THE JAPANESE ECONOMIC DEVELOPMENT OF MANCHURIA, 1932 TO 1945

by

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A thesis submitted in partial fulfillment

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We have carefully read the thesis entitled
The Japanese Economic Development of Manchuria, 1932-1945
submitted by
Ramon H. Myers in partial fulfillment of
the requirements of the degree of Doctor of Philosophy
and recommend its acceptance. In support of this recommendation we present the following joint statement of evaluation to be filed with the thesis.

In his dissertation Mr. Ramon Myers has selected the economy of Manchuria from the period 1932-1945 as a case study in economic planning and economic development. His analysis of the economic development of the economy will be of great interest to students of this area, since this economy portrays all of the problems and difficulties of transition from a basically agricultural economy to one which is industrialized. The variety of problems which exists in mobilizing resources and labor supply, the problems of reorganization, and resulting bottlenecks and shortages which occur in the normal process of development requiring decades is telescoped into a short period of time. All are evidenced in this case study.

From the standpoint of the economic planners, the thesis represents an excellent analysis of the problems which are involved when the economy of one nation is controlled by that of another, in this case Japan, in an effort to produce a certain complex of products desired by the controlling nation. The growth of controls toward more and more centralized planning, and the substitution of direct controls for free market relationships both in production and pricing are all apparent in this study. The analysis of the problems which the Japanese government encountered here in attempting to force the economy of Manchuria into a certain mold which would result in the attainment of production goals desired by the Japanese will prove useful for students of similar problems in the present Communist underdeveloped areas of the world. It is apparent that failures to meet the goals prescribed by the Japanese are largely a consequence of these efforts to interfere with the normal economically determined growth of the region.

Besides representing a useful contribution to knowledge in these areas of economic development and economic planning, the thesis represents a distinct contribution in that Mr. Myers has collected, collated, and integrated a large body of data which hitherto had been unavailable to scholars in this field. We therefore believe the thesis to be not only acceptable but a very satisfactory piece of scholarly work.

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CHAPTER I

INTRODUCTION

We need no reminder today that East Asia is in a ferment of change. The emergence of a new power structure, the Chinese People's Republic, ushers in a new stage of political, economic, and social development, for not only has that government successfully achieved central political control in China whereby it is possible to introduce vigorous economic planning and a command over resources, but also it seeks to establish an industrial plant complex capable of producing its own capital and consumer goods without excessive dependence on borrowing and foreign trade. In essence, this new state seeks now to repeat the effort the Soviet Union and Japan attempted, namely, to telescope several centuries of western economic development into a matter of decades. To achieve this, the state disregards the institutional stresses and strains and the social costs that usually accompany this difficult transformation. To generate a level and rate of capital accumulation sufficient to realize the military, political, and economic objectives of the rulers of China today will be no easy task. Yet, they are not starting simply from scratch, but will have the benefit of a small but not insignificant industrial and transportation beginning which was the byproduct of foreign capital and technological flows into that area.

Before 1949, despite the ravages of war suffered during the period 1937-1945, a few large urban cities along the China coastline had seen the rise of a small scale factory system, some modern financial structures, and fairly extensive market organizations. But even greater progress had been achieved in China's Northeast, known before 1932 as the three eastern provinces and

afterwards as the state of 'Manchukuo'. The annexation of that area and of Jehol in 1931-1932 by the Japanese Kwantung Army resulted in the new rulers conceiving and initiating a serious and ambitious program of economic development. Throughout the period of Japanese occupation very little was known about these programs or what successes had been scored, because of rigid control over publications and restrictions on movements of foreign observers within the country.

After Japan's capitulation, the Supreme Allied Command in Tokyo gathered war documents and related materials and shipped them to the United States. Embodied in this material was a vast literature pertaining to Manchuria, compiled chiefly by the different research bureaus of the South Manchurian Railway Company (henceforth to be referred to as SMR). Though it is believed many important works produced by this organization were lost at Harbin, Changchun, and Dairen in 1945-1946, these materials constitute the best single collection of valuable records and studies of the Manchurian economy and its evolution from the sparsely populated, insular agricultural economy of the Ch'ing period. Discussion of the evolution of network of research bureaus and their functions as well as the nature of statistical materials collected and produced will be postponed until the appendix.

Another very valuable source of information with which to study the Manchurian economy was that gathered by a team of Chinese experts who visited Manchuria in 1946-1947. They assembled together former Japanese technicians, administrators, and economists and obtained from them an enormous amount of data about the economic development accomplished during the Japanese occupation. Of unusual interest is that material which relates to economic changes during the war years, 1940-1945. The outcome of this mission was a twenty

volume study which appeared in Mukden in 1947 and was called an economic encyclopedia of the Northeast because of its extensive treatment of all phases of the Manchurian economy, i.e., agriculture, industry, foreign trade, money and banking.[1] Under each topic, there was contained a vast amount of raw data pertaining to output, capacity, budget data, balance of payments, money supply, prices, interest rates, etc.

These two sets of source materials make it possible to probe deeply into the economic history of the period and sketch the progressive gains registered by the Japanese in their industrialization efforts, illuminate the problems encountered along the way, and show the organizational underpinnings on which the entire course of development rested. Observers in Manchuria between 1945 and 1947 were favorably impressed by the accomplishments of the Japanese in building industrial plant capacity capable of producing iron, steel products, electric power, and a variety of chemicals and light metals. Evidence collected at this time indicated that the mineral resources required for construction of large scale manufacturing were quite sufficient. China possessed coal deposits of 2,364 billion metric tons of which 20 billion, or 8.5 per cent, lay in Manchuria.[2] Of China's 62 billion metric tons of iron ore reserves, 58 billion metric tons or 95 per cent were again supposed to be located in Manchuria. Certainly, an enormous potential of hydro-electric power could be generated from the three great rivers, the Sungari, Yalu, and

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[1]Research Office of the Northeast Natural Resources Control Committee, Tung-pei Ching-chi Hsiao-ts'ung-shu, October 1947, Mukden. A number of these original Chinese texts have been translated into English by the U. S. State Department, and it is believed that translations of the remainder of volumes is now in process. Hereafter, this source will be referred to as TPCCHTS.

[2]Ibid., Vol. 1-b, p. 2. These estimates are derived jointly from Japanese resource surveys and geological surveys undertaken by the Kuomintang government.

Amur, and the Japanese had only barely begun the development of this vital sinew of industrial power. How far Manchuria's resources had been utilized and developed for industrial purposes as compared to China is seen as follows.

Table 1

A Comparison of Industrial Performance in the Northeast with China as of 1943

	Industry	Northeast (Metric Tons)	China's Ind. Prod. (Metric Tons)	Northeast Prod. as % of China's
1.	Coal	25,320,000	51,297,000	49.4%
2.	Iron Ore	5,408,000	12,607,000	42.9
3.	Steel Products	495,000	534,000	92.7
4.	Electric Power (Installed)	2,098,000 KW	2,520,000	83.3
5.	Pig Iron	1,702,000	Not Indicated	87.7
6.	Portland Cement	1,503,000	"	66.0
7.	Salt	883,000	"	26.1
8.	Ammonium Sulfate	93,000	"	69.0
9.	Soda Ash	59,000	"	60.0
10.	Caustic Soda	6,000	"	33.3
11.	Machinery (Value Terms)	55 million yuan	"	95.0

Source: Northeast Natural Resources Control Committee, Tung-pei Ching-chi Hsiao-ts'ung-shu, October, 1947. Translated by U.S. Dept. of State as Volume 1-b, Survey of Resources and Industry in the Northeast , p. 96.

From the above it is clear that the bulk of fabrication lay in Japanese industrialized Manchuria. Only salt and caustic soda production comprise a small per cent of China's production of these two items.

Today the Chinese Communist government admits that the core of industrialization is still centered in Manchuria (although plans are currently under way to correct this by promoting similar construction in Inner Mongolia around Paotao and in the Northwest) and indeed the first and second five year plans

aimed primarily toward expanding industrial productive capacity in the Northeast area.[1] How much the Chinese Communists inherited from the industrial beginning which Japanese planners, technicians, and workmen so laboriously strived to create is extremely difficult to say. Soviet pilfering of equipment, parts, and tools crippled close to 70-90 per cent of most industrial plant capacity according to the Pauly report.[2] The withdrawal of Japanese technicians and skilled labor after 1945 reduced industrial potential still further. But despite these damages and loss of productive units, there were some remnants for the new regime to build upon after 1949. Certainly Nationalist China intended to make the region serve as the backbone for national economic recovery, and plans were drawn up in 1947 on the future relationship between the Northeast and China. The future was voiced in these optimistic words by Kuomintang industrial experts.

> The revival and expansion of industry in the Northeast present a most optimistic picture. As to the development of heavy industry, there is no question about it. Although China is large and rich in resources, the establishment of heavy industry is not limited to the Northeast. However, according to present circumstances, the Northeast is better off than other regions in China because it already has a good foundation. In view of the urgent demobilization of China, we should appeal to the rest of the country to aid in the revival of heavy industry in the Northeast. The resources and materials produced should be used in the establishment of heavy industry in the rest of the country. If this is done the future for heavy industry development in China will be very bright.[3]

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[1]For a good discussion of these plans see Chugoku Kenkyūsho, "Chūgoku no Gokanen Keikaku", No. 91, Chūgoku Shiryō Geppō, Vol. 82-94, 1954-1955, pp. 1-11.

[2]Edwin Wendell Pauley, Report on Japanese Assets in Manchuria to the President of the United States, July 1946.

[3]Op. cit., TPCCHTS, Vol. 1-b, p. 10.

How extensively did the Japanese industrialize Manchuria and how successful were they in realizing their economic objectives? What problems in initiating and sustaining economic development blocked progress and what policies were created to smooth the course of growth? To provide answers to these questions it is essential to study the evolution of Japanese Kwantung Army economic planning and organizational control from 1932-1945 and then evaluate the planned accomplishments within the context of intended plans and sets of control strictures handed down by the planners. If we dare compare and contrast the two groups which ruled Manchuria these past twenty-five years it would be seen that the Japanese military and Chinese Communists held similar objectives: to establish a core of heavy industry. But while both regimes faced the same challenge each had created for itself and enjoyed different advantages in political control, both had to contend with the same basic economic facts of life. Manchuria was an underdeveloped region characterized by low productivity per capita, limited markets, and the preponderant portion of population still confined to primary industrial activity. Somehow, each had to effect a crucial transfer of resources from agriculture to other occupations, recruit and train an industrial labor force, develop markets, and find financial means to lubricate the process of expanding production and exchange. The Japanese Kwantung Army made an impressive attempt to do just this; these same tasks remain for the Chinese Communists to bring off successfully.

Every society, irrespective of different political and social institutions, human attitudes and aspirations, and varying diffusion of political and economic power, must solve those basic economic problems of what to produce, how resources are to be allocated and utilized to generate the

desired social product, and finally, how to distribute the rewards accordingly.[1] Societies tackle and solve these basic problems in different ways depending upon the modes of production and market structures that prevail. How society addresses itself to these problems and works out its destiny is a domain of lively interest for the economic historian. In responding to the challenges of the scarcity problem as seen in the light of economic history, three important branches of knowledge need to be used: economic theory, history, and statistics. The economic historian can use these tools and compile time series of prices and production figures or he can confine his analysis to discussing social class and intra-group relationships. Between these extremes a wide spectrum of possible combinations exist, all of which are circumscribed by the general scarcity problem.

It is impossible to speak of performance of the agricultural or industrial sector where productive inputs are at work in diverse combinations to yield supply functions without reference to a wealth of statistics. But while such data are amenable to various yardsticks of measurement, the use of statistics alone is insufficient. Quantification provides an indicator that certain supply inelasticities prevail, but we need to probe below the surface of different productive functions to analyze socio-economic factors that are not easily quantified to determine the cause of these inelasticities. What is being argued for here is an approach which recognizes the relevance of statistical awareness, collection and use, but will also encompass consideration of those less precise variables that many times are of greater consequence. To tread a delicate line of balance by employing both statistics

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[1]Such modern economic historians as Eli Heckscher consider this to be the essential problem in economic history. See his Economic History of Sweden, Cambridge, Harvard University Press, 1954. Chapters 1 and 2.

and other forms of information is both a problem and an object in this study.

The first task is to trace in broad retrospect the historical background of Manchurian economic developments prior to 1932. This entails giving a running account of the chief contours of change and the underlying forces giving rise to this change. This will serve as a spring board to embark on a discussion of planning and the organizational structures introduced by the Japanese to develop the region in accordance with their specific goals. Knowledge of these plans and various control devices (price control, labor control, foreign exchange control, monetary control) are to provide the framework to analyze how resources were mobilized in agriculture and industry. The remainder of the study will focus on those prime levers to mobilize and transfer resources into industrial expansion: buildup of an industrial labor force, foreign trade, and state fiscal policy.

Before beginning our story, it is necessary to allude to a previous historical study of Manchuria for the same period. Professor F. C. Jones in his study, Manchuria, Since 1931, gives a running account of important development undertaken by the Japanese. Relying heavily upon an unpublished Ph.D. dissertation by Professor E. S. Kirby, Professor Jones presents a broad view of the unfolding political structure of the new Manchukuo state and a brief resumé of state economic policies and objectives. At best this is a very general account and in some instances superficial. We are given little to wonder about ideology and motivation of those who masterminded the strategic general affairs board which for all practical purposes was the dominant pillar in the political fabric. Only a very hazy outline of economic organization and function of enterprise seeps through and to implement the two five year plans which are simply discussed on the basis of citing the key targets, next

to nothing is mentioned of the innumerable control schemes introduced in each branch of the national economy.

Professor Jones depended completely upon translations of Japanese sources and western materials. This naturally prevents him from discussing important problems of economic change such as development of an industrial labor force, agriculture's failure to measure up to the performance demanded by planners, inflation, and economic role of Manchuria in the 'co-prosperity sphere', which are to be found in original Japanese studies and documents. We are not told succinctly what the exact performance of the Japanese was in the field of economic development. To be sure, a generous announcement of plans and intentions dot this work but little in the way of evaluation of success and achievement is carried out. While these are expressed weaknesses in this work, nevertheless it fills an important gap in supplying the useful, general knowledge of the lay of the land, configuration of political administration, and broad history which might be looked upon as an introduction to more specific, detailed studies which this purports to be.

The effort which follows should be viewed as a logical extension of Professor Jones's study but only as related to the field of economic development. Unfortunately, in focusing on this theme alone, there is much that must be discarded or simply given brief mention. We cannot touch on the fascinating history of how the young officer group of field grade level in the Kwantung Army paved the way for military expansion and what motivated their action in industrial planning and development. Only in a casual manner can external, significant political events even be discussed which might have prompted changes in the Army planner's decisions. Our prime concern must be the growth process of agriculture and industry and to note the changes in

production and distribution by bringing quantification to bear to evaluate the degree and direction of this change.

Today is an era of planned economic growth. The underdeveloped countries eye with interest and sympathy the results produced in industrial expansion in the USSR. It will be demonstrated later that the Japanese realized similar achievements but by using different types of planned controls. The imagination, vigor, and flexibility demonstrated by the Japanese in promoting rapid buildup of heavy industry should be carefully viewed by countries contemplating a similar course of action. The Japanese sought to combine and integrate the dynamic essentials of capitalist enterprise market economy with planned usage, mobilization, and allocation of resources for production of goods to fit a pre-conceived program. The system of production and distribution they devised produced a rate of industrial growth equal to that of the USSR prior to the 1940's. In scarcely a decade they built an industrial-hydroelectric complex that surpassed all Asia with the exception of Japan proper. They did not collectivize agriculture, and though they faced exactly the same impasse the Soviets faced in the 1920's of trying to wrest more from that sector, the administrative machinery they installed for this purpose had more success than did rapid collectivization; for at least the Japanese prevented a great decline in productivity and maintained a fairly steady flow of off-farm surpluses. The USSR was only able to achieve the latter, unfortunately at the expense of future productivity. The problems of financing, inflation, allocating unskilled labor to industry and keeping it on the job, are all problems the Japanese had to grapple with and differ little in substance from the characteristic problems of growth in the underdeveloped countries today.

CHAPTER II

THE ECONOMIC DEVELOPMENT OF MANCHURIA PRIOR TO 1932

> The Manchurian Economy has come to have world economic significance as a part of the world economy because of the development of a modern communication network by the financial resources of foreign countries. Furthermore, after the Russo-Japanese war (1904), the management of South Manchuria by Japan and North Manchuria by Russia, with the labour of generations of Chinese immigrants, has spurred rapid development in the first quarter of the 20th century, simply on the basis of primary industry.[1]

The economic development of Manchuria from the time it was opened to western commerce in 1861 (at the port of Yingkow) to the Japanese established state of Manchukuo in March of 1932 is a function of three broad interrelated factors: one, surplus productive capacity in the form of vast tracts of uncultivated land and idle, unproductive labor;[2] second, the rapid construction of a modern railroad network financed by the inflow of foreign capital; and finally, increasing world demand for Manchuria's principal exports, grains, of which the soy bean and its derivatives rank the most important. Within such a framework, the nature of capital accumulation can be analyzed and the type of economy the Japanese acquired to launch their development programs can be viewed.

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[1]Amano Motonosuke, "Manshū Keizai no Hattstsu", Mantetsu Chōsa Geppō, July, 1932, p. 87.

[2]The important analytical approach to be used in this section is that of Adam Smith's "vent for surplus" theory of international trade. Only the first aspect of this theory is employed here, that is, the existence of surplus productive capacity in the form of unused land and idle labor; the second, which follows from the first, that once this capacity is utilized and output for export increased there occurs widening of markets and greater division of labor, did not take place in Manchuria for reasons which will appear at the end of this chapter. For a good modern application of this theory to underdeveloped areas see H. Myint, "The 'Classical Theory' of International Trade and the Underdeveloped Countries", Economic Journal, LXVIII, June, 1958, pp. 317-338.

The signing of a treaty in 1858 in Pekin with the British concluded the opium wars and signaled the formal end of China's isolation from the west. The opening of Yingkow in 1861 brought the sanctuary of the Manchus into direct commercial relationship with the west. The vastness of the region, the sparsely settled population, and the total absence of effective communication (with the exception of several rivers) limited for some time the widening of markets and the possibility of any sizeable surplus available for export. To be sure, the potentials for this sort of eventuality existed. The great Manchurian plain, bordered on the west by Inner Mongolia, on the north by the great Khingen mountain range, and on the east by the Manchurian uplands, constituted the main agricultural belt. Here fertile soil, temperate climate with adequate rainfall allowed for the growth of soy beans, millet, wheat, and corn. The eastern uplands, that series of low mountain ranges and forests which form a broad corridor between the central Manchurian plain and North Korea, contained abundant timber and mineral reserves. North of the Manchurian plain, where the high Mongolian plateau commences and disappears far north into Siberia, the area was even less settled, with only Mongol nomads carrying out their daily living of livestock herding. Much of this area contained the finest forest reserves of all China.

At this time Manchuria still consisted of a series of great land holdings which were controlled by remnants of the Manchu Banner Knights and Chinese merchants, bureaucrats and military personnel. Some settlement of South Manchuria had been made over the course of years by Chinese immigrants. After arriving and acquiring lots of land, they proceeded to burn the grass and plant buckwheat in the first year, kaoliang the second, and millet the third,

and continued to follow the same pattern of planting year after year.[1] What commercial change took place was conducted by Chinese merchants who took advantage of the possibilities of doing business in an area which was scarcely settled and needed credit and marketing channels. These intermediaries supplied credit in the form of bills of exchange to the newly settled agriculturists and marketed their output by exchanging it for consumer goods, e.g., clothing, farm implements, minor luxury items, etc., produced by handicraft production on the Chinese mainland.[2] By these activities, Chinese merchants demonstrated an ability to accumulate sufficient savings which enabled them to buy land and lease to tenants or frequently invest in a crude household putting-out system which specialized in cotton textiles and silk reeling. Some savings even spilled over into the establishment of small enterprises producing crude articles of ceramics, coal, and iron products.

While the region possessed considerable surplus productive capacity in the form of unused land and unproductive cottage and farm household labor, the narrowness of the internal market barely supported the small, labor-intensive enterprises engaged in cottage industry. When it was discovered in 1861 that a foreign market existed for those engaged in processing soy beans into bean curd and bean oil, a rapid shift of resources from cottage industry into this agricultural processing industry took place, and numerous farmers engaged in subsistence farming were encouraged to farm the cash crop, soy bean, thereby

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[1] Op. cit., Amano Motonosuke, p. 7.

[2] For a good general discussion of the accumulation of Chinese merchant capital and changing production relationships in late 19th century Manchuria, see Iida Shigeru, "Manshūkoku Shihon Mondai no Tenkai", (Manshūkuoku Keizai no Kenkyū, ed. Hori Tsuneo), Nihon Hyoronsha, 1942, pp. 223-294.

increasing its supply. Rapidly, surplus productive capacity was utilized. In 1861, the quantity of soy bean curd exported totaled 24,105 tons; by 1864 this amount had increased nearly three-fold to 66,500.[1] Commerce received a vigorous assist with the outbreak of the Sino-Japanese war in 1894-1895. The expansion of trade after these years is indicated below. Note Manchuria's favorable export position.

Table 2

Exports and Imports for Manchuria in the late 19th Century*
(1,000 Haikwan Taels)

Year	Imports	Exports
1891	22	460
1892	84	1,173
1893	8	1,732
1894	77	1,127
1895	360	54
1896	423	3,104
1897	282	5,114
1898	574	6,683
1899	1,733	8,092

* For Yingkow only.

Source: Amano Motonosuke, "Manshū Keizai no Hattatsu", Mantetsu Chōsa Geppō, August, 1932, pp. 8-9.

Though trade developed and Chinese immigrants continued to settle there, the hinterland beyond the city-ports was unaffected by these changes. The principal obstacle hindering development of this expanse so that more intensive settlement, further cultivation, expanding internal markets, and greater surpluses over and above immediate consumption demand could take place, was the absence of effective transportation which could link these rich agricultural

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[1] Ibid., pp. 233-234.

areas to commercial centers abroad.[1] In the early 1890's an answer was found to the need of compressing this distance of space. The defeat of China in the Sino-Japanese War of 1894-1895 left China powerless to resist further encroachments of the western powers. Her need for credit to cover rising international debt encouraged the negotiation for substantial loans. One such loan was acquired by granting permission to charter the Russo-Chinese bank which had the backing of French capital. In defining the bank's tasks, Russian Finance Minister Witte pointed out the bank "might prove an extremely useful instrument in the hands of the Russian government for the latter's effectuation of measures bearing an intimate relationship to the completion of construction on the Siberian railway."[2] Further skillful Russian maneuvers finally permitted that country to build railroads in Manchuria. The culmination of such diplomacy was the formation of the Chinese Eastern Railway Company (henceforth to be referred to as the C.E.R.). Surveys commenced in 1897 and actual construction ended when the Russo-Japanese war broke out early in 1904. Yet in this short time span the C.E.R. managed to run a railway line

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[1]An astute observer and consular official, Sir Alexander Hosie reckoned that as early as 1895 railroads would be the key instrument opening up the central area of Manchuria which was isolated from the gulf of Chihli in winter due to the Liao river freezing and the difficulty of overland caravan transport during the winter months. He was optimistic enough to say "that the introduction of railways will cause an enormous development of the export trade of the country and a corresponding increase in imports, and that the British manufacturer should be able to take his fair share in this development, provided equality of treatment in the matter of taxation and railway rates is assured." Alexander Hosie, Manchuria, Its People, Resources, and Recent History, London, Methuen & Co., 1904. Pp. 68-69.

[2]For an accountable history of Russian penetration into Manchuria in the late 19th century, see B.A. Romanov, Russia in Manchuria (1892-1906), translated by Susan Wilbur Jones; American Council of Learned Societies, 1952, p. 69.

across North Manchuria and construct a trunk line from Harbin in the north to the two ports of Yingkow and Dairen on the gulf of Chihli. The estimated outlay ran to about 40.5 million U.S. dollars.[1]

The military operations of the Russian Imperial Army in East Asia required mobilizing the region in order to obtain sufficient produce to man the field army and support the reserves. Increased demand for food gave the farmers an impetus to expand the margin of cultivation and market their crops, thus encouraging the development of an extensive cereal and grain trade in North Manchuria.[2] Small towns mushroomed up along the railway line and some combined to form the large towns of Manchuli, Harbin, and Changehun (later to be called Hsinkyo under the Japanese); they stored and marketed the agricultural surpluses from adjacent rural areas and local commerce provided credit to farmers. The outlays from railway construction plus those expended during the war stimulated utilization of excess productive capacity in the region: namely, land and labor. Expanding agriculture was naturally accompanied by growth of grain markets and urbanization. Foreign penetration in the form of railways and a short lived but bloody war had thus worked together to promote economic growth. One observer, commenting upon the phenomenal growth of a city like Harbin, stated,

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[1] C.E.R. Printing Office, North Manchuria and the Chinese Eastern Railway, Harbin, China, 1924, p. 57. Translated from the Russian by Japanese researchers of the SMR Company.

[2] Ibid., Chapter VI. This contains a long, detailed, and somewhat loosely organized treatment of the evolution of various forms of grain traffic in North Manchuria from 1904-1922.

> The Russo-Japanese war, although so disastrous to Russian influence in Manchuria, nevertheless played a big part in the development of Harbin. If one takes the official figures of the war costing Russia 2 1/2 milliards of roubles, half of which sum passed, it is said, through Harbin, it is easy to imagine the tremendous effect it had on the place which only had been brought into existence six years previously.[1]

The Japanese wasted little time after their pyrrhic victory over Imperial Russia in extending their influence into the south. A Japanese Imperial charter permitted the creation of a large single business enterprise to manage her newly won commercial and economic possessions in South Manchuria. Government and private capital jointly financed the venture, with the latter being secured from flotation of company shares on the capital markets of Osaka and Tokyo. Officials within the peak coordinating unit of control were selected and appointed by the government. Shareholding members voted but only for the appointment of officials of lesser rank. In scope and function, the company resembled the British East India Company which had acquired monopoly rights in Bengal India. For while the main task of the SMR was to operate the railway system the Russians had built (a line running from the Liaotung Peninsula to Changchun; the CER continued to operate its branch line further north until March 1935 when the USSR agreed to turn the system over to the Manchukuo state for 140 million yen), it enjoyed rights to control and operate all major commercial enterprises in the leased zone of Liaotung and along both sides of the railroad to Changchun; these included coal mining, manufacturing, shipping, warehousing, communication, education, and sanitation.

Enormous investment outlays were required soon after the company's establishment. The construction of a trunk line from Mukden to Antung, the

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[1]Harbin, Decennial Reports, 1902-1911, p. 3.

rebuilding of the port of Dairen, narrowing the gauges in track from the wide Russian gauge of five feet to the Japanese of four feet eight and one half inches, and to construct a double line of track called for more rolling stock, capital equipment, etc. It was difficult to raise the necessary capital within Japan as financial resources were strained to pay the war debt. Funds were finally acquired by floating debenture shares on the London security market. Over time, as capital requirements dictated, this procedure was adhered to. Railway construction requires large initial expenditures, and the gestation period is long before the volume of traffic net receipts so that the enterprise can pay. Yet, in a remarkably short while, the SMR railway proved a resounding success and company earnings mounted rapidly.

Freight receipts were largest for the exportable agricultural produce hauled and here soy beans were the critical item. By 1907 reconstruction and expansion of track ceased and expenditures remained fairly constant until 1919 when a new surge of investment took place for purposes of repair, replacement, and especially new expansion of track. Total receipts from passengers and freight were roughly 9.7 million yen in 1907-1908, and by 1914-1915 they had increased to 23.2 million yen.[1] Company railway profits for the same years soared from 3.6 million yen to 14.8 million yen. The accounting records show that the profit per mile had also risen from 5.1 yen to 21.5 yen. Railways, however, were not the company's only source of earnings since as a form of holding company, too, it held shares in Chinese companies in Manchuria and received interest and rent from claims to landed and property wealth.

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[1] Report on Progress in Manchuria, 1907-1928, Dairen, March 1929, p. 81. See Statistical Appendix for table of volume of traffic and earnings for the company over these same years.

Railroads in South Manchuria provided easy access to the fertile central plain and attracted colonists and foreign capital into the area. World War I brought further political and economic penetration by the Japanese in the form of the twenty-one demands with the subsequent result of an increase in Japanese investments and trade operations. The region now began to take on the appearance of a series of nodal regions with such centers as Mukden, Changchun, and Harbin absorbing the countryside's exports by storage and shipping to Dairen or Vladivostock to be introduced into foreign trade channels and passing to the countryside finished goods and commercial services in exchange.[1] Warehousing, insurance, credit were available within these nodal centers and these proved instrumental in the encouragement of small scale manufacturing growth which centered upon processing much of the rural area's produce. The period 1908-1920 saw the emergence of many enterprises such as the bean oil industry, sugar, tobacco, beer and distilling, paper, candle making enterprises. These nodal centers provided the link between the region's primary producing sections and the world market.

Though railroad construction brought rapid economic development to Manchuria, this could only have been done by foreign capital. In an indirect manner, then, French and British capital permitted Russia and Japan actually to engineer construction. As Russian influence waned and the Japanese probed deeper into South Manchuria, other foreign powers commenced to invest capital

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[1]Walter Isard defines nodal region as follows: "Thus, in a nodal type of region there is one dominant focal point, the Regional Capitol City, and a hierarchy of cities, the cities of each order in the hierarchy regularly distributed over space, and meaningfully related to cities in previous and succeeding orders." Walter Isard, "Current Development in Regional Analysis", Weltwirtschaftliches Archiv, Vol. 69, No. 1, 1952, p. 84.

also. The Japanese, however, by virtue of their strong toehold in the form of railway ownership and activity were able to dominate, for as much as seventy per cent of total capital there belonged to them. The major share of foreign capital moved into finance and transportation as was traditional in colonial forms of investment because the long run rate of profit was more stable. A breakdown of foreign capital in the mid-twenties for Manchuria is provided in the following table.

Table 3

Foreign Investment in Manchuria in 1925
(Value in 1,000 Yen)

Country	Finance	Trans-port.	Agric. Min. & For.	Commerce	Manufac.	Other	Total Invest.	% Break-down
Japan	204,339	536,453	258,990	117,753	147,404	352,027	1,616,966	70%
Russia	15,000	450,000	50,000			75,000	570,000	26
			(includes comm. & manufac.)					
England	7,000	16,500	---	10,870	2,500	2,720	39,590	2
U.S.A.	8,500	---	---	10,700	2,500	4,700	26,400	1
Sweden & Denmark	---	---	---	607	250	150	1,007	1

Source: Yoshio Hosokawa, Shokumin Shi, Gendai Nihon Bummei Shi, Tōyō Keizai Shimpō Shuppanbu, 1954, p. 413.

Population rapidly increased as more immigrants poured into the area from North China. General growth provided greater economic opportunity and encouraged the influx of labor. With an economically active population the birth rate probably rose. The following table shows population increase for the three eastern provinces. Because of crude census taking techniques practiced, actual population is underestimated.

Table 4

Population in Manchuria from 1908 to 1930
(three 000's omitted)

Year	Three Eastern Provinces	Heilungkiang	Kirin	Mukden
1908	17,156	1,807	4,553	10,796
1913	19,208	2,275	5,305	11,629
1918	21,569	2,862	6,180	12,527
1923	24,295	3,601	7,198	13,495
1928	28,034	4,965	8,592	14,477
1930	29,575	5,231	9,192	15,152

Source: Amano Motonosuke, "Manchū Keizai no Hattatsu", Mantetsu Chōsa Geppō, July, 1932, p. 32.

The annual increase of 1.14 per cent probably understates the actual rate of population increase, but if this is compared with increased cultivation, the outcome of further applications of labor to land could not but contribute to an ever-expanding surplus. The following table shows the increase in cultivation for the three eastern provinces.

Table 5

Cultivation in Manchuria from 1908 to 1930)
(Units: 1,000 chō)*

Year	Three Eastern Provinces	Index	Heilungkiang	Kirin	Mukden
1908	8,048	100	1,105	2,817	4,126
1913	9,399	117	1,602	3,409	4,388
1918	10,751	134	2,099	4,001	4,651
1923	12,102	150	2,596	4,992	4,914
1928	13,804	172	3,770	4,786	5,245
1930	13,601	169	3,884	4,987	4,750

* 1 chō = 2.45 acres

Source: Amano Motonosuke, "Manchū Keizai no Hattatsu", Mantetsu Chōsa Geppō, July, 1932, p. 37.

In roughly twenty years, the area under cultivation increased about seventy per cent, as did population. Larger increases in cultivation were evident in Heilungkiang. Between 1923 and 1930, population grew nearly as much as it did between 1908 and 1923. Spectacular migrations of Chinese farmers during the 1920's contributed to a rapid settlement of untilled tracts in the north.[1]

The increase of population meant more farm households and as more land was placed under cultivation farm output of grain crops increased. A more effective link-up of resources enabled productive capacity to expand, and as East Asia was rapidly integrated into the international market regional exports climbed. Rising exports did not bring about a decline in domestic output since resources in the subsistence sector did not have to be diverted to the export sector. The mere application of more labor to more land enabled the subsistence sector to expand and sustain a growing population. More farmers produced cash crops such as soy beans and kaoliang, and it was estimated that during these years roughly 80 to 83 per cent of the soy bean output and 40 to 42 per cent of the kaoliang output were marketed.[2] The other cereals such as corn and millet made up the subsistence crops, and only 35 to 36 per cent and 20 to 22 per cent of their respective output found its way to market.

