A rough adjustment of data for price level changes suggests that physical volume of trade in 1948 and 1949 was less than half that of 1938. By 1951, however, physical volume of trade seems to have regained the 1938 level, as the gain in Bloc trade more than offset the decline in East-West trade.

Table 50* indicates that China achieved an export surplus in 1950 of approximately $50 million after many years of unfavorable trade balances. The favorable balance was obtained as a result of an export surplus with the Soviet Bloc offsetting a deficit with the West. But in 1951 the growing need for Chinese Communist imports to support a substantial war effort wiped out this modest surplus. Total Chinese Communist imports in 1951 were about 50 percent higher than the exports,

* Table 50 follows on p. 170.

Table 50

Foreign Trade Balance of Communist China 188/
1950-53

Million $ US

	USSR	Satellites	Soviet Bloc	West	Total
Imports					
1950	103	7	110	415	525
1951	615	145	760	530	1,290
1952	557	173	730	320	1,050
1953 Plan			1,185	350	1,535
1953 Actual			855	350	1,205
Exports					
1950	153	22	175	400	575
1951	415	145	560	315	875
1952	567	213	785	265	1,050
1953 Plan			885	350	1,235
1953 Actual			890	320	1,210

for an estimated net adverse balance of $415 million. Of this balance for 1951, more than half, or $215 million, was on Western account.

The share of the Soviet Bloc in total Chinese Communist trade rose rapidly in 1951 under (a) the impact of Soviet exports of military goods to China, (b) Western trade restrictions as a result of the Korean war, and (c) increased Chinese demands for capital equipment which then could only be obtained from Soviet Bloc markets.

A statement by Liu Ning-i, Chinese Communist Deputy Chairman of the All-China Federation of Labor, at the Third World Congress of the WFTU in Vienna in mid-October 1953, claimed that the total imports and exports of Communist China were in balance in 1952. It is also tentatively estimated that 1953 trade was virtually in balance.

Trade with both Bloc and non-Bloc countries increased in 1953 over 1952 but fell short of the announced Chinese plan. The major

shortfall was in imports from the Bloc where the plan called for a large import surplus. The plan also called for an increase in the percentage of trade with the Bloc but preliminary indications are that the Bloc's share of trade was no greater than in 1952. 189/ Breakdown by geographical area of Chinese Communist trade with non-Bloc countries is shown in Table 51.

Table 51

Value of the Trade of Communist China with Non-Bloc Countries a/
1953

	Thousand $ US	
Imports (Fob)		
Europe and Western Hemisphere	101,703	
Near East, Asia, Oceania	178,209	
Recorded Trade Imports	279,912	
Plus Adjustments for Unrecorded Trade	70,000	b/
Total Estimated Imports	350,000	c/
Exports (Cif)		
European and Western Hemisphere	105,251	
Near East, Asia, Oceania	278,606	
Recorded Trade Exports	383,857	
Less Adjustments for Double Counting by Hong Kong and Country of Final Destination	65,000	
Total Estimated Exports	320,000	

a. Official Western Sources - derived and unadjusted - compiled by Department of Commerce.
b. Tentatively estimated on basis of Chinese claims of total foreign trade.
c. Rounded.

3. Future Trends in Foreign Trade.

Chinese trade over the next few years will depend partly on political factors, partly on the internal economic policies of Communist China and its ability to increase production of export commodities, and partly on the line of credit which may be advanced by the USSR. Communist China would probably benefit from suspension

of Western trade controls in that a wider range of investment goods would be available in larger quantities while Chinese Communist exports would remain much the same -- agricultural products and raw materials. The primary effect of lifting Western trade restrictions would be increased imports from the West of certain essential commodities which are in short supply in the Bloc such as machinery, antifriction bearings, and chemicals.

The reasonable increase in volume of Chinese Communist trade that might be expected to result over the next few years would probably not amount to more than 50 percent of the 1952 volume with the resulting level of trade being at about the same volume of foreign trade as in 1931, in terms of constant prices. 1931 trade marked the highest level in the last 30 years. It is estimated that soybean and tung oil production can be substantially increased during the period despite increased domestic consumption of these commodities. Part of the planned increase in coal production could be earmarked for export to the Soviet Far East and to Japan. If Japan could pay in hard currencies or in materials which Communist China needs, possibilities of increased exports of coal, iron ore, salt, and soybeans to Japan would be favorable. If need be, export of Hainan iron ore could be maintained at the present rate or even increased, despite the desirability of retaining this high-grade ore for expanded domestic steel production. Export of tin, tungsten, antimony, and magnesite could probably be increased if production were stepped up and foreign markets were available.

Some imports of cotton from Pakistan and Egypt will probably continue although the increased production of Communist China has reduced this need. In Pravda of 28 September 1953, the USSR announced its intention to assist the Chinese from 1953 through 1957 in constructing and equipping 91 new industrial installations and 50 installations already being built or reconstructed. Thus Communist China will probably import an increasing volume of capital goods and technical services from the USSR. Moreover, it is probable that the Chinese Communists will continue to import a considerable quantity of war material.