The importance of the soy bean in the economic development of Manchuria

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[1]These mass migrations of Chinese farmers from North China to Manchuria during the 1920's were possibly the greatest movements of people in East Asia in the twentieth century. It attracted the concern and attention of numerous scholars and officials and gave rise to serious social and public health problems. The flow of people was characterized by movement north from Dairen, either on foot or by rail, depending upon the monetary fortunes of the people, to the cities of Mukden and Harbin. Here they gathered and sought employment. Most went into farming and were assisted by relief organizations and the Chinese government.

[2]Op. cit., Amano Motonosuke, p. 44.

needs some mention. At one time in the first decade of the twentieth century, it constituted about eighty per cent of total export value. In later years it rarely dropped below sixty per cent.[1] Mention has already been made that the opening of Yingkow brought about a vigorous trade of beans and this set in motion a trend that continued until the 1930's. The industry that evolved around the bean trade was one of processing whereby the derivative products of bean oil and cake were obtained and exported. The ready foreign markets for the staple and the region's comparative advantage in bean production gave her a favorable balance of trade over the years. When import and export values are matched on an annum basis, only for years 1907-1908, 1912-1913, and 1918-1919 when adjustment, civil war, and revolution prevailed were there deficit balances of trade.[2] In 1907 the value of imports was 30.7 million Haikwan Taels and by 1927 import value ran at 268.9 million Taels. Exports on the other hand for the same period were 22.0 million Taels in 1907, and by 1927 they came to 408.0 million Taels. This is a staggering increase in value of trade for only twenty years.[3]

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[1]See statistical appendix for table on quantity and value of export of soy beans and derivatives for years 1900-1930.

[2]See statistical appendix for table on value of Manchurian imports and exports for 1907-1927.

[3]Manchuria's favorable balance of trade over two decades plus the foreign capital inflows that occurred prompts the question of what were the balancing items for the region's balance of payments. The following were some of the more important outflows that brought about balance of payments equilibrium, but unfortunately these cannot be quantified. One of these was remittances that immigrants in Manchuria sent to families and friends in North China. One might also include here mercantile capital flowing through different channels back to China proper. Another item was declared dividend earnings from profits of the SMR as well as profit earnings from other foreign capital investments and enterprises. Finally there were outflows of specie (primarily silver) to exchange markets in Central China for speculation. This does not exhaust the list, but specifies the more important balancing items.

Because of the growing dependency of the region on its export base, production became sensitive to changes in world prices and periodically there were sharp fluctuations in the price level because of business cycle movements in the more advanced countries which purchased these staples. The periodic fluctuation in exports (see Table 3 in Appendix) indicate this price sensitivity. The importance of this export base has already been seen in the extremely high per cent of bean, etc., exports of total exports. It seldom fell below sixty per cent. Total exports are given in Table 9, which confirms what has already been said about the importance of the soy bean; it also points to the fact that primary products, with few processed items, make up the total volume of exports. Cereals, with millet the largest single element in their total volume, and after the First World War, coal, are the second and third ranking exports. The expansion of coal output reflected the extension of

Table 6

Manchurian Exports of Selected Commodities
(In Millions of Haikwan Taels)

	Commodity	1903	1908	1913	1918	1923	1927	1928
1.	Beans, bean cake, & oil	9.6	26.9	54.8	77.8	151.3	222.1	244.7
2.	Cereals[a]	--	0.8	11.2	8.1	30.7	53.3	51.5
3.	Coal	--	0.1	6.6	5.3	17.5	34.9	34.5
4.	Silk, cocoons, waste & Yarn	1.4	6.3	6.0	9.7	19.7[b]	12.6	11.2
5.	Timber, hardwood & softwood	--	0.6	1.2	2.2	13.3	6.2	5.1
6.	Seeds, including melon, sesame, cotton, & castor	0.2	0.9	1.9	1.1	4.9	4.1	7.2
7.	Iron, pig or unmanufac.	--	--	--	3.8	2.9	6.0	7.4
8.	Skins, fur & hides	0.2	0.7	2.3	1.1	1.9	3.9	6.1
9.	Ground nuts, unshelled & kernels	--	--	0.2	0.1	0.4	3.0	3.2
10.	Cigarettes	--	0.1	0.1	0.7	2.8	2.4	2.4
11.	Bran	--	0.1	0.1	0.2	1.8	2.1	2.7
12.	Flour	--	1.3	1.4	3.2	1.5	0.8	1.8
13.	Wool (camel & sheep)	--	0.1	0.2	0.4	0.4	1.2	0.9
14.	Meats, fresh & frozen	--	--	0.7	1.1	0.9	0.2	0.1

[a]Includes kaoliang (sorghum), millet, maize, rice, and wheat.
[b]An exceptional year in raw, wild silk production.
Source: The International Trade of Manchuria, Herbert Feis, p. 242.

mining operations of the S.M.R. at the Fushun and Yentai collieries.

What of the principal markets for Manchurian exports? A close examination of exports for selected years (1923, 1927, 1928) reveals that despite the growing demand in the United States and Europe for soy beans, Manchuria's big customers were still in East Asia, namely Japan, Korea, and China.[1] From this, we can say that regional growth was closely allied to expansion of the East Asian international economy. The bean trade is no exception to this rule. Coal, silk, timber, and iron were absorbed within the East Asia market relative to the U.S. or European markets.

The lucrative staple trade in beans assisted the growth of other forms of industry dependent upon extraction. While the export sector grew on the basis of large capital accumulations there and the comparative advantage in factor combination (abundant land and cheap farm labor), the region came to depend greatly upon foreign trade to obtain investment and consumer goods that would have been more costly to produce for itself. The most important import at first was that of cotton goods. In the first decade of this century, they constituted roughly one half of total imports; in the years just before the First World War, they had dropped to one third, and throughout the 1920's they were around one quarter. This did not signify a fall in the quantity of imports (actually the number increased), but stemmed from a rise in the total volume of imports. Table 7 lists principal imports in value terms.

The 1920's marked a period of feverish construction and expansion of the transport system. Imports during that period show a shift in composition away from cotton goods to building materials, fuels, metals, and some

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[1]For an inspection of partial geographical distribution of Manchurian exports by country see table in Statistical Appendix.

Table 7

Composition and Value of Principal Imports
(In Millions of Haikwan Taels)

	Commodity	1903	1908	1913	1918	1923	1927	1928
1.	Cotton goods & cotton yarn	14.6	11.4	24.5	32.6	38.9	43.2	49.5
2.	Cotton yarn alone	3.9	3.7	3.5	5.3	6.3	2.5	3.4
3.	Raw cotton	-	0.1	0.1	0.1	-	3.5	3.7
4.	Bags	-	0.5	1.6	2.8	4.4	13.5	15.2
5.	Sugar, sugar products, sugar cane, etc.	0.5	1.4	2.4	7.1	4.9	8.7	8.5
6.	Flour	0.1	1.7	3.2	-	5.9	3.8	5.7
7.	Chinaware, glassware, and enamelware	0.2	0.3	0.7	1.1	1.4	1.6	2.0
8.	Cigarettes	0.2	1.9	2.9	4.6	7.9	7.0	6.6
9.	Wool and woolen goods	0.2	0.4	0.7	1.2	2.8	4.9	7.3
10.	Leather, hides, manufactures, skins, furs	0.1	0.5	1.3	5.8	3.7	3.3	4.2
11.	Metals and minerals: aluminum, brass, tin, zinc, copper, nickel, lead, iron, steel (not including rails)	1.0	1.7	3.6	11.1	9.0	12.8	14.1
12.	Rails	-	-	2.2	1.6	1.0	2.7	5.6
13.	Railway material not otherwise classified	-	6.0	0.3	0.4	0.5	2.1	1.8
14.	Railway locomotives, tenders and cars	-	-	0.4	1.6	1.3	3.9	3.6
15.	Automobiles	-	-	-	0.1	0.1	1.2	1.5
16.	Machinery (except knitting and spinning)	-	1.0	0.8	3.0	4.0	5.8	6.6
17.	Chemicals	0.1	0.3	0.7	0.9	2.3	3.3	3.6
18.	Electrical materials and fittings	-	0.3	0.3	1.6	2.8	3.4	3.5
19.	Hand tools (not including files and others)	-	-	0.4	0.4	0.3	0.6	0.6
20.	Dyes, paints and colors	0.2	0.4	1.4	0.8	2.8	2.9	1.7
21.	Books and paper	0.1	0.6	0.9	1.8	2.6	4.1	4.2
22.	Kerosene and manufactures thereof	-	0.1	0.2	0.8	1.0	1.3	1.2
23.	Lubricating oil	-	0.1	0.2	0.8	1.0	1.3	1.2
24.	Gasoline, naptha, benzine	-	-	-	0.3	0.8	1.0	3.0

Source: The International Trade of Manchuria, Herbert Feis, p. 254.

unavailable minerals. A large quantity of bags was imported for packing exportable items of beans and cereals. The volume of imports of railroad materials other than locomotives and tenders was fairly erratic. According to C. Walter Young, most rolling stock was purchased from the U.S. by the SMR, and he estimates that between 1925 and 1930 alone purchases totaled about five million dollars.[1]

What countries supplied Manchuria with products? Again, it is worthy of note that the suppliers are again in East Asia, primarily China and Japan.[2] The 1920's do find that Great Britain, Germany, and the U.S. made inroads into the region's markets with increased sales of vehicles, iron and steel products, and machinery. The economy is willing and able to absorb these capital goods imports. As yet, domestic demand and ability to enter into fabrication of manufactured goods was still non-existent.

Manchuria in 1931 differed in two important respects from the densely populated underdeveloped economies that prevail in the world today. It possessed an extensive and fairly integrated transportation system. In 1915 there were 3500 kilometers of track, and by 1931 this had increased to 5572 kilometers. This system enabled the region to integrate its markets, and though only a rudimentary banking system existed and there were frequent credit difficulties because of a complex money supply from indiscriminate printing of paper money by various provinces, the credit system centering around

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[1]C. Walter Young, "Supplementary Note on Manchurian Railways and the Trade in Railway Materials", International Conciliation, 1931, p. 267.

[2]See statistical appendix for table on partial geographical distribution of country according to source of imports into Manchuria. Selected years are again 1923, 1927, and 1928.

the soy bean industry was sound and developed. Furthermore, despite population increase and the influx of immigrants, the region enjoyed a low labor-land ratio.[1] In fact, as will be shown in a later chapter, there was considerable opportunity to expand cultivation for the amount of tillable arable land was great. These two favorable factors were distinct advantages that contributed to output increases in the past and could assure even greater output increases in the future. What is more remarkable, gains in the past had been achieved without a perceptible rise in productivity from the introduction of innovations, new techniques, and the improvement of skills. When viewed in this respect, the economic development that took place in this region since 1900 when railroads first made their appearance had been very substantial. The growth of the export trade and related industries secured greater income for the region which was spent largely for imports of consumer goods and semi-fabricated commodities the region did not produce for itself. The question immediately arises: why, with capital accumulation taking place, did not some form of industrial fabrication take place?

The agricultural processing industries were organized with small sums of capital, the bulk of which consisted primarily of working capital. Since they were predominately labor absorbing firms and operated with a very low shut-down point similar to conditions found in freely competitive markets where ideally no one is able to influence price and a homogeneous commodity

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[1]Information for this can be shown for still a later date. As of October 1940, the density of population stood at 33 persons/sq. kilometer (the total population for Manchuria now after territorial revisions stood at 43,233,954 and the land area was 1,305,143 sq. kilometers). This is indeed low when compared with Japan's 190 persons/sq. kilometer (1930), Germany's 135 (1939), Great Britain's 195 (1938), and the United States's 17 (1938). See Manchukuo Yearbook, 1942, Hsinking, Manchuria, 1942, p. 118.

is sold, short run gains in trade were frequently wiped out when international demand slackened or a poor harvest from producers brought about a rise in price. Continual uncertainty and small scale operations prevented sufficient safeguard of investment. The indigenous commercial and capital owning classes too had little desire to embark upon high risk ventures that would necessitate any large scale capital outlay, and they were quite content to realize only windfall profits despite the frequent failures that might occur in that sector.[1] Perhaps this type of business activity appealed more to the speculative acumen of the Chinese merchant, and he felt quite content to accumulate capital only here and not plunge into a long term investment project.

Certainly windfall profits were realized in the flour, tobacco, silk reeling, spinning, and bean oil and bean cake industries, and here Chinese mercantile capital moved. The actual construction costs of these industries were low since little fuel, iron, steel, construction material, or machines were used. Materials for initial construction were imported more cheaply than could be domestically produced. The presses in the bean oil industry were old and operated primarily by water power.[2] Only later, in the more modern Japanese controlled mills, were mechanical presses introduced. This made for little internal demand for basic industrial products. Thus, the appearance of a sector of industry bound to processing agricultural crops did not make for a derived demand sufficient to stimulate other branches of industry to

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[1]A study of Chinese mercantile behavior is a complex and difficult one. The chief outlets for indigenous capital were wholesale activity, money lending, and purchase of land for leasing purposes. In these forms of business, investment decisions were determined chiefly by immediate profits likely to accrue. Other investments where long term risk and uncertainty clouded the decision were rebuked. See Hori Tsuneo, Manshūkoku Keizai no Kenkyū, pp. 228-242.

[2]SMR Company, Daizu no Kako, 1924, pp. 331-334.

evolve. What gains in the little heavy industry available were registered by the Japanese in their SMR company sponsored plants. But production lagged, and in 1931 pig iron output stood only at 342,000 tons. Virtually no steel was produced. Favorable world prices did encourage an increase in coal extraction and at the open pits in Fushun in 1908 491,000 tons were mined as compared to the 7,042,000 tons mined in 1930,[1] but such expansion was due more to the ease with which supply could be increased, since little capital had to be invested in actual mine construction itself.

The undefined and indeterminate political status of the region after 1907 did not help make for a climate in which business would respond to the development taking place and introduce a qualitatively new course of development. Yet the colonial status of Manchuria, whereby the railroad system, mines, real estate, etc., were owned by foreign capital, had certainly accounted for the dramatic surge in domestic output, population expansion, and a flourishing export trade that engendered specialization and gave rising incomes to those participating, from the merchant in the forward exchange market to the agriculturalist. But on the other hand, one wonders whether it would ever have been possible for Manchuria to exploit its mineral reserves more effectively by development of fabrication of heavy industry given this type of environment. Some motivating force would have had to be responsible to make the decision, mobilize the necessary funds, and secure protection from foreign competition to get production underway. Clearly, with no demand and no activating force available, a new course of industrialization other than what had occurred was impossible.

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[1] Op. cit., Amano Motonosuke, p. 53.

Industrialization of Manchuria of the sort suggested above had been long talked about by Japanese political theorists and some held it as the ready solution to Japan's own problems of a slender resource base, pressing population numbers, and weakness of the home market. Only some active agents were required to unleash the process. In 1931, China, weakened by political instability and unable to launch a vigorous, successful industrial program at home (a program of real action, that is, and not one confined to the planning boards), could only concentrate its meager resources in the Northeast to construct a few railroad lines to compete with those of the Japanese. Russia had never demonstrated any desire to locate heavy industry in North Manchuria (only to extend her political influence), and was too engrossed in her five year plans. Only with the rise of an important branch of the Japanese military, the young Kwantung officer clique, did plans crystallize to utilize the vast untapped resources. This would mean extending absolute Japanese political and military control over the area, however. When this finally commenced in September of 1931, programs and control measures to establish a heavy industrial base and transform the economy from an agrarian content to an industrial status began to materialize.

CHAPTER III

ECONOMIC PLANNING AND ORGANIZATION

> By avoiding the evil effects of an uncontrolled, capitalist economy, introducing the necessary national control and utilizing the fruits of capital for Manchukuo's economic construction, we will try to plan for the healthy and vigorous development of all branches of the national economy.[1]

Before examining what the Japanese accomplished in Manchuria along the lines of establishing a heavy industrial base, we should try to obtain a bird's eye view of their plans for economic development and the organizational complex of control measures conceived to realize these plans. The course of economic development during these years can then be studied in the context of matching actual performance obtained in the different branches of economic construction with the projected plans the planners sought to achieve. It is of interest, after all, to have some knowledge of the organizational framework which executed these plans because after an evaluation of such a structure a comparison can be made with those organizational structures in countries seeking to industrialize rapidly today. With a better understanding of the relationship between economic development and the man-made structures to initiate and sustain it, our understanding of economic growth processes will be enhanced.

It is not easy to discuss planning and organization in Manchuria for the years 1932-1945 because of the upshot of a number of dramatic historic events

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[1] Keizai Chōsa Kai, Manshu Keizai Tōsei Hōsaku, 1935. (Top Secret). Quoted from "Basic Policy for Economic Construction", pp. 3-4. There are a large number of studies in this country compiled by the South Manchurian Railway Company's economic investigating bureau (Keizai Chōsa Kai). Due to military exigencies, these studies were marked top secret (Gokuhi) and were unavailable to western scholars prior to World War II.

and their subsequent impact on the thinking of planners. To trace the sequence of planning and organizational changes that occurred, therefore, requires some periodization. For this purpose I have divided the period into three stages: (1) 1932-1936, the establishment of basic conditions for industrialization; (2) 1947-1941, the first five year plan; (3) 1941-1945, the economy mobilized for total war.

1932 - 1936

As is now well known, the young officer group (of field grade rating) of the Kwantung Army in Manchuria engineered the Mukden incident which paved the way for the rapid annexation of the region in 1931.[1] This group of officers, fearful of the concerted effort made by the Chinese Nationalist Party (Kuomintang) to integrate Manchuria into the rest of China,[2] and fired with ultra-nationalistic schemes from the works of such writers as Kita Ikki and Okawa Shumei,[3] were eager to resolve the so-called 'Manchurian question' by force. The army rapidly consolidated its easy victories in Manchuria by establishing a puppet regime and promptly took steps to overhaul the deteriorating and depression ridden economy. At home, they resorted to assassination and political maneuvering to dislodge their opponents, and sought through propaganda

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[1]For one of the best post-war accounts of the mechanics of intrigue by officers of the Kwantung Army, see Yale Condee Maxon, Control of Japanese Foreign Policy; A Study of Civil-Military Rivalry, 1930-1945, Berkeley: University of California Press, 1957.

[2]Hugh Borton, Japan's Modern Century, New York: Ronald Press Co., 1955, p. 325.

[3]The ideology of writers Kita Ikki and Okawa Shumei has been dealt with in an unpublished doctoral dissertation; Royal Jules Wald, The Young Officer Movement in Japan, Ca. 1925-1937: Ideology and Actions, Berkeley, California, 1949, pp. 1-268.

to mobilize public opinion to their side. It is to their efforts in the sphere of economic planning and the introduction of the new machinery of economic organization, however, that we now want to turn.

First public notification of an economic program came on March 1, 1933 when the new government of Manchoukuo published a four point program and general outline for economic construction. These four cardinal points were general and vague and appear to be designed principally to enlist both indigenous support and respect from abroad for the new state. On the other hand, they made one thing abundantly clear: the government was to play a large role in the economic life of the new state. In effect, the program summarized was as follows.[1] One, the use and exploitation of natural resources was to be for development of industries so that all members of society would enjoy the benefits. Second, national control was to be exerted over important economic activities to develop natural resources. Third, foreign capital, technological skill, and experience were invited to unlock these resources and encourage industrialization. Finally, greater cooperation between Manchoukuo and Japan was to be the order of the day.

More specifically, the outline contained an account of the future role of the state towards individual enterprises. Enterprises handling resources and producing products important for national defense were to be brought under state supervision, and in some instances management; what remained, non-strategic for defense, was left to private enterprise.[2] In this program the

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[1] A translation of these major points may be found in the Department of Foreign Affairs, General Survey of Conditions in Manchoukuo (Revised Edition, Hsinking, Manchoukuo, 1935), p. 28.

[2] Op. cit., Manshū Keizai Tōsei Hōsaku, p. 5.

Kwantung army stressed communications, transport, urban construction, and only then agriculture, industry, and finance. This hierarchy of priorities was dictated by military considerations, e.g., a bulwark of defense for Japan in the eventuality of Russian aggression and the elimination of hostile elements within the region. Also, new and better integrated railway lines, improved harbor facilities, and construction of new roads and bridges could be justified later on grounds of preparing the ground for future industrialization.

The reason for urban construction was never explicitly made clear, but from the amount of funds devoted to this program and the feverish activity that took place to mobilize labor and materials for work in the cities, the Japanese must have thought it vitally important. The city slated for most construction was the new capital of Hsinkyo. Large highways were to be built connecting the capital with other parts of the country and the city streets enlarged, new sewage systems dug, and parks, office buildings, etc. projected for immediate construction. The new regime appeared to be trying to make the capital a show piece in East Asia and an exhibition of what Japanese engineering skill and design could achieve in a backward country. Mukden, Harbin, Kirin, Chinchow, and even far north Tsitsihar received a similar redressing.

In agriculture, the state's aim was to achieve self-sufficiency in food and raw produce production,[1] and simultaneously to expand exports. Special crops such as cotton, wheat, tobacco, sugar, hemp, etc. were to be emphasized by fixing output and acreage targets. Cotton cultivation was to cover an area of 750,000 acres from which 26,400,000 pounds of cotton could be

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[1] Ibid., p. 7.

produced. Wheat cultivation was to be increased to 5,750,000 acres, an area capable of producing 100 million bushels. These targets had no specific time period of completion. They served rather as broad objectives with which to direct and mobilize rural resources. Meanwhile, improvement and increases were to come in the livestock industry, forest resources were to be surveyed, and irrigation projects commenced. For the village proper, hopes were expressed that its structure might be altered to make way for rapid output increases, but as will be demonstrated later this never came about. Instead, the main lever for raising output levels was to be extensive farming practices and colonization schemes; but more of this later.

Mining and manufacturing received brief treatment in this first statement of economic planning. Basic products such as electricity, coal, steel, soda, sulphur, liquification of coal shale, petroleum, etc., were to be put under the control of special companies to be regulated by law and closely supervised by the state. The government could veto any decisions of the companies if it considered them contrary to law or to the state's interest.[1] Company personnel such as the board chairman, board of directors, or managers could be removed by the government if it thought their actions contrary to law, regulations, government orders, or detrimental to the state's interest. These special companies were stock companies and naturally decisions adopted at stockholders' meetings were important for firm decision making. To control such decision making, the government invested in these special companies as a stockholder and gained the controlling majority vote.

In the field of finance, reform was conducted by an overhaul of the

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[1] Op. cit., TPCCHTS, Vol. 1-b, p. 16 .

existing banking system and the establishment of a central banking system, with control over the money supply to reside with a central bank (to be called the Chūo Ginkō). Additional instruments for credit creation to promote industrial and agricultural development were to come in the form of an industrial bank and loan agencies to assist agricultural development. This naturally necessitated substituting a new money supply for the old complex system of coins and notes circulating and previously used for business transactions. Foreign trade was not omitted either. The tariff system was to be revised, duties adjusted to accelerate the flow of commodities and raw materials between Manchuria and Japan. The state introduced foreign exchange control whereby it could allocate and use this fund as it wished.

The economic program pointed to some new changes. First, the rate of investment was to be substantially increased, and this took place in expanding transport and communication facilities and urban construction. Some of this spilled over into the mining and manufacturing sectors too, since these served as important suppliers of the raw materials needed. Furthermore, the state moved to control strategic mineral resources and branches of fabricating industry through an appendage of joint stock companies. Many of the ultra-nationalist political and economic theorists had long advocated state control of basic industries.[1] While little but crude generalities were evoked and no precision in the relationship of the state to an industry was expressed, these writers did dream of large corporations under state control managing a single industry. This was one of the few tangible cornerstones in their

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[1]For example, one may refer to the many essays by Hashimoto Kingoro, Owkawa Shumei, Matsuoka Yoshisuke to acquire the gist of their state reorganization plans.

theories of socialization of industries, and the Kwantung Army seized this notion and used it as a basic concept in their organizational schemes. Between 1933 and 1936 the army worked to fashion Manchoukuo industry on this basis.

For example, on October 19, 1934 the Kantogun Tokumubu (Kwantung Army Special Affairs Board) proposed that the special mining company, the Manshū Kōgyō Kaihatsu Kabushiki Kaisha or Manchu Mining Development Joint Stock Company be established to exploit and develop the entire mining industry of Manchuria.[1] This company was to have under its jurisdiction all mines (coal, iron, lead, nickel, antimony, aluminum, etc.) relating to defense needs. Therefore it received complete rights to extraction of all ores, received benefits of tax exemptions in purchase of mine lots in Manchuria and those formerly owned by the SMR, and obtained financial assistance to get onto its feet. The company was capitalized at five million yen and its stock shares were issued at a par value of fifty yen. By the third year of operation, profits from operations were five per cent (ratio of profit to original paid up capital); dividends paid out were four per cent of original investment, and this return was fixed and guaranteed for investors by the state. A central committee was set up within the company to handle matters of investment, finance, and general operation; it served meanwhile to coordinate all activities in mining in the economy.

Mining was not the only industry brought under a single corporation. By July 19, 1932, plans were under way to establish an integrated electrical

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[1]Keizai Chōsa Kai, Manshū Kōgyō Kaihatsu Kabushiki Kaisha Setsuritsu Hōsaku, 1936, pp. 12-14.

industrial complex combining the cities of Mukden, Hsinkyo, and Harbin.[1] General Hashimoto Toranosuke decreed that the Manchurian and Japanese electrical industry be brought under a unified command. Production and distribution of electrical energy had to be centrally managed under the Electrical Industry Superintendent Bureau (Dengyō Kanri Kyoku). Investment, supervision, and management decisions were made by this agency, and it set utility rates as well. This bureau, however, was subordinate to the president of the committee handling industry and mining, which in turn was under the direct supervision of the Kwantung Army General Staff.

Further centralization took place when General Koiso Kuniaki of the general staff announced on June 13, 1934 that the Manchurian Electrical Joint Stock Company (Manshū Denki Kabushiki Kaisha) be formed to operate all electrical enterprises, increase the supply and distribution of cheap electrical power, and control the purchase and lease of electrical equipment.[2] This meant a transfer of ownership of Japanese owned enterprises in Manchuria such as the SMR, the Yinkow Waterworks & Electrical Company, and the North Manchurian Electrical Company to this single special company. Water works, telephones, and communication were brought under its aegis as well. The upshot of this organizational change was to alter the asset structure and extend a single, unified control over all forms of power utilities. The company now had investments outstanding of sixty million yen.

In the field of commodity fabrication, General Koiso Kuniaki issued a memorandum on February 2, 1933 calling for the creation of the Japanese

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[1]Keizai Chōsa Kai, Manshū Denki Jigyō oyobi Gasu Jigyō Hōsaku, 1935, pp. 5-15.

[2]Ibid., pp. 6-7.

Automobile Company (Nichi-Man Jidosha Kaisha).[1] In brief, this company's purpose was to produce automobiles and necessary vehicles for national defense. To do this, it was to maintain strict links with similar enterprises in Japan. The company's function was to coordinate activities of construction, purchase of parts, design, and final assembly. For this, it enjoyed special advantages accorded to state sponsored companies such as free acquisition of special tools and parts from the Kwantung Army and tax exemptions.

Total investment outlay of the company was 6.2 million yen, with the SMR putting up roughly one third and the Manchoukuo government and automobile interests in Japan dividing the remainder between them.[2] The company served as an assembly agent and was supposed to manage all vehicle repairs. An average output of 800 vehicles a year and repair of 2,000 vehicles was planned. Main offices and plants were located at Mukden with repair works in Shinkyo, Harbin, and Tsitsihar. Capital expenditures for various phases of vehicle production and repair were mapped out for the future.

Though the concept of 'one industry, one company' was introduced very early into basic industry, in the cement industry (a highly competitive one) it developed more slowly. On September 27, 1932, the Kwantung Army General Staff announced plans for the increase in output of cement from a yearly output of 300,000 tons to 500,000 tons.[3] This required expansion of capacity and new production schedules. Principal cement producers up to that time had been those of the Onoda works in Kwantung and SMR affiliates. Because of the

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[1]Keizai Chōsa Kai, Manshū Jidosha Kōgyō Hōsaku, 1935, pp. 3-12.

[2]Ibid., pp. 6-7.

[3]Keizai Chōsa Kai, Manshū Cemento Kōgyō Hōsaku, 1935, p. 5.

infant nature of the industry firms were not combined by linking their asset and organizational structures. More efficient division of labor between the cement plants was sought by having the Anshan machine tool works supply firms in Mukden with new equipment for cement production. New plants were built by Japanese firms, and the army hoped to make the region self-sufficient in cement production. It was not until 1938 that reorganization came and then in the form of the Manchuria Federated Cement Company (Manshū Kyodo Cemento Kaisha), where production quotas were set for member firms and prices administered.[1]

Sooner or later, all forms of heavy industry were brought under single government sponsored and ocompany control. The chief means of doing this as noted above was by linking asset and management control. While general tasks were assigned to the special companies, they were given considerable latitude to organize production in this early period. Prices were not administered, and the market still provided the means to allocate labor and goods in accordance with a firm's willingness and ability to command resources. The army planners hoped with these semi-official enterprises to combine the most favorable aspects of capitalist enterprise, such as efficiency, standardization, and flexibility with those of a planned economy: the rapid realization of specific tasks and targets, elimination of waste, and full utilization of capacity.[2]

Above the layer of enterprises at the peak of command stood the Kwantung Army Special Affairs Board. This body was directly subordinated to the

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[1]Manchuria Daily News, Special Companies in Manchoukuo, 1940, pp. 22-23.

[2]Op. cit., Manshū Keizai Tōsei Hōsaku, pp. 23-25.

Commander in Chief of the Kwantung Army General Staff and the staff itself (Kantogun Sambo Shireikan).[1] Assisting the Commander in Chief was the Komon, a special advisor. Beneath them was the Somuko, a board which addressed itself to operations and supervision of the joint stock companies. This board could not effectively manage all sectors of the economy so four committees were created: 1) credit, finance, and commerce; 2) transport and communications; 3) agriculture and forestry; 4) mining and manufacturing. These four groups were assisted by the Rengo Iin Kai, a special research body which tackled special problems and studied general economic conditions. Below functioned the state agencies and joint stock companies. Policy and control emanated downward. Few effective devices to counterbalance or question decisions flowing from the top chain of command could be asserted. Supposedly, the apparatus was to function as a single well-oiled mechanism to initiate the construction and expansion plans of the Kwantung Army General Staff.

The emergence of the state as reflected by changes and actions introduced by the Japanese army in theory was to stimulate and encourage growth on a broad front. Government subsidies and tax exemptions were important weapons used to protect and give domestic industry firm footing. But growth could not take place in a vacuum. Close ties with capital in Japan were essential. It was with this objective in mind that General Koiso Kuniaki envisaged Manchurian and Japanese economic relations. He urged the abolishment of high tariff barriers between the two regions, price control to assure low prices for key inputs both regions heavily depended upon such as coal, iron ore (Manchuria's exports to Japan) and electrical and manufactured

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[1]Kojima Seiichi, Nichiman Tōsei Keizai, vol. 8 of series titled Nihon Tōsei Keizai Zenshū, Kaizo Shappan, 1933, p. 100.

equipment (Japan's exports to Manchuria), and above all, fixing cheap transportation rates.[1] Capital should be mobilized from within Japan to allow for new joint stock companies in Manchuria to increase their investments. Japanese firms engaged in producing products competing with Manchurian industry were urged to invest their capital in these same firms in order to graft closer cooperation between the two industries.

For the period 1932-1936, the four point program launched in 1933 was only partially enacted. To be sure, greater national control now extended over the economy and ties between Manchuria and Japan were closer than ever before. But no foreign capital had found its way into the area (with the exception of a very small amount of German investment) and the type of industrialization envisaged by army planners hardly had the interests of the populace in mind, since a type of social product was being produced to be used for military consumption. National defense measures dictated the economic program. It is not the purpose of this study to account for the importance of national defense to the Japanese military and how it related to their expansionist dreams. For our purposes it is only essential to state the motivation behind economic planning and then judge it on this basis alone.

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[1] Op. cit., Manshū Keizai Tōsei Hōsaku, pp. 24-26.

1937 - 1941

As one Japanese economist put it, "the four years from 1932-1936 were years for laying the foundations for enforcing a planned economy and did not bring about what constitutes real economic development and economic construction."[1] By the latter, the author meant a detailed plan and its enactment for purposes of economic development. By 1936, with successes behind them in their efforts to eliminate elements hostile to the new regime,[2] construction of over 9,000 kilometers of new railroad track, 10,312 kilometers of new roads, and 8,463 kilometers of additional bridges,[3] and the creation of numerous semi-official enterprises to manage mining and industry, the Japanese army planners felt the time ripe to extend economic control further and embark on ambitious economic planning to hasten the growth of heavy industry. Evidence of preparation for a more uniform and systematic economic plan had been in the offing since 1935 when the Japanese and Manchoukuo government announced the creation of the Japanese Manchurian Economic Coordinating Committee; then in 1936 the Kwantung Army general staff issued a statement of how supervisory control would be introduced to manage the special joint stock companies.[4] Finally on August 10, 1936 the Manchoukuo government proposed means for coordinating and developing heavy industry. The second period of economic construction was now to be launched.

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[1]Fujiwara Yutaka, Manshūkoku Tōsei Keizai Ron, Nihon Hyoron Shappan, 1942, pp. 128-129.

[2]Manchoukuo Year Book Co., The Manchoukuo Year Book, 1942, Hsinking, 1942, p. 340.

[3]Ibid., p. 571.

[4]Op. cit., Fujiwara Yutaka, p. 129.

Though the plan was put into effect early in 1937 an outline of it did not appear until December of 1937, and this circulated only for official use.[1] It contained a wealth of statistics relating to the general expansion of all branches of industry. In 1938, however, this plan was discarded, a new one devised, and most targets for output and production capacity scaled upwards. The details of this first plan need not detain us here but some general characteristics of it deserve comment. For the first time in the economic history of East Asia, a specific blueprint was drafted for an economy listing what essential commodities would be produced and their amounts.

Taking industry as an example, for the period of five years from 1937 to 1941, annual targets for output and capacity were established for the most important branches of industry: steel, iron, coal, various fuels, light metals, chemicals, electrical power. Included in the targets to be achieved were the necessary amounts of funds estimated to expand productivity. No details were offered as to how these financial estimates were calculated, i.e., the prices and years used, but it ought to be assumed that some price controls were envisaged so that costs would not rise too rapidly and absorb available funds. Probably these financial targets were considered broad objectives to be aimed at rather than to be actually realized. Next, the more important enterprises in heavy industry were assigned annual quotas so that when these were summed up, they matched the annual target in the plan. For a few important industrial commodities such as steel, gasoline, petroleum, salt, a crude input and output method was used to assure the realization of targets, and it closely resembled the system of balances in Soviet planning and the Leontiev input-output scheme.

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[1]Chōsabu, Manshū Gokanen Keikaku Gaiyō, Dec. 1937. Top Secret. Pp. 1-854.

This input-output planning can be seen in more detail for steel production for the five year plan, 1937-1941.[1] It was stipulated that the goal for steel was a production of 8,900,000 tons of rolled steel materials. Of this amount 450,000 tons were to be produced by electric furnace, and the remaining 8,450,000 tons by ordinary means. This required an amount of 1,250,000 tons of steel ingots produced by electric furnace to be available for production of the 450,000 tons of rolled steel by electric furnace. In turn 10,190,000 tons of steel plating and ingots produced by other means provided the supply for production of the 8,450,000 tons of steel. The pig iron required to produce the latter amounts of steel totaled 9,080,000 tons, of which 1,000,000 were to be supplied by Manchuria and the rest, 8,080,000 tons, to be supplied by Japan. But for Manchuria to supply Japan a million tons of pig iron, she in turn needed 15,292,000 tons of iron ore from her mines as well as those in North China and Korea. Furthermore, to transform this iron ore to pig iron, 16,504,000 tons of coal had to be produced. To achieve this, quotas were allotted to all mines producing coking coal and bituminous coal so that the flow scheme could be fulfilled.

Despite careful study and calculations and the great effort expended to survey and estimate available resources, the plan was quickly rejected in 1938. Secretary General Naoki Hoshino of the commission for industry summarized the reasons for this in the Economic Weekly (Keizai Shūhō).[2]

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[1] Ibid., p. 315.

[2] Mantetsu Chōsa Kai, Manshu Tōsei Keizai Shiryō, 1938, pp. 2-3.

As everyone knows, the five year plan for industrial development is the main task of the second phase of economic construction in Manchukuo and was launched last year with great hopes and expectations. We are now in the second year of this Plan. The achievements of the first year of the Plan have been summarized by Vice Director Kanki. Yet while we have made a leap forward, changing conditions require careful study of this Plan again.

New international developments such as the outbreak of the Sino-Japanese war draw Japan, Manchukuo, and China closer together; this has created an expanding economic bloc on the basis of the unification of Japan and Manchukuo. It takes into account North China as well. These conditions make it necessary to take action quickly and the tasks that should be discharged to Manchukuo (a country with great potential) are greater than ever.

The creation of the Manchurian Heavy Industry Development Co. in October of last year (1937), as everyone knows, was to lay the foundations so as to integrate enterprises within the sector of heavy industry. With this achievement, this company created the conditions in which the five year plan, in scope and speed of realization of goals, could be expanded and accelerated.

In addition, advances in the field of inquiry and study of the various sectors of the plan after its inception and the clarification of relationships between supply and demand for resources, now make it possible to press forward for a revision of this plan.

The government studied the first year achievements under the plan on this type of reasoning and in conjunction with deteriorating international conditions, a better understanding of the real conditions within Japan and Manchukuo, and the need to correct certain defects in the first plan, it found it necessary to re-examine the plan. It now becomes necessary to revise completely the targets for mining and manufacturing for the remainder of the years encompassed by the Plan.

Both internal and external reasons forced the sudden and drastic revision of the 1937 Olan. The outbreak of the Sino-Japanese war and the subsequent extension of Japanese military activities into North China required a much larger supply of military goods than ever before and this meant that productive capacity within Japan and Manchoukuo would have to expand to meet this rising demand. This was certainly the prime reason for scrapping the old plan. On the other hand, the authorities, after some study of first year results, felt that many targets could be increased. An elevation of enterprise and mine quotas would naturally place pressure on resources, and additional control had to be introduced to secure the proper allocation of these

resources commensurate with more urgent needs. In the pages to follow, discussion and data presented will focus on the revised plan. This can best be done by first considering the actual targets projected for manufacturing, mining, agriculture, labor, capital and foreign trade. Following this, we will sketch out the organizational machinery installed to make the plan successful and the methods the Japanese administrators used to harness the price system for their purposes.

The plan for manufacturing and mining called for large increases in output of iron ore, ferrous and non-ferrous products, coal, other fuels, and chemicals. Coal and iron ore output were to be doubled, since they comprised the basic ingredients for pig iron and steel production. Note that pig iron production outstrips rolled steel production. The rationale for this was simply good economic sense. Manchoukuo possessed few facilities for actual steel production and therefore should concentrate largely upon pig iron which she could in turn supply to Japan for finished steel products. Japan's comparative advantage in producing steel would be utilized to the fullest and her dependence upon inputs of pig iron imported from Manchoukuo increased. Trade between the two economies became all the more vital. This division of labor conserved Japanese capital as well, for now it would not have to be expanded to raise steel producing capacity in Manchuria but could be used for other, more urgent, uses. In the chemical industry fertilizers received top priority and this was in line with the autarchical policies of the military to make Japan, Korea, and Manchuria self-sufficient in food production. Most of the new products would in some way be utilized for war purposes.

An important component of any plan to develop heavy industry is the machine tool industry. In this plan, mention of it is conspicuously lacking.

Industry stands to feed further industrial expansion providing a machine tool industry exists to supply maintenance, replacement, and new parts by which plant capacity and equipment can be increased. The USSR recognized this early in its planning and gave it special priority in both the first and second plans. Apparently, the Japanese again were thinking in terms of regional economic integration and foresaw the possibility of acquiring machines and tools from Japan. This made it possible for Manchoukuo to husband its short supply of capital and allocate it only to high priority use such as exploitation of mining and chemical resources.

The low targets set in the infant chemical industry indicate that plants were only in the process of being built; the objective was to build optimum size plants to yield sufficient output for use in the Yen bloc so that Japan could achieve self-sufficiency in certain fields of industrial chemicals. Too, the building of a chemical industry absorbs enormous amounts of capital and the gestation period is long. Technical requirements of skilled labor and engineering skill are in great demand. Finally, the scale and diversity of types of plants envisaged in the plan greatly strained capital resources.

This industrial complex could not survive without power. The revised plan saw to it that all expanded sectors would have ample power. The old plan's target was nearly doubled. New dams being built along the Yalu and Sungari were to generate the new electrical power, and this represented a shift away from dependence upon steam powered generators as a source of power. An enormous power project with a 2,600 million KW capacity was to be built on the Sungari river.[1] Generators were to be supplied by the U.S., Germany, and Japan. Another was to be finished on the Yalu in early 1942. The following table shows the original and revised plan for mining and manufacturing with

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[1] Op. cit., Manchoukuo Year Book, 1942, p. 567.

Table 8

Targets for Principal Minerals and Fabricated Commodities for the Original and Revised Five Year Plan (1937-1941)

	1937	1938	1939	1940	1941
A. Iron & Steel (1,000 tons)					
1. Pig Iron					
a. Old Plan Target	850	1,150	1,150	2,400	2,530
b. Revised Plan	--	--	--	--	4,500
c. Planned Prod. Cap.	850	1,850	2,130	2,000	4,850
2. Rolled Steel					
a.	400	400	400	1,500	1,500
b.	--	--	--	--	1,400
c.	424	424	697	1,120	1,770
3. Steel Ingots					
a.	580	580	580	2,000	2,000
b.	--	--	--	--	3,160
c.	580	580	705	1,080	3,390
4. Iron Ore (high grade)					
a.	709	--	--	---	1,590
b.	--	--	--	--	2,990
c.	640	1,060	1,500	2,330	2,520
5. Iron Ore (low grade)					
a.	1,768	--	--	--	6,150
b.	--	--	--	--	13,000
c.	2,147	2,297	3,747	9,150	13,090
B. Fuel[a]					
1. Coal					
a. Old Plan Target	15,320	17,780	20,920	24,010	27,160
b. Revised Plan	--	--	--	--	31,410
c. Planned Prod. Cap.	14,554	17,185	21,450	26,410	31,610
2. Liquified Coal Prod.					
a. Gasoline					
a.	19,500 kl.	43,500	199,500	445,000	615,000
b.	--	--	--	--	1,670,000
c.	--	11,640	79,300	231,000	617,000
b. Petroleum					
a.	8,000 tons	8,000	8,000	40,000	100,000
b.	--	--	--	--	250,000
c.	--	--	--	--	--

[a]Does not include liquified coal products produced at Fushun.

Table 8 (Continued)

	1937	1938	1939	1940	1941
3. Coal Shale Products					
a. gasoline					
a. Old Plan Target	24,000 kl.	24,000	24,000	70,000	176,000
b. Revised Plan	--	--	--	--	70,000
c. Planned Prod. Cap.	15,000	15,000	23,800	23,800	86,800
b. Petroleum					
a.	66,000 tons	180,000	180,000	225,000	331,000
b.	--	--	--	--	500,000
c.	75,000	75,000	170,400	170,000	231,900
c. Alcohol					
a.	-- tons	--	--	--	56,690
b.	--	--	---	--	56,690
c.	--	--	--	--	--
C. Light Metals (Tons) (Ore)					
1. Aluminum Ore					
a. Old Plan Target	process of	4,000	4,000	12,000	20,000
b. Revised Plan	construction	--	--	--	30,000
c. Planned Prod. Cap.		5,000	10,000	10,000	30,000
2. Magnesium					
a.	--	500	500	500	500
b.	--	--	--	1,000	3,000
c.	--	--	--	--	3,000
3. Lead					
a.	2,200	4,400	4,400	12,400	12,400
b.	--	--	--	--	29,000
c.	1,859	2,993	15,306	31,311	50,592
4. Zinc					
a.	1,900	1,900	3,800	3,800	6,600
b.	--	--	--	--	50,000
c.	2,575	2,575	15,989	32,615	50,525
5. Copper					
a.	--	--	--	--	--
b.	--	--	--	--	3,000
c.	21	930	2,849	4,398	6,163
D. Chemical Products					
1. Sulphur					
a. Old Plan Target	-- tons	--	--	--	--
b. Revised Plan	--	--	--	--	453,000
c. Planned Prod. Cap.	181,457	270,670	308,162	382,420	403,970

Table 8 (Continued)

	1937	1938	1939	1940	1941
2. Soda Ash					
a. Old Plan Target	36 tons	72	72	72	72
b. Revised Plan	--	--	--	--	72
c. Planned Prod. Cap.	36	72	72	72	72
3. Asbestos					
a.	150 tons	450	750	5,000	5,000
b.	--	--	--	--	5,000
c.	--	750	2,000	3,500	5,000
4. Caustic Soda					
a.	--	--	--	--	--
b.	--	--	--	--	--
c.	-- tons	--	9,455	12,055	12,055
5. Pulp					
a.	70 (1,000)	70	70	120	120
b.	--	--	--	--	400
c.	32	77	103	103	103
6. Salt					
a.	-- tons	378,160	536,598	755,633	973,588
b.	--	--	--	--	910,520
c.	334,549	391,180	509,190	679,400	910,560
7. Animal Products					
a. Old Plan Target	-- (1,000	--	--	50	50
b. Revised Plan	-- Tons)	--	--	50	50
c. Planned Prod. Cap.	--	--	--	--	--
E. Manufacturing					
1. Machine Tools					
a. Old Plan Target	-- pieces	--	--	--	--
b. Revised Plan	--	--	--	--	5,000
c. Planned Prod. Cap.	--	313	308	308	308
2. Automobiles					
a.	-- units	--	--	--	4
b.	--	--	--	--	50
c.	--	--	--	20	30
3. Airplanes					
a.	-- units	--	--	--	340
b.	--	--	--	--	500
c.	--	--	--	500	5,000

Table 8 (Continued)

4. Vehicles (of all types)	1937	1938	1939	1940	1941
a. Old Plan Target	--	--	--	--	20,154
b. Revised Plan	--	--	--	--	20,154
c. Planned Prod. Cap.	--	--	--	--	not determined
F. Electricity					
1. Generated by heat					
a. Old Plan Target	536,900 KW	692,800	701,800	787,600	814,600
b. Revised Plan	--	--	--	--	1,330,550
c. Planned Prod. Cap.	--	--	--	--	--
2. Generated by water					
a.	-- KW	--	--	195,000KW	590,000
b.	--	--	--	--	1,240,000
c.	--	--	--	--	
3. Total Power					
a.	536,900 KW	692,800	701,800	982,600	1,404,600
b.	--	--	--	--	2,570,550
c.	502,120	603,730	898,010	1,394,210	2,318,110

Electricity transmitted and transformed to different voltage has been omitted.

[a]·The old plan was devised in February of 1937. This plan was revised in May of 1938. The revised plan indicates the new targets while planned established productive capacity (decided upon in September of 1938) and the old plan indicate the level of productive capacity that the planners hope to establish in that given year.

Source: Mantetsu Chōsabu, Manshū Tōsei Keizai Shiryō, 1938, pp. 71-81.

targets and capacity indicated.

"While it was possible to expand mining and manufacturing by adding more labor power and capital outlays, similar efforts in agriculture might not necessarily net as favorable results because of the special nature of production and the complex set of conditions within agriculture."[1] Yet agriculture could not lag behind industry, for additional supplies of raw materials were required by industry and food for a larger labor force. In the revised plan, outputs of many crops were increased, but one must point out that results in the first year indicated that old targets were unrealistic and would have to be trimmed. Thus wheat, barley, oats, alfalfa, cotton, and flax outputs were lowered slightly. But those products in which the 1937 performance had been favorable such as tobacco, kaoliang, millet, soy beans, and corn were all scaled upwards. Much of the increase was to be attributed primarily to an extension of cultivation, and soy beans and wheat were singled out for very large increases, with the latter to be achieved by a special cultivation program designated for North Manchuria in which mechanized equipment would be used on a large scale. The following table indicates the targets for this sector for output and cultivation.

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[1] Op. cit., Manshū Tōsei Keizai Shiryō, p. 6.

Table 9

Targets for Agriculture under the Old and Revised Plan and Goals for the Expansion of Cultivation (1937-1941)

A. Output Crops (Tons)	1937	1938	1939	1940	1941
1. Rice					
a. Old Plan	338,020	367,210	405,850	457,090	517,780
b. Revised	478,748	1,199,400	526,774	584,370	664,835
2. Wheat					
a.	1,110,000	1,295,000	1,517,000	1,763,000	2,024,000
b.	1,077,475	1,199,400	1,357,500	1,576,100	1,787,000
3. Barley					
a.	192,000	199,000	210,000	234,000	262,000
b.	161,640	166,544	174,900	183,400	189,600
4. Oats					
a.	41,000	48,000	58,000	70,620	89,000
b.	36,500	48,960	53,840	61,420	66,640
5. Alfalfa					
a.	10,000	34,000	68,000	110,000	152,000
b.	1,908	5,291	7,000	8,000	18,000
6. Cotton					
a.	17,302	21,794	28,299	35,719	45,554
b.	19,649	22,075	28,558	39,759	44,705
7. Tobacco					
a.	2,970	3,775	5,306	7,128	9,900
b.	3,192	5,676	9,900	13,200	17,160
8. Kaoliang					
a.	4,300,000	4,385,000	4,455,316	4,537,966	4,600,760
b.	4,263,000	4,383,000	4,396,000	4,566,000	4,706,000
9. Millet					
a.	3,198,000	3,261,250	3,337,700	3,498,868	3,590,090
b.	3,520,000	3,500,000	3,650,000	3,770,000	3,920,000
10. Soy Bean					
a.	4,130,000	4,200,000	4,300,000	4,510,000	4,720,000
b.	4,225,000	4,500,000	4,650,000	4,800,000	5,000,000
11. Corn					
a.	2,130,000	2,080,000	2,130,000	2,150,000	2,200,000
b.	2,127,000	2,235,000	2,300,000	2,400,000	2,620,000
12. Sugar Beet					
a.	144,000	168,000	208,000	252,000	300,000
b.	135,503	194,400	247,000	280,000	300,000
13. Flax					
a.	28,804	48,804	76,804	141,680	192,300
b.	20,284	37,454	56,000	84,000	125,100

Certain crops such as buckwheat, peanuts, hemp, and silk have been omitted.

Table 9 (Continued)

B. Cultivation[a]	1937 1937	Cultivated Area by 1941	Planned Increase
1. Export Crops			
a. Soy Beans	3,697,000	4,087,000	380,000
2. General Food Crops			
a. Kaoliang	3,275,000	3,410,000	135,000
b. Millet	3,054,000	3,270,000	216,000
c. Corn	1,422,000	1,640,000	218,000
3. High Grade Food Crops			
a. Rice	320,004	435,000	114,996
b. Wheat	1,218,000	1,559,000	341,000
4. Crops for Military			
a. Oats	53,200	82,300	29,100
b. Alfalfa	1,691	18,000	16,309
c. Barley	156,604	181,800	25,196
d. Flax	14,486	86,300	74,814
5. Special Crops			
a. Cotton	101,124	183,160	82,036
b. Tobacco	2,389	13,000	10,611
c. Sugar Beet	12,660	20,000	7,340

[a]Area is in hectares. For standardization of weights and measures see Mantetsu Keizai Chōsakai, Manshūkoku Doryoko Tōsei Hōsaku, 1935. (Top Secret) p. 104.

Source: Mantetsu Chōsabu, Manshū Tōsei Keizai Shiryō, 1935. (Top Secret).
Source for output projections, pp. 27-28.
Source for cultivation goals, pp. 29-30.

To assure that planned increases in industrial and agricultural output were forthcoming, planners worked out tentative projections of necessary inputs of labor and capital. Fairly detailed outlines were constructed so that each enterprise within an industry understood the amounts of labor and capital to receive so as to fulfill targets. The problem of securing sufficient labor inputs was a thorny one. First of all, the labor force is not homogeneous but consists of segmented groups of labor possessed of assorted skills with varying degrees of mobility. To overcome this difficulty the Japanese worked out rough categories of labor according to skill and experience. On this basis they surveyed the available known labor force and then estimated what demand conditions were likely to be over the five year plan. Projected increases of labor for each category were stipulated from this supply and demand approach.

The second difficulty related to whipping into shape an educational system to train skilled workers from the indigenous population. All such educational facilities had to be examined to see what improvements could be made to increase the supply of technicians. At the same time, similar resources in Japan had to be evaluated in order to calculate the number of Japanese workers that would be required to make up for deficiencies in Manchoukuo. Thus, careful study of the labor force in both economies had to be conducted. From the following table it will be seen that the demand for additional labor increases greatly toward the last few years of the plan. The new capacity created now had to be operated and manned. The largest share of top flight technicians and engineers had to be recruited from Japan, although efforts were made to boost this number from the domestic market. Japanese economic policy of course dictated that absolute control remain in their hands. The training of Manchurian labor for high level tasks stemmed from the severe

Table 10

Projections of Required Labor for the Five Year Plan

(Note: Under each industrial classification, the alphabetically listed categories refer to the following levels of skill:
A. Upper Grade Technicians
B. Lower Grade Technicians
C. Skilled Workers
D. Unskilled Workers.)

	1937[b]		1938[c]		1939		1940		1941	
	Japan	Man.[d]	Japan	Man.	Japan	Man.	Japan	Man.	Japan	Man.
1. Iron & Steel Ind.										
A.[a]	303	-	463	18	1,351	45	1,826	28	2,151	211
B.[a]	654	7	933	62	2,739	207	4,195	487	5,560	907
C.	2,818	2,022	3,427	2,723	4,311	3,844	5,253	5,541	6,072	8,916
D.	1,585	11,482	2,967	14,902	5,470	24,077	9,098	35,535	11,404	56,073
2. Coal Industry										
A.	670	10	910	50	1,220	143	1,403	237	1,440	335
B.	1,202	108	1,831	178	2,408	356	2,836	520	2,914	593
C.	-	765	-	1,596	-	1,245	-	2,654	-	3,040
D.	-	4,337	-	9,046	-	13,726	-	15,041	-	17,252
3. Fuel Industry										
A.	55	-	58	2	151	2	203	2	313	2
B.	314	-	414	-	789	-	1,290	-	2,045	-
C.	288	146	351	146	541	146	825	146	1,205	146
D.	45	67	85	128	340	343	778	583	1,586	1,295
4. Light Metal (Alum. & Mag.)										
A.	83	-	131	-	157	28	242	25	335	54
B.	125	-	196	12	296	30	407	65	574	152
C.	-	-	-	-	30	15	90	15	210	55
D.	-	-	40	10	243	160	597	180	1,080	420
5. Non-Ferrous Metals (Zinc, Lead, etc.)										
A.	74	-	105	8	206	35	287	64	350	84
B.	132	9	181	17	473	223	814	471	1,070	650
C.	53	10	83	30	148	60	238	160	303	230
D.	264	125	375	287	621	695	1,020	1,325	1,252	1,689

Table 10 (Continued)

	1937[b] Japan	Man.[d]	1938 Japan	Man.	1939 Japan	Man.	1940 Japan	Man.	1941 Japan	Man.
6. Chemical Industry (Salt, Soda, Fertilizers)										
A.	56	-	62	-	78	3	85	8	92	8
B.	24	-	142	-	184	6	221	11	251	13
C.	35	25	95	165	205	374	285	555	365	735
D.	10	1,196	120	1,606	250	2,136	370	2,616	490	3,096
7. Pulp Industry										
A.	2	-	7	-	12	-	17	2	22	3
B.	5	-	3	-	54	7	96	14	138	24
C.	-	-	4	-	36	10	68	25	100	40
D.	-	-	-	-	84	196	84	196	84	196
8. Machine Tools & Military Goods										
A.	83	-	132	-	197	-	256	-	207	-
B.	222	-	310	-	508	-	676	-	829	-
C.	643	391	851	861	957	1,364	1,022	1,637	1,065	1,703
D.	1,054	18,168	2,310	20,482	2,710	2,206	2,850	2,305	2,894	23,620
9. Automotive & Airplane Industry										
A.	51	-	78	3	181	9	270	12	328	13
B.	61	3	111	13	282	29	350	32	388	33
C.	303	17	561	553	3,607	2,153	5,031	2,607	5,207	2,937
D.	40	80	340	680	7,471	3,954	11,437	5,213	11,511	5,564
10. Electrical Industry										
A.	191	30	206	31	229	33	252	35	275	37
B.	913	100	1,042	115	1,196	165	1,365	215	1,522	265
C.	765	726	876	776	1,020	958	1,183	1,147	1,329	1,303
D.	803	-	913	-	-	1,013	-	1,133	-	1,253
11. All Others										
A.	23	-	23	-	168	-	192	-	208	-
B.	35	-	35	-	245	-	255	-	275	-
C.	-	-	-	-	-	-	-	-	-	-
D.	-	-	-	-	-	-	-	-	-	-

a. No clear distinction was made between upper and lower grade technicians. The first group were probably managers and engineers; the second, roforemen, accountants, specialists, repairmen, etc.
b. Workers listed for 1937 were already in existence and employed.
c. Manchurians are the indigenous population. Of these, Chinese would naturally comprise the greatest number.
Source: Mantetsu Chōsabu, Manshū Tōsei Keizai Shiryō, 1935. (Top Secret),pp.133-6.

shortage of similar trained material within Japan. Already in Japan the educational system producing this type of manpower was strained to the limits so that technical schools and colleges within Manchoukuo had to account for filling the gap. In 1937, few Manchurians were fortunate to attend college at all. Yet by 1941 all institutions were called upon to increase the number of graduates.

The financial plans for financing were as elaborate as those for labor. Funds for important enterprises in each industrial branch were estimated and the means to see that these funds flowed to the proper places when they were needed were to be determined. The original aggregate outlay for mining and manufacturing totaled 1.5 billion yen while the 1938 revised plan called for an increase of 2.3 billion yen to bring the planned figure to 3.880 billion yen. When this is compared to the revised total plan of capital funds needed of 4.962 billion yen, we can see that mining and manufacturing alone absorbed roughly 78 per cent of required capital. Of this 4.962 billion yen, 2.141 (43 per cent) was to be raised in Manchoukuo, 1.468 (30 per cent) to be acquired from Japan, and 1.352 (27 per cent) to be raised from other countries.[1]

To match the heavy capital requirements, existing liquid capital had to be absorbed and new funds created. In the main capital was mobilized from three prime sources: (1) Increasing Manchoukuo's internal debt by bond flotations which were readily taken over by the Central Bank; the bank in turn

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[1]Data on capital funds requirements were acquired from Document No. 2542 of the prosecution's records for the military tribunal trials in Tokyo after the Pacific war ended. These records are available for inspection in the World War I branch of the National Archives, Washington, D.C. This document (exhibit No. 446 of the trial itself) presented the five year program of Manchoukuo in three parts. It was assembled by former Manchoukuo government extra secretary Suitsu Risuke and given to the prosecution July 31, 1946. Supposedly, the original records of the plan were destroyed by bombings.

created deposits for the government to draw upon and these purchases were thereby made by creation of new note issue; (2) Increasing taxes and revising the tariff system to skim off excess purchasing power by firms and consumers; (3) The floating of debt instruments in Japan to absorb private savings and idle business capital. The importance of these sources varied over the period of Japanese activity in Manchoukuo and will be examined in greater detail in the chapter on financing.

Fulfillment of the plan could not be complete without making some provision for the foreign trade sector. Planners envisaged that Manchoukuo might be able to eliminate much of Japan's raw material shortages and satisfy most of her industrial requirements. It would only be necessary to map out the quantity of raw materials exported to Japan to give her this self-sufficiency. These exports then became the raw material export targets Manchoukuo was to fulfill. The following table lists the commodities and their quantities which were to be shipped to Japan over the course of the plan.

Table 11

Raw Material Exports to Japan for Selected Industrial Commodities over the course of the Revised Five Year Plan (1938-1941)

	Commodity	Export Targets
1.	Pig iron	1,500,000 metric tons
2.	Steel plates	1,125,000 metric tons
3.	Coal	6,000,000 metric tons
4.	Volatile oils	1,453 hectoliters
5.	Heavy oils	710,000 metric tons
6.	Lead	20,000 metric tons
7.	Salt	450,000 metric tons
8.	Soda	25,000 metric tons
9.	Paper Pulp	300,000 metric tons

Source: Northeast Natural Resources Control Committee, TPCCHTS, October, 1947, Vol. 1-b. p. 44.

Between 1933 and 1936, the army successfully brought industry and transport under its control by legislating large companies to control different branches of industry. A skeleton-like planning-coordinating system had been partially created via the General Affairs Board and the various commissions to regulate and integrate large company tasks and activities. But for the bold, large scale, and ambitious planning conceived by the army in 1937 and 1938 new machinery had to be created and a system of market controls appropriately worked out. By 1938 a planning commission had been created, and it was subordinate to the state premier and the army.

The planning commission delegated responsibility of study and control over the economy to four commissions. On August 3, 1938, the foreign exchange commission was set up to regulate trade flows by control over exchange rates. On the 25th of that same month the commodity and price control commission was established. This was the most important and certainly the largest of the functioning four since it in turn supervised five attached sub-committees which were responsible, respectively, for (1) heavy and light metals; (2) fibers, food, and vegetable oils; (3) coal, fuel, and petroleum; (4) communications and transport; and (5) construction. The commodity and price control agency had the difficult task of managing the flow of resources and finished goods within the framework of the large companies so that capacity and output build-up could be smooth. Price control, as we will see shortly, was the chief instrument it possessed to do this.

On September 10, 1938, the labor commission was set up, and its job was to assure that the labor supply, technical innovations, and new experiments would be of the properly required flow. It saw to it that wage rates were regulated, and this was to be done on a regional basis in line with regional

cost-price structures. The last commission made its appearance on September 22, 1938 and was to regulate matters of finance and trade. In foreign trade, the commission's job was to adjust tariff schedules in order to expand Manchoukuo's exports and curtail non-essential imports and establish tariff protection for infant industries. It of course left matters of foreign exchange alone. In finance, it was to provide an adequate supply of money to promote expansion and growth, suggest proper budget policies to obtain surpluses for capital expenditures, and use its powers of persuasion to get Japanese holders of cash balances to exchange them for Manchoukuo bonds and stocks so as to effect a transfer of capital to Manchoukuo and disburse it to different enterprises.

> The five year plan had planned for the expansion of productive capacity to achieve self-sufficiency and this had been dictated by military considerations. The actual purpose of the plan was the massive exploitation of resources, but in 1937 this had still not taken place. The attempts of the Japanese government to put this 'paper plan' into effect, stupified the financial world of Japan by its tremendous demand for capital.[1]

The old zaibatsu cliques in Japan were reticent in going along with army demands for investment funds since they had to be content with state regulated profits, and often the ventures themselves were in doubt as to their soundness and profitability. For new capital, the army turned instead to the Shinko Zaibatsu ('nouveau riche' financial cliques) in Japan which had gained considerable financial power and prestige from their ties with the military. Among these, the Nissan works (Nippon Sangyo Co.) of Yoshisuke Aikawa invested seventy per cent of its capital in military armament production, while Mitsui and Mitsubishi had only nineteen and twenty-seven per cent respectively

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[1]Mantetsu Chōsabuhen, Manshū Keizai Nempō, 1938, Kaizo Shappan, 1939, p. 90.

of their capital invested in military activities.[1]

But new capital funds for the plan were not the only reason for a great organizational change-over in Manchoukuo mining and heavy industry. The army felt that the joint stock companies had to be better integrated if they were to be financed successfully, and this horizontal and vertical integration would lead to reduced costs and rationalization within both sectors. Thus, in December of 1937 the Manchuria Heavy Industry Co. (Mangyō), a great holding company, was organized to combine the asset and managerial structure of Manchoukuo enterprises in industry and mining with the nuclei of this company being the Nissan works of Japan. Mangyō was capitalized at 450 million yen, one half of which was supplied by the Japanese Nissan interests and the remainder by the Manchoukuo government, which in turn gave Mangyō most of the heavy industrial enterprises as well as subsidiaries previously belonging to the SMR. The company's organizational outline contended that "for purposes of speedy establishment and combined development of heavy industry under the guidance of the government and to develop maximum capacity in technology and management in order to gain maximum benefits", [2] Mangyō was to be the main device in which the Japanese army would develop Manchurian industry.

From 1933-1936, when special companies were imposed on the economy, no control over production and exchange via the price system operated. Government supervised enterprise to be sure, but no real interference came in how the enterprise was to obtain capital, materials, labor, etc. and the type of investment criteria selected. But the plan of 1937 did require the government to consider the need for direct resource control and allocation.

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[1] Ibid., p. 88.

[2] Op. cit., TPCCHTS, Vol. b-1, p. 27.

Objectives had to be realized quickly under the plan. The great demands on limited available inputs of capital and skilled labor required careful use and allocation of these factors of production. After the Sino-Japanese war commenced, control rapidly intensified.

The iron and steel industry was affected first. The costs for all iron and steel products produced in the Northeast were fixed and prices set for government purchases.[1] Next, an import quota for steel products from Japan and other countries was set. Then the total tonnage of the two sources (steel tonnage produced in the Northeast and tonnage imported) was divided into the total cost; steel was then sold at the average price figure derived in this manner. This price became known as the "government price". In this way iron and steel prices were firmly fixed. In general this fixed price remained about equivalent to half the market price. The organization that handled all purchases and distributions of heavy industrial products was the Japanese-Manchurian Shōji (Commerce) Company. The difference in receipts derived from this company's purchases of iron and steel at the "government price" and sales at market price went into a fund which was used to promote foreign trade. The fixing of iron and steel prices became a model for price fixing of other industrial commodities as well, and the Japanese Manchurian Shōji Company served as the coordinating agency for the state to price and ration these products accordingly.

Price control in industry was concommitant with the inception of the materials mobilization plan in 1938. The general purpose of this plan was to assure strict control over the allocation of resources vital to heavy industry and the distribution of industrial products. In regard to consumer goods

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[1] Ibid., TPCCHTS, Vol. b-1, p. 25.

which were being reduced in supply, rationing of such goods was to take place. For each industry, then, unified government control agencies were created to handle the purchasing of the finished product and distribute it according to the needs of the state. The following table lists the companies that controlled the pricing of industrial and mineral products and distributed them.[1]

Table 12

Manchoukuo Agencies to Control Prices and Distribution for Different Branches of Industry

Branch of Industry	Control Agency
1. Iron and Steel, Coal, Drugs, Medicine, Nonferrous metals, Portland cement, and electrodes	1. The Japan Manchoukuo Shōji (Commerce) Company (A special company)
2. Oils, salt, matches	2. Government Sales Monopoly
3. Cellulose Products	3. Manchu Cellulose Company (special company)
4. Electrical Power	4. Manchu Electric Industry Company (special company)
5. Rubber Products	5. Manchu Rubber Control Office
6. Paper Products	6. Manchu Paper Industry Control Office
7. Daily necessities (excluding food)	7. Manchu Essential Commodities Company (special company)
8. Automobiles	8. Manchu Automobile Company (special company)
9. Gunpowder and explosives	9. Manchu Powder and Explosives Company (special company)
10. Electrical wires (excluding imports)	10. Manchu Electric Wire Company
11. Paints	11. Manchu Paint Control Office
12. Railroad cars and wooden sleepers	12. S.M.R. Company

Source: TPCCHTS, Vol. 1-b, p. 35.