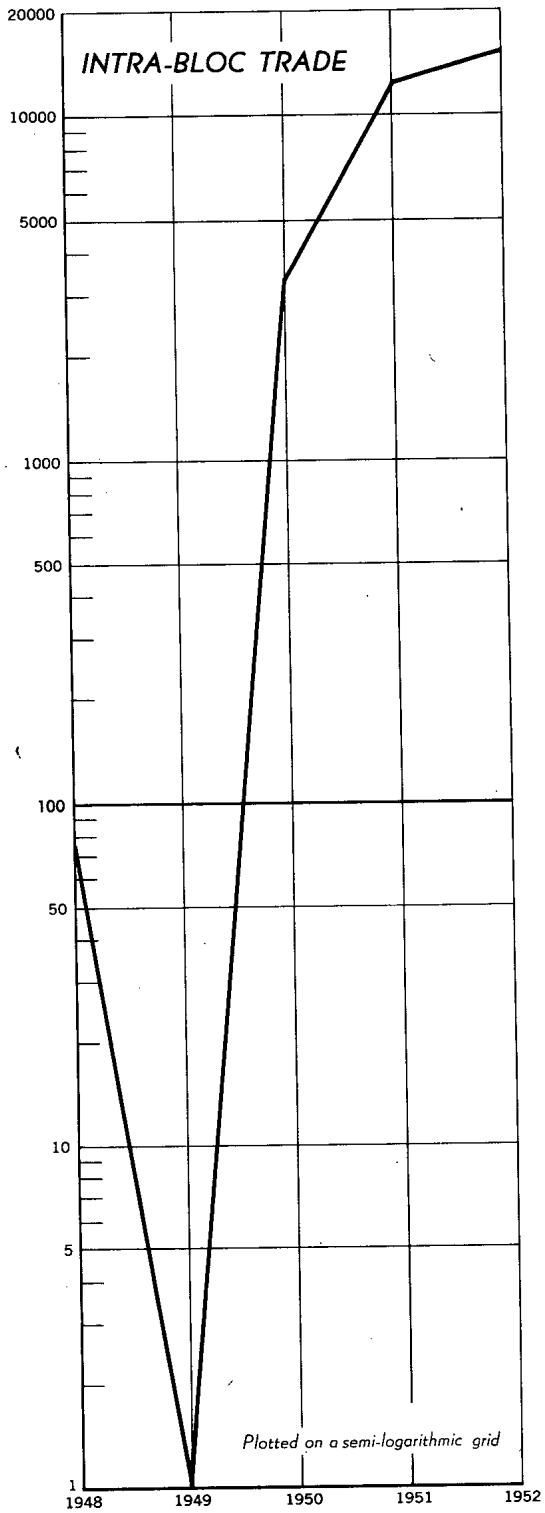
Figure 15

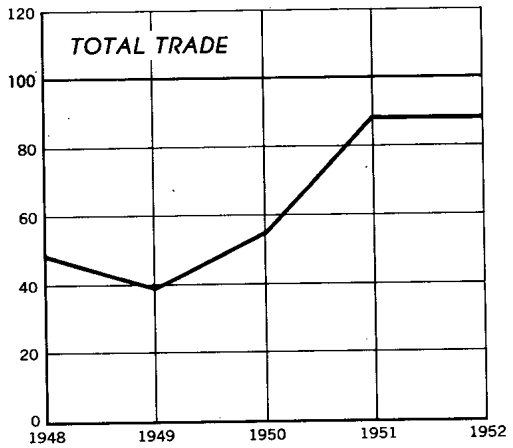
50X1

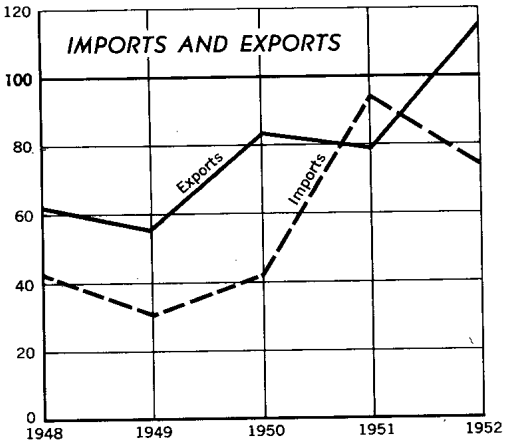
COMMUNIST CHINA

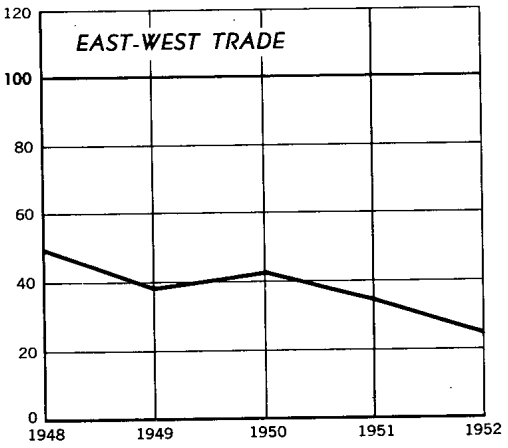
INDEXES OF FOREIGN TRADE, 1948-52

(1938 = 100)









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50X1

VII. Balance Sheet of the Korean War.

A. Credit Side.

Throughout the entire period of the Korean War the Chinese Communist regime has made notable progress in restoring production, establishing economic controls, and launching a Five Year Plan of economic development. This progress has been described in the preceding sections of this report. Some of this achievement is apparently attributable to the zeal and ruthless determination with which the regime has undertaken its organizational tasks in accordance with the Soviet system of regimentation of the entire economy. To the Communist world and to the other countries of Asia the Korean War provided a test of the competence of the Chinese Communist regime and of the Soviet system both to support the war effort and simultaneously to restore production and lay the foundations for further economic development under the Five Year Plan. War necessity, therefore, was a stimulus to organizational efficiency in the urgent restoration of production in almost all categories to previous peak levels. Because of their involvement in the Korean War, the Chinese Communists required more support from the USSR, and internal economic conditions in Communist China necessitated more severe and rapid organization of manpower and agricultural and industrial resources than would have been occasioned by the initial planning phase of the industrialization program. Soviet technical and military aid was given in ample measure to assure the necessary accomplishments.

A catalogue of the achievements of the joint Chinese Communist-Soviet efforts could not distinguish between the gains made as a result of the working of the Communist organizational system in laying the groundwork for the industrialization program and those which were derived from the stimulus and necessities of the Korean War. It is possible merely to list those progressive steps which have been realized as part of the joint organizational effort, as follows:

1. The Chinese Communist regime, with Soviet aid and advice, has established internal economic controls sufficient to maintain its stability, to reduce to impotence the previously well-entrenched landlord and entrepreneurial groups, and at the same time to extend its authority over all of mainland China, Tibet, and Hainan.

2. The regime has been able with Soviet technical aid to restore agricultural and industrial production approximately to previous

peak levels, to inaugurate a Soviet-type economic planning system of industrial development, and at the same time to provide economic support for the war effort. The restoration of agricultural production and its more even distribution within the country have been particularly significant in eliminating dependence on grain imports and in making the country almost self-sufficient in cotton fibers.

3. By an increase of exports and by use of Soviet credits, the Chinese Communists have been able not only to import capital equipment for the rehabilitation and improvement of their industries but also to pay for at least a part of the military equipment supplied by the Russians.

4. The Chinese Communist railroad transport system and communications networks have been sufficiently rehabilitated and improved not only to provide better distribution and to serve the political needs of the internal economy at its present increasing level of activity but also to provide logistical support for Korean War operations. In addition, the Chinese Communists have been able to lend some rolling stock and to supply thousands of railroad workers to assist North Korean railroad repair and maintenance.