[1]See appendix for diagram of function of agricultural purchasing companies.

These monopoly granted companies made their appearance in 1938. Each company was responsible for particular commodities and served to purchase and allocate important raw materials to the fabricating centers and in turn purchased the finished product at set prices, provided storage facilities, and then dispensed with the goods when the state so directed. Prices at the wholesale level were fixed so that enterprise profit margins were assured. At the retail level, prices were determined according to some base price that a government committee of personnel from various distributive agencies decreed for principal cities, provinces, banners, and hsien.

In October 1939 the planning commission published a general outline of the main objectives of general price control, its importance for the economy, methods of absorbing savings, idle capital, money hoards, wages and rent control, and the necessity of informing the general populace of these controls in order to enlist their support for this program.[1] The four principal goals of price control were: (1) To maintain Manchurian commodity prices as low as possible; (2) To adjust price levels between Manchuria and Japan so as to effect a smooth flow of goods between the two regions; (3) To keep domestic export prices in line with prices in foreign markets; (4) To establish control over supply and demand conditions for commodities undergoing a rapid turnover.

The different control companies and enterprises were the main price control functionaries. Proper price structures between urban and rural commodities, domestic prices and foreign prices, and export and import prices had to be determined by the large distribution companies. Enterprises had to see to it that they did not maintain more liquid balances than they needed for

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[1] Jikaku Iin Kai, Jikyoku Bukke Seisaku Daikō, October 1939, pp. 1-65.

setting up production schedules. It often happened that these government agencies fixed prices of final output from suppliers at prices so low that they did not fully cover production costs. To remedy this, a "balanced fund system" was created where subsidies were taken from this fund to reimburse losses suffered by industries which footed losses (coal was usually in this category). The sources of the balanced fund were obtained from high price mark-ups on consumer goods,[1] and a surtax on goods exported to North China, Central China, Charhar, and Suiyuan. The "balanced fund" constituted a pool of capital from which industries needing subsidies could draw upon and thus assist the different agencies in their policy of keeping industrial prices deliberately low.

Administered pricing and a system of storing, allocating, and distributing inputs and outputs were the two techniques to maintain supply and demand equilibrium in a situation where demand now became unlimited. Price ceiling had to be set so that those goods in short supply would not be bid away only to those who happened to possess sufficient liquid funds for them but to those enterprises that vitally needed these goods for the war effort. The first year of the plan was completed when price control and commodity mobilization were just taking effect. "In spite of difficulties of inadequate coordination in transport, shortages of skilled labor, scarcity of capital, progress was accomplished for about eighty to ninety per cent of the targets set for

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[1]This mark-up of price resembles the Soviet turnover tax. The purpose of this tax was to keep actual market prices of goods in line with other prices so that no severe distortions of planned prices occurred. The USSR system has already been extensively studied by R. W. Davies, The Development of the Soviet Budgetary System, Cambridge University Press, 1958. Another good study is that of F. D. Holzman, Soviet Taxation, Harvard University Press, 1955.

this year were achieved."[1] But when the revised plan came to light, such an imbalance was created between general supply and demand conditions in factor and goods markets that direct regulation of both markets had to take place if the plan was to be successfully completed.

1941 - 1945

In 1941, a second plan was drafted to carry the economy to a new and higher stage of development.[2] It differed in two important respects from the earlier plan. In the first place, the early plan focused just on conditions within Manchoukuo (mobilization of Manchoukuo's resources and diverting them to heavy industrial purposes), but the second plan took into account the entire Japanese dominated East Asian bloc of Japan, North China, Manchoukuo, and Korea, and now the emphasis was to make Manchoukuo self-sufficient within the bloc. Second, in the first plan measures for the mobilization of resources came one and a half years after the plan had been introduced. Thus machines and parts which had been ordered from Germany and the U.S. to assure the fourth and fifth years of the plan had never arrived, so that great difficulty had developed. Resource and capital supplies had been carefully surveyed along with the drawing up of the plan so that targets were not only more realistic but much of the element of risk had been eliminated. These were both lessons learned by bitter experience.

The plan draft was completed in November of 1941; but with the attack on

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[1] Mantetsu Chosabu, Manshū Tōsei Keizai Shiryō, 1935, p. 143.

[2] Actual data for this plan will be presented in chapters on industry and agriculture.

Pearl Harbor, December 7, completion of the draft had to be speeded up. Evidence of this came in a conference in Hsinkyo on December 22, 1941 when vice Minister of Finance Tadayuki Furumi[1] explained the government's program at a conference of high government officials, representatives of the Kwantung Army, and leading executives of special and semi-special companies. At this session it was urged that all efforts be devoted to an accelerated push to exploit the resources of Manchuria and North China and coordinate construction and trade within the bloc of China, Korea, Manchuria, and Japan. An eleven point program was endorsed to bring about regional integration for such an effort. The more important points stressed were that industrial commodities Manchuria had acquired previously from Japan as inputs to expand her own productive capacity and increase the output of raw materials and semi-processed goods which her industrial plant consumed. Strategic materials in Manchuria were to be conserved and substitutes used wherever possible. The increase in agricultural output required proper distribution of wage goods and requisite inputs for such expansion. Price control enforcement was necessary to implement this. Meanwhile, wherever possible, the exports of coal, light metals, non-ferrous metals, agricultural products from North China and Manchuria to Japan were to be increased. Thus while as few demands as possible were to be made upon the resources of Japan, goods vital to Japan's wartime economy were to be made more abundant by the remainder of the yen bloc. Japan was to be favored.

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[1] Op. cit., Manchoukuo Year Book, 1942, pp. 198-201. Furumi Tadayuki was born 1900 in Tokyo and graduated from the College of Law at Tokyo Imperial University in 1924. After serving in the Dept. of Finance in Manchuria he became section chief of the Personnel Bureau in 1934-1936 and Director of Accounts Bureau in the General Affairs Board from 1936-1940. In 1940, he was Vice-Minister of Commerce and Finance.

When the conference adjourned, it planned to have further parleys on how to enforce the above measures. By 1942 the second plan was under way,[1] and one official commenting upon it stated:

> The cardinal difference between the two plans (first and second plan) was that the first grew out of the economic research bureau of the S.M.R. and was an independent Manchoukuo project, while the second plan was closely interwoven with Japan's former development plan. The first was eighty per cent successful, the new one was required to be one hundred per cent perfect. The second one provides for ready increase in agricultural production and systemmatic exploitation of coal, iron ore, and other underground resources.[2]

One of the most important underpinnings to assure successful integration of the North China and Manchoukuo economies was the necessity of improving transportation between the two regions; this was also to include Korea. To meet the goals for agricultural increases, schemes were devised to mobilize volunteers to man the colonization projects in North and South Manchuria.[3]

Throughout 1942 and 1943 there were a number of conferences within Manchuria to review progress on an inter-regional basis. The tenor of discussion at these conferences was nearly always the same. Always the need was expressed for greater output in agriculture and mining. More action to regulate distribution of goods in order to reduce price rises, and the elimination of bottlenecks that were becoming more serious were discussed. From these meetings came more stringent regulations to forbid the movement of labor from

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[1]Office of Strategic Services, Programs of Japan in Manchoukuo, Vol. I, Dec. 1941-Feb. 1, 1944. Honolulu, p. 55. For similar views on planning the second five year plan, see the Manshū Sangyō Chōsa Kaihen, Manshūkoku Seishido Sōran, 1944. This study contains the proposals for favoring Japan in the bloc, making Manchuria self-sufficient to supply her own needs, and the need to strengthen price controls to combat inflation. Cf. pp. 525-527.

[2]Op. cit., Programs of Japan in Manchoukuo, pp. 55-56. A radio broadcast from Hsinking, July 13, 1942, monitored by the Office of Strategic Services.

[3]Ibid., p. 56.

one factory to another and to prohibit employers from stealing one another's technicians.[1] Plans were made to increase the number of graduates from technical schools and to move them out quickly to high priority war-time industries.

Meanwhile the problem of price increases and severe inflationary pressures became more and more serious. The instances of hoarding commodities, black market activities, and enterprise stockpiling of strategic materials mounted rapidly. In an all-out attempt to enforce price control the police force was called upon to redouble its vigilance and activity in elimination of black market operations.[2] They coordinated with the railway police to enforce regulations regarding shipments via railways and ships, and they extended their activities into the rural areas to prevent early sales of agricultural products which would reduce the amount of harvest and make matters difficult for the distribution authorities. The increase of smuggling, bootlegging, and black markets in late 1942 and 1943 became more frequent and difficult to control as the administrative ranks were continually being depleted of manpower and diverted to other theatres of war.

Policy in foreign trade did not fundamentally change, for the familiar pattern of achieving self-sufficiency in food production and basic wage goods while increasing exports to Japan of mineral products and iron and steel continued. This was borne out in a message by the head of the trade bureau, Oimatsu, when he reported to members of the Federation of Trading Companies in Manchoukuo and Kwantung that the trade policy for 1943 aimed at increasing export of materials to Japan and restricting imports into Manchoukuo.

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[1] Ibid., p. 62.

[2] Ibid., p. 70.

"Marine products and fruits will be imported but not food and agricultural products or materials that would hinder trade."[1] A greater and greater volume of trade was being funneled through Dairen as goods from North China and Manchuria flowed through that port to Japan.

In 1942 the government proclaimed its General Outline of Manchoukuo's Policy, which mapped out the government's role in the economy for the next decade. In content, it spelled a greater participation of that authority in the economic life of the state. As the war progressed into the South Pacific, all industrial capacity was turned over to produce military goods for Japan and war. Japan pressured Manchuria to increase its exports of iron, steel, aluminum, aircraft, and agricultural products. In 1944, the American airforce bombed the iron and steel works at Anshan and the aircraft factory and arsenal at Mukden. The damage caused was severe and the government began to move the aircraft factory to Harbin and Kung-chuling, while the arsenal was moved to Lan-k'ang, Tung-sheng-yung (all in remote Sung-ch'ang Province). Production of important military goods naturally declined in the process of transfer. Another project undertaken was the construction of large tunnels in the Tiek-ling mountain to accommodate an underground aircraft factory.

In 1945 Ginjiro Fujiwara (formerly Japan's minister of commerce and industry) was assigned to formulate a program to increase airplane production in Manchoukuo. The plan he proposed entailed the transfer of factories in Japan to Manchoukuo. At the same time vital sections of machine factories in Manchoukuo. were gradually moved underground. Before these two plans could be coordinated the war ended. Some of the factory equipment that had been sent to Manchoukuo to man the intended underground shops was sunk by submarines, so that the scheme failed.

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[1] Ibid., p. 77.

CHAPTER IV

AGRICULTURE

> In brief, the basis for the various difficulties preventing the realization of the five year plan for Manchurian industrial development lay in the stagnating character of Manchurian agricultural production. The basic contradiction was that while Manchurian heavy industry was directly dependent upon agriculture for labor power, food, and raw materials, it attempted to expand production upon the continuation of stagnating conditions in agriculture.[1]

Before embarking on a comparison of Japanese plans to increase output and expand cultivation and how adequately these plans were realized, it would be wise to preface our remarks with some discussion of the general social and economic conditions in the Manchurian village that had evolved over the decade of the 1920's and through the 1930's to see some of the basic social relationships and problems that were rooted in Manchurian agrarian life. A better knowledge of these sets of conditions and problems will provide us with the understanding of the difficulties that confronted the Japanese in creating an agricultural program. We will conduct our analysis in the first portion of this chapter by discussing first the general trends of economic activity that took place in this region. That is, we will note why and to what extent the 1920's was a period of expansion with rising farm prices, a vigorous export trade, and considerable broadening of the cash crop sector, soy beans; and what the impact of the world depression was on the Manchurian village in the form of falling prices, extreme misery and poverty, slow and difficult market adjustment, etc. Then while prices later drifted upward and

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[1]Mantetsu Chōsabu Hen, Manshū Keizai Kenkyū Nempō, 1941. See Shimojo Hideo, "Manshu Nōsan Bukaku Kōteiseino Kenkyū", p. 3.

some recovery occurred, agricultural output, cultivation, and exports failed to increase for some time in accordance with Japanese planners' expectations. Within the broad framework of such basic economic indicators as prices, output, exports, etc., a more detailed discussion of dynamic change occurring in the village, taking into account different markets and disparate regional differences, will provide the technique of focusing on such problems as land tenure, agricultural labor, product distribution, technology, etc. This will constitute the basis for later discussion of matching plans with actual agricultural performance, the viability of economic control and related problems, and the possibility for expansion of agriculture in this region today.

1. Conditions in Manchurian Agriculture

The impression one receives from examining the data prior to 1931 is that the economy was in a phase of dynamic growth. All economic indicators show a rapid tempo of change, increasing productive capacity, widening of markets, and the ability of the economy to support greater population numbers with rising incomes. Some indications of this are as follows. There was an unprecedented surge in railroad construction, with about 2300 kilometers of new track added to the existing railroad plant, which represented about a fifty per cent increase over the system built before 1915. Conditions of unrest and misery in North China and the possibility of economic opportunity in the three Eastern Provinces forced a major exodus of people out of Shantung and Hopei. This net migration totaled 259,000 in 1924, increased to 843,000 in 1927, and tapered off in 1929 to only 445,000.[1] Expanding agriculture in

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[1]Waller Wynne, Jr., The Population of Manchuria, Bureau of the Census, U.S. Government Printing Office, Washington, 1958. p. 20.

which a cash crop sector flourished, permitted exports to rise and from 1921-1929 total exports of agricultural crops increased from 1.5 million tons to 3.7 million tons.[1] Of this trade, soy beans comprised the greatest share, and for this same period they increased from .8 million tons to 2.7 million tons.

These conditions of expansion were reflected by favorable farm prices, and though fluctuations occurred between 1922 and 1929 most farm prices were high and fairly stable. World depression in 1929-1930 brought prices tumbling and they remained low until 1935. In 1930, price indices for important cash crops such as soy bean and kaoliang fell, and by 1931 they were at rock bottom. It is interesting to compare price trends with changes in area under cultivation. In 1931, when prices for three major crops (soy bean, kaoliang, and millet) are lowest cultivated area is the greatest. Though prices pick up slightly in 1932 they do not really show a trend upwards until 1935. Meanwhile one does not note any sizable decline in cultivated area for soy beans until 1934 and for kaoliang and millet it is 1933.[2] This indicates the somewhat inelastic nature of supply, and it is certainly not strange. The prosperous decade of the 1920's promoted optimism and expectations of continuing firm farm prices. Several years of disastrously low prices probably did not dampen this notion, and it was only after three to four years of persistently low prices that farmers undertook to adjust to the current situation.

Periodic rains and poor harvests in 1934 and 1935 hampered planting, but

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[1] Manshū Nōgyō Yōran, pp. 821-822. See appendix for more detailed presentation of these exports.

[2] See appendix for data on cultivation and output of particular farm products.

by that period some semblance of social-political stability had been restored to the area, since the Japanese had reduced resistance to a token force and their vigorous campaign to crush 'bandits' was netting some success. The world market still proved to be an unreliable customer for the region's exports, but Japan and Germany sought to absorb most of the soy bean exports. Demand for food and fibers had picked up by the mid-1930's because of the large scale construction activities in transport and the cities, but such improved market conditions probably favored only certain locales and left many still in great difficulty. By 1935 a general price rise in agriculture was evident, and by 1937 greater investment demand, an expanding money supply and quasi-war time conditions stimulated further price rises. After 1938 price control was introduced, and between 1939 and 1940 some stabilization of the price level occurred, but in 1941 another leap in farm prices occurred. The following table indicates prices and price indices for three basic farm commodities which may be taken as representative of farm prices for this sector.

Table 13

Wholesale Prices and Indices for Three Specific Crops
(Average of 1921, 1922, 1923 = 100)

Year	Ann. Wholesale Price for 100 kin in Dairen			Price Indices		
	Soy Bean	Kaoliang	Millet	Soy Bean	Kaoliang	Millet
1920	7.24	5.14	7.76	137.6	195.4	192.0
1921	4.79	2.83	3.70	91.1	107.6	91.5
1922	5.51	2.62	3.43	104.7	99.5	84.9
1923	5.48	2.43	5.00	104.1	92.3	123.7
1924	6.95	3.63	7.13	133.4	139.1	176.4
1925	7.91	4.61	7.93	150.1	175.2	197.2
1926	6.34	3.71	6.31	120.5	141.0	156.4
1927	5.68	3.43	6.13	107.9	126.9	151.7
1928	6.15	3.52	6.21	116.9	133.8	153.7
1929	5.74	3.72	6.02	109.1	141.4	149.0
1930	4.22	2.73	3.73	80.2	103.8	92.3
1931	2.62	1.58	2.66	49.8	60.7	65.8
1932	4.20	2.23	3.69	79.8	84.7	91.4
1933	4.60	2.32	3.68	87.4	88.2	91.0
1934	3.46	2.55	3.80	67.5	60.5	60.9
1935	5.30	5.45	7.75	103.5	129.6	124.3
1936	6.61	4.62	7.42	129.1	109.9	119.3
1937	6.69	5.11	7.41	130.6	121.3	119.3
1938	6.25	5.53	7.75	122.1	128.9	124.3
1939	7.58	6.82	10.96	148.0	161.9	175.9
1940[a]	6.68	6.78	10.47	130.4	161.1	168.0
1941[a]	9.96	7.68	12.27	175.0	182.4	196.9

[a]Prices obtained for these two years were obtained by taking the price of terminal months for the respective years and deriving the average.

Source: Wholesale prices for years 1920-1933 were obtained from Mantetsu Keizai Chōsa Kaihen, Manshū Keizai Nempō, 1935, pp. 288-289. Wholesale prices for years 1934-1941 were obtained from Manshū Chūo Ginkō, Manshū Bukka Nempō, 1939, and Manshū Bukka Shirabe, 1940 and 1941. The price indices are simply price relatives or the ratio of the price at one time, the given price, to the price for a selected base year.

The trend in output expansion was dramatically reversed in 1929 when the soy bean trade faltered, war erupted, and market conditions deteriorated. Inelastic supply responses of farmers characterized the efforts of agriculturalists to adjust to new market conditions. Within these periods, changes must have taken place in the villages. The character and profundity of change of course differed according to region, location of markets, and opportunities for employment of agricultural labor. Our next task is to examine Manchurian agriculture on the basis of diverse regional conditions within the context of the broad movements of activity described above.

Our first region is that of the lower portion of Southern Manchuria which would include Southwest Jehol, Chinchow Province, Southern Mukden Province, Kwantung Province, and the southern sections of Antung Province. The farm households of this area are noted for their small scale and profuse number. To illustrate, in four villages in the four respective hsien (district) of Suichung, Feng Chien, Yingkow, and Liaoyang, between 50 and 75 farm households owned plots of less than 6.5 acres.[1] While these farms are larger than those of South and Central China, they are exceedingly small in comparison to western farmsteads. While most of the farmers owned their own holdings, the largest share of them were required to supplement their farm incomes with earnings from part time labor. Tenantry prevailed, but it was not rooted deeply or pervasively in the rural fabric as in areas to the north. In the four villages examined in the four hsien cited above, the amount of land farmed by tenants is only 17 per cent of total area farmed.

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[1]Suzuki Kobei, "Ichi Shiryō yori mitaru Manshū Kakuchi no Nōmin Bunka", Mantetsu Chōsa Geppō, Sept. 1935, p. 47.

Table 14

Tenant and Owner Cultivated Area in Four Villages in Four Hsien* (units in T'ien)**

Hsien and Village	Farmer Cult. Area	Tenant Cult. Area	Total	% Tenant
1. Suichung Hsien; Hou Ku Chia Tzu Village	108.7 T'ien	14.1	122.8	11.5
2. Yingkow Hsien; Shih Chiao Tzu Tsun Vill.	152.2	14.5	166.7	8.1
3. Feng Chien Hsien; Men Chai Pao Tzu Village	43.1	3.0	44.1	6.8
4. Liao Yang Hsien; Tung San Li Chusang Village	64.3	42.0	106.0	39.6
Total	368.3	73.6	439.6	16.7

*Suichung Hsien is right above Hopei Province next Jehol. 25 households were examined and this is assumed to comprise the village Hou Ku Chia Tzu. Yingkow Hsien is on the gulf of Chihli in southern Mukden Province. 29 households comprised the village of Shih Chiao Tzu Tsun. Feng Chien Hsien is in Antung Province northeast of Antung city. 16 households in Men Chai Pao Tzu village were examined. Liao Yang Hsien is in Mukden Province north of Yingkow along the Dairen to Mukden Railroad. 34 households were studied. Since this village lies closer to the broad central Manchurian plain where the cash crop soya bean thrives, this might be an explanation of why tenantry is much higher. Explanation of this will follow shortly.

**It is exceedingly difficult to grasp clearly the land unit system in Manchuria. The writer has relied on a study by the S.M.R. which provides information on the diverse land units used in North China and Manchuria. The following would be for the three provinces of Mukden (Liaoning), Kirin, and Heilungkiang. Source: Shomubu Chōsaka, Tōsanshō ni okeru Doryoko, 1927, pp. 14-15.

1. Mukden: 1 t'ien ( ) or Shang ( ) = 10 se ( ) = 5 tan 9 se 8 bu 4 go (Jap. units); Thus 1 t'ien ( ) is approximately 1.2 acres.
2. Kirin: 1 Shang ( ) is 8 tan 8 se 20 bu 6 go (Jap. land unit measurements); Thus 1 Shang is approximately 2.2 acres.
3. Heilungkiang: 1 Shang ( ) is 7 tan 1 se 4 bu (Jap. land measurement units); Thus 1 Shang is approximately 1.6 acres.

These land units, which differ according to province, probably were in use and remained in village land records until about 1935. It was then that all land measurements in Manchuria were standardized (as were all weights and measurements) and made correspondent to Japanese units and the metric system. For how this was done see Mantetsu Keizai Chōsakai, Manshūkoku Dōryoko Tōsei Hosaku, 1935, p. 101. According to this work, 1 t'ien ( ) or 1 shang ( ) was to equal 10 se or 1 tan according to Japanese land measurement. What the author has done is use the old land measures that were used until 1935, and then for all land surveys noted after that date, make the corresponding adjustment according to it, as the only feasible way to get some approximation of true land area. Source for the above: Suzuki Kobei, "Ichi Shiryō yori mitaru Manshū kakuchi no Nōmin Bunka", Mantetsu Chōsa Geppō, Sept. 1935, pp. 64-65.

Because this area was settled first by farmers from the mainland and farm units were closely linked to urban markets and means of transport, a solid basis for owner-cultivator farms had been created. The more established a rural community, the more receptive and accustomed to a money exchange economy, and nearness to market and availability of credit are the important factors by which villages can attune themselves to the vicissitudes of price movements. But this was probably not the entire reason why this region was marked by little tenantry and numerous owner-cultivator farms. The widespread employment opportunities for rural labor in this zone enabled the farmers to drift to the city, earn the necessary income, and return to the village again. The small scale holdings of farmers in this zone did not yield sufficient income to command enough resources to weather out many years of low farm prices. In an effort to maintain a constant level of total receipts, many farmers attempted to expand acreage or keep the same area under cultivation, which could only be done in this rural framework by incurring debt, most frequently at very high interest rates from Chinese money lenders and merchants or the wholesale houses called Liang Chan. In a study of 293 households in Kwantung Province in 1930, the results showed that from 70 to 90 per cent of the households were deeply in debt, the primary reason being need for credit to purchase more land and livestock. About 70 per cent of newly acquired debt consisted of these two purchases.[1]

What is indeed perplexing is that some Japanese economists should persist in blaming indebtedness on the system of land rents and tenantry. One such writer states that "the various reasons for indebtedness of Manchurian

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[1]Suzuki Kobei, "Ichi Shiryō yori mitaru Manshū Kakuchi no Nōmin Bunka", Mantetsu Chōsa Geppō, July 1935, p. 70.

farmers is not the direct result of a fall in the price of grain, poor techniques applicable to agriculture, or surplus population, but must be attributed to the traditional structure of Manchurian agricultural society."[1] But if tenantry is not a predominate feature of agricultural relations in this zone, and clearly it is not, the origins of indebtedness must rest elsewhere. Undoubtedly it is explained in part by the inadequate credit system in the countryside, but if it were not for this system of credit agricultural activity could not persist to the high degree that it did. Probably the inability of the average farmer to adjust to changing demand patterns, carry himself through the poor season of crop disasters and poor harvests, etc., must stem only from conditions where costs remain high relative to money income earned. The only real way such costs can be decreased is for the farmer to take advantage of economies of scale that might come through larger landholdings and introduce farm improvements such as better tools and equipment, seeds, fertilizers, etc., to increase his yield per unit of land. The smallness of land holdings, reliance on traditional techniques of farming, and the gradual long term spoilation of the soil, contributed to constant or perhaps even rising cost curves for the majority of owner-cultivators. But then the immediate question arises, how could these small land holdings persist. This can be explained in part by the employment opportunities for the small farmer that prevailed in the cities as well as the employment provided by large farmers. Industrialization had not developed fully and rapidly as yet in Manchuria; there was little chance of absorbing much of the folk from the countryside; yet as long as some modicum of employment opportunity remained open to these

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[1] Ibid., p. 76.

farmers, they would be able to continue their lot of small scale farming which consisted mostly of producing a mixed output of a cash crop (roughly 30 per cent of land devoted to this) and food crops.[1]

We must mention the investment behavior of the larger landowners and more wealthy farmers. It was normal behavior to plough back nearly 80 per cent of newly acquired accumulation of wealth in land and lease it to tenants. Absentee landlordism did exist in this southern zone but hardly to the extent it did in the northern areas. Despite the period of expansion of the 1920's, there was little indication that farmers took advantage of their gains by improving their homestead and raising yield per unit of land. When depression struck, nearly all farmers incurred deep debt. The inability to repay debt over time and the multiplication of debt from failure to pay interest installments forced many farmers to forfeit their land and contributed to a rise in tenancy. One needs to exercize care in pointing the finger on the exact cause of an increase in tenancy. In some instances it appears that rising debt in time of agricultural depression is a powerful factor, but other elements must be considered as well. A case in point is that of several villages which were examined in 1940 and 1941 in the district of Hsiao Ho Yen in Jehol where evidence was unearthed that seemed to reveal some farmers losing legal claim to their land and tenancy increasing; at the same time, other farmers persisted in remaining in the village despite their holding only small plots, and they could do this by virtue of earning incomes as part time agricultural or industrial workers. In the village of Ta chia where sixty-five households were studied, seven were tenants in 1939 and this number had increased to eleven by 1942. Correspondingly, the amount of tenant land increased from 696 se in

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[1] Op. cit., "Ichi Shiryō yori mitaru Manshū Kakuchi no Nōmin Bunka", pp.79-81.

1939 to 1,056 se in 1941.[1] The one important factor overlooked here is that population increased in this village over these same years from 347 in 1939 to 455 in 1940, so that a gradual movement upward undoubtedly occurred as some farmers became landlords and others part owners and tenants. Thus rural population increases could account for tenant increases since this was a very important device to absorb greater numbers into agriculture.

One of the great difficulties that confronts the analyst attempting to plot trends in land tenure and village structure is the lack of time series data for a single locale which cover a period long enough to study the changes that took place. Though the Japanese collected considerable information from their surveys of Chinese village land records, there was little effort to study a single locale over a long enough period of time to ascertain the social and economic forces at play. As a result the researcher is forced to rely on scattered bits of information usually collected at random for different locales at different moments of time, and from this to try to formulate satisfactory explanations to account for the pulsations of agrarian life. It is extremely difficult to say what conditions exactly were in the late 1930's and 1940's for the zone under consideration. No doubt the same mode of agricultural production continued and supported further population increases, but with the expanded employment opportunity offered by industrialization, it is

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[1] Furuta Dosohei, Suzuki Heihachi, and Wang Chi-En, "Nanman Ichi Nōson no Saikin no Dokyō", Mantetsu Chōsa Geppō, Sept. 1942, p. 75. This village was located near a large town and a railroad where there was ample employment for rural labor and powerful attraction of a money economy. We are given further support for the contention that the ability of Chinese farmers to become agricultural workers allowed them to continue as small farmers when these writers concluded from their study that "the link between the village and migratory movements is one which makes for the maintenance of very small scale farming." p. 113.

possible that tenantry ceased to grow. At any rate, little technological improvement took place and it is unlikely that such improvements could be introduced given the desires of those who possessed accumulations to put to work to earn interest and rents instead of considering farming an enterprise and heavily investing in order to improve productivity.

The second zone of our inquiry is that of the central plan area or the farming area of the upper half of Mukden and Kirin Provinces. This normally includes the southern portion of what is traditionally called North Manchuria and constitutes the northern half of South Manchuria. Here, as contrasted to the numerous small scale farm homesteads further south, we note that the majority of farmers, roughly sixty per cent, possess very little land at all and earn their livelihood by working as agricultural laborers. In four hsien, Hsi Feng Hsien, Li Shih Hsien, Huai Te Hsien, and Yung Chi Hsien, it was found after a series of village studies that about 40 per cent possessed virtually no land at all; another 40 per cent of the households farmed plots of 6.5 to 13 acres, while the remainder, made up of large landlords and farmers, farmed units of thirteen acres and over.[1] Tenantry was widely prevalent and was the main technique by which farmers still remained farmers and lived in the countryside. From an examination of five villages in five hsien, the following breakdown of owner-cultivator and tenant land is given.

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[1]Suzuki Kobei, "Chūbu Nanman ni okeru Nōmin Bunka", Mantetsu Chōsa Geppō, Oct. 1935, pp. 30-31.

Table 15

Tenant and Owner Cultivated Area in Five Villages in Five Hsien*

Hsien and Village	Farm Land	Tenant Land	% of Tenant Land of Total
1. Hsi Feng Hsien; Kung Ho Tsun Village	126.79 t'ien	201.25	61.4
2. Li Shih Hsien; Fu Yu Chuang Tsun Village	55.75	240.90	81.6
3. Yung Chi Hsien; Nan Huang Ti Village	28.60 shang	354.90	92.2
4. I T'ung Hsien; Ta Tzu Ying Tun Village	118.90	507.50	81.0
5. Huai Te Hsien; Locale of Kung Chu Ling	137.00	461.00	76.8
Total	467.04	1,765.55	79.2%

*1 t'ien = 1 Shang
1 Shang = 1.2 acres
In Hsi Feng Hsien, 23 households comprised the village examined. In Li Shih Hsien, the village totaled 16 households. In Yung Chi Hsien, 19 households were examined. In I T'ung Hsien, 48 villages made up the village, and in Huai Te Hsien, 19 households comprised the village. All of these five hsien are in the surrounding vicinity of Hsinkyo, which would place them in the center of the great Manchurian grain belt and thereby spliced by the main railroad line from Mukden to Hsinkyo. It will be noted that these surveys were completed in the early 1930's when the villages were just emerging from the depression and upheaval which had beset the region.
Source: Suzuki Kobei, "Chūbu Nanman ni okeru Nōmin Bunka", Mantetsu Chōsa Geppō, Oct. 1935, pp. 35-36.

This zone is noted for a high degree of tenantry for nearly eighty per cent of the land farmed was tenant land. The farm units are larger, but technically do not differ from those further south. Soy bean is widely grown and as a cash crop ranges from 40-66 per cent of the land under cultivation, with kaoliang and millet next in that order.[1] This is probably the most commercialized farm area in all Manchuria. Here the Liang Chan, the great wholesale houses, clustered in the countryside like great spider webs. When these

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[1] Ibid., p. 46.

organizations first made their appearance around the turn of the century they were used to collect grain acquisitions for the military. Later they developed into storage and distribution centers for all types of grain, but as time passed they tended to specialize in soy beans.[1] They were owned by Chinese mercantile capital, and often a single or several merchants could dominate and control a whole line of Liang Chan from the countryside to the city. Such diversity and extensiveness of ownership necessitated the hiring of local managers to watch operations so that ownership was frequently divorced from actual control. There were urban Liang Chan as well which handled foreign exchange, insurance, and banking matters.[2] While these institutions played a useful role in furthering the evolution of the soy bean trade, they often became a deterrent to the development of a capitalist type of agriculture by virtue of their monopsonist position, which they achieved in the distribution channels between countryside and town.

Individual farmers found they could not circumvent these powerful bodies if they desired to sell their grain elsewhere,[3] so many were denied the

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[1]Saito Yukio, "Jihengo ni okeru Liang Chan no Henkaku ni tsuite", Mantetsu Chōsa Geppō, March, 1936, p. 3.

[2]S.M.R. Co., "The Liang Chan, a Peculiar Institution in Agricultural Community", Contemporary Manchuria, II, 4, July, 1938, p. 50. While the Liang Chan were active with exporters in the cities, they operated largely in the countryside. In short, "the Liang Chan acts as a cash market for farmers or small dealers, and is an advanced market in the rural districts. At the same time, it is an assembling point where a large amount of goods are assembled. It is also a financing house since it pays cash to the farmers and local dealers, while again it is an intermediary between the farmers and the Yu Fang or exporters." p. 50.

[3]Op. cit., Saito Yukio, p. 5. The author states here that Japanese exporters of grain tried to approach the peasant directly to purchase grain before 1931 but could make no headway against the Liang Chan and were forced to give up. It was only after the 'Manchurian Incident' that the Liang Chan were reorganized, since much Chinese capital fled the region and the Japanese urged more consolidation to make their control easier.

economies of scale that other, more effective wholesale channels such as foreign buyers could have provided by offering higher prices than the Liang Chan. Farmers with higher incomes could then have expanded and improved their holdings. But in hard times, especially like those of the depression years, the Liang Chan were in a favorable position to take advantage of the farmer since farmers were under pressure to sell immediately rather than biding their time to await opportune prices. Such action usually resulted in obtaining credit from the Liang Chan to tide them over the winter and planting season. These grain brokers were in an excellent speculative position because they possessed the storage facilities which permitted them to engage in spot and futures buying.[1] The Liang Chan was not the only institution to take advantage of the individual farmer's poor credit and storage position, for all Chinese rural capital engaged in speculative buying, that is, buying purchases before the harvest or at harvest time, and then waiting for favorable prices to unload on the market.[2]

Tenant farmers, part owner and tenant farmers, and owner-cultivators were an enterprising lot in this zone. Commercialized agriculture had gained a sound footing in the period of expansion in the 1920's and most farmers were able to remain on in agriculture despite the harsh depression years. Though few possessed large holdings (nearly sixty per cent of households in this zone occupied very small plots, tenantry and urban as well as frequent agricultural

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[1]Watanabe Yuji, "Manshū ni Okeru Nōgyō Kyōka", Mantetsu Chōsa Geppō, June 1932, p. 15.

[2]Amano Motonosuke, "Shina Nōson ni okeru Shōgyō Shihon no Chōkarijun no Kakutoku ni tsuite", Tōa Keizai Kenkyū, Feb. 1942, pp. 37-52. Amano, in using Prof. Buck's figures for China mainland, places heavy emphasis on the ability of the Chinese merchant to buy early from the Chinese farmer and then sell when the price is right.

employment made it possible for most farmers to weather out difficult periods. Since landholders preferred to earn rent rather than allow land to remain idle, tenantry permitted the farmer to work larger plots, for the average size ran between 13-40 acres.[1] Many earned sufficient income despite harvest calamities, rising taxes, falling prices which marked the early 1930's to accumulate enough surplus over their rent payments to rent additional land to farm.[2] This zone too saw considerable mining and urban construction activity so not infrequently members of households could work as day laborers. Employment opportunity and labor mobility were the two important factors which made this possible.

Yet the character of production and technology employed did not differ from there confreres in the south or for that manner from previous generations which had tilled the soil. Land was farmed in the same way by rotating the crops in the traditional cycle of millet the first year, beans the second, barley or wheat the third, and millet again the fourth (of course with the greater accent on cash crops, more land would be devoted to soy beans but the cycle continued, though probably much slower as more land was allotted to cash crops). The method of planting and harvesting cereals had not seemed to improve at all since Sir Alexander Hosie observed Manchurian agriculture in Kirin in 1904 and made marginal notes on farming procedures which stressed the reliance on labor power and the farmer's helplessness in the face of sharp weather changes.

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[1] Op. cit., Suzuki Kobei, "Chubu Nanman ni Okeru Nomin Bunka", p. 33.

[2] Ibid., p. 39.

> When a field has been ploughed into drills in April, and their tops (millet) cut open by an iron coulter attached to the forepart of the plough, the seed is sown by hand in the hollows thus made, and covered with manure from baskets carried by a labourer following in the wake of the sower, and a stone roller is then passed over the drills. When the shoots are two or three inches high they are thinned by hoe - a space about a foot and a half being left between the plants - and the drills are carefully weeded and earthed up three times, after which no further labour is necessary until harvest time in September. In May, when the stems are two to three feet high, heavy rains are much dreaded, for if water stands for any length of time between the drills the roots loose their hold of the soil and rot, and the stems, especially if the rain is accompanied by wind, fall over and die. Towards harvest time, again, too much rain or too long drought is feared, for, in either case, the lower part of the grain head fails to ripen and only a partial crop is garnered. In September the stems have attained a height of from eight to ten feet and the heads have assumed that brown purple tint which is derived from the small dark purple cases containing the grains. Towards the end of the month the stems are cut down near the root, made into bundles and carted to the farmhouse, where a threshing floor has been prepared in the open.[1]

As age old techniques and methods were perpetuated, the soil gradually lost its fertility and the moment came when output from newly cultivated land barely offset the decline in yield from older, more intensively utilized (as well as depleted) land. The failure to innovate and apply new methods along with extensive farming is the product of tradition, but it is also a by-product of the desire for safe investment by Chinese landlords and merchants. Rents, interests, and profits from mercantile services never found their way into applications which would raise the yield per unit of land or per laborer. What became of these savings? Some filtered into land purchases; some was funneled into real estate, invested in distributing enterprises, and used to develop or expand money lending operations. All these efforts represent a transfer of savings through different channels to widen the existing

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[1]Sir Alexander Hosie, Manchuria, Its People, Resources and Recent History, Methuen & Co., 1904, pp. 174-175.

facilities of production and exchange to support larger population and bring more arable land under cultivation. Undoubtedly some dissaving took place in display of wealth, status, consumption, gifts to military, etc. Later in the period, mercantile profits and gains were hoarded rather than invested in projects the Japanese inspired. The Japanese military were annoyed and disappointed at their inability to absorb more Chinese capital into their long term industrial projects when they floated stock with guaranteed returns. Whether from patriotism or a reluctance to part with capital for long term, high risk investment, very little Chinese capital was mobilized after 1937 by the Japanese.[1]

For our final zone, the northern portion of Manchuria, the analysis will depend strongly upon the results found in K'o Shan Hsien in Peian Province. This district was studied intensively by Japanese scholars and can be considered a representative district for the northern zone. In this hsien, it was estimated that approximately 45 per cent of the land was owned by absentee landlords who lived outside the rural areas in cities.[2] Some idea of the distribution of land among households can be obtained from the following frequency

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[1]Mori Zuiichi, "Dochaku Shihon to Shikin Doin", Manshū Keizai Kenkyū Nempō, 1941, p. 351.

[2]Iwase Suteichi, "Hokuman no Tochi Shoyu Haibun to Fuson Jinushi", Mantetsu Chōsa Geppō, July, 1942, pp. 31-32. This information conflicts with that contained in a recent Russian translation from the Chinese titled, Istoriya Ekonomicheskogo Razvitiya Kitaya, 1840-1848 (History of Economic Development of China, 1840-1848), Moscow 1958. Table 168, p. 261. This table shows distribution of land according to class within the Chinese village. For some 52 districts in Heilungkiang, 14.3% were rich peasants possessing 52% of land; 42.8% were middle peasants possessing 39% of the land; poor peasants comprised the remainder of 42.9% and farmed only 9% of the land. No figures for landlords are available. What might have happened is that landlord data was combined with that for rich peasants. When this data is compared to the remainder of China , Heilungkiang boasts the largest percentage of rich and middle peasants with the exception of Szechuan Province.

table; this survey was undertaken in 1942 and covered a total of 1,145 households for this district. The data was obtained from land records.

Table 16

Distribution of Land According to Household for K'o Shan Hsien, 1942

Land Holdings	Number of Households	Cultivated Area	% of Households of Total	% of Cult. Area of Total
1. 0-5 Shang*	106	320.555 Shang	9.26	0.36
2. 5-10	111	927.888	9.69	1.07
3. 10-15	106	1,377.872	9.26	1.58
4. 15-20	77	1,395.062	6.72	1.60
5. 20-30	152	3,786.758	13.27	4.35
6. 30-50	205	8,580.894	17.96	9.86
7. 50-70	88	5,247.043	7.69	6.03
8. 70-100	129	11,148.976	11.27	12.81
9. 100-150	60	7,485.092	5.24	8.60
10. 150-200	45	7,812.326	3.93	8.97
11. 200-300	29	6,402.000	2.53	7.35
12. 300-500	16	5,957.474	1.40	6.84
13. 500-1,000	12	7,936.063	1.05	9.12
14. 1,000 and above	9	18,671.605	0.79	21.45
Total	1,145	86,150.208	100.00	100.00

*1 Shang = 10 se or roughly 0.245 acres after 1935.
Source: Iwase Suteichi, "Hokuman no Tochi Shoyu Haibun to Fuson Jinushi", Mantetsu Chōsa Geppō, June, 1942. p. 31.

From the above we have a situation where roughly seventy-five per cent of the households tilled only nineteen per cent of the cultivated land and the land holdings would be in the vicinity of 0-12 acres. On the other end of the spectrum two per cent of the households operated thirty per cent of the land and had holdings in the area of 245 acres and above. These larger scale farms were the natural result of opening up new lands by farmers migrating from North China into these remote, sparsely populated areas, and since the land was legally claimed by Manchus, Chinese merchants, bureaucrats, and military personnel, the farmers leased it from these groups in large tracts; this procedure went on at a rapid pace during the 1920's when a flood of migrants

poured into Harbin and adjacent rural communities seeking employment and farming opportunity. Individual owner-cultivator farm units were very much larger than those in the middle and southern zones, but on the other hand the farmer was confronted with greater uncertainty in farming conditions in North Manchuria. Nearly all had contracted heavy debts to the landlord or merchant for credit to rent land to commence farming. With such a heavy debt burden to discharge, many sought employment in railroad construction, etc., during the 1930's when hard times came. While those who owned the land actually provided a service by renting it out and thereby making for an extension of the margin of cultivation in Manchuria, greater advances in agriculture would have been scored if they had taken steps to insure that productivity increases accompanied this new cultivation.

It is not surprising to find in this zone a preponderance of rural agricultural labor, since the brief span of eight years when movement of farmers into the north was especially great did not allow for their adequate absorption into agriculture; in order to earn a livelihood they were compelled to work as agricultural laborers. There were three particular types of such workers: day laborers, monthly laborers, and annual laborers.[1] Annual laborers lived with the owner-cultivator and his family and received payment part in cash and part in kind from the harvest. The popular arrangement for the latter payment was to decide on the amount of harvest share before the worker was hired. The cash wages of these annual workers closely followed movements in prices of important grain crops such as kaoliang and soy beans. As prices for these grains rose during the latter years of the 1930's, wages rose

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[1]Hori Tsuneo (ed.) Manshūkoku Keizai no Kenkyū, Nihon Hyoron Sha, 1942. pp. 173-202.

several hundred per cent over a period of four years.[1] This would indicate a severe shortage of farm labor during the critical planting and harvest seasons. It seems this actually occurred in various parts of Manchuria where heavy construction under the Japanese took place. The siphoning away of young men from the villages left them short handed and encouraged a wage rise that frequently outstripped general farm prices. It must be understood that this only occurred in specific locales and cannot be considered a general phenomenon. The monthly laborers functioned as seasonal workers who were employed by farmers and tenants during planting and harvest periods. Day laborers were usually contracted at the busiest times of planting and harvest when a temporary labor shortage might occur. These workers were for the most part women and children. The work day of these day and monthly laborers was long: during the peak season the norm was from thirteen to sixteen hours a day; when ordinary employment standards were maintained, a ten to twelve hour day was the average.

In most villages in the north and near towns there was some established commonly recognized labor market where village labor could find work and where labor might be contracted to work for indefinite periods of time. By far the most important of these markets existed in or near the village itself in the immediate vicinity of the agricultural workers' homes, but it was not infrequent to find labor moving from distant provinces and clustering in the hsien labor markets of the north. According to a study of 336 households who owned land in K'o Shan Hsien, it was found that the labor employed came from a number of different areas: 35.4 per cent were from Lungkiang Province, which

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[1]Ishida Seiichi, "Hokuman ni okeru Kōnō no Seishitsu", Manshū Keizai Kenkyū Nempō, 1941, p. 180.

is nearby to Peian Province; 25.6 per cent came from Pinkiang and Kirin Provinces in the south, and 15.8 per cent had moved into K'o Shan Hsien from areas in South Manchuria; 19 per cent came directly from North China, and 4.2 per cent came from other parts of Manchuria.[1] Thus, great mobility characterized these workers of the north. There were no restrictions upon entering this work force, and Chinese farmers demonstrated an ability to move large distances to seek new employment.

2. Japanese Agrarian Planning, Control, and Performance in Manchuria

Between 1932 and 1937 agricultural policy was vague, and no concrete proposals to grapple with rural depression by lowering tenant rents, providing cheap credit, introducing land reform, or favoring new farm improvements were carried out. The authorities did conduct a land survey to examine all holdings and titles, but the rationale for this was to eliminate any evasion of the new regime's land tax, and if possible to see about the possibility of increasing this tax since revenue was vitally needed for financing other types of construction. Besides land surveys, the government confiscated estates of numerous Chinese military officers and officials and transferred the land to organizations undertaking settlement of Japanese and Korean farmers in Manchoukuo. Land was forcibly expropriated from wealthy farmers and given freely to Japanese settlers who in this early period were selected from reservists in the army. In October of 1932, Chinese tenants were evicted in a wholesale fashion in Chi Chio-Tun in Chia-Mo-Sze as the Japanese extended new

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[1] Ibid., pp. 193-194.

leases to Korean farmers.[1]

The first concrete agricultural program came with ambitious colonization schemes in which Japanese farmers in Japan as well as those retiring from the Kwantung Army and Korean settlers were to be transplanted into Manchuria. They hoped to solve two pressing problems by this technique: (1) to alleviate population pressure in Japan; (2) to increase Manchoukuo's agricultural output. The existing land tenure system was to be left intact, and there was no program formulated to reduce tenant rents. The reason for this was not to touch those large landowning interests for fear of alienating their Chinese collaborators.[2]

In 1932, before Manchuria was "pacified", the department of Colonial Affairs in Tokyo drew up a ten year plan for settling 100,000 Japanese farm families in Manchuria. The ideas embodied in this program were to be able to send Japanese families into Manchuria and immediately have them acquire a self-sufficient and economically independent basis. They would be subsidized (approximately $271 U.S. dollars) and would be provided with such facilities as hospitals, barracks, baths, schools, farm experts, etc.[3] But from 1932-1936 only 2,785 Japanese farm families settled in Manchuria under the auspices of

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[1] Institute of Pacific Relations, Agrarian China. London: G. Allen & Unwin, 1939. p. 220. See the article by Yeh, Min, "The Livelihood of the Toiling Masses in the North-east", Chung-Kuo Nung-Ts'un, Vol. 2, No. 5, May 1936. Shanghai.

[2] Op. Cit., F. C. Jones, p. 172.

[3] W.I. Ladejinsky, "Manchurian Agriculture Under Japanese Control", Foreign Agriculture (U.S. Dept. of Agriculture), Vol. 5, No. 8, August 1941, p. 319. This is one of the best discussions of early Japanese agricultural policy and control to have appeared in the West, and much of what follows is derived from this study.

the Ministry of Overseas Affairs. Meanwhile another 1,138 households were settled on land owned by the S.M.R. in which each household received seven acres of land, housing, agricultural implements, seed, and a cash subsistence allowance of 1,320 yen ($356) in the course of five years. In total, then, the Japanese settled 3,923 households. Despite the slow progress of colonization, those in charge were not daunted, and upon further investigation were convinced that successes had been achieved and the program need only be stepped up. Net profit of 133 yen per household ($36) on the average was obtained by these new settlers and was indeed small in relation to the original investments, but when compared with farmsteads of similar size in Japan it was held that greater opportunity prevailed in Manchuria than in Japan to offset indebtedness.

In 1935 the Manchurian Colonial Development Company, with a capital of 15 million yen ($4,305,000) was set up and enlarged in 1937 to 50 million yen ($14,350,000).[1] The expansion was the result of a new program which envisaged the settling of a million Japanese farm families in Manchuria within twenty years. It was the company's task to direct the transplanting of nearly one-fifth of Japan's farm population in four five-year periods. The homesteads selected were for the most part from impoverished, densely populated regions in Japan. These groups were expected to comprise the core of settlement in Manchuria for purposes of railway protection, forestry and tobacco development, and to make available free youth-volunteers. Immigrant subsidies were 1,000 yen ($287), which need not be repaid; the Manchurian Colonial Development Company advanced an additional 1,900 yen ($545) minus the price of their

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[1] Ibid., p. 320.

land at cost. Every family received a standard land area of 25 acres of arable land and 12 acres of forest and grazing land. This involved some difficulty in land selection since these communities lay at the border between inhabited and uninhabited areas, and this required "adjustments" on the part of indigenous farmers. In most instances where these communities sprang up, land was acquired by forcing the native farmers to sell at very low prices. In 1939, 13,000 such families were transferred to make way for colonization communities, and 21,000 were moved in 1940. The immigrant farmers received permanent tenancy as a guarantee against dispossession and title of ownership was vested in the state. Once settled, the immigrants were to constitute, as one writer stated, "a stabilizing social factor, a dependable bulwark against internal revolt or alien aggression. They will function as the core, around which to build up the expanding economy and administration of the new Empire."[1]

Partly because of the China "incident" in 1937 and partly because of the unwillingness of the Japanese to migrate to Manchuria, the number of immigrants was below the expected figure. By November 1940 there were only 17,949 households making up a population of 50,564 which tilled 72,920 hectares of land.[2] Yet the Japanese continued their efforts on the basis of results achieved since 1937. On January 6, 1942, Agriculture and Forestry Minister Hiroya Ino submitted a plan for a second five year land development plan (1942-1947). This plan called for sending 220,000 farm families from Japan to Manchoukuo in the next five years. For the first year of the plan which ended March 31, 1942, Japan did send 80,000 families, but this number was 20,000

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[1] Inoue Sonoshin, "Japanese Immigration to Manchoukuo", Manchuria, Feb. 1, 1940, p. 15.

2. Op. Cit., Manchoukuo Year Book, 1942, p. 413.

families less than the original plan.[1] But again achievements did not match original expectations, for early in 1944 the Manchoukuo Land Development Corporation wad dissolved on the basis of not being able "to prosecute the Emergency Agricultural Land Increase Plan" which called for increases in land under cultivation by colonists.[2] Yet from all appearances colonization was not abandoned even to the end of the war, for a decision was reached in 1944 to establish a new Manchoukuo Land Development Company with an investment of both Japan and Manchoukuo on a 50-50 basis.[3]

The difficulties in fulfilling these ambitious schemes were great. Colonists were expected to settle the remote, uninhabited areas of the north which were just being opened up by new railroads. In addition, alkaline soils of North Manchuria and the necessity of large outlays of capital had to be contended with. The regions of North Manchuria are similar in some respects to Hokkaido, and in this regard it may be noted that the Japanese had never demonstrated great enthusiasm for migrating to this undeveloped island, largely because of the severities of climate. Historically, migrations of people have been the result of push and pull forces which operated on the one hand to encourage movement to an area where economic and social opportunity abounded, and on the other hand served to reject areas where traditional settlement proved unbearable and exceedingly difficult to continue. The absence of such conditions made it unlikely that large migrations would depart Japan for the

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[1] Ibid., pp. 417-418.

[2] Office of Strategic Services, Programs of Japan in Manchoukuo, Honolulu, April 30, 1945, p. 87.

[3] Ibid.

North-east China mainland because the settlers were moving to a country with a lower standard of living than that which they were departing. Though more opportunity prevailed in Manchuria, the investment required had to be large to carry out such a project, since it entailed considerable capital tied up for a long period of time before returns were forthcoming. Land-hungry as the Japanese farmer might have been, it required considerable funds and an appeal to him on patriotic grounds to heed the call of empire building before he decided to leave his familiar surroundings for a strange land.

Now with the launching of the five year plan in 1937 a new stage in agricultural planning began. The Japanese planners became very much concerned with the functioning of this sector and with its ability to provide more produce. The demands of war meant more food and fibers were needed to maintain an ever expanding labor force but to release labor from farms for urban industrial employment without a decline in farm output. War with China had brought the yen bloc into existence, making Japan all the more dependent on Manchuria. The course was now one of devising a system of controls to extract a larger share of Manchuria's agricultural output as well as creating conditions conducive to expanding this output.

The year 1938 was the inception of a number of control policies by which through price control and bulk purchases the state was to maintain "smooth supply and distribution of important cereals and the correct price thereof."[1] A series of companies with monopoly rights were to undertake price setting, assure an adequate supply of grains, and properly distribute this supply according to the needs of the regime. The following are the companies established for this purpose and their specific tasks.

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[1]Op. cit., W. I. Ladejinsky, p. 325.

Table 17

Monopoly Companies Established to Purchase Agricultural Crops

	Company	Function
1.	Manchuria Cereals Co., Est. Dec. 1938; capitalized at 30 million yen ($8,520,000).	Controls marketing, distribution and exports of pure, adulterated or processed rice, kaoliang, millet and corn. The company also acts as a government agent for purchasing other miscellaneous cereals.
2.	Manchuria Cereal Flour Co., est. Dec. 1939; capitalized at 10 million yen ($2,590,000)	Controls marketing of wheat, distribution of wheat for manufacture, redistribution, and imports of wheat flour, kaoliang, and corn flour to use as wheat-flour substitute.
3.	Manchuria Staple Produce Co., est. Dec. 1939; capitalized at 30 million yen ($7,770,000)	Controls marketing, distribution, manufacture and export of soy beans, bean cakes, bean oil and other oil bearing seeds such as perilla seed, sesame seed, hemp seed and linseed. Also designated as distributor and exporter of peanuts on behalf of Kwantung Government.
4.	Manchuria Leaf Tobacco Co., est. Dec. 1938; capitalized at 10 million yen ($2,840,000)	Controls planting, marketing, distribution and importation of leaf tobacco (principally flue-cured tobacco).
5.	Manchuria Forestry Co.	Controls forestry and distribution of timber and lumber.
6.	Manchuria Livestock Co.	Controls livestock products; also served as purchasing agent for hides, leather.
7.	Manchuria Cotton Co., est. April 1934; capitalized at 10 million yen ($2,970,000)	Controlled marketing of raw cotton.

Source: Owen L. Dawson, "Developments in Agricultural Policy and Programs for the Japanese Empire Occupied Areas in China and 'Manchoukuo' during the Year 1940", Report by American Agricultural Attache, Shanghai, April 3, 1941. p. 56.

How did these control agencies fix prices? Prior to 1941, the buying prices for agricultural products were determined by the prices paid for products delivered to wharves or railway stations. Thus prices at the seaports (Dairen, Yingkow, Antung, and Rajin) were taken as a basis and deductions were made for transportation costs to determine the prices at railways or inland river wharves.[1] The price became lower the farther away the products were delivered from the seaports until at 1,200 kilometers away transportation costs became so high as to equal the full maximum price. Later (1941), this was abolished and price fixing was conducted so that crops produced in the northern areas commanded highest prices, central plains area received still lower prices, and the southern sections received the lowest prices. At first the control agencies purchased directly either from grain brokers (usually Liang Chan) or from the few cooperatives managed by the Japanese themselves. When the control agencies sold foodstuffs, etc., to other groups they did so at a higher price. In 1944, 100 kilograms of soy beans south of Hsinkyo were purchased for 19.51 yuan and sold for 22.98 yuan or a mark-up of 3.47 yuan.[2] Rice on the other hand might be purchased in similar amounts for 24.20 yuan and sold for 29.30 yuan or a difference of 5.10 yuan. The mark-up was usually for purposes of covering fixed charges for storage, insurance, and shipping.

When the new policy of fixing agricultural prices was introduced in November of 1939 it was too late to be effective in harnessing the planned marketable surplus the planners desired. Most farmers had already harvested

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[1] Op. cit., TPCCHTS, Vol. III (Part 2), Distribution of Farm Products in Northeast China, p. 200.

[2] Ibid., Table 183.

their crops, the bulk of which had now passed to the middlemen. Rather than relinquish this to the control agencies at fixed, low prices, they stored it themselves or passed it onto the free markets (of which there were still a few), the black markets, or smuggled it out of the region. All farm products were not included under the new purchasing system, so that one found farmers shifting from soy bean production (fixed prices) to, say, yellow beans (free prices). Furthermore, many bean oil and bean cake mills were not fully controlled and could be supplied to the free market.

The control agencies attempted to correct this situation in early 1940. All agricultural produce was included under the scheme of being sold at fixed prices and free agricultural markets were eliminated. Local agencies were established to serve as liaison between the few large purchasing agencies and grain distributors. It was also decreed that produce could now only be traded at trading centers of cooperatives or at pre-determined market places and at specific times. Firms processing agricultural crops were to sell their products directly to the state agencies. The railroad system was mobilized to police shipments of grain, and only authorized items could be transported.[1]

Since 1937, the Japanese had encountered great difficulty in siphoning off sufficient agricultural surpluses that the plan called for. While it is not easy to measure this, evidence shows that from 1937 to 1940 grain surpluses available for state markets and shipped from countryside to storage and distribution plants declined from 7,033,766 tons in 1939 to 5,038,185 tons

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[1]For obstructing the state's fixed price purchase program offenders were to be harshly punished. Those caught importing or exporting illegally shipments of produce could receive penal servitude of less than one year and a fine not exceeding 100,000 yen ($23,400) to five years and a 30,000 yen fine ($11,700). See W. I. Ladejinsky, op. cit., p. 335.

in 1940 to 4,265,042 tons in 1942.[1] The decline of soy beans, kaoliang, millet, wheat, and corn can be better seen from the following table showing the farm output available to Japanese planners after a portion has been retained for purposes of rural consumption.

Table 18

Output Available to Japanese Planners After Rural Consumption (tons)

Year	Soy Beans	Corn	Kaoliang	Millet	Wheat	Unhulled Rice	Other Cereals
1937	3,186,789	325,110	269,178	306,859	714	52,157	81,348
1938	3,394,569	561,066	541,995	222,495	(-)*	15,349	183,008
1939	2,239,720	400,243	168,268	203,388	(-)*	-18,862	216,753
1940	1,606,677	328,591	178,759	108,514	(-)*	33,336	135,180

*Denotes that no surpluses were available and that the region was required to import to meet its needs.

Source: Minami Manshū Tetsudo Kabushiki Kaisha, Sōgō Chōsa Hōkoku Sho, 1941, pp. 98-103. Secret.

During this same period, prices of consumer goods, marketed manufactured goods, and imports rose relatively faster than farm prices, which were now fairly stabilized. It became more difficult for the farmer to command the same quantity of goods with receipts from his farm sales because of the disparity in relative price increases between those goods he disposed to the purchasing monopolies and those he purchased which were vital for future production. This discouraged farmers from supplying more to the market, encouraged hoarding, and reverting to production of subsistence crops. What occurred from 1938 on was a deterioration in the terms of trade between city

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[1]Minami Manshū Tetsudo Kabushiki Kaisha, Manshū Keizai Tōkei Kihō, Aug. 1943, p. 46. Secret.

and countryside. It is very difficult to establish a general terms of trade index for all of Manchuria from the prices compiled by the Central Bank of Manchuria because of the peculiar way prices were grouped and because prices were not always available for commodities farmers used as inputs for further production on the farm; I have taken the liberty of using the calculations of one Japanese economist who compiled a terms of trade index for an entire hsien north of Harbin in North Manchuria. This hsien can be considered fairly representative of what took place in the north because agriculture was commercialized and linked to markets by railway lines. It possibly shows, too, that the terms of trade for farmers in the north were more unfavorable than for those in the south because the north sold at lower prices than did the central and southern zones (until 1941). The anxiety manifested by economists and planners over the general decrease in marketable farm surplus indicates this phenomena to be prevalent for the entire area. This index was compiled by first computing the prices for farm output shipped from this district to market (output consisted of soy beans, kaoliang, and millet) and matching this with a price index for inputs used on the farms (seeds, fertilizers, hired labor, consumption necessities) which was compiled from household budget data. The result was as follows in Table 19.

Table 19

Terms of Trade Index Derived from Price Index for Farm Output and Price Index for Farm Inputs for Years 1935-1939 for K'o Shan Hsien in Peian Province*

Year	A Price Index for Farm Output	B Price Index for Farm Inputs	C = A/B Agric. Terms of Trade
1935	100.0**	100.0	100.0
1936	150.8	132.6	113.7
1937	170.7	146.6	116.4
1938	159.9	173.7	92.0
1939	180.1	225.3	79.9

*It is seen that after 1937 the denominator of the fraction rises faster relative to the numerator of the fraction, which means that the index of farm prices was rising less than the prices of imported goods and services from the cities. Any value below 100.0 means that the terms of exchange become more unfavorable to the farmer-cultivators.

**1935 = 100.0, the base year.

Source: Mantetsu Chōsa Buhen, Manshū Keizai Kenkyū Nempō, 1941, p. 47.

Deteriorating terms of exchange, of course, encouraged a further withdrawal from market activity. As one Japanese economist noted, "The farmers restrict production of commercial crops when they cannot realize a fair price for their produce, and try to realize higher prices by black market techniques. If they cannot resort to the black market, it seems they return more and more to a barter economy and produce only those necessities for household consumption. It is impossible to prevent this by punishment."[1]

In response to this serious situation, Japanese planners sought a remedy in further tightening of controls with the enactment of the Law of Agricultural Promotion Cooperative Societies in March of 1940. This system was put into effect a month later, when the existing rural loan cooperatives and financing

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[1]Mantetsu Chōsa Buhen, Manshū Keizai Kenkyū Nempō, 1941, p. 51.

societies were dissolved and their assets and liabilities taken over by new cooperatives. According to Article 10 of the cooperative law, "the purpose of the cooperatives shall be to improve and promote agriculture by joint effort of members and to further the prosperity of the latter."[1] This was to be achieved by lending money, retaining any surplus in the form of savings, selling the crop, collective buying of farm necessities, and common use of warehousing facilities. Through the cooperatives, it was hoped, farmers would have an incentive to produce and supply more of what the state required. But membership was restricted only to independent farmers and landlords, and to carry on the business of the cooperatives on a national scale the fund contributed amounted only to thirty million yen ($7,020,000) furnished by the government. Members were not permitted to buy shares and make investment and accumulate interest on the property of the cooperatives. As to the savings of farmers within these cooperatives, one fifth had to be put into a reserve fund controlled by the government. These savings were then turned over to the Central Bank of Manchuria in the form of deposits from which the government could obtain current cash or be used for purchase of government bonds. It was the business of the cooperatives to induce the farmers to sell the 1940 crop without recourse to more extreme measures than afforded by existing legal statutes. One commentator stated that "farmers will be forced by circumstances and by police and Concordia Society agents to join the cooperatives and deliver their harvests to them and will have no alternative but

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[1] Op. cit., W. I. Ladejinsky, p. 332.

to accept the price the government pays them."[1] Despite appeals and threats these cooperatives did not expand rapidly, for by July 1943 it was admitted that only 4,277,627 farmers belonged to the Agricultural Cooperative Association.[2] An estimate of rural population in 1943 places the number around 32,595,000.[3]

It did not take the Japanese long to realize what was going on and that tough administrative strictures and controls alone would not do the trick of encouraging the farmer to part with more of his output at stabilized prices. In 1941 a committee for investigation of farm production and consumption was established with the objective of determining what actual consumption requirements were and what stocks could be sold. The only snag was to induce the farmers to part with these stocks. To encourage stock sales, "the government set a monthly quota of necessaries for each hsien or banner and changed the quota in relation to the volume of farm crops marketed. Ration cards were to be issued to the farmers and villagers. In other words, if the farmer did not sell his crops on the produce exchange at official prices, he could not buy such manufactured goods as kerosene, cloth, and matches."[4] The type of exchange rates set were 15 yards of cloth, 2 bundles of cotton, one pair of socks, and 2 towels for one ton of agricultural produce purchased at official prices.[5] This measure was successful only as long as consumer goods

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[1] Ibid., p. 33.

[2] Op. cit., Office of Strategic Services, p. 85.

[3] Op. cit., TCPPHTS, Vol. 3, p. 111, Table 3.

[4] John R. Stewart, "Monopoly Control of Agriculture in Manchuria", Far Eastern Survey, April 21, 1941, p. 78.

[5] Op. cit., TPCCHTS, Vol. 3, Part 2.

supplies were sufficient to ration in large amounts to the rural populace in exchange for produce.

At the same time rationing was introduced into the planned purchase scheme, a system of village collective shipments was adopted where the village head was advanced so much cash during planting time, and he and the village were to make good a certain quota for shipment to market at harvest time. Village produce had to be shipped collectively and at specified times. Villages that had already shipped their goods were supposed to assist other villages to make their shipments ready. Traditionally, tenants paid their annual rents in kind to the landlords according to amounts previously agreed upon. In order to prevent stocking and hoarding by landlords the Japanese stipulated in 1942 that all tenant rents would be converted to money payments in those cases where landlords lived outside of the village. The final technique the Japanese employed was quite realistic and considered the importance of economic incentives; bonuses were paid for deliveries within certain specified periods. Premiums, which were supposed to effect speedier delivery of crops, ranged from ten to twenty per cent of the official price dependent upon product and time of delivery. It was paid directly to the farmers when the crops reached the designated marketing organizations. In effect, this was merely an advance over the official prices, but it was introduced in the hopes of preventing hoarding.