5. The Chinese Communist regime has been able to establish its influence in Asia, obtaining recognition of five of the major countries of Asia -- India, Pakistan, Burma, Ceylon, and Indonesia -- and to carry on trade with them. In doing so it has reversed its previous pattern of trade, actually exporting rice -- always a deficit item in China -- in exchange for rubber and cotton. The regime has also been able to export military supplies to the Communist rebel forces of Ho Chi Minh in Indochina to the extent of 2,000 metric tons per month as of early 1954, and it has lent help to subversive forces in India and Burma.

6. Communist China has received from the USSR -- probably on a reimbursable basis -- equipment for a modern air force and heavy artillery, antiaircraft guns, ammunition, tanks, and trucks sufficient to support a progressively increasing combat consumption of such equipment up to the last days before the truce.

7. Communist China has received from the USSR -- probably on a "lend-lease" basis -- quantities of light military equipment, in addition to the light arms and ammunition which it provided from its own manufacturing resources. These supplies together were sufficient to support 1.5 million to 1.75 million men in active combat in the field.

8. The Chinese Communist air force, with aircraft and training officers from the USSR, has received training and combat experience in modern warfare, and possibly half of the Chinese Communist ground forces have been rotated in service in the war. The Chinese Communists, by their record in the Korean War, have established their prestige and pre-eminence as a military power in Asia and as an ally of the leading Communist power in eliminating Western influence and "imperialism" in Asia, and at the same time they have carried out their internal economic rehabilitation program.

B. Debit Side.

In the Communist calculation, labor and material goods are expendable as long as they are expended for the good of the state. They are replaceable, if necessary, by further expenditures of labor and material goods. If, according to the Communist rationale, the Korean War has served the purpose of building up the power and prestige of the Chinese Communist regime -- as it would appear to have done up to the point of the truce -- the costs to them would have been well spent. Further continuation of the war is another matter.

The obvious items of costs of Chinese Communist participation in the Korean War can be easily catalogued, although the definite amounts thereof are not so clear:

1. As mentioned in Section III, above, the budgeted expenses for maintenance of the military establishment have increased from US $1.4 billion, or 40 percent of the budget, in 1950 to US $2.6 billion, or 22 percent of the budget, allocated in 1953. The increase in absolute amount of military maintenance costs is probably largely attributable to the Korean War.

2. Chinese-manufactured light arms and ammunition consumed by the Chinese Communist forces in Korea -- although not sufficient to cover their war needs -- would probably be about adequate for peacetime requirements. The war consumption of such materiel probably represents a considerable part of the military budget.

3. In addition, some hundreds of millions of dollars probably have been spent in 1950-52 for modern military equipment imported from the USSR.

4. In Section VI, B, above, the USSR was shown to have supplied the Chinese Communists with some quantities of military equipment on a

nonreimbursable, or "lend-lease," basis. At the same time, as Stalin said in his speech of October 1952 before the Congress of the Communist Party, goods exchanged in international trade between socialist countries are to be paid for at prices negotiated in the market, and, as Vyshinsky said in the United Nations in December 1952, the USSR is selling munitions to Communist China. It is, therefore, deduced that the USSR probably supplies Communist China on a nonreimbursable basis only a part of the total Soviet shipment of military goods -- perhaps only such munitions and military equipment as were obsolescent or superfluous for use by the USSR -- and that new types of equipment, such as jet aircraft, tanks, trucks, heavy artillery, antiaircraft guns, and relevant ammunition, are sold to Communist China. If this is the case, the magnitude of the cost to Communist China of purchasing modern military equipment from the USSR would be an important deterrent to continuing or intensifying the war while simultaneously trying to implement its Five Year Plan.

5. The tanks, aircraft, artillery, and trucks which Communist China has already received and paid for are ready assets for training and for maintenance of the military power and prestige of Communist China in Asia.

6. At the same time, the development of its armaments industry, which is a considerable item in the industrialization of Communist China, can be realized only to the same degree as the development of the electric power, ferrous and nonferrous metallurgical, and chemicals industries. Therefore, concentration on achieving their industrialization goals would enable the Chinese Communists sooner to attain a greater degree of self-sufficiency in armaments production.

7. Under war conditions in any country the distribution of imports, domestic manufactures, and agricultural products must be subordinated to requirements for military transport over the internal railway system. Diversion of rolling stock in Communist China to troop transport and supply of the troops in Korea resulted in faster attrition of railway equipment and greater need for replacements than would have been the case if only peacetime requirements had had to be met. The same is true of motor transport. In addition, a small number of freight cars and several thousand trucks sent to Korea were destroyed. If this diversion of transport services to wartime uses were to continue, it would obviously handicap the improvement and extension of the rail and motor transport systems for industrial development purposes.

8. As discussed in Section VI, B, above, Western trade controls not only have limited the availability of certain types of industrial equipment which are in short supply in the Soviet Bloc but also have restricted Chinese Communist markets for their exports. It was estimated that the possible expansion of Chinese Communist exports, as a result of possible relaxation of Western trade controls, might facilitate an increase of exports over 1953 to the extent of at least US $250 million. Now that agricultural and nonferrous minerals production has been restored nearly to previous peak levels and now that Communist China needs to increase exports in order to pay for imports of Soviet industrial equipment, the denial of this expanded market is probably more important to the Chinese Communist regime than it has been in the past. Continued denial of Western markets would represent a cost to the Chinese Communist regime in terms of lost sales opportunities and possible serious delay in the realization of its industrialization program.

9. The cost in Chinese Communist human casualties in the war has amounted to an estimated 525,000 killed and 390,000 wounded in action. These costs in disciplined and more or less trained manpower are proportionately much greater for a country in the incipient stage of economic development of Communist China than for a more advanced country, even though the wealth of untrained manpower of Communist China is capable of extensive technical training. As discussed in Section I, above, the Chinese Communist shortage of technicians and inadequate technical training program render more difficult the implementation of the Five Year Plan. This difficulty is enhanced by the diversion of the services of transport, communications, industrial and medical workers, and their equipment to war purposes.* The availability of these workers for peacetime technical service and training purposes would mitigate the shortages of such technicians for the industrial development program. [redacted] the utilization of regular army troops on irrigation, land reclamation, farming, railroad, and highway construction projects in various parts of Communist China. Besides the war casualties and the enhanced need for technicians, the diversion of military forces to North Korea and Eastern Manchuria prevents their part-time employment in economic construction work and necessitates additional expenditures for employment of more civilian workers on such projects. 50X1

* For example, it was reported that during 1952 hospitals as far south as Hankow and Canton were filled with wounded soldiers transported there from North Korea under medical care and that Chinese Communist railroad workers had to be sent to Korea to assist in the repair and maintenance of North Korean railroads.