In 1941-1942, the bonus system underwent further changes when instead of being based on time and actual deliveries, payment was made prior to the harvest of 1 yen for every 200 pounds which the farmers contracted to produce and deliver to the monopoly. The volume was fixed on the basis of findings made by the so-called "crop production and sales urging corp" whose job it

was to travel the villages around planting time and investigate production conditions. This became known as the advanced cash-payment system. From their reports, pre-production marketing quotas were assigned to each village which assumed the responsibility of delivery quota at a specified market within a given time. The delivered volume and bonus were adjusted later according to the harvest. In 1941, the government appropriated 75 million yen ($23,575,000) for the payment of bonuses on 8,268,250 short tons of farm produce.

Bonus payments brought an upward revision of prices, and it was probably these expenditures which accounted for the sudden price rise for cereals for the years 1940-1941 when the indices for soy beans rose from 130.4 to 175.0, kaoliang from 161.1 to 182.4 and millet from 168.0 to 196.9.[1] Since these goods were exported to Japan, how was this price rise tolerated? Actually, the export price of bean cake remained the same even though a bonus of twenty-five per cent was added to official soy bean prices. The purpose in fixing export prices was that an increase in the price of bean cake, an important fertilizer in the Japanese countryside, would have raised the price of rice and created pricing problems. The difference in prices which producers in Manchuria received and which consumers in Japan paid was made good by an additional Manchoukuo government appropriation of 5.5 million yen ($1,289,000) which was made good from tax receipts.[2]

In 1941 the Japanese had a little more success in obtaining the amount of planned purchases than for the preceding year. The chief difficulties which still plagued them in their attempts to have the planned purchase

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[1] *Cf.* table on prices earlier in this chapter.

[2] *Op. cit.*, W. I. Ladejinsky, p. 337.

control scheme function smoothly was the shortage and inexperience of personnel of the "crop production and sales urging corp". After rationing commenced in 1940 and controls moved to the village level in order to circumvent the grain brokers, the Japanese later achieved nearly ninety per cent of what they expected to acquire in planned purchases for 1942, an amount totaling around 6 million tons of produce.[1] For 1943 and 1944 the control scheme functioned fairly smoothly, and because harvests for those two years were the largest under the Japanese occupation, the amount acquired from planned purchases were 7.6 million tons in 1943 and 8.9 million tons in 1944. Two factors accounted for success in these final two years of operation: (1) The experience the Japanese acquired in introducing their fixed price-planned farm produce purchases was readily utilized. They adjusted controls to contend with current difficulties and devised an incentive program that obviated some of the onerous features of the fixed price purchase policy. (2) Harvests between the years 1939 and 1944 were quite good with the exception of 1942. As controls improved, then, slightly larger amounts of produce could be extracted by the state.

If one looks over the period of price and market controls in agriculture it is plain to see that such a program in no way disturbed production relationships. Though some cooperatives appeared, their number was small and their impact negligible. Rather than devote attention to productivity matters all administrative efforts were oriented toward perfecting controls over distribution channels. Rural loan associations had been set up, but the credit they were capable of providing was exceedingly small. The various technical

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[1] Op. cit., TPCCHTS, Vol. III, Part 2.

centers built throughout the area had not been permitted enough time to communicate new arts and knowledge to farmers. In passing judgment on agrarian policy after 1937, it is apparent that while severe difficulties were encountered in the crucial late years of the first five year plan when farm surpluses declined, better policing and enforcement of administration achieved considerable success in the early 1940's. At least, for a couple of years, the Japanese obtained the planned surpluses they were striving for. What would have happened if this system had continued without war is quite open to conjecture. Certainly the problem of productivity would have had to be tackled and until this was solved little output expansion would take place.

How well did control and planning of resource allocation and use enable the agricultural portion of the first five year plan to be fulfilled? Data have been mustered to match actual output with planned output as projected in the revised plan. Following the table for output increase is another showing changes in cultivation which unfortunately is confined to cereals and omits important commercial crops such as perilla, flax, hemp, peanuts, tobacco, which received a lot of attention from the Japanese. The final table shows the performance of the sector from 1942-1945. A table of aggregate output and aggregate cultivated areas completes the data.

Table 20

Comparison of Revised Five Year Plan for Agricultural Output
With Actual Performance

Crops (metric tons)	1937[a]	1938	1939	1940	1941
1. Rice (includes upland and wet.)					
Plan*	478,748	1,199,400	526,774	584,370	664,835
Performance	689,335	749,902	829,731	708,595	825,585
2. Soya Beans					
Plan	4,225,000	4,500,000	4,650,000	4,800,000	5,000,000
Performance	4,352,475	4,612,305	4,014,008	3,430,935	3,486,313
3. Kaoliang					
Plan	4,263,000	4,383,000	4,396,000	4,566,000	4,706,000
Performance	4,314,694	4,679,941	4,443,076	4,942,889	5,000,198
4. Millet					
Plan	3,520,000	3,500,000	3,650,000	3,770,000	3,920,000
Performance	3,226,131	3,133,855	3,041,622	3,777,226	3,713,231
5. Corn					
Plan	2,127,000	2,235,000	2,300,000	2,400,000	2,620,000
Performance	2,239,623	2,400,244	2,333,357	2,821,894	3,228,058
6. Wheat					
Plan	1,077,475	1,199,400	1,357,500	1,576,100	1,787,000
Performance	1,125,951	976,323	892,413	776,593	842,001
7. Sugar Beet					
Plan	135,503	194,400	247,000	280,000	300,000
Performance	135,503	183,586	241,841	347,569	
8. Peanuts					
Plan	84,500	85,200	105,300	127,400	144,000
Performance	84,500			30,296	
9. Cotton					
Plan	19,649	22,075	28,558	39,759	44,705
Performance	19,649	14,917	68,840	80,009	98,245**
10. Flax					
Plan	20,284	37,454	56,000	37,000	40,000
Performance	20,284	29,056	48,657	54,769	
11. Tobacco					
Plan	3,192	5,676	9,900	13,200	17,160
Performance	3,158	6,266	17,062	29,377	
12. Perilla seeds					
Plan	122,571	100,000	140,000	170,000	200,000
Performance		111,337	65,402	46,520	

a. For years 1937-1941 output data is from Minami Manshū Tetsudo Kabushiki Kaisha, Sōgō Chōsa Hōkoku Sho, 1941, p. 94. Secret. This is for soya beans, wheat, kaoliang, millet, corn, rice. 1937 output for tobacco, peanuts, sugar beets is from Mantetsu Chōsa Bu, Manshū Sangyō Kaihatsu Gokanen Keikaku Jiseki no Kentō narabi ni Senji Tōsei Keizai no Dōkyō, 1939. Top Secret. Cotton and Perilla seed output for years indicated is from S.M.R. Co., Sixth Report on Progress in Manchuria, 1939, Dairen.

It ought to be noted that in some cases for 1937 where plan matches actual performance this is explained on the appearance of the 1938 revised plan and

Table 20 (Continued)

emerged from the conditions and actual output increases that had occurred from 1936 to 1937. Therefore the revised plan figures for 1937 are the same as the actual outputs for that same year.

*Figures for revised plan were obtained from Chapter II, Table 2.

**Office of Strategic Services, Programs of Japanese in Manchuria, Honolulu, 1945, p. 106.

Table 21

Comparison of Revised Five Year Plan for Cultivation
With Actual Performance

Crops (hectare)	1937[a]	1938	1939	1940	1941	Increase or Decline
1. Soya Beans						
Plan	3,697,000				4,087,000	+ 380,000
Performance	3,590,894	3,869,319	4,008,918	3,723,489	3,522,301	- 68,593
2. Kaoliang						
Plan	3,275,000				3,410,000	+ 135,000
Performance	3,046,007	3,223,929	3,777,247	3,922,899	4,169,650	+1,123,643
3. Millet						
Plan	3,054,000				3,270,000	+ 216,000
Performance	2,613,213	3,734,932	2,762,452	3,524,010	3,897,285	+1,284,072
4. Corn						
Plan	1,422,000				1,640,000	+ 218,000
Performance	1,418,833	1,533,992	1,763,800	2,057,454	2,434,042	+1,016,209
5. Wheat						
Plan	1,218,000				1,559,000	+ 341,000
Performance	1,216,142	1,288,222	1,350,686	1,040,281	1,033,565	- 182,577
6. Rice						
Plan	320,004				435,000	+ 114,996
Performance	315,453	359,025	392,310	430,189	440,826	+ 125,373
7. Cotton						
Plan	101,124				183,160	82,016
Performance	---				---	120,000 (Nov.'43)

Data for cotton obtained from Office of Strategic Services, Progress of Japanese in Manchuria, Honolulu, 1945, p. 106.

Data for cultivation for cereals obtained from Minami Manshū Tetsuo Kabushiki Kaisha, Sōgō Chōsa Hōkoku Sho, 1941. p. 93. Secret.

Table 22

Performance of Agriculture for Years 1942-1945 and Aggregate Output and Aggregate Cultivated Area for Years 1936-1946

Crops (metric tons)	Output 1942	1943	1944	1945(July)*
1. Soy beans	3,026,251	3,259,068	3,491,358	3,476,728
2. Perilla	47,356	48,643	28,644	39,046
3. Linseed	79,208	84,811	62,683	78,425
4. Hempseed	34,307	40,738	34,257	64,875
5. Sesame seed	8,799	4,489	3,390	2,661
6. Peanuts	21,093	11,261	12,744	10,211
7. Sunflower seeds	6,434	5,165	7,647	3,256
8. Kaoliang	4,754,854	5,432,951	5,601,621	4,950,659
9. Millet	3,331,890	3,312,501	3,955,092	3,187,378
10. Corn	3,189,189	3,939,417	4,076,932	4,122,523
11. Wheat	693,886	392,490	338,537	393,302
12. Paddy-rice	532,402	651,632	698,227	755,537
13. Highland rice	49,474	40,934	35,821	42,936
14. Oats	104,016	100,349	77,190	80,339
15. Barley	180,684	230,793	189,345	141,621
16. Common Millet	564,814	499,885	424,113	368,499
17. P'ai-tzu	364,916	345,250	297,447	293,626
18. Buckwheat	298,173	259,875	190,528	112,517
19. Small beans	116,895	129,222	114,613	102,791
20. Green beans	90,637	44,980	39,442	28,134
21. Other beans	106,579	89,442	37,145	64,685
22. Cotton	72,403	70,279	--	
23. Thread flax	23,073	27,346	--	40,432
24. Green flax	6,141	6,008	--	10,924
25. Asia flax	66,458	76,869	--	93,101
26. Foreign flax	16,969	26,414	--	46,235
27. Tobacco	35,267	38,886	--	39,330
28. Sugar beet	205,635	266,006	--	219,988
29. Others	--	--	--	--
Grand Total	17,553,073	19,938,704	19,748,794	18,656,639

*Estimated harvest for that year.

Source: Northeast China Resources Investigation Committee, TPCCHTS, Mukden, July, 1947. Vol. 1, Agriculture, Livestock, Forestry, pp. 36-40, 46-48.

Table 22 (Continued)

Crops (1,000 hectares)	Cultivated Area 1942	1943	1944	1945(July)*
1. Soy Beans	3,450	3,192	3,370	3,304
2. Perilla	85	81	59	67
3. Linseed	133	140	130	139
4. Hempseed	73	102	133	149
5. Sesame seed	26	11	9	6
6. Peanuts	20	11	13	9
7. Sunflower seeds	8	8	6	5
8. Kaoliang	4,093	4,396	4,518	3,705
9. Millet	3,645	3,846	3,964	2,954
10. Corn	2,557	3,019	3,182	3,118
11. Wheat	972	593	526	524
12. Paddy rice	217	320	326	343
13. Highland rice	60	50	41	41
14. Oats	135	123	111	101
15. Barley	247	317	298	190
16. Common millet	748	611	609	424
17. P'ai-tzu	394	351	302	274
18. Buckwheat	588	496	444	208
19. Small beans	224	171	146	128
20. Green Beans	112	71	65	40
21. Other beans	151	121	105	84
22. Cotton	160	148		
23. Thread flax	79	97		116
24. Green flax	19	13		20
25. Asia flax	59	68		81
26. Foreign flax	55	54		88
27. Tobacco	51	43		44
28. Sugar beet	29	33		24
Grand Total	19,394	19,444	19,842	17,299

*Compiled by the Research Bureau of the Ministry of Agricultural Development of Manchoukuo.

Source: TPCCHTS, pp. 24-28, 46-48. Vol. I, Agriculture, Forestry, Livestock.

Table 22 (Continued)

Total Output and Total Cultivation from 1936-1944

Year	Total Cultivated Area (1,000 hectares)	Index	Total Farm Output (1,000 Met. Tons)	Index
1936	13,952	100	16,830	100
1937	14,545	104	17,515	104
1938	15,497	111	18,204	108
1939	16,406	117	16,658	100
1940	17,989	129	17,684	105
1941	19,377	139	18,642	111
1942	19,394[a]	139[a]	17,553[a]	104[a]
1943	19,444[b]		19,938[b]	
1944	19,842		19,748	
1945	17,299		18,656	
1946	13,140[c]		12,160[c]	

[a]Data for years 1936-1942 from Chosakyoku, Manshū Keizai Tōkei Kihō, Aug. 1943. Cultivated data from p. 20; output data from p. 22. Top Secret.

[b]Data for years 1943-1945, TPCCHTS, Vol. I, Agriculture, pp. 46-48, 24-30, 36-40.

[c]For 1946, see Chūgoku Shiryō Geppō, Tōhoku no Nōgyō Kenketsu, No. 61, 1953, p. 9.

For the plan such products as rice, kaoliang, corn, tobacco, cotton and flax, output exceeded planned output. On the other hand, products such as soy beans, millet, wheat, sugar beets, peanuts, and perilla seeds, crops the Japanese especially desired to have output increased, fell short of planned expectations. Turning to cultivation, expansion of sown area for cotton, soy beans, and wheat, failed to materialize as planned, but for all other cereals, especially food crops, progress in cultivation was quite successful. In 1942 when the second five year plan was launched, with its principal objective the achievement of self-sufficiency in promoting further economic development in the East Asia Co-Prosperity Sphere, the emphasis in agriculture was upon increasing the production for war purposes of soy beans, hemp seed, linseed, and perilla. The increase of production of foodstuffs and fiber products was

considered of secondary importance.[1] With war-time conditions prevailing, increases in production were sought by extensive exploitation of the land, and planners pressed for greater quantity of foodstuffs rather than quality and encouraged production of crops with the highest productivity per acre.

In aggregate terms, increases achieved in expanding cultivation were quite impressive, with close to a 40 per cent increase being achieved. For output, it is exceedingly difficult to show any predominate trend. The exceptional quantities produced in 1943 and 1944 were more the outcome of favorable weather conditions than from any decisive steps the Japanese took in terms of issuing better seeds, promoting better irrigation projects, and establishing technical stations for the advancement of farming procedures. How can Japanese agricultural policy be evaluated? Was it a failure; were there limited successes; if so, of what nature?

When individual crops are examined we find that while some reveal an upward increase in output, others are declining. This is due to the special stress placed on high priority crops rather than any general concern for raising the total level of output. Since the Japanese planners especially desired to increase output of soy beans, hemp seed, linseed, and perilla, the actual results from performance show that no remarkable increases occurred for these crops. There is an increase in foodstuffs, but this might be accounted for solely by the farmer's shift to farming foodstuffs rather than fibers, oil seed bearing crops, etc., since little real income could be earned under the purchasing plan control policy, rationing, and general inflationary conditions. To achieve increases in foodstuffs, productivity was sacrificed in order to

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[1] Ibid., Vol. I, p. 35.

extract greater yield through expanding the margin of cultivation. For the basic Manchurian crops such as soy beans, wheat, kaoliang, millet, and maize, productivity per hectare of land declined rapidly from 1927 to 1940. The following table indicates this.

Table 23

Productivity per Hectare of Major Agricultural Crops (Tons)

Year	Soy beans	Wheat	Kaoliang	Millet	Maize
1927	1.24	1.22	1.84	1.47	1.75
1928	1.29	1.11	1.58	1.50	1.73
1929	1.33	1.04	1.61	1.51	1.81
1930	1.27	1.00	1.55	1.44	1.71
1931	1.24	1.00	1.50	1.32	1.72
1932	1.01	0.72	1.31	1.16	1.74
1933	1.22	0.83	1.59	1.34	1.68
1934	1.01	0.70	1.21	0.89	1.25
1935	1.14	1.00	1.38	1.20	1.48
1936	1.20	0.86	1.38	1.23	1.60
1937	1.16	0.88	1.34	1.21	1.49
1938	1.18	0.74	1.42	1.15	1.48
1939	1.00	0.76	1.31	1.10	1.32
1940	0.96	0.76	1.24	1.06	1.36

Source: Northeast China Resources Investigation Committee, TPCCHTS, July, 1947. Vol. I, pp. 53-54.

While the Japanese did not tackle the problem of productivity and really get to the root of the agrarian problem in Manchuria, they did achieve limited success in the early 1940's of acquiring the quantity and type of output that they needed for their industrial program. What is quite remarkable is that this was accomplished entirely through a policy of marketing controls. They managed to stabilize the level of total farm output, thereby allowing the state to acquire a fixed share annually (that is, at least for years 1942-1944).

The ability of any state to expand output of agriculture depends upon three important factors: 1) the undeveloped resources yet to be utilized;

2) the quantity and quality of related investment outlay available; 3) the further possibilities of intensive utilization of land already being farmed. If output per unit of input of investment (labor and capital) for a unit of land already under cultivation is less than the output for a similar unit of land to be brought under cultivation with the same input of investment, it would pay the state (or farmer) to undertake the latter. Historically, the practice of reclaiming new land for cultivation purposes has been followed in Manchuria and the Manchoukuo government continued this trend after 1932 with its ambitious colonization schemes. The problem is, if cultivation did expand would investments on land already utilized yield a greater output per hectare than from newly reclaimed land? The urge to extend cultivation is always stronger when considerable arable land awaits the plough, and it seems that only when a society is confronted with limited resources does it follow the course of more intensive development of existing farm land. This is quite apparent from Japanese agriculture from 1870-1890 (and the increase in output was quite remarkable), and there is reason to believe a similar course is being tried in China today as the CCP is gradually resorting to this technique rather than land reclamation, whith it is claimed is expensive and inefficient.[1]

Manchuria possessed much arable, yet tillable land under the Japanese occupation, for the region contained an area which one expert estimated was greater than the amount of land available for crops in the New England states, plus that in New York, New Jersey, Pennsylvania, Delaware, and Maryland, and

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[1]See Ralph Bonwit, "Communist China's Leap Forward", Pacific Affairs, Vol. XXXI, No. 2, June, 1958, pp. 164-171. This was made abundantly clear in the speech by Finance Minister Li Hsien-nien quoted on p. 167.

about twice the amount of land under cultivation in Japan.[1] This factor encouraged the Japanese to follow the route of extensive cultivation. According to a Japanese estimate made by the Manchurian Agricultural Products Institute in 1936, the total area (excluding the four Hsingan Provinces) comprised of 503,099 square miles. Of this, 38,586,000 acres were of arable land that was cultivated, and 50,884,000 acres consisted of non-cultivated land.[2] According to another estimate compiled in 1940 by the Northeast Society of Scientific Techniques, the total amount of cultivated area was 41,480,000 acres, the uncultivated arable land was 40,884,000 acres, while the remainder of forest, swamps, alkaline land, etc. considered nonarable, came to 84,693,000 acres.[23]

From the first Japanese estimate no precise meaning can be given to the term non-cultivated area as to just how much is arable land that can actually be brought under cultivation. Much of this total was land highly saline, included poor soil, and consisted of regions where rainfall was slight.[4] Furthermore, some was on slopes where forest had been removed and the soil deteriorated because of erosion.[5] This would reduce significantly the portion

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[1]Data taken from the table compiled by Raymond T. Moyer, "The Agricultural Potentialities of Manchuria", Foreign Agriculture (U.S. Dept. of Agriculture), Vol. 8, No. 8, Aug. 1944, p. 179.

[2]Ibid., p. 179.

[3]Data from TPCCHTS, Vol. I, Table 6, p. 16.

[4]See such reports as G. Fenzel, "Report on Forest Regions of Fengtien and Kirin Provinces, Manchuria", China Lingnan Sci. Journ. 11:539-55; 12:11-28. Pendleton, Robert L., Ch'ang, L.C. Chen, W., and Hou, K.C., "A Reconnaisance Soil Survey of the Harbin Region", China Geol. Survey Soil. Bull. 11, Peiping. pp. 134.

[5]Op. cit., Raymond T. Moyer, p. 188.

available for cultivation, but to hazard an estimate is difficult. Raymond T. Moyer projected an estimate of 41 million acres rather than 51 million, and this agrees favorably with the findings presented in 1940 by the Japanese. Since from 1941-1944 an additional 2 million acres were brought under cultivation, this would leave roughly 39 million acres that could be brought under cultivation under the rule of the Chinese Communists.

CHAPTER V

INDUSTRY

> Many projects in Manchoukuo have been inaugurated as if branch shops of industries in Japan were being set up. This procedure is certain to fail as Manchoukuo's human as well as natural resources differ from those of Japan. Planned economy of the Russian pattern, in which natural resources rather than the population are the main factor of development, should be the objective. Everything must be done according to a predetermined program that has been drawn up with an eye to the distant future, in order to make the entire system of industries thus developed a well balanced organic whole in usefulness and efficiency.[1]

The development of a factory system geared to heavy industrial goods production appeared conspicuously late in Manchuria despite abundance and nearness of mineral reserves to an extensive, modern transport system. The failure of a factory system to develop can be attributed primarily to the absence of any group anxious to try its hand at new modes of production, the difficulties of mobilizing native capital for long term investment, and a weak internal demand for such output. After 1931 the Japanese quickly demonstrated their eagerness to alter traditional patterns of production; capital was mobilized from domestic accumulations in Japan and transferred to Manchoukuo; a strong military demand for the region's resources, both in raw and finished form, quickly asserted itself. In this section we will examine the changing composition of output and the level of output produced by manufacturing within the context of an expanding, changing factory system which was guided by planning and centralized decision making.

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[1] Oriental Economist, Manchuria Industrial Development Corporation, Tokyo, 1938. Quoted from a speech by Yoshisuke Aikawa, "My Views on the Development of Manchurian Industries." p. 11.

The first section will consider trends in output through the period 1930-1936, the first five year plan (1937-,1941), and the second five year plan (1942-1945). The last section will discuss the actual factory system and the structural changes that took place when planning commenced.

Growth and Performance of the Economy in Industry and Mining

The two impressive advances scored between 1932 and 1937 were in the fields of transport and urban construction. In 1931 the railway network extended some 6,140 kilometers and by 1936 8,336 kilometers of lines covered the country.[1] New roads had been built, and many of these filtered into such remote areas as Barga and along the Northern Sungari river. At this date the number of kilometers covered ran to about 9,000.[2] At the end of 1941 the length of roads had doubled (18,460 kilometers) since 1936, and railways extended to 10,735. By 1945 total roads stood at 22,000 kilometers and railways at 13,700 kilometers. From 1931 to 1946 the length of railway lines had more than doubled as had those for various grades of roads. Investment and construction in cities and ports made for improvements, and between the years 1932 and 1945 the total capital investment had increased from 28,867,000 yen to 145,449,000 yen, of which the SMR financed roughly one half.[3]

Concentration on external economies was dictated by military and bureaucratic needs. A defense perimeter around the region from the Soviet frontier

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[1]International Prosecution Section (SCAPP), RG98 Army Command, Document 2151, National Archives, W.W.I. Branch, Washington, D.C. This study was a document from the USSR showing increase in Japanese transportation and communication between 1931-1945. Original document was in Russian and data was obtained from interrogation of Japanese personnel.

[2]Ibid., Document 2151.

[3]Mantetsu Keizai ChōsaKaihen, Manshū Keizai Nempō, 1935, p. 143.

in the north to the North China military zone was installed and continually reinforced with new troops. Urban expansion came from demand for space and housing for the new state's administrative apparatus. The Japanese, perhaps for political and psychological reasons, fostered efforts to make it appear that order, harmony, and peace characterized the daily living of Manchurian city dwellers. These efforts, it seemed, were more to impress the western powers than to satisfy any aspirations urbanites may have had.[1] Meanwhile, a rash of new companies made their appearance as more than three hundred enterprises succeeded in acquiring paid up capital of 485,897,500 yen for expansion and production purposes.[2] Most of this capital flowed into companies in the fields of transportation, metallurgy, capital construction, chemicals, and finance. These new companies were established for the specific purpose of promoting new lines of business and producing new products, e.g., automobiles, munitions, rubber products, etc.

The Kwantung peninsula, where Dairen provided the crucial link to world trade, historically had been the route of Japanese economic penetration into Southern Manchuria. Northward along the SMR line most of the region's burgening industrial activity was located. In Dairen there were numerous bean processing factories, some machine tool shops, firms engaged in ship and transportation building, and many financial institutions. In Anshan, just off the SMR line southwest of Liaoyang, stood the Showa Steel Works. In April 1916

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[1]See Peter Fleming's discussion of the Japanese propaganda efforts to convince the west that the new state rested on the full support of the people in his One's Company, A Journey to China in 1933. Penguin Books, 1956, pp. 67-69.

[2]Tōa Keizai Chōsa Kyokucho, Shina, Manshū Keizai Kenkyū, Kaizo Shappan, December 1937, p. 287.

the SMR secured rights to carry on iron manufacturing there and after continued experiment in smelting operations had perfected by 1926 a lean-ore disposition method employing the reduction roasting furnace.[1] In April 1933, rights to the Anshan Iron Foundry were relinquished by the SMR to the Showa Steel Works, which continued to carry out mining and manufacture of pig iron and steel. Resources were abundant, but much of the iron ore was of poor quality.

Along the Antung-Mukden line, southeast of Sukiatun, lay the coal and iron reserves of Pench'i hu. These mines contain rich bituminous coal and iron ore reserves, low in phosphorus content. Much coking coal is produced, and nearby are reserves of limestone, silica, and manganic ore. North of Liaoyang on the Dairen to Mukden line stand the coal mines of Yentai, rich in anthracite coal. To the northeast of Mukden on the Mukden-Meihokuou line lies Fushun, the largest open seam coal colliery in Asia. The SMR conducted its research in liquification of coal and shale here. This region is small and compact and integrated by railroad lines. Nearby cities and farming communities supplied labor. The convenient location of coal, coke, and iron ore made it possible (because of savings in transport cost) to build the region's iron and steel works here as well as other assorted heavy industrial projects.

In 1932, within Kwantung and along the SMR zone, there were located 4,079 establishments considered as factories (units employing more than five workers were termed factories by the Japanese), of which 754 were owned and operated by Japanese and 3,250 operated and owned by Manchurians and Chinese.[2] Of this

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[1]The Japan Economic Federation, The Heavy Industry of Manchoukuo, East Asia Economic Intelligence Series, No. 3, January, 1940. Tokyo. p. 29.

[2]Mantetsu Keizai Chōsakai, Manshū Sangyō Tōkei, 1932, p. 56.

total, 1,080 were in Kwantung alone. The total amount of investment came to 242,320,107 yen, of which 154,474,000 or about 63 per cent consisted of Japanese capital. The biggest share of this investment was in joint-stock company shares. Of the total value of output from these factories, roughly one third came from processing of soy bean. The total labor force employed amounted to 108,906 workers.

By 1934 there were a total of 8,164 factories employing 189,858 laborers and supported by an investment of 337,553,974 yen.[1] This was an increase of investment over the two years of 39 per cent. By 1936 total number of factories had increased to 8,521 with investment of 587,730,210 yen and employment of 227,842 workers.[2] Over the five year period, investment had increased by 249 per cent and the labor force by 250 per cent. The chemical industry still boasted the greatest share of total productive value created because soy beans were its principal item. But some changes had started.

Investment in textiles declined, but increased in such industries. Exploitation of minerals had commenced with reorganization of the mining industry and placing all types of mines under the control of one great corporation. Military demand for food products encouraged additional investment in food processing by native mercantile capital. While the labor force expanded more than 2 1/2 times, the total wage bill only increased from 15,204,069 yen to 46,452,959 yen, or a 200 per cent increase. A highly elastic supply of labor made it possible to hold down wage increases. On the other hand, greater

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[1] Maruzen Kabushiki Kaisha, Manshū no Shigen to Kagaku Kōgyō, Tokyo, 1937. See Appendix, pp. 60-62.

[2] Op. cit., Manshū Kōjō Tōkei, 1936, pp. 2-3. See appendix for more detailed breakdown on factory data.

demand for certain raw material and fuel inputs made for an increase in expenditures from 149,819,983 yen to 607,367,299 yen or about a 300 per cent increase. During this period the Shinkyo wholesale price index rose but six per cent.[1] Because of considerable slack in the economy (a reflection of idle resources), large investment outlays did not encourage price rises. Certain discrepancies in figures for these terminal years are probably accounted for by the fact that the 1932 coverage does not take in all of North Manchuria, whereas later factory statistics do and are more accurate.

The scale of factory production remained small, with an average factory employing from ten to thirty workers. A few large plants had been in operation for some time, such as Showa steel works' machine tool factory which employed 2,331 laborers and produced high precision machine tools,[2] and the SMR's machine tool factory in Dairen, built in 1908 and employing 3,866 workers. Some munitions plants in Mukden employed in the order of 1,000 workers, but on the whole the magnitude of operation was still quite small. During the years 1932-1936, the machine tool industry underwent some changes as it expanded its activities in order to supply parts, tools and machines for production of vehicles, munitions plants, and transportation equipment instead of serving a system designed principally to process agricultural produce.[3]

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[1]Manshūkoku Kokushin Kaisha, Manshū Nenkan, 1941, pp. 187-188. This is the average wholesale price index for fuels, construction materials, clothing, food, etc. After 1936, the price level jumps from 106.1 to 125.1 in 1937, and henceforth moves upward rapidly until by 1940 the price level since 1933 had doubled.

[2]Mantetsu Sangyōbu, Manshū ni okeru Kikai Kigu Kōgyō no Genjō, Aug. 1937. Secret. p. 19.

[3]Ibid., pp. 94-96.

Meanwhile the supply of minerals increased as mine output started to expand. The following table gives the output performance for the extraction industry for this early period.

Table 24

Output of Important Minerals in Manchuria from 1930-1935
(1,000 Tons)

Product	1930	1931	1932	1933	1934	1935
Iron Ore	832	964	1,042	1,177	1,218	1,576
Pig iron	348	342	368	434	500	623
Sulphuric iron	3	4	3.6	1.7	7.7	9.1
Lead ore	-	-	-	-	.3	4.7
Copper ore	.8	-	-	-	-	-
Manganese ore	.6	.2	.06	.8	.7	.6
Gold	1,478	1,121	241	668	458	1,595
Coal	10,179	9,124	7,099	9,063	10,543	10,944
Coke	485	419	416	476	576	703
Oil from shale	981	1,245	1,413	2,683	2,131	3,437
Crude oil	48	61	71	87	58	120
Magnesite	29	36	55	71	79	156
Fireproof clay	54	35	52	112	79	143
Talc	26	543	44	62	75	71
Feldspar	.5	.9	1.8	5.6	4.0	41
Limestone	688	55	477	691	636	847
Calcite	1.0	.3	.9	1.2	.2	-

Source: Maruzen Kabushiki Kaisha, Manshū no Shigen to Kagaku Kōgyō, Tokyo, 1937. See Appendix, p. 54.

It will be noted that there is a slight drop in output for years 1932-1932; after this period of economic depression, output climbs again. Only a few products decline in importance: copper ore and calcite. Of the total amount of iron ore mined in 1934, 1,218,000 tons, 975,000 tons were mined from the ore mines around Anshan. Of the 500,000 tons of pig iron produced in 1934, 346,730 tons were again produced at Anshan and 153,450 tons at Pench'i hu. Coal output was 10,543,000 tons in 1934, of which 7,826,000 tons came from SMR mines in which Fushun alone contributed 7,512,000 tons. For coke, of the 576,000 tons produced in 1934, 357,000 tons came from Anshan and 200,460 tons

from Pench'i hu. Virtually all oil from shale came from Fushun. Thus the expansion of mining output was possible only by more intensive exploitation of the Anshan-Fushun mines.

At the same time, efforts were being undertaken at Fushun and the Showa industrial center to supply more important chemicals from coal. From 1931 to 1936 the supply of pitch increased from 15,891 tons to 19,278 tons; creosote from 7,281 kiloliters to 12,258 kiloliters; napthalene from 430 tons to 653 tons; coke from 353,767 tons to 419,764 tons; crude wax from 12,640 tons to 23,640 tons.[1] The increases in supply of petro-chemicals and mineral products outlined above do not reveal phenomenal change, only a slow, steady forging ahead in all related fields of metallurgical and chemical activity. While these achievements were not as spectacular as those in transportation and urban construction, they reflected a trend of general industrial expansion.

By 1937 internal resistance (in the form of bandit activity) had been thoroughly disorganized and quelled and the financial situation improved by implanting a banking system that effectively controlled credit and note issue. Meanwhile the SMR had been hard put to supply the funds demanded for new construction. In order to operate the railroad lines assigned to her, the SMR relinquished control of its mines and plants to the state controlled joint stock companies and concentrated on managing the state's transportation system. Reorganization of industry and the top layers of administration took place so as to introduce more regulation and planning in the economy. The time was ripe for the first plan for rapid economic growth.

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[1]Mantetsu Sangyō Buhen, Manshū Keizai Nempō, 1937. Vol. 1, pp. 115-116.