In weighing, from the point of view of economic policy, the advantages and disadvantages to the Chinese Communists of cessation or intensification of hostilities in Asia, it is necessary to take a particular moment in time -- the present -- on which to balance the choices of alternative uses of resources and labor and available material wealth. The costs of the Korean War up to this point have been borne and accounted for; the choice now lies between allocating resources in the same way or using them more constructively. The possibility that Communist China can carry through the Five Year Plan while supporting further military operations of the magnitude of 1952 in the Korean War or even more intensified hostilities is very doubtful.

APPENDIX A

REGIONAL DISTRIBUTION OF ECONOMIC ACTIVITY IN COMMUNIST CHINA

The tables in this appendix, Numbers 52 through 62, are the supporting tables for Section V, above. The figures in all of these tables are CIA estimates. The regions numbered from I through VIII in these tables are as designated in Section V, A, as follows: I, Northeast; II, Inner Mongolia; III, North; IV, East; V, Central and South; VI, Southwest; VII, Northwest; and VIII, Tibet.

Table 52

Regional Distribution of Gross Value of Production of Agricultural Goods in China
1936, 1943, and 1951

Billion Yuan

Year	Commodity	Region I	II	III	IV	V	VI	VII	VIII	Total		Estimated Margin of Error (Percent ±)
1936	Bread Grain	1,444.96	0	5,524.86	16,489.57	12,027.18	4,462.38	2,549.93	0	42,498.88		5
	Other Grain	13,421.60	265.25	10,185.56	12,572.80	8,169.67	5,994.63	2,440.29	0	53,049.80		5
	Rice	970.39	0	298.58	20,825.99	36,501.46	15,750.12	298.58	0	74,645.12		5
	Cotton	362.65	0	3,421.52	6,228.12	4,131.06	756.83	867.21	0	15,767.39		5
	Vegetable Oil	4,610.15	86.98	2,667.51	9,452.26	7,538.61	4,059.25	579.89	Unknown	28,994.65		10
	Wool (Grease)	405.90	0	992.21	211.97	112.75	76.67	2,376.79	333.74	4,510.03		10
	Silk (Raw)	N.A.	0	N.A.	2,025.86	4,100.29	811.74	0	0	6,937.89		10
	Potatoes	0	0	1,906.50	7,872.00	7,400.50	3,054.50	266.50	0	20,500.00		5
	Roundwood	2,240.00	960.00	768.00	2,560.00	2,560.00	2,560.00	768.00	384.00	12,800.00		20
	Sugar	45.31	0	0	1,325.38	2,588.45	1,704.86	0	0	5,664.00		5
	Swine	1,344.38	103.41	1,206.49	4,188.25	6,566.76	3,274.77	551.54	N.A.	17,235.60		
	Cattle	461.63	115.41	656.21	2,029.90	3,707.35	621.76	1,008.33	N.A.	8,600.59		
	Total	25,306.97	1,531.05	27,627.44	85,782.10	95,404.08	43,127.51	11,707.06	717.74	291,203.95	(310,915.20) a/	
Regional Percent of Total		8.7	0.5	9.5	29.5	32.8	14.8	4.0	0.2	100		

a. Total including commodity production which has been reported but for which no regional distribution is available.

Table 52

Regional Distribution of Gross Value of Production of Agricultural Goods in China
1936, 1943, and 1951
(Continued)

Billion Yuan

Year	Commodity	Region I	II	III	IV	V	VI	VII	VIII	Total		Estimated Margin of Error (Percent ±)
1943	Bread Grain	1,284.06	0	3,813.34	13,891.48	10,700.71	5,836.76	3,385.33	0	38,911.68		10
	Other Grain	14,175.87	264.15	7,572.21	9,157.09	6,163.42	4,754.64	1,937.08	0	44,024.46		10
	Rice	847.20	0	169.44	17,960.84	26,941.28	10,392.44	169.44	0	56,480.64		10
	Cotton	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		
	Vegetable Oil	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		
	Wool (Grease)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		
	Silk (Raw)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		
	Potatoes	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		
	Roundwood	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		
	Sugar	39.87	0	0	1.166.33	2,277.83	1,500.28	0	0	4,984.31		10
	Cattle	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		
	Swine	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.		
	Total	16,347.00	264.15	11,554.99	42,175.74	46,083.24	22,484.12	5,491.85	0	144,401.09	(177,410.75) a/	
Regional Percent of Total		11.3	0.2	8.0	29.2	31.9	15.6	3.8	0	100		
1951	Bread Grain	1,382.52	0	4,105.68	14,956.42	11,521.05	6,284.21	3,644.84	0	41,894.72		10
	Other Grain	16,021.06	298.53	8,557.83	10,349.01	6,965.68	5,373.53	2,189.21	0	49,754.85		10
	Rice	996.47	0	199.30	21,125.17	31,687.76	12,223.37	199.29	0	66,431.36		10
	Cotton	708.81	0	3,715.15	2,835.25	3,397.41	464.40	1,099.88	0	12,220.90		10
	Vegetable Oil	3,635.92	80.21	2,459.59	7,753.06	8,421.43	3,635.92	748.57	0	26,734.70		10
	Wool (Grease)	364.56	0	646.44	120.26	75.17	60.13	2,232.47	259.33	3,758.36		10

a. Total including commodity production which has been reported but for which no regional distribution is available.

Table 52

Regional Distribution of Gross Value of Production of Agricultural Goods in China
1936, 1943, and 1951
(Continued)

Billion Yuan

Year	Commodity	Region I	II	III	IV	V	VI	VII	VIII	Total		Estimated Margin of Error (Percent ±)
1951 (Continued)												
	Silk (Raw)	0	0	0	1,289.10	268.56	232.75	0	0	1,790.42		10
	Potatoes	0	0	2,046.85	9,572.96	14,674.34	4,943.93	251.92	0	31,490.00		10
	Roundwood	2,800.00	1,200.00	960.00	3,200.00	3,200.00	3,200.00	960.00	480.00	16,000.00		20
	Sugar	393.93	0	0	519.11	2,183.19	585.37	0	0	3,681.60		5
	Swine	1,433.12	358.28	1,188.50	4,166.80	5,959.90	3,720.60	447.80	N.A.	17,225.00		
	Cattle	525.00	131.25	645.95	2,006.70	3,513.90	798.65	981.83	N.A.	8,603.28		
	Total	28,261.39	2,068.28	24,525.29	77,843.85	91,868.39	41,522.86	12,755.81	739.33	279,585.19	(300,896.44) a/	
	Regional Percent of Total	10.1	0.7	8.8	27.8	32.8	14.9	4.6	0.3	100		

a. Total including commodity production which has been reported but for which no regional distribution is available.

Table 53

Regional Distribution of Gross Value of Production of Textiles in China
1936 and 1951

Billion Yuan

Year	Commodity	Region I	II	III	IV	V	VI	VII	VIII	Total	Estimated Margin of Error (Percent ±)
1936	Cotton Yarn	540.42	0	1,324.90	13,632.58	1,830.46	0	104.60	0	17,432.96	10
	Total	540.42	0	1,324.90	13,632.58	1,830.46	0	104.60	0	17,432.96	
	Percent of Total	3.1		7.6	78.2	10.5		0.6		100.00	
1951	Cotton Yarn	1,016.55	0	1,532.42	10,878.64	758.62	697.93	288.28	0	15,172.44	10
	Wool Yarn	12.75	0	19.40	94.53	1.25	8.18	2.49	0	138.60	10
	Total	1,029.30	0	1,551.82	10,973.17	759.87	706.11	290.77	0	15,311.04	
	Percent of Total	6.7		10.1	71.7	5.0	4.6	1.9		100.00	

Table 54

Regional Distribution of Gross Value of Production of Rubber Tires in China
1951

Billion Yuan

Year	Commodity	Region I	II	III	IV	V	VI	VII	VIII	Total	Estimated Margin of Error (Percent ±)
1951	Rubber Tires	24.97	0	15.07	69.96	0	0	0	0	110.00	50
Regional Total	Percent of	22.7	0	13.7	63.6					100.00	

Table 55

Regional Distribution of Gross Value of Production of Bituminous Coal in China
1936, 1943, and 1951

Billion Yuan

Year	Commodity	Region I	II	III	IV	V	VI	VII	VIII	Total	Estimated Margin of Error (Percent ±)
1936	Coal	2,578.88	14.95	2,421.90	1,278.22	717.60	373.75	89.70	0	7,475.00	10
Regional Percent of Total		34.5	0.2	32.4	17.1	9.6	5.0	1.2	0	100.00	
1943	Coal	4,714.12	95.48	3,616.15	2,398.83	369.97	596.73	143.21	0	11,934.49	10
Regional Percent of Total		39.5	0.8	30.3	20.1	3.1	5.0	1.2	0	100. 00	
1951	Coal	2,543.82	46,49	2,497.33	378.58	524.71	278.96	371.94	0	6,641.83	50
Regional Percent of Total		38.3	0.7	37.6	5.7	7.9	4.2	5.6	0	100.00	

Table 56

Regional Distribution of Gross Value of Production of Crude Petroleum in China
1936, 1943, and 1951

Billion Yuan

Year	Commodity	I	II	III	IV	V	VI	VII	VIII	Total
1936	Crude Oil	0	0	0	0	0	0	0	0	2.87
Percent of Total Output										
1943	Crude Oil	0	0	0	0	0	0	385.12	0	385.12
Percent of Total Output								100.00		100.00
1951	Crude Oil	0	0	0	0	0		1,051.88		1,051.88
Percent of Total Output		0						100.00		100.00

Table 57

Regional Distribution of Gross Value of Production of Electric Energy in China
1936, 1943, and 1951

Billion Yuan

Year	Commodity	Region I	II	III	IV	V	VI	VII	VIII	Total	Estimated Margin of Error (Percent ±)
1936	Power Production	674.50	0.95	220.21	817.76	177.84	8.36	0.38	0.0	1,900	3
	Percent of Total	35.50	0.05	11.59	43.04	9.36	0.44	0.02	0.0	100	
1943	Power Production	2,158.88	45.37	516.00	720.75	217.88	76.50	14.62	0.0	3,750	10
	Percent of Total	57.57	1.21	13.76	19.22	5.81	2.04	0.39	0.0	100	
1951	Power Production	1,601.46	40.32	416.12	775.53	226.80	69.93	19.53	0.31	3,150	20
	Percent of Total	50.84	1.28	13.21	24.62	7.20	2.22	0.62	0.01	100	

Table 58

Regional Distribution of Gross Value of Output of Ferrous Mining and Metallurgy in China
1936, 1943, and 1951

Billion Yuan

Year	Commodity	Region I	II	III	IV	V	VI	VII	VIII	Total	Estimated Margin of Error (Percent ±)
1936	Pig Iron	1,046.12	0	120.45	6.55	82.49	48.44	5.24	0	1,309.29	10
	Finished Steel	2,425.25	0	0	0	0	0	0	0	2,425.25	2
	Coke	237.76	0	59.44	N.A.	N.A.	N.A.	0	0	297.20	20
	Molybdenum	0	0	0	0	0.18	0	0	0	0.18	10
	Tungsten	0	0	0	0	543.24	0	0	0	543.24	10
	Total	3,709.13	0	179.89	6.55	625.91	48.44	5.24	0	4,575.16	
	Percent of Total	81.1	0	3.9	0.2	13.7	1.0	0.1	0	100.0	
1943	Pig Iron	3,280.86	0	139.69	3.58	21.49	132.52	3.58	0	3,581.72	5
	Finished Steel	8,702.69	0	0	0	0	141.51	0	0	8,844.20	5
	Coke	835.2	0	208.8	N.A.	N.A.	N.A.	0	0	1,044.00	20
	Molybdenum	21.67	0	0	0	0.44	0	0	0	22.11	10
	Tungsten	0	0	0	0	498.96	0	0	0	498.96	10
	Total	12,840.42	0	348.49	3.58	520.89	274.03	3.58	0	13,990.99	
	Percent of Total	91.8	0	2.5	0.05	3.7	1.9	0.05	0	100.0	
1951	Pig Iron	1,767.66	0	168.24	74.29	76.48	98.33	Negligible	0	2,185.00	10
	Finished Steel	7,349.75	0	950.31	788.56	0	1,021.08	0	0	10,109.70	10
	Coke	564.48	0	141.12	N.A.	N.A.	N.A.	0	0	705.60	20
	Molybdenum	14.55	0	0	0	0.30	0	0	0	14.85	20
	Tungsten	0	0	0	0	778.68	0	0	0	778.68	20
	Total	9,696.44	0	1,259.67	862.85	855.46	1,119.41	0	0	13,793.83	
	Percent of Total	70.3	0	9.1	6.3	6.2	8.1	0	0	100.0	