With the inception of the five year plan, the Japanese commenced carefully to observe growth trends in heavy industry. Detailed planning necessitated proper allocation of resources in order to calculate amounts of desired output for domestic use and to supply Japan. To achieve this, accurate quantification was needed to measure the annual increases in output, trends in productivity, and expanding productive capacity. For these purposes the Japanese research bureaus published both absolute figures of output and time series of indices for individual and groups of industrial commodities. It is not known how these indices were compiled, what weighting system was used, and whether problems of changing composition of output, quality changes, and difference in price level were taken into account. Such omissions do not justify discarding these data. If absolute output figures are compared with corresponding indices for selected commodities, the fit is seen to be quite good, and this provides some basis for going ahead and using the data.[1] To view now the performance of industry as an aggregate whole for the years of the first plan, the following indices are cited for different categories of industry, heavy and light. I have retained these groupings which were used by Japanese economists and statisticians. The commodities within the various groups are listed in the following table.

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[1]See appendix for such comparability of absolute figures with indices. The table in the statistical appendix of selected commodity output with corresponding output index fits well with the exception of pig iron, for which there is no doubling of output as cited by the index; this index thus slightly overstates the growth in output. But such cases are very rare, and on the whole it would appear that these indices are a reliable indicator of growth and can be used to carry our investigation further.

Table 25

A Measure of Growth in Heavy and Light Industry in Manchuria, 1937-1941

Heavy Industrial Sector

Year	Total Output	Energy[a]	Minerals[b]	Industrial Comm.[c]	Indust. Raw Mat.[d]	Heavy Indust. Index[e]
1937	100.0	100.0	100.0	100.0	100.0	100.0
1938	116.2	111.5	125.6	133.4	151.2	119.1
1939	126.9	138.3	138.5	126.9	86.0	133.1
1940	134.2	157.0	149.9	121.2	54.8	143.4
1941	155.1	181.7	167.2	146.0	64.6	168.3
1942	164.0*					

*Year 1942 cites only index for total output for first six months of that year.

Year	Index for Minerals and Industrial Output
1937	100.0
1938	132.5
1939	128.3
1940	124.6
1941	148.7

Consumer Goods

Year	Clothing	Food, etc.[g]	Index for Clothing, Food, etc.
1937	100.0	100.0	100.0
1938	122.3	97.7	101.5
1939	121.7	91.0	95.7
1940	148.9	77.0	83.1
1941	178.8	73.6	90.1

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[a]These products include coal, coke, electrical power and gas.

[b]These mineral products consist of iron ore, sulphuric iron ore, lead ore, copper ore, limestone, talc, coke, fireproof clay, and magnesite.

[c]Industrial commodities are iron ore, steel and steel products (bearing, rolled steel, tubing, etc.) parrafin wax, sulphur, ammonia, alcohol, creosote, dolmite, glass, soy bean cake, cement. Thus, chemicals are included with construction materials.

[d]This index consists of cotton and silk thread. Actually this should be included with consumer goods, but since these indices consist of commodities which are used for specific purposes the Japanese authorities included these two types of thread among industrial products. They may have been used for military purposes.

[e]This index is for all groupings from energy through industrial raw materials.

[f]Clothing consists of wool, cotton, serge, wool thread, and woolen cloth.

[g]These products are paper, salt, wheat flour, soy bean oil, and tobacco.

Source: Chosabu, Manshu Keizai Tōkei Kihō, Top Secret, August, 1943, p. 33. All munitions, and other military items, are excluded from the above.

The growth rate shows a remarkable ten per cent per annum rate of growth for total industrial output (54 commodities are listed, covering a wide assortment of goods). This compares favorably with Soviet growth rate figures which show an increase in the area of ten to twelve per cent per annum. Taking mineral and heavy industrial products alone, the growth rate is a little over eight per cent per annum, while for the output of energy sixteen per cent was registered. The large rate of increase for the latter is accounted for by the fact that for electrical power we begin with a very low base figure, and because the bulk of hydro-electric plants was installed after 1937 the index rises rapidly. For mining, few new products made their appearance and the base year was not abnormally low because the industry was an old one in Manchuria. The general index for consumer goods was pulled down because of the decline in food output (a decline in amounts of bean products and flour), while the increase in textile products was quite as remarkable as that scored for energy output. The heavy demands placed upon that industry by the military and the preferential treatment it received when war commenced enabled increases to take place. Of course, the emphasis on energy, mineral, and heavy industrial production reflects the preference of the military for this type of production as opposed to one of favoring consumer goods.

Some explanation is required for the decline in industrial products for years 1938-1940 when the index declined from 133.4 to a low of 121.2 and then shot upwards again in 1941 to 146.0. The statistical study did not allude to why this decline occurred, but an examination of the time series for different individual products within this group points to a possible answer. From 1938 to 1939 the decline in absolute output for individual steel products such as tubing, ingots, blooms, cement, sulphur, alcohol, antimony, and crude oil was

enough to drag the aggregate index for manufactured products downward. Difficulties were met in steel production because of a shortage of coke supply. Coking reserves were located at Pench'i hu, but they were not of sufficient quality to be used for steel production of an amount desired by the planners. Firms had instead to turn to the mines in Northeast Manchuria at Mishan and Hao-kang for coke to make up the deficit. However, these mines were distant from the centers of steel production, there were persistent labor shortages because of the difficulty of inducing labor to migrate to that remote area, and insufficient capital had been introduced to make the mines operate effectively.[1] Besides scarcities of critical raw material inputs, there must have been other bottlenecks created by the failure to acquire necessary capital equipment for steel production. Labor turnover, especially among skilled workers, would also make for a slowing-down of operations. All of these factors interacted. Which was the more powerful and reinforced these bottlenecks is difficult to say.

For cement, sulphur, antimony, alcohol, and crude wax similar difficulties were encountered. Labor shortages were created by a decline in workers' real wages and this encouraged them to leave their jobs to return to the villages or to seek higher real wages elsewhere. Certain technological difficulties, frequement mismanagement, etc., also contributed to the occurrence

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[1]Toyosaki Minoru, "Manshūkoku Kōgyō, Sotetsugyō no Hattatsu Sei", Manshūkoku Keizai no Kenkyū (Editor, Horie Tsuneo), Nihon Hyoronsha, 1942, p. 218. From 1937-1948 there was a decline in coal production (production dropped from 10,340,000 in 1937 to 9,998,000 in 1938 in North Manchuria). To account for this Mr. Shigeki of SMR branch office in Shinkyo said, "The reason for lack of development in coal mining is due chiefly to geographical conditions, the underdeveloped character of transport, scarcity of labor, vagaries of weather, etc.; these are the reasons why production has been restricted." p. 218.

of these shortages. Between 1939 and 1940, however, decline is less apparent and some products such as cement, sulphur, antimony, and crude wax are on the increase. Soy beans declined because of a fall-off in marketable surpluses (this has already been alluded to in the chapter on agriculture). In chemicals, failure to obtain specified machines and equipment held up output. But by 1940 and 1941, when most of these difficulties were partially corrected, all commodities in the index were again moving upward with the exception of soy bean cake, steel wiring, wax, pitch, alcohol, and antimony. But now the rapid increase in other products sufficed to pull the index upward.

For textiles alone, production difficulties plagued that industry in the early years of the plan but by 1940 output was increasing. One study of the textile industry pointed out that the output decline between 1938 and 1939 was due to the shortage of raw cotton from North China and a decline in imports from the U.S. This caused most plants to operate far below capacity.[1] Particularly distressing for the Japanese was the very large labor turnover; because the composition of labor, 50-70 per cent of the workforce being women and male workers who were unskilled agricultural workers, labor turnover in this industry was unusually severe. By 1940 normal trade ties with North China were resumed, and all raw cotton surpluses in North China were exported to the textile mills in South Manchuria. Increase in output after 1939 was possible because, given adequate raw materials, firms could operate closer to optimum efficiency and at nearly full capacity. Firms were further assisted by enforcement of labor controls, which helped to reduce high turnover.

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[1]Matsuhima Eimio, "Manshū Bōsekigyō no Shomondai", Manshū Keizai Kenkyū Nempō, 1941, pp. 379-401.

Now that the character of growth under the plan has been examined, did actual industrial performance concur with the original plans of the planners? In other words, how successful were the Japanese in fulfilling their objectives on the industrial front over the course of the five year plan? The official claim is that 70-80 per cent of the first five year plan was achieved. Kishi Nobusuke, Minister of Commerce and Industry in the Tojo Ministry, inspected Manchuria in the summer of 1941 and stated that "what would have been completed over the period of five years would require one or two more years."[1] Mr. Kishi's statement is not precise and is not easily quantified, but evidence of performance can be marshalled to match planned targets and in this way some idea of plan fulfillment can be learned. This has been done in the following table. Only eighteen products were selected because it was impossible to add others due to lack of either planned or actual output data.

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[1] Op. cit., Manchoukuo Year Book, 1942, p. 183.

Table 26

Comparison of Planned and Achieved Results of the First Five Year Plan for Industrial Development
*(1,000 Tons)

Product	1937 Plan	1937 Output	1938 Plan	1938 Output	1939 Plan	1939 Output	1940 Plan	1940 Output	1941 Plan	1941 Output
1. Pig Iron (1,000 tons)	850	811	(850)[a] 910[b]	857	(1,250) 1,760	1,023	(1,250) 2,350	1,062	(2,400) 3,325	1,388
2. Steel Ingots (1,000 tons)	580	516	(580) 620	585	(580) 655	525	(580) 1,039	532	(6,000) 2,027	561
3. Bloom (1,000 tons)	500	456	543	534	570	459	760	467	1,642	522
4. Rolled Steel (1,000 tons)	400	246	535	349	395	353	557	386	1,038	410
5. Coal (1,000 tons)	15,328	14,387	(16,026) 17,390	15,988	(19,180) 20,730	19,401	(22,150) 24,000	21,120	(24,800) 27,510	24,190
The following are products from liquification of shale at Fushun.										
6. Gasoline (kung ping; 1 kung ping = 264.20 gallons)	18,000	15,000	15,000	2,451	15,000	14,212	23,800	12,363	23,800	13,558
7. Heavy Oil (tons)	66,000	75,000	75,000	80,449	75,000	73,503	170,400	79,077	170,400	113,213
8. Other fuels (tons)	--	1,020	1,020	1,009	1,020	1,075	16,235	8,789	16,235	14,897
The following are metals, electricity, and some chemicals.										
9. Zinc (tons)	1,900	2,175	2,577	2,150	14,319	2,261	31,850	4,815	50,525	3,800
10. Lead (tons)	2,200	1,585	2,993	2,573	12,395	2,854	27,487	8,788	46,152	9,540
11. Copper (tons)	-	-	390	104	1,365	186	3,160	266	3,971	538
12. Asbestos (tons)	150	100	350	150	2,000	5,148	3,500	5,486	5,000	4,828

Table 26 (Continued)

Product	1937 Plan	1937 Output	1938 Plan	1938 Output	1939 Plan	1939 Output	1940 Plan	1940 Output	1941 Plan	1941 Output
13. Gold (kin)[c]	4,230	3,709	5,141	3,147	4,924	2,488	6,267	2,222	8,469	2,361
14. Electricity (1,000 KWH)	-	-	-	-	-	-	-	-	2,570,550	3,081,818
15. Calcium (tons)	-	-	5,000	967	(4,000) 4,500	3,257	(4,000) 8,500	5,026	(12,000) 15,000	8,030
16. Aluminum[d] (tons)	-	-	-	900	-	3,200	-	-	30,000[e]	7,900
17. Sulphur[f] (tons)	-	182,054	-	229,423	-	160,241	-	176,810	453,000	189,673
18. Soda Ash (tons)	-	-	-	44,859	-	54,406	-	64,808	72,000	61,491

[a]The data in parenthesis are the original planned targets.

[b]The data without parenthesis are the revised or final targets.

[c] 1 kin = .5 kilogram.

[d]The data on aluminum output was derived from M.V. Fomicheva, Ocherki Ekonomicheskogo Stroitelstva Na Severo-Vostoke Kitaya, Academy of Sciences U.S.S.R., Moscow, 1956, p. 26.

[e]This is the final revised target obtained from Chapter 2, Table 1.

[f]Data for sulphur and soda ash output was obtained from Chōsabu, Manshū Keizai Tōkei Kihō, August, 1943. Secret. pp. 38-43.

Source: Tsu Yuan Chi Ch'an Yeh, Tung-Pei Wu Tzu T'ao-Chieh Wei-Yuan-Hui, 1947, Table 10, p. 63. Northeast Economic Commission Report published by the Ministry of Economic Affairs. This study is the original Chinese study produced in Shenyang, 1947.

Because of ambitious planning, actual coal and iron-steel production were far from planned targets. The same held true for fuels such as gasoline, heavy oil, etc., obtained from liquification of shale. The latter process, though expensive and difficult, was used by the Japanese because of the success the Germans had achieved in their chemical industries. It was continued through the war at Fushun only because war time conditions enabled the effort to be heavily subsidized. The event of the Pacific war and the failure to produce significant amounts of fuel from shale forced the Japanese to depend entirely on oil from South East Asia; oil from shale in Manchuria was never produced in amounts sufficient to satisfy domestic consumption. Before 1937 little had been done in Manchuria to refine ores, and capacity for this was only built after that date so that actual output slumped far below planned targets. For electricity, targets were surpassed after 1940 when projects along the Yalu and Sungari rivers commenced to generate power. Though efforts were made to increase aluminum output because of its importance to the airplane industry, the heavy capital input requirements and a long gestation period meant little output in the early years. As late as 1944 a plant was being built at Antung, which indicates that expansion of certain strategic war-time projects was continued in Manchuria right through the war. This could be done because the area suffered very little from direct combat and aerial bombardment. Because only a few products have been examined we cannot comment accurately on whether the plan was fulfilled 70-80 per cent; these figures are probably correct if the plan is considered in its totality.

While output performance is of interest as a measure of economic accomplishment, further productive performance rests upon the capacity built. Though this is a difficult thing to measure and is subject to wide variations

in human judgment, we present the following estimates of progress in expanding industrial capacity as compiled by the Chinese natural resource commission with the aid of Japanese experts.

Table 27

Progress in Expansion of Industrial Capacity for the First and Second Five Year Plans for Selected Commodities (1,000 Tons)

Product	The Original 1937 Capacity	Planned* Capacity	Revised Planned Capacity	Capacity at end of 1941	Capacity Prior to 8/15/45
Pig Iron	850	2,530	4,350	2,050	2,524
Steel ingots	580	2,000	3,550	580	1,330
Steel materials	400	1,500	1,700	675	798
Iron ore					
a. high grade	709	1,590	2,990	2,590	3,100
b. low grade	1,768	6,150	5,600	5,600	4,700
Coal	11,700	27,160	31,110	28,300	25,591
Electrical power (megawatts)	554	1,404	2,570	1,114	2,415[a]
a. hydro-elect.		590	1,240	100	619
b. thermal	554	814	1,330	1,014	1,796
Alcohol	12	57	57	N.A.	29
Aluminum	4	20	30	10	15
Magnesium		.5	3	1	2[b]
Salt	334	974	910	1,050	883
Soda ash	12	72	72	64	72
Ammonium sulfate	202		452	N.A.	240
Paper pulp	70	120	300	131	110

[a]Includes 700,00 KW installation not completed.
[b]In 1941, capacity doubled.
*Planned capacity for first five year plan. This is the original plan.

Source: TPCCHTS, Vol. 1-b, p. 46, and pp. 142-145.

While it cannot be denied that there was a notable expansion in productive capacity, nevertheless the revised plan to increase capacity expansion greatly proved to be a failure. With the exception of thermal generated electric power, soda ash, and electrical power the results as late as the summer of 1945 showed that for most industrial products the actual construction of plant capacity had not measured up to the expectations of planners. The results

actually attained correspond well with the original plan for capacity increase which reflected a more sound appraisal of existing conditions. War induced revision of planned targets for capacity made for unrealistic demands on the industrial system.

The capacity of any plant is a very flexible concept and subject to wide error in estimation; thus capacity and the actual production forthcoming from that plant can and usually are entirely two different things. For example, as the steel and iron industry evolved after 1937 it became apparent that while actual production of iron ore and coke production as a per cent of actual capacity was quite high, production of pig iron, steel ingots, and other steel products as a per cent of actual capacity was considerably lower (except 1943 which was the high point of production in the iron and steel industry.) For the remainder of the period, output of iron and steel materials as a per cent of capacity is in the vicinity of 31-77 per cent . An imbalance was asserting itself within the industry, for while the raw material production stage was operating at a high ratio of output to capacity, further down the line in the actual fabricating stage more capacity had been created than was actually being utilized. This meant that considerable capital in the form of open hearth furnaces, cranes, mechanical conveyances, etc. was idle and not fully used because some vital input was lacking. As mentioned earlier, it was suggested that delays in coke shipments might have accounted for the key bottleneck. The following table shows the relation between capacity and actual production in the Manchurian iron and steel industry from 1942 to August 1945, the years when the industry was most developed under the Japanese.

Table 28

Relation Between Capacity and Production in the Manchurian Iron and Steel Industry from 1942 to August 1945
(1,000 metric tons)

Product	*Capacity MT/yr. in 1942	Output as % of Cap.	Capacity MT/yr. in 1943	Output as % of Cap.	Capacity MT/yr. in 1944	Output as % of Cap.	Capacity MT/yr. 8/1945	Output as % of Cap.
1. Iron Ore								
(over 40% FE)	2,175	69	2,591	82	2,321	74	2,145	N.A.
(less 40% FE)	2,239	41	2,811	51	1,437	26	5,500	N.A.
2. Ore Concentration	1,074	53	1,078	53	N.A.	N.A.	2,030	N.A.
3. Coke Making	1,995	71	2,182	78	1,662	59	2,800	N.A.
4. Pig Iron	1,341	53	1,710	68	1,159	46	2,524	N.A.
5. Steel In Ingots	738	55	843	63	439	33	1,330	N.A.
6. Semifinished Steel	509	51	774	77	396	40	1,000	N.A.
7. Finished Steel	458	50	486	53	282	31	910	N.A.
8. Rolled Steel	8,340	31	8,482	32	12,700	48	26,500	N.A.

*Metric tons.

Source: Ann B. Rasmussen, The Development of the Manchurian Iron and Steel Industry, 1931-1945. A thesis presented to fulfill requirements for Certificate at the East Asian Institute, Columbia University, 1955. p. 77.

The iron ore mines, especially those of higher grade ore, were thoroughly utilized (if not for domestic production of pig iron and steel, at least to export to Japan). The coke production industry was operating at 70 per cent and above capacity in an attempt to obtain the necessary coking coal for iron and steel production, while the remainder of the industry operated far below full capacity. This situation prevailed in the electrical industry as well, but for a different reason. By 1945 Manchurian electrical industry could generate over three billion kilowatts of electrical power, far more than was

required for the number of existing plants. Planning the construction of heavy capital-absorbing industries such as iron and steel which are to be supplied hydro-electric power is indeed difficult because of the indiscreet and lumpy character of investment that must take place. Yet our above two cases are somewhat different. While more capacity to generate electrical power had been generated than was demanded, for steel this was not so. There was excess steel producing capacity, yet it could not be used to meet the increased demand for more steel products for military consumption. Because of inadequate planning and faulty production at lower stages of production, important inputs were non-available to put this capacity to full work.

In 1942 the second five year plan had become a reality. Output of rolled steel, pig iron, and iron ore in 1942 was to be nearly doubled by 1946. The plan, though patterned closely to the first, stressed inter-regional coordination and expansion of more heavy industrial products, since Manchuria was required to become self-sufficient in order to provide for herself. Supposedly, she could no longer rely on Japan to supply her. The following table gives the second five year plan and actual performance until August 15, 1945.

Table 29

Second Five Year Plan and Actual Performance Until August 1945
(1,000 tons)

Product	1942	1943	1944	Aug. 1945
Coal				
Plan (1)	27,500	31,450	35,780	40,230
Prod. (2)	24,169	25,320	25,627	--
Steel ingots				
Plan	884	1,184	1,263	1,275
Prod.	738	843	439	-
Ordinary Steel & Prod.				
Plan	517	589	606	726
Prod.	466	494	295	-
Iron ore				
Plan	5,340	6,680	7,440	8,790
Prod.	4,413	5,408	3,758	-
Pig iron				
Plan	1,390	1,660	1,760	1,960
Prod.	1,340	1,710	1,159	-
Electricity (1,000 KW)				
Plan.	-	-	-	-
Prod.	3,700,000	4,475,000	4,450,000	-
Lead				
Plan	9.1	11.0	12.2	12.2
Prod. (4)	-	11.2	-	-
Aluminum				
Plan	-	-	-	-
Prod. (3)	7.4	8.6	7.6	-
Sulphur				
Plan	-	-	-	-
Prod.	154	92	-	-

(1) Data for planned output, Cf. Tzu Yuan Chi Ch'an Yeh, Tung-Pei Wu Tzu T'ao-Chieh Wei Yuan Hui, Vol. 2, Oct. 1947. Table 12, p. 71.

(2) For actual performance of such products as coal, electricity, iron ore, pig iron, steel ingots, ordinary steel products, Cf. Edwin Pauly, Report on Japanese Assets in Manchuria, July 1946.

(3) For output of sulphur see Chōsa Kyoku, Manshū Keizai Tōkei Kihō, Aug. 1943, p. 41.

(4) For output on aluminum production, Cf. M.V. Fomitcheva, Ocherki Ekonomicheskogo Stroitelstva Na Severo-Vostoke Kitaya, Acadamy of Sciences, U.S.S.R., Moscow, 1956, p. 24.

Because of the paucity of data, the products cited are few in number; yet it is plain that fulfillment of the second plan was very much the same story as in the first plan: over-ambitious target setting in conjunction with limited financial resources and unanticipated bottlenecks in production and distribution prevented full accomplishment of the plan. Financing difficulties were explicitly stated as constituting a limiting factor for sustained expansion of the second five year plan.[1] 1943 was the peak year for output in iron and steel. Further additions to capacity were made at the plant in Anshan in 1942 when two 600 ton mixers, a 4,300 ton active mixer, and six 150 ton tilting ladles with the open hearth furnace made for an expansion of steel ingots in 1943. The No. 1 steel plant and No. 2 plant at Anshan were both equipped with soaking pits, ingot strippers, changing machines, ladles, cranes, etc.

Up until now we have been primarily concerned with the supply side. In what manner were heavy industrial products distributed throughout the economy? Taking coal first, Manchuria exported roughly 50 per cent of her coal output in 1929 when of the 9,960,000 tons produced 4,010,000 were exported. But exports of coal dwindled because of world depression, and after 1937 they continued to dwindle because domestic demand exceeded international demand. Of the 24,168,670 tons produced in 1942, only 1,931,400 were exported.[2] The all-time high of 25,626,705 tons produced in 1944 saw only 2,294,000 tons exported. Manchuria's coal requirements increased tremendously during the war as the

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[1] Cf. Tzu Yuan Chi Ch'an Yeh, Tung-pei Wu Tzu T'ao-chieh Wei-yuan-hui, Oct. 1947, Vol. 2, p. 71.

[2] Edwin Pauly, Report on Japanese Assets in Manchuria to the President of the U.S., July, 1946. See especially the section on coal production.

economy was geared essentially to maintain present production levels to meet military demand. The largest amount of domestic output went as fuel for the transport system which annually consumed around six million tons. Four million tons were allowed for general consumption because of the severity of the climate. Industry consumed another 3.5 million tons, and finally the military took 2.5 million tons and 1 million tons went as fuel for the thermo-electrical industry. Thus a very large portion of annual coal output was used just to feed the existing industrial machine.

Taking 1943 as the high point in pig iron production, we can see how pig iron was distributed. In that year 1,710,269 tons were produced. Of that amount 771,600 tons were required for steel making within Manchuria and an additional 224,792 tons were given over for public consumption,[1] making a total of 996,392 tons domestically consumed, or about 60 per cent of total output. The remainder was exported to Japan (657,272 metric tons) and consumed by the Japanese army (56,602 metric tons). Actually, the amount of pig iron exported to Japan declined from 723,555 metric tons in 1942 to 587,252 metric tons in 1944. The loss of merchant marine capacity undoubtedly accounted for this decline.

Before 1940 about 75 per cent of the total generating capacity of electricity was confined to a wide strip adjacent to a line from Dairen through Mukden to Hsinkyo (Changchun) which at the same time included the major industrial area of Manchuria. The reason for this was that since generation of electrical power depended on thermo generation, coal reserves and coal mining were essential, and thus were located in the same zone. After 1940 a new

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[1] Ibid., Cf. section on iron and steel.

trend became evident. The Yalu and Tafengmen area became the sites for new hydro-electric projects, and these were linked with associated distribution networks for new industries which were built at the time.

A weak link in this industrial complex was the undeveloped character of the machine tool or metal working industry. This may have been one of the chief retarding factors causing periodic slowdowns in growth of industrial output in the late 1930's. This was never admitted in the Japanese economic studies of industry, although they recognized its importance for industry. Yet, it will be recalled that little provision was made for this industry in the first plan (Cf. Chapter III) because of the reliance on Japan as a source of supply. The poor way in which this industry was integrated with the remainder of heavy industry contributed greatly to work stoppages. These breakdowns stemmed from an inadequate supply of machines, the inability to make proper replacements, and difficulties in sustaining plant expansion because of a shortage of parts, etc. The core of the machine tool industry was in Mukden, Anshan, and Dairen. From what is known about the structure of this industry, Mukden and Anshan supplied the industries in their locale, particularly munitions plants and arsenals in Mukden. In Dairen the shops were fitted to take care of repair and replacement of ocean transport and servicing the railroad system. It is interesting to note that few if any industrial plants had their own machine tool shops for repair and experimentation, but were more or less dependent upon some main supplier. A Soviet scholar writing of this period observed that,

> Nearly all munitions production in Manchoukuo was said to be linked to the machine tool industry. Not one enterprise had workshops to ensure a complete cycle of production. There were no factories for

machine tools for agricultural workers and none produced equipment for the extractive and textile industries.[1]

In the field of light metals there were mineral surveys and construction of light metal refining plants after 1937 and on through the war years. In Fushun, where abundant bauxite reserves were located, an aluminum plant was constructed under the auspices of the Manchurian Light Metals Company to mine and process alumina shale. While another plant was built in Antung in 1944, it was unable to contribute very much to the war effort. Though great expenditures were made in an attempt to increase aluminum production for aircraft, output averaged only 7,500 tons annually. Rare minerals such as molybdenum, lead, zinc, copper, etc., were mined, and sulphate of ammonia and sulphuric acid for fertilizers and explosives were produced. As previously mentioned, these efforts were organized under the direction of large holding companies such as the Manchuria Lead Company, the Manchuria Ammonia Sulphate Company, the Japan-Manchuria Magnesium Company, etc. There was little economic justification for most of these enterprises except under war time conditions when rising costs meant little to the state. This was especially true for liquification of fuels from coal shale, aluminum, sulphate and sulphuric acid production, which were conducted at a terrific loss.

An important part of total output not mentioned yet are actual products of war: explosives, munitions, weapons. Data of these goods are unavailable, so that there is no way of telling to what extent resources were tied up along these lines. It certainly must have been considerable, however.

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[1]M.V. Fomitcheva, Ocherki Ekonomicheskogo Stroitelstva Na Severo-Vostoke Kitaya (A Study of Economic Development in China's Northeast), Academy of Sciences, U.S.S.R., Moscow, 1956, p. 26.

As to industrial performance in general, Prof. Jones has perhaps summed it up best when he remarked that,

> The Japanese had built up in Manchuria an industrial potential which was far ahead of anything which existed elsewhere in Eastern Asia, exclusive of Japan herself and of the Soviet Far East. They had given primary emphasis to production for war purposes even before 1941, and some of the industrial and mining enterprises were uneconomic if judged from the standpoint of ordinary peacetime competitive costs. Furthermore, they had very largely integrated Manchurian industry to that of Japan. In the main, Manchurian mineral and metallic products were exported for manufacture or for finishing in Japanese factories. While unskilled labor was drawn mainly from the Chinese coolie population of Manchuria and North China, the managerial and technician groups were exclusively Japanese. Thus the collapse of Japan would in any case have largely disrupted Manchurian industrial economy and China is too backward in industrial development to take Japan's place.[1]

Structure of the Factory System

The policy of "one company and one industry" which was introduced in 1933 represented an approach to industrial development in which segments of industry would progress on the basis of individual company efforts and successes. Unless effective coordination at top government levels unified various companies under a scheme of industry growth, advance was likely to be jerky and certain branches of industry might get out of step with one another. Moreover, heavy industrial development demanded some integration between suppliers of raw material inputs and stages of fabrication. The adherents within the Kwantung Army of a segmented policy of the "one company and one industry" were hard put to justify their position when their superiors demanded greater output and better performance in 1936-1937.

Ishihara Kanji of the Kwantung Army General Staff invited Aikawa Yoshisuke to Manchoukuo in 1936 to discuss the possible reorganization of Manchoukuo

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[1] Op. cit., F.C. Jones, pp. 165-166.

heavy industry. As a vigorous entrepreneur, Aikawa had successfully built up the Kuhara Mining Company and then during the First World War shrewdly purchased a series of foundaries, warehouses, and miscellaneous plants and equipment at depressed values with capital acquired from sale of new stock to the general public.[1] The holding company he established from this was financed by wide sale of equity shares to buyers. Aikawa did not restrict share capital to a few selected holders, but introduced the notion of 'Open Konzern', a technique of financing which Japanese financiers had borrowed from Germany. This company became the famous Nissan works.

As a young man Aikawa had visited the United States and had been greatly impressed with the integrated, mechanized, and standardized production techniques of Henry Ford and Company. After traveling over Manchoukuo and observing numerous factories at work he proposed to the Kwantung Army General Staff a program for mobilizing the region's resources and rapidly industrializing Manchoukuo. This naturally necessitated the reorganization of Manchoukuo industry by bringing heavy industry into vertical and horizontal integration under the aegis of a single holding company. This would end the 'unilinear' development of Manchuria's resources by firms in Japan which controlled adjoining firms and plants specializing in specific products in Manchoukuo. In Aikawa's words, then

> In Manchoukuo as in most other places the lineal system has been in use up to now, and the iron, coal, aircraft, and automobile industries, for example, have been established haphazardly and without the maintenance of an organic relationship among them. If we were to apply this system it would give Manchoukuo the status of a mere branch shop with Japan as the center of the industries concerned, and first class men would not go to Manchoukuo.

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[1] Op. cit., RG 98 Army Command, Document 579, pp. 1-21.

> Furthermore, the industries there have to be operated on much the same scale as in Japan, and that scale would prove entirely too small for such a vast country. If business were on this limited basis, it is natural that the amount of Japanese capital attracted here should be appreciably smaller than for a business having its headquarters in Japan. In fact, it is not surprising that industrial development in Manchoukuo thus far has moved at a snail's pace. It is my opinion that for Manchoukuo the lineal method must be discarded and that the vast natural resources must be developed on a scale commensurate with the huge size and character of the country. The Japanese insular notion, which is based on past experience alone, will not be suitable in this instance. In the political, economic and all other fields, Manchoukuo must have its own program based on its special needs and characteristics.[1]

The great holding company to accomplish this reorganization was to be called Mangyō. Immediately Matsuoka, President of the SMR Company and Miyasaki Masayoshi, Soviet-trained head of the Nichiman Zaisei Keizai Kenkyū Sho (a research organization of the SMR) opposed the idea.[2] Miyasaki was in favor of a joint effort by interests in Japan and Manchuria to develop productive capacity of automobile, airplane, steel, and coal industries with an investment outlay of 220 million yen.[3] After considerable dispute General Sugiyama, then Minister of War, and other important personages threw their support behind Aikawa's proposals which already had the backing of General Ishihara Kanji. By 1938, Mangyō was a reality and industry was reshuffled to bring it into stride with demands of the revised five year plan. Decisions of where to locate industry within Manchoukuo, how to raise investment funds from different sources, and what type of capital construction to undertake

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[1] Op. cit., Manchuria Industrial Development Corporation, 1938.

[2] Aikawa Yoshisuke, "Manshū Keizai Shihai no Kee Pointo", Bessetsu Chisei, December, 1956, pp. 188-200. An issue devoted to secrets of Showa history.

[3] Ibid., p. 195.

were fraught with debate between army factions.[1] Two groups contested one another. The extremists, anxious to expand out of Manchoukuo into North China and unoccupied Inner Mongolia, urged large scale Japanese participation to build heavy capital construction and industry within Manchoukuo. This was to be done rapidly, irrespective of duplication, waste, or strains placed upon Japan. The moderate group, which feared the power of the north and wished to consolidate gains recently won in Manchoukuo, desired a more reasoned and carefully thought out policy of industrial location, planning, and investment. At first the moderate group won out but new conflicts precipitated by the extremists gave it no choice but to orient itself toward the extremists' aims, and between 1939 and 1941 Japan was compelled to contribute greatly to capital formation in Manchoukuo.

In this same period the Manchurian factory system underwent considerable expansion.[2] The total number of factories increased, of course, for in 1936 there were 8,521 factories of which 8,427 were operating, and by 1940 there were 13,169 of which 12,769 were in operation. Ownership of factories changed. Between 1936 and 1938 there was a decline in factories owned by Japanese which stemmed from elimination of unused, inefficient capacity and the reorganization of plants on a more integrated basis. Still, idle capacity continued to prevail in some industries such as textiles. Between 1938 and 1940, however, the number of factories under Japanese control increased from 1,215 to 1,875. General economic expansion induced an expansion in the number of indigenously

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[1] Op. cit., RG 98 Army Command, Document No. 3318. This particular document highlights a debate between Gen. Sugiyama and Kawasaki on financing of Mangyō in a special meeting of the Budget Committee.