Table 59

Regional Distribution of Gross Value of Production of Nonferrous Metals in China
1936, 1943, and 1951

Billion Yuan

Year	Commodity	Region I	II	III	IV	V	VI	VII	VIII	Total	Estimated Margin of Error (Percent ±)
1936	Bauxite	19.00	0	0	0	0	0	0	0	19.00	
	Copper	N.A.	0	0	0	0	20.04	0	0	20.04	
	Aluminum, Primary	0	0	0	0	0	0	0	0	0	
	Aluminum, Secondary	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	
	Lead	N.A.	0	0	0	57.34	10.12	0	0	67.46	
	Lead Concentrates	186.49	0	0	0	0	0	0	0	186.49	
	Zinc	N.A.	0	0	0	17.69	8.71	0	0	26.40	
	Zinc Concentrates	N.A.	0	0	0	162.66	0.49	0	0	163.15	5
	Mercury	0	0	0	0	0.17	0.65	0	0	0.82	5
	Tin	0	0	0	0	152.64	541.18	0	0	693.82	5
	Antimony	0	0	0	0	315.78	0	0	0	315.78	15
	Gold	53.36	0	0	6.35	34.30	33.03	0	0	127.04	
	Total	258.85	0	0	6.35	740.58	614.22	0	0	1,620.00	
	Percent of Total	16.0	0	0	0.4	45.7	37.9	0	0	100.0	

Table 59

Regional Distribution of Gross Value of Production of Nonferrous Metals in China
1936, 1943, and 1951
(Continued)

Billion Yuan

Year	Commodity	I	II	III	IV	V	VI	VII	VIII	Total	Estimated Margin of Error (Percent ±)
1943	Bauxite	3.80	0	0	0	0	0	0	0	3.80	25
	Copper	103.47	0	0	0	0	32.67	0	0	136.14	
	Aluminum, Primary	360.30	0	0	0	0	0	0	0	360.30	15
	Aluminum, Secondary	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	
	Lead	164.90	0	0	0	22.74	1.90	0	0	189.54	
	Lead Concentrates	24.21	0	0	0	0	0	0	0	24.21	
	Zinc	212.50	0	0	0	6.93	11.55	0	0	230.98	
	Zinc Concentrates	99.62	0	0	0	N.A.	N.A.	0	0	99.62	
	Mercury	0	0	0	0	0	1.64	0	0	1.64	5
	Tin	0	0	0	0	77.17	308.68	0	0	385.85	20
	Antimony	0	0	0	0	9.43	0	0	0	9.43	5
	Gold	39.02	0	0	1.95	27.31	29.26	0	0	97.54	15
	Total	1,007.82	0	0	1.95	143.58	585.70	0	0	1,539.05	
	Percent of Total	65.5	0	0	0.1	9.3	25.1	0	0	100.0	

Table 59

Regional Distribution of Gross Value of Production of Nonferrous Metals in China
1936, 1943, and 1951
(Continued)

Billion Yuan

Year	Commodity	Region I	II	III	IV	V	VI	VII	VIII	Total	Estimated Margin of Error (Percent ±)
1951	Bauxite	11.40	0	0	0	0	0	0	0	11.40	25
	Copper	378.00	0	0	0	0	42.00	0	0	420.00	25
	Aluminum, Primary	0	0	0	0	0	0	0	0	0	
	Aluminum, Secondary	21.05	0	0	0	0	0	0	0	21.05	
	Lead	116.64	0	0	0	11.66	1.30	0	0	129.60	
	Lead Concentrates	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	
	Zinc	6.40	0	0	0	3.20	3.20	0	0	12.80	
	Zinc Concentrates	84.00	0	0	0	N.A.	N.A.	0	0	84.00	25 to 50
	Mercury	0	0	0	0	0.15	0.57	0	0	0.72	25
	Tin	0	0	0	0	82.48	292.44	0	0	374.92	20
	Antimony	0	0	0	0	176.26	0	0	0	176.26	20
	Gold	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	
	Total	617.49	0	0	0	273.75	339.51	0	0	1,230.75	
	Percent of Total	50.2	0	0	0	22.2	27.6	0	0	100.0	

Table 60

Regional Distribution of Gross Value of Production of Basic Chemicals in China
1936, 1943, and 1951

Billion Yuan

Year	Commodity	Region I	II	III	IV	V	VI	VII	VIII	Total	Estimated Margin of Error (Percent ±)
1936	Sulfuric Acid	366.52	0	4.21	33.70	12.64	4.21	0	0	421.28	20
	Nitric Acid	29.05	0	0	24.98	4.07	0	0	0	58.10	14
	Ammonia	357.21	0	0	27.78	11.91	0	0	0	396.90	10
	Caustic Soda	23.11	0	71.10	71.10	12.44	0	0	0	177.75	20
	Soda Ash	20.03	0	266.06	0	0	0	0	0	286.09	20
	Chlorine	13.92	0	8.70	26.68	8.70	0	0	0	58.00	20
	Calcium Carbide	40.50	0	9.00	40.50	0	0	0	0	90.00	10
	Benzol	7.60	0	0	0.40	0	0	0	0	8.00	20
	Toluol	2.85	0	0	0.15	0	0	0	0	3.00	20
	Phenol	1.71	0	0	0.09	0	0	0	0	1.80	20
	Cresols	3.51	0	0	0.19	0	0	0	0	3.70	20
	Xylol	3.16	0	0	0.17	0	0	0	0	3.33	20
	Naphthalene	24.70	0	0	1.30	0	0	0	0	26.00	20
	Total	893.87	0	359.07	227.04	49.76	4.21	0	0	1,533.95	
Regional Percent of Total		58.3		23.4	14.8	3.2	0.3			100	
1943	Sulfuric Acid	316.12	0	4.58	114.53	18.33	4.58	0	0	458.14	20
	Nitric Acid	337.56	0	0	52.87	16.27	0	0	0	406.70	20
	Ammonia	243.65	0	0	11.92	3.63	0	0	0	259.20	20
	Caustic Soda	71.46	0	71.03	49.49	10.66	10.66	0	0	213.30	30
	Soda Ash	228.35	0	156.20	0	0	11.89	0	0	396.44	10
	Chlorine	22.04	0	8.70	17.98	4.64	4.64	0	0	58.00	20
	Calcium Carbide	162.00	0	8.64	45.36	0	0	0	0	216.00	10
	Benzol	108.00	0	6.00	6.00	0	0	0	0	120.00	10
	Toluol	10.20	0	0.60	1.20	0	0	0	0	12.00	20
	Phenol	3.06	0	0.18	0.36	0	0	0	0	3.60	20

Table 60

Regional Distribution of Gross Value of Production of Basic Chemicals in China
1936, 1943, and 1951
(Continued)

Billion Yuan

Year	Commodity	Region I	II	III	IV	V	VI	VII	VIII	Total	Estimated Margin of Error (Percent ±)
1943 (Continued)											
	Cresols	6.29	0	0.37	0.74	0	0	0	0	7.40	20
	Xylol	5.65	0	0.33	0.67	0	0	0	0	6.65	20
	Naphthalene	44.20	0	2.60	5.20	0	0	0	0	52.00	20
	Total	1,558.58	0	259.23	306.32	53.53	31.77	0	0	2,209.43	
Regional Percent of Total		70.6		11.7	13.9	2.4	1.4			100	
1951	Sulfuric Acid	104.27	0	2.37	94.79	23.69	11.85	0	0	236.97	20
	Nitric Acid	44.82	0	0	29.88	0	0	0	0	74.70	50
	Ammonia	66.42	0	0	95.58	0	0	0	0	162.00	50
	Caustic Soda	106.65	0	65.18	53.32	4.74	7.11	0	0	237.00	20
	Soda Ash	200.26	0	204.35	0	0	4.09	0	0	408.70	10
	Chlorine	26.91	0	8.97	26.91	2.07	4.14	0	0	69.00	20
	Calcium Carbide	110.88	0	5.04	10.08	0	0	0	0	126.00	15
	Benzol	40.87	0	14.13	0.84	0	0	0	0	55.84	10
	Toluol	7.61	0	2.63	0.16	0	0	0	0	10.40	10
	Phenol	1.49	0	0.51	0.03	0	0	0	0	2.03	10
	Cresols	2.76	0	0.95	0.06	0	0	0	0	3.77	20
	Xylol	2.82	0	0.97	0.06	0	0	0	0	3.85	20
	Naphthalene	17.13	0	5.92	0.35	0	0	0	0	23.40	20
	Total	732.89	0	311.02	312.06	30.50	27.19	0	0	1,413.66	
Regional Percent of Total		51.8		22	22.1	2.2	1.9			100	

Table 61

Regional Distribution of Gross Value of Production of Weapons and Ammunition in China
1943 and 1951

Billion Yuan

Year	Commodity	Region I	II	III	IV	V	VI	VII	VIII	Total	Estimated Margin of Error (Percent ±)
1943	Small Arms	225.56	0	112.78	37.59	37.59	263.15	75.18	0	751.85	25
	Machine Guns	213.07	0	106.54	0	0	213.08	0	0	532.69	25
	Artillery	0	0	0	0	0	6.40	0	0	6.40	25
	Mortars	130.23	0	26.05	0	0	104.19	0	0	260.47	25
	Artillery Ammunition	843.16	0	60.23	0	0	301.13	0	0	1,204.52	25
	Mortar Ammunition	889.99	0	148.33	0	0	445.00	0	0	1,483.32	25
	Small Arms Ammunition	576.00	0	216.00	72.00	72.00	432.00	72.00	0	1,440.00	25
	Total	2,878.01	0	669.93	109.59	109.59	1,764.95	147.18	0	5,679.25	
Regional	Percent of Total	50.7		11.8	1.9	1.9	31.1	2.6		100	
1951	Small Arms	169.31	0	135.45	101.59	101.59	101.59	67.72	0	677.25	25
	Machine Guns	155.26	0	77.63	38.82	58.22	58.22	0	0	388.15	25
	Artillery	43.20	0	17.28	4.32	4.32	17.28	0	0	86.40	25
	Mortars	187.11	0	41.58	41.58	62.37	83.16	0	0	415.80	25
	Artillery Ammunition	5,852.10	0	1,463.02	487.68	975.35	975.35	0	0	9,753.50	25
	Mortar Ammunition	2,087.63	0	379.57	189.78	379.57	759.14	0	0	3,795.69	25
	Small Arms Ammunition	1,446.00	0	964.00	482.00	723.00	723.00	482.00	0	4,820.00	25
	Total	9,940.61	0	3,078.53	1,345.77	2,304.42	2,717.74	549.72	0	19,936.79	
Regional	Percent of Total	49.9		15.4	6.7	11.6	13.6	2.8		100	

S-E-C-R-E-T

Table 62

Regional Distribution of Population and Labor Force in China
1951

Millions

	Region									Estimated Margin of Error (Percent)
	I	II	III	IV	V	VI	VII	VIII	Total	
Total Population	41.6	2.3	67.1	133.2	136.8	70.6	23.5	1.4	476.5	12.0
Percent of Total Population	8.73	0.5	14.08	27.95	28.71	14.82	4.93	0.3	100.0	
Rural Population	33.7	2.1	60.7	121.3	123.1	57.4	21.3	1.3	420.9	12.0
Percent of Rural Population	8.00	0.5	14.42	28.82	29.25	13.64	5.06	0.3	100.0	
Farm Population	29.1	1.8	53.0	93.5	109.4	53.7	20.0	1.4	361.9	12.0
Percent of Farm Population	8.04	0.5	14.64	25.86	30.23	14.84	5.53	0.4	100.0	
Total Labor Force	21.8	1.2	35.2	69.9	71.8	37.0	12.3	0.8	250.0	12.0
Percent of Total Labor Force	8.73	0.5	14.08	27.95	28.71	14.82	4.93	0.3	100.0	
Rural Labor Force	17.8	1.0	31.9	63.8	56.0	30.1	11.2	0.8	212.6	12.0
Percent of Rural Labor Force	8.34	0.5	15.02	30.00	26.32	14.20	5.27	0.4	100.0	
Farm Labor Force	15.1	0.9	27.4	48.5	56.7	27.9	10.3	0.8	187.6	12.0
Percent of Farm Labor Force	8.04	0.5	14.64	25.86	30.23	14.84	5.53	0.4	100.0	

APPENDIX B

METHODOLOGY

I. Production.

The data for the production indexes and the GNP estimate for 1952 are derived from estimates of annual production for an extensive list of commodities. Production data on the Chinese economy are difficult to secure, particularly for the years from 1937 to 1945 and after 1949, when the Communists came to power. The systematic derivation of production estimates has been omitted from this report, as too extensive and complex for publication in its present state.

The production estimates given for agricultural production are in general more complete and exhaustive than production estimates for the other sectors. Estimates for the years after 1937 are more difficult to derive, but agricultural outputs are estimated with a range of error of plus or minus 10 percent.

Estimates of output of minerals and metallurgy rank with agricultural production estimates in their general reliability. Difficulties exist in inferring output for the years from 1949 to 1952, since in most cases Communist claims for increases for these years over previous years and over past peaks must be matched with other information on production for earlier years.

CIA estimates of manufacturing output have many gaps both because of the lack of information for the years from 1937 to 1949 and the incomplete coverage of commodities produced. Added to these problems is the difficulty in distinguishing between modern manufacturing and handicraft output. The estimated increase for modern manufacturing may have been offset by decreases in handicraft production, thus affecting the validity of the indexes.

II. Valuation.

Chinese prices for 1952 were used to weight the estimates of physical output. In general, the use of 1952 prices gives greater weight to manufacturing output relative to agricultural output than Chinese prices from 1931 to 1936, and greater weight to industrial

output relative to agriculture than 1952 US prices. The 1952 Chinese prices, however, represent the best picture of the present allocation of economic resources in China.

Three general sources were used to secure the 1952 prices. (1) The Economic Abstracts, FBIS, 190/ give quotations in the wholesale markets of various cities in East China, Hankow in Central-South China, and Chungking and other cities in Southwest China. Price quotations from North China and from Northeast China are conspicuous by their absence. In addition, these sources include some wholesale prices for Shanghai and for Tientsin for consumer items. (2) FDD summaries of newspaper price quotations in Shanghai and Tientsin were available both for producer goods and for consumer goods. 191/ (3) The Standard List of Commodities published by the Ministry of Fuel is also a source. 192/

Many gaps in prices remain after exploiting these sources, both in commodities and in regional coverage. The firm data consist of city wholesale prices. Crucial questions remain as to the markup from the producer level to the wholesale level and between wholesale and retail prices. The extent and impact of the present tax system on prices is another important gap in our information.

III. Value Added for Sectors.

A. Agriculture.

The list of agricultural commodities was very extensive and was taken to be exhaustive of the output of this important sector. From the gross value of the 1952 output, valued at estimated farm prices, costs were subtracted, including seed, feed, fertilizer, and the like.

B. Minerals and Metallurgy.

The gross value of commodities for which production estimates were available was very nearly complete. In 1936 in China proper, miscellaneous minerals such as pyrites, kaolin, fireclay, gypsum, and alum, were 15 percent by weight of salt, limestone, fluorspar, and antimony, and so 15 percent of the gross value of these commodities was taken as the gross value of miscellaneous minerals. For each commodity the percentage of gross value that was value added was taken from CIA estimates.

C. Modern Manufacturing.

The gross value in 1952 of sectors within manufacturing a to be secured in terms of the commodities for which production data were available. Only in the case of engineering output was there a gross value estimate for the whole sector, and even this estimate was in terms of 1936 prices. A price index was applied to the gross value of engineering to convert the estimate to 1952 prices. For other sectors assumptions had to be made as to the portion of the total value of the sector covered by the commodity list. Two procedures were used for this purpose:

1. Labor Force.

Out of the various labor force estimates, starting from the ranges given in CIA estimates, an estimate was made as to the labor force in each sector. An over-all total for the labor force in modern manufacturing was available independently of subtotals, and percentages of total labor engaged in each sector were available for China proper in 1936 and for Manchuria in 1941. Wherever labor force estimates were used, the assumption made was that gross value of output per worker was on the average the same in the rest of the sector as for the commodities for which gross value was estimated.

2. Gross Value of Commodities in Relation to Sectors.

A census of Manchurian industry in 1941 193/ was available that showed the relationship of the value of the output of industries -- such as cement or cotton textiles -- to the total value of the sectors that include them. This census is considered to reflect more accurately the 1952 gross value relationship for Manchuria between the values represented by the commodity lists and the sectors to which they belong than a breakdown of labor force data alone. For China proper, in the case of textiles, the gross value of relationship to be found in Ou Pao San's national income estimates for China in 1933 was used.

Gross value of output of sectors in China proper was derived from the value of representative commodities, using proportions of labor force employed in the production of listed commodities to total labor force of the sectors. While the results are subject to a large margin of error, direct valuation of the commodities listed would have been an obvious understatement of the value of output, since the same was not sufficiently comprehensive.

In general, the percentage of value added in relation to gross value given in the census for Manchuria in 1941 was used for estimating value added for modern industry in 1952. This census is more complete in its classification of commodities and in its information on value added than any other source after 1933.

Value added for Manchurian industrial output is considered as typical of average production conditions for modern manufacturing in China as a whole. The 1941 period is more comparable with 1952 both in point of time and in terms of economic circumstances than the period prior to 1936.

IV. Transportation, Trade, Government, and Other.

The State Department, OIR, estimate of value added for the railroads and for other modern transportation was used in this report. 194/ The estimate for the value added by government was also substantially the same as the OIR estimate.

The first step in estimating value added by trade, food processing, and handicraft was to total estimated final sales in the producing sectors. This total did not include handicraft output other than processed agricultural products. The total was then matched against Communist statements of total trade in 1952, and the residual was taken as the estimated handicraft output other than processed agricultural products. The value of the total sales minus the receipts realized by the producing sectors yielded the value added for trade, food processing, and handicraft together. This procedure is subject to a large margin of error, but some of the possible errors in estimating markups in the sales of commodities would affect the relative share of GNP contributed by the producing sectors as against trade, food processing, and handicraft and would not affect the total GNP itself.

Supplementary farm income was estimated as a percentage of farm income from crops and livestock. 195/ After a rough check of imputed rural rent, the OIR estimate was accepted. 196/ The value of personal services including domestic help receiving pay was made on the basis of estimated labor force engaged in personal services and an average income per worker.

V. Cross-Valuation of the GNP of China and of the US.

The output of goods and services in China in 1952 was valued at US prices, and in a very rough way the output of goods and services in the US in 1952 was valued at Chinese prices. These procedures give two bases for comparing the GNP of China and the US -- one using US prices and one using Chinese prices. The variation between the two comparisons was large. Any comparison between the US economy and an underdeveloped economy would be likely to have significant differences, but for Communist China the comparison is made extreme by the forced industrialization program and accompanying price policies. As the Chinese industrialization program continues, however, the high prices of producer goods that prevailed in 1952 are likely to drop relative to agricultural prices. This would have the effect of lowering the Chinese yuan valuation of the US industrial sector and therefore increasing the ratio of Chinese GNP to US GNP.

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