[2] See appendix for table of number of factories according to branches of industry and tabulated according to ownership (1936-1940).

owned factories also, for in 1936 6,976 were in existence and by 1940 this number had increased to 11,181.

Idle capacity was more prevalent among Manchurian owned factories than Japanese because more of these establishments depended upon agriculture, were highly seasonal, and for those in textiles the Japanese textile firms received priority of scarce raw cotton supplies. Most of this idle capacity was in textiles and soy bean processing plants. It will be recalled that in this year there had been a considerable decline in marketed farm produce. This accounted for idle capacity in the bean processing industry. Import reductions of cotton also made it difficult for textile producers to operate at full scale.

Most factories controlled by Manchurian capital operated on a very small scale. Large scale units were run by the Japanese, and these contributed a greater output value, consumed a larger volume of raw materials and fuels, and employed the greatest percentage of workers. If one examines the system in August of 1940, of the 719 factories in Manchoukuo proper (Kwantung excluded) 457 employed 20-50 workers, 183 employed not more than 100 workers, 34 employed not more than 200 workers, and only 19 employed more than 300 workers.[1] Unfortunately, this factory survey is not complete, for plants producing steel and war armaments, government operated plants, and electrical enterprises were excluded, and mining and fuel industries were also omitted. Over half of the factories surveyed employed less than fifty workers and most of these were

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[1]Manshū Rōmu Kyokukai, Manshū Kōjō Chōsahō, 1940, pp. 24-25. A detailed table is presented in the appendix.

in food processing, fibers, machine tools, and chemical (mostly bean processing) industries. As to location, 372 were in Mukden Province, Antung contained 85, Pinkiang possessed 74, and Kirin had only 59. The core of the factory system was still in central Manchuria with most facilities located toward the south.

Factories in different industries have already been ranked according to gross output value, investment, and employment changes between the years 1932-1935. If this approach is extended to 1940 it is readily seen that the trend manifesting itself in these early years becomes more predominant during the years of planning. The following table ranks industry according to gross value product and investment for the years 1936-1940.

Table 30

Ranking of Industry According to Total Output and Investment (1936, 1938-1940) 1,000 yen

1936

Industry	Gross Value Output*	Investment*
1. Chemicals	195,651	97,499
2. Food Proc.	179,754	97,870
3. Metallurgy	117,362	65,224
4. Textiles	110,647	63,026
5. Miscell.	65,669	98,961
6. Machine Tool	50,168	36,012
7. Ceramic-Con.	29,183	52,519
8. Wood Products	26,299	12,640
9. Paper & Print.	13,466	8,881
10. Electrical	8,540	46,864
11. Gas	4,753	8,233

Table 30 (Continued)

1938

Industry	Gross Value Output	Investment
1. Food Processing	292,961	156,273
2. Textiles	202,723	201,063
3. Metallurgy	190,921	88,438
4. Chemicals	156,118	118,753
5. Miscell.	86,663	106,663
6. Wood Products	54,809	44,050
7. Ceramics & Const.	49,044	44,741
8. Machine Tool	47,715	73,388
9. Paper & Print.	22,120	31,527

1939

Industry	Gross Value Output	Investment
1. Food Process.	387,581	267,167
2. Metallurgy	365,220	386,420
3. Chemicals	254,122	185,421
4. Textiles	249,978	185,290
5. Miscellaneous	146,304	196,753
6. Machine Tool	83,900	241,985
7. Ceramics & Con.	80,897	75,950
8. Wood Products	74,684	47,221
9. Paper & Print.	34,502	16,702
10. Gas	4,446	17,418

1940

Industry	Gross Value Output	Investment
1. Metallurgy	490,461	484,830
2. Food Processing	384,691	282,281
3. Chemicals	319,194	219,054
4. Textiles	242,748	202,658
5. Miscell.	233,427	138,981
6. Machine Tool	161,890	225,373
7. Ceramics & Const.	118,462	120,345
8. Wood Products	86,617	46,970
9. Paper & Print.	551,7722	29,182
10. Gas	5,413	6,099

*Values henceforth are cumulative.

Source: For 1936, Manshū Kōjō Tōkei, pp. 46-60; for 1938-1940, Manshūkoku Kōjō Tōkei, pp. 2-15. Metallurgical industry includes light metal processing, pig iron production, steel products, bolts, nuts, etc. Ceramic & Construction include cement, brick, talc, glass, magnesite, limestone, etc. Chemicals include processed bean products, wax, pulp, industrial chemicals, coke, fireproof brick, rubber materials, etc. Food processing includes soya sauce, alcohol, miso, flour, sugar, livestock products, fishing products, etc. Chief miscellaneous items contributing to high gross value output are tobacco and tailoring. Other products include matches, bamboo, paper products, etc.

Soy beans and derivatives, artificial fertilizer, and mineral oil make chemicals rank highest in gross value output for 1936.[1] But by 1938 food processing jumped to first place as gross investment nearly doubled. Great demands for food products for the military and export induced native capital to move into the ranks of suppliers. The rise in investment outlays indicated the desire as well as ability of native capital to move to highly profitable activities when they arose. However, between 1939 and 1940, while gross value output for food processed goods remained constant, there was a fall-off from 386 million yen gross investment to 282 million yen. Probably state monopoly purchases of farm products at fixed prices and the resulting decline in farm surpluses accounted for this gross investment decline.

Textiles, which ranked second in 1938, dropped to fourth in 1939 because of failure to operate at peak capacity and numerous shutdowns. Metallurgy ranked third for the years 1936 and 1938, moved to second in 1939, and finally to first place in 1940 where it probably remained until the end of the war. Machine tool products still ranked low (number six for most of the period) and though investment outlays doubled between 1938 and 1939 they declined again after 1939. Ceramics, paper and printing, and wood products industries remained in similar rank grouping, and erratic investment changes took place for some industries such as paper and printing. The drastic decline in gross investment in paper and printing from 1938 to 1939 is questionable and the figures may be in error.

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[1] I have deliberately neglected to add the value added data for factories in 1932 because the situation had not varied greatly by 1936. Chemicals ranked first with food processing second. Cf. Manshū Kōjō Tōkei, 1936, p. 4.

Measuring industries according to gross value has limited use because both variables, price and output, must be considered. In Manchuria the price component was important and underwent great change after 1937. For the period 1933-1937 the average price level for consumer goods and producer goods rose only twenty-five per cent, but between 1937 and 1940 the price level nearly doubled.[1] Prices of metals, construction materials, and fuel were more easily and effectively restricted (because of tight price control in industry) than for agricultural products and consumer goods (a phenomena deplored by government marketing associations). Thus for metallurgy to have ranked first in 1940 would have meant a large output increase in order to account for the sudden rise in gross value product simply because metallurgical product prices lagged behind those of wage goods. This is probably what occurred. Resources were diverted to producer goods production relative to those of consumer goods by virtue of the state's deliberate planning and control policy.

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[1]The general commodity price index stood at 125.1 in 1937 (1933 = 100) and by 1940 it had climbed to 225.7. Cf. TPCCHTS, Vol. 19, p. 20.

CHAPTER VI

LABOR

> The hard facts of Manchurian society are that because of the present social relationships in the countryside there has been a direct increase in the rate of labor turnover in modern industry; with a shortage of consumer goods which has caused a decline in agricultural production, with a trend toward self-sufficiency on the farm, and with a general rise in prices it is exceedingly difficult for labor to maintain its present living standards. These factors complement one another and make for a problem of low labor productivity and create difficultires for economic control.[1]

No discussion of economic development can be complete without some comment on the role of labor in the process of industrialization. When a society moves away from dependency on agriculture toward production of commodities requiring processing of raw materials and periodic steps of fabrication by assorted capital for market, it does so by virtue of transforming a significant portion of its agricultural population into a steady, disciplined, and skilled labor force. Economic historians have neglected study of the process and pace by which such changes take place (the emphasis seems to be always on capital accumulation), and for Asia scarcely any mention is made at all of these issues. The purpose of this chapter is to examine the evolution of an industrial labor force in Manchuria and some of its predominant characteristics. In regard to the latter, discussion will be directed first toward such matters as size and distribution of the workforce according to occupation, age composition and the extent of non-married and married workers. In considering the formation of an industrial labor force, something must be said about the source of labor and the nature of migrational movements of people into

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[1]Mantetsu Chōsa Buhen, Manshū Keizai Kenkyū Nempō, 1941. See the article by Yoshio Satoru, "Senji Taiseika no Manjin Rōdōsha no Jōtai", p. 355.

Manchuria from North China and elsewhere. This leads directly into an examination of how labor recruitment took place and the varying degrees of commitment of labor to modern modes of production. In considering these sets of issues, some picture of how the Manchurian labor force came to be and its essential attributes will become clear; the type of work force the Japanese bequeathed the Chinese Communists and the problems of labor control and organization they may be expected to face will also be clearly delineated.

Chief Characteristics of Manchuria's Labor Force

Before 1935 the only fairly reliable data available on labor was that provided in publications compiled by the Kwantung administration in the Kwantung leased zone. These data are fairly accurate, and coverage is quite extensive. For example, one finds figures on number of factories, workers, distribution of workers according to types of factories, nationality of workers, age distribution of workforce, wages according to skill and nationality, and some mention of workers' conditions for those with and without dependents. From 1936-1937 the research bureaus of the SMR conducted surveys of the region's physical and human resources, and this naturally entailed a study of different industries, their historical development, and available manpower both rural and urban, skilled and unskilled. The intent of these surveys was to determine the actual size of the labor force, where additional labor might be recruited, and the existing possibilities of expanding the labor force in the future. These research findings were classified secret and became the basic building blocks from which the Japanese army planners constructed their

industrial plans.[1] After 1937 other organizations made their appearance and commenced to publish raw data concerning labor conditions, the influx of labor into Manchuria, wage rates, rates of turnover, cost of living indices, etc. Some excellent studies on labor problems under the first five year plan found their way into print.[2] Finally in October of 1940 the national census of Manchoukuo was undertaken by the government, and it provided the most accurate breakdown to date of the workforce and its size. Similar results were published as early as 1938, but the 1940 census was far superior and more complete in its tabulations and coverage; over time, statistical collection and compilation improved.

According to the October 1, 1940 census report, the total workforce numbered 20,949,225 out of a population of 41,080,907 peoples.[3] Unfortunately we are not provided with the age limits for this workforce; it is stated that the number of men totaled 17,042,936 or 81.0 per cent and the women 3,906,289 or 19 per cent. The workforce was distributed according ot occupation and by nationality as follows.

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[1]For a discussion of policy toward labor under a planned economy see Keizai Chosabu, Manshū Rōdō Tōsei Hōsaku, Nov. 1935. Secret. For an assessment of where unskilled and skilled labor could be recruited, the demand and supply conditions for labor under the five year plan, and projections of labor scarcities for certain branches of heavy industry, see Chōsabu, Rodo Bumon Kankei Shiryō, Dec. 1937. Secret.

[2]Cf. op. cit., Yoshio Satoru, Kasai Mitsuo, "Manshū ni okeru Kō Kōgyō Rōdōsha no Rōdōjiken", Manshū Hyōron, October 5, 1940.

[3]Sōmucho Tōkeicho, Manshū Teikoku Genjū Jinkō Tōkei, October 1, 1940. Secret. p. 1.

Table 31

Gainfully Occupied Workforce Distribution According to Occupation for 1938-1940
And by Nationality for 1940[e]

Occupation	Population[a] 1938	1939	1940	Manchurian[c]	Japanese	Korean	Others[d]
Total Population	38,201,503	39,278,539	41,080,907				
Pop. in Occup.	24,033,628	20,132,162	20,949,225	19,679,928	464,633	768,065	36,599
				100%	100%	100%	100%
Agriculture & Forestry	18,385,321	15,058,469	15,423,224	14,788,731	60,536	563,194	10,743
			73.6%	75.2%	13.0%	73.3%	29.3%
Fishing	38,043	41,481	41,707	40,801	513	375	14
			0.2%	0.2%	0.1%	0.1%	0.1%
Mining	212,421	280,388	282,473	240,899	34,437	6,967	170
			1.4%	1.2%	7.4%	0.9%	0.5%
Manufacturing[b]	1,044,437	1,065,691	1,219,591	1,079,453	94,444	39,127	6,567
			5.8%	5.5%	20.3%	5.1%	17.9%
Commerce	1,313,031	1,359,967	1,404,353	1,266,383	80,956	53,662	3,352
			6.7%	6.4%	17.4%	7.0%	9.1%
Transport	139,266	131,771	151,071	112,324	30,512	7,580	655
			0.7%	0.6%	6.6%	1.0%	1.8%
Civil Servants	980,629	860,189	1,053,144	884,521	110,867	51,549	6,207
			5.0%	4.5%	23.9%	6.7%	17.0%
Domestic Servants	777,400	487,985	419,851	391,893	14,522	12,167	1,269
			2.0%	2.0%	3.1%	1.6%	3.5%
Other	1,143,080	846,221	953,815	874,903	37,846	33,444	7,622
			4.6%	4.4%	8.2%	4.3%	20.8%

[a]Data for years 1938, 1939 from Chōsabu, Manshū Keizai Tōkei Kihō, No. 3, Aug. 1943, pp. 4-9.

[b]It will be seen later from number of workers in actual factories that the number is much smaller than given under Manufacturing. Probably this category includes handicraft workers as well, but this must be assumed since no mention of where handicraft workers are grouped is made.

[c]Manchurians include both Chinese and Manchus.

[d]Includes Russians, Mongols, and Mohammedans; probably some Westerners as well.

[e]Excludes area of Kwantung Province.

The dubious character of the data for 1938 and 1939 in addition to the fact that only three years are covered make it impossible to talk about trends. However, from the static picture we have of the workforce for the end of the 1930's we can note some interesting things. The major portion of the workforce was still engaged in agriculture, for if the industrial labor force is said to consist of mining, industry, and transport, we note that the aggregate number of workers came to 1,653,135 or only 7.9 per cent of the workforce (1940). Certainly this is a small portion indeed.

Another point of interest is the large number of people in commerce. It is a common feature of many backward areas of the world today to have an inordinate amount of resources tied up in distributing channels which makes for wasteful, inefficient allocation of resources. For example, one well placed, large retail establishment could serve a wide area of a city and thereby dispense with the hawkers, vendors, and peddlers that are invariably categorized as being engaged in commerce. As to employment in the bureaucracy, this is not surprising since a new state bent on expanding its industrial base and supporting a large military force requires large numbers of civil servants for regulative and administrative purposes. The distribution of gainfully occupied population according to nationality shows the special status the Japanese managed to acquire. Their largest number was in the government and then in manufacturing and commerce; thus they were in a position to hold the reigns of political and economic control though their absolute number was small. Koreans on the other hand were employed in similar occupations held by the Chinese and Manchus, with the greatest portion confined to agricultural activities and then in commerce. The bulk of workers in mining and manufacturing consisted of Chinese workers.

Excluding transport, communications, and mining and considering only the industrial workers engaged in factory employment, it is seen that not only was the number small and the distribution of factories and workers according to province strikingly uneven, but a sizeable number of factory workers were still in light industry although the number of laborers in heavy industry (cement, metallurgy, machine tool, chemicals) rose rapidly after 1937.[1] The period 1936-1940 is sufficiently long to make some speculation about trends. As for location, the core of Manchuria's industrial plant system was located in Mukden Province around Mukden, Anshan, Fushun, Pen-ch'i hu, Liao Yang, and Hai Ch'eng, an area containing rich coal and iron reserves and the region's only iron and steel works. One finds here also one half of the ceramics, cement, and construction industries, virtually all of the machine tool industry, the transportation industry, over half of the chemical industry, and the greatest share of the fiber and textile industry. The remainder of factories reside around Chinchow, Antung, Kirin, and in Kwantung, while in North Manchuria light industry such as food processing, straw braid, hides, and bristle production is located around Harbin in Pinkiang province.

Of the total 45,223 workers listed in factories through 1940 to August of that same year, 52 per cent or 23,785 could be considered still in light industry (fibers, textiles, paper and printing, hides, hair and leather, straw braid, food processing) and the remaining 48 per cent or 21,438 were in what might be called heavy industry (or those branches of industry requiring considerably more capital per worker and which produce capital themselves). But

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[1]See appendix for table on number of factories and workers distributed according to region and type of industry. Again, we must remember that a portion of metallurgical industry and those related to war time needs are omitted.

this figure is somewhat deceiving. For within chemicals the Japanese included those firms processing the soy bean, and while many of these derivatives were used as fertilizers, much was also used as food. Therefore the actual figure would be somewhat less than 48 per cent, how much so is hard to say. Compared to the situation in 1936 when 69 per cent of 16,786 workers were in light industry and only 31 per cent of 8,911 engaged in factories in heavy industry, a distinct trend is visible toward expanding heavy industry. Over the five year period, the number of factories and workers in heavy industry substantially increased.

In 1940, of a workforce in factories which totaled 45,185, about 56 per cent of its number or 25,360 were born outside of the region, in China, while 41 per cent or 18,542 workers were born in Manchuria.[1] This left 3 per cent or 1,283 workers who were born in Kwantung. It is clear that the largest share of laborers had immigrated to Manchuria from China. We also have some indication of the number of independent and married workers, for of a total of 44,475 workers examined, 53 per cent of 23,764 were married; unmarried workers totaled 47 per cent or 20,711. The women in the workforce were mostly married women, and only 16 per cent or 875 were unmarried, while 84 per cent or 4,723 had spouses. As to the number of hours worked in the factory, about 50 per cent of the workers worked a 12 hour day while 31 per cent worked between 10 and 11 hours per day.[2] The following table indicates the number of workers according to age groups, and this is further broken down according to sex.

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[1]Manshū Rōmu Kyokoku Kai, Manshū Kōjō Rōdō Chōsa Sho, Feb. 1941. Secret. p. 10.

[2]Ibid., p. 13.

Table 32

Age and Sex Distribution of Industrial Workforce

Age Grouping	Number of Workers	Men	Women
15 and under	4,432 (9%)	2,378 (6%)	2,054 (36%)
16 - 20	12,459 (28%)	9,977 (25%)	2,482 (44%)
21 - 25	7,325 (16%)	6,895 (18%)	430 (8%)
26 - 30	6,982 (15%)	6,762 (17%)	220 (4%)
31 - 35	5,101 (11%)	4,920 (12%)	181 (3%)
36 - 40	4,007 (9%)	3,810 (10%)	97 (2%)
41 - 50	3,468 (8%)	3,366 (8%)	102 (2%)
51 - 59	1,154 (3%)	1,110 (3%)	44 (1%)
60 and above	257 (1%)	250 (1%)	--
Total	45,185[a]	39,568	5,617

[a]A probable error of 38 for this figure.
Source: Manshū Rōmu Kyokoku Kai, Manshū Kōjō Rōdō Chōsa Sho, 1940. Secret. Feb..1941, p. 11.

From the above table it is apparent that the bulk of the workforce falls between the ages of 16 and 30 years, with women predominating in the 16 to 20 year group. Most women worked in ceramics, fibers, textiles, and food processing industries.

Turning from industry to mining, let us carry out a similar examination of that workforce with regard to birthplace of workers, age grouping, etc. About 67 per cent of the workforce was in coal mining, 19.1 per cent in iron ore mining, 10.6 per cent in gold mining. The remainder were in light metal mining (lead, zinc, sulphur, etc.).[1] Most of the mining industry was located near Mukden, but some iron ore and gold mining were conducted in the far north, especially in Sankiang and Heiho Provinces. The largest share of miners were Chinese, and roughly 45 per cent of them came from Hopei and Shantung Provinces in North China.[2] For the mines of Fushun, Anshan, and Pen-ch'i hu

[1]Chōsabu, Manshū Kōzan Rōdō Gaikyō Chōsa Hōkoku Sho, Nov. 1939. Secret. p. 13.

[2]Ibid., pp. 33-34.

in South Manchuria, most miners were recruited from the immediate vicinity of Mukden Province, but in North Manchuria about 60 per cent of the miners had migrated from Shantung, Hopei, Shansi, Honan, Kiangsu, and Anhwei, while 37 per cent came from the nearby provinces of Sinkiang, Mutankiang, and Pinkiang.[1]

For the number of family and non-married workers and their age distribution the data is not aggregated for the mining industry, yet some insight can be gained if a fairly representative mine is selected for study. The Fushun collieries, one of the first mines opened and exploited because of the abundance of rich deposits of bituminous coal lying at the surface, have been studied by the SMR research staff ever since it began operations. Of the 32,875 workers employed at this mine in early 1937, only 36.2 per cent or 11,927 laborers were married and supported families; 63.8 per cent or 20,948 were independent. Their age distribution, according to an investigation completed in December 1937, ran as follows.

Table 33

Age Distribution of Miners Employed at Fushun Collieries in 1937

Age Distribution	Number of Workers	Per Cent
20 and under	1,524	4.29
20 - 25	6,705	18.88
25 - 30	9,041	25.46
30 - 35	7,507	21.14
35 - 40	6,297	17.73
40 - 45	3,257	9.17
45 and above	1,181	3.32
Undetermined	-	-
Total	35,512	100.00%

Source: Chōsabu, Manshū Kōzan Rōdō Gaikyō Chōsa Hōkoku Sho, July 1940. Secret. p. 37.

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[1] Ibid., pp. 33-34.

The largest number of workers fell between the ages of twenty and thirty-five years of age. This was not the case for all mines, however, for in the Nanman Kōgyō Kaisha (South Manchurian Mining Company) about 24 per cent of the workforce was under twenty years of age, and at Pen'ch'i hu 13 per cent were under twenty years of age. But these are the only two exceptions, and Fushun represents a fair average of the age distribution of miners in the Manchurian mining industry.

A large portion of the Manchurian workforce migrated to Manchuria from North China. Probably this was more pronounced in mining and railroad construction than in heavy industry because of the need for large numbers of unskilled workers capable of working under arduous work conditions. In much of heavy industry, notably steel, workers were recruited from the immediate area, probably a device to reduce labor recruitment costs. One finds in addition a large proportion of non-married workers between the ages of sixteen and thirty-five working in factories and between twenty and thirty-five working in mining, which reveals a basis for some potential instability in the labor force. The worker in his twenties, especially if he has no responsibility, can be a very mobile agent. Workers with family responsibilities have their mobility reduced. Discussion of labor mobility and likely committment to industrial employment will be postponed until the next section. From the above, it can be concluded that the chief characteristics of this labor force were that it consisted principally of migrational workers, of a relatively young age, most of them without dependents.

An important question, vital to an understanding of the productivity of a workforce, is what percentage can be considered skilled and technicians? In other words, to what extent did the Japanese train this workforce and create a

corp of technicians to man and operate heavy industry? This question is quite important when we move to the Chinese Communist period, for an answer to this question can possibly suggest reasons about the character of recovery in that region after 1949. Did the Chinese Communists have the pick of skilled workers and technicians to rebuild Manchurian industry and thus aid in the enlargement of this segment of the workforce later, or were they confronted with such crucial shortages of skilled and experienced workers that a period of considerable training had to elapse before technicians were sufficient to initiate industrial recovery?

According to a study in 1937[1] the SMR research bureau (Chōsabu) anticipated a severe shortage of upper grade technicians for such industries as electrical, metallurgical, chemical, and engineering works to make for a deficit of 312 technicians in 1937, 118 in 1938, 69 in 1939, 383 in 1940 and 652 in 1941 (to include Manchurian as well as Japanese technicians). Upper grade technicians would most likely consist of managers, engineers, etc., although this term is not made explicitly clear in the text. For lower grade technicians, (technicians, foremen, accountants, etc.), similar shortages were expected, and they numbered 2,428 in 1937, 187 in 1938, 24 in 1939, 391 in 1940, and 613 in 1941. No shortages in agriculture were expected since demand was not great and training for such personnel did not require much time. On paper anyway, shortages in skilled personnel were expected, yet no indication was made of how future supplies of such talent were to be produced. Information is available on the number of graduates from colleges, technical schools and middle schools in Manchuria from 1939-1942 so that a glimpse of the flow of

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[1]Chōsabu, Rōdō Bumon Kankei Shiryō, Dec. 1937. Secret. pp. 137-140. This survey was based on demands stemming from the original first five year plan.

skilled personnel available to the workforce for the latter years of the five year plan is possible.

Table 34

Actual Number of Graduates and Expected Number of Graduates from Colleges, Technical Schools, and Middle Schools for Mining and Manufacturing Employment for Years 1939-1942

Institution		Machine Ind.	Metal-lurgy	Elect-ricity	Chem. Ind.	Ceramics & Fuel	Mining Ind.	Total
1. Colleges								
1939	Expected	324	-	120	145	-	282	883
	Graduated	58	-	41	33	-	40	175
1940	Expected	425	99	356	206	5	81	1,242
	Graduated	74	19	60	37	-	19	115
1941	Expected	-	126	-	11	20	78	1,334
	Graduated	64	22	56	27	3	21	197
1942	Expected	227	55	191	76	10	33	669
	Graduated	99	19	93	52	5	38	306
2. Tech. Schools								
1939	Expected	885	-	286	186	-	241	1,604
	Graduated	137	-	96	41	-	28	303
1940	Expected	235	42	548	421	13	77	2,068
	Graduated	168	6	96	76	2	16	366
1941	Expected	1,474	64	667	659	43	302	3,420
	Graduated	240	9	110	83	6	47	505
1942	Expected	633	90	416	230	14	155	1,559
	Graduated	305	20	212	110	9	77	749
3. Middle School								
1939	Expected	1,975	-	1,050	507	-	1,400	4,954
	Graduated	909	-	311	262	0	138	1,622
1940	Expected	3,284	32	1,406	887	0	289	5,943
	Graduated	622	245	1,753	802	-	957	6,172
1941	Expected	3,635	70	1,420	1,359	166	488	7,299
	Graduated	622	4	265	178	18	103	1,206
1942	Expected	1,746	102	2,411	371	9	392	4,073
	Graduated	987	27	891	182	5	223	2,330

Note: 1939, 1940, 1941 include Manchuria and Kwantung. 1942 is for Manchuria only. Graduates for transport and military production are excluded.
Source: Chōsabu, Sōgō Chōsa Hōkoku Sho, Vol. 2, 1941. Secret. pp. 214-215.

The number of graduates increased from 1939 to 1940 but their number declined after that date. This would be explained by the war's harsh demands on all available personnel so that the number of people for training would be

drastically reduced. From the above data it would seem that the educational system scarcely provided the number of technicians a rapidly growing heavy industrial system required. In 1940 it was estimated that an all time high of 13,340 technicians had been trained, of which 694 could be considered products of colleges and universities, thus possessing training equivalent to that for engineers; the remaining 12,646 came from middle and technical schools.[1] This figure includes technicians for agriculture and transport, although no mention is made of that number moving into military production. It is hard to hazard an accurate guess of the total number of technicians who were in Manchuria in 1945; probably the number was not much over 20,000 and this estimate, while it includes technicians of all grades, seems a little high. Unfortunately we have no figures for the number trained within the individual joint stock companies, for certainly this source cannot be overlooked.

From the beginning of Japanese rule, the educational system in Manchuria did not expand rapidly, for by February 1939 primary school enrollment, consisting of children ages seven to fifteen, totaled only 1.6 million. The total population of this age group at this time was about seven million. The number of students in middle or normal schools was about 50,000 for that same year and students in higher education totaled 3,800.[2] Only a small start in education had been made, and clearly universal education was not at all a reality. Up until 1937 the Japanese showed little interest in creating a

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[1]Chōsabu, Sōgō Chōsa Hōkoku Sho, Vol. 2, 1941. Secret. p. 213.

[2]Waller Wynne, Jr., The Population of Manchuria, International Population Statistics Reports, Series P-90, No. 7, U.S. Government Printing Office, Washington: 1958. p. 44.

trained indigenous labor force. With the five year plan, however, it was quickly decided to increase the enrollment in the Manchoukuo school system and speed up the number of graduates.[1]

These frenzied, hasty measures resulted in producing people of low caliber skills and training. Instead of spending four or five years in training, an engineer now received instruction allowing him to complete the program in two or three years. To conserve facilities, classes were held out of doors or in school dormitories to use all available space because of classroom shortages. Some technical schools were set up on a temporary basis where training could be provided to additional workers needed to satisfy the demand to fill a recently constructed plant now ready to operate. The social science curriculum was virtually eliminated, and the emphasis was devoted entirely to sciences and mathematics. Students completing the accelerated, streamlined courses received special certificates indicating their training, skill, and the position they could fill.

Too, there must have been little incentive for many graduates, for most opportunities for advancement in industry were denied them because the Japanese administrators adhered to the policy of keeping top positions of management for their own personnel recruited from Japan. Very few of the corp of indigenous skilled technicians ever filtered into this portion of industrial management, though many were able and did fill the lower echelons; even here, however, their number was not conspicuously large. Most of the graduated technicians and engineers entered heavy industry, while in mining it was acknowledged the skills of the Manchurian-Chinese workers were not very highly

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[1] Op. cit., Rōdō Bumon Kankei Shiryō, p. 164.

valued.[1] Because of the large number of unskilled workers needed in mining, only a few Japanese managers were required and these were not selected on any educational merit basis, but on their ability to handle workers. It was up to them to pick those head coolies to manage groups of workers, recruit them when needed, and distribute wages.

After 1941 the quality of educational training deteriorated and the number graduating dwindled. No major achievements in creating a large reserve of this type of labor were scored after 1941.[2] The chief emphasis seemed to shift at this time away from skilled labor demands to unskilled labor, since great amounts were required in the fields of transport, construction, and replacing workers absorbed by the military. Voluntary youth brigades were organized to alleviate these scarcities and after 1938 targets were set for the number of youths to be mobilized for industrial work, etc.

Sources of Labor

The approach used thus far, though static in nature, has permitted us to examine the labor force in Manchoukuo from a number of important angles. This has produced some interesting conclusions about the workforce, but now it is necessary to introduce the dynamic element of evolution of an industrial labor force and consider such questions as where labor was recruited, the conditions giving rise to migrant laborers entering Manchuria, where these workers went to live and work upon their arrival in Manchuria, and the period of stay on

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[1] Op. cit., Manshū Kōzan Rōdō Gaikyō Chōsa Hōkoku Shō, p. 46.

[2] Op. cit., Programs of Japan in Manchoukuo, 1944. The section on labor (broadcasts from Manchoukuo and Japan monitored by the O.S.S. in Hawaii) makes no mention of training the labor force. The main emphasis was to find enough labor to undertake reclamation, colonization projects.

on the job before returning to their families or seeking other forms of employment. This knowledge will provide the basis for understanding about recruitment and committment of industrial labor to modern modes of production in Manchuria.

In the past, the regions watered by the Sungari river in Central and Northern Manchuria were almost exclusively inhabited by the Manchus and non-Chinese peoples.[1] When, in the mid-19th century, the Manchus opened up the land for colonization so as to acquire more revenue for the imperial treasury, Abbe Huc wrote:

> The Chinese rushed upon them like birds of prey, and a few years sufficed to remove everything that could in any way recall the memory of their ancient possessors.[2]

Thus as the Chinese filtered into South Manchuria and northwards they transplanted the customs and farming practices of North China into the developing villages. Soon the number of Chinese outnumbered the indigenous Manchus. Again referring to Huc, he noted that toward the end of the 19th century,

> It would be vain for anyone to seek in Mantchouria a single village, that is not composed entirely of Chinese. You may now traverse Mantchouria to the river Amur without being at all aware that you are not traveling in a province of China. The local coloring has become totally effaced.[3]

The trickle soon became a torrent when during the 1920's, over a span of several years, about a million Chinese migrants crossed into Manchuria. The reasons for movement out of North Chinese were numerous, and isolation of any

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[1]C. Walter Young, "Chinese Labor Migration to Manchuria", Chinese Economic Journal, Vol. 1, July, 1927, p. 614.

[2]Abbe Huc, Travels in Tartary, Thibet, and China, Vol. I, Chicago, 1898. p. 107.

[3]Ibid., p. 107.

particular factor threatens to obscure the complex inter-related factors at work. The Japanese researchers for the SMR attached considerable importance to population pressure in the North China villages. They estimated that the population per square kilometer for Shantung was as high as 242 persons, and in Hopei 203 persons.[1] This is considerable when contrasted to Japan at that time when the average was 181 persons per square kilometer. Population density undeniably limited economic opportunity in North China agriculture. When such difficulties as military conscription, banditry, periodic famines, and civil war became more common in the life of the North Chinese agriculturalist, these deplorable conditions encouraged an exodus to the north where there was land, opportunity of employment, and relative stability. The railroad construction under way, expansion in mining, and opportunity to take up farming on unreclaimed arable tracts of land in central and northern Manchuria were the powerful inducements that stimulated a more rapid rate of migration. In describing the migrational movement of the 1920's, C. Walter Young wrote that,

> They have come in most cases to take up new lands north of Mukden, some along the line of the Supingkai-Taonan railroad line, and along the section opened during the summer of 1926 from Taonan to Tsitsihar. Hundreds flocked north as far as and beyond Tsitsihar, north of the Chinese Eastern main line; thousands crowded into Harbin to distribute themselves still further north into the newly opened lands adjacent to the new Hulan-Hailin line and especially to the east toward Pgranitchnaya. Other thousands went east from Changchun on the Kirin-Changchun line, some to continue into territories adjoining the newly opened Kirin-Tunghua Railway area.[2]

The migration of Chinese from Shantung and Hopei attracted considerable

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[1] Mantetsu Chōsabu, Manshū Keizai Nempō, 1939, p. 318.

[2] Op. cit., C. Walter Young, p. 621.

attention and study by the Japanese.[1] Because of general economic expansion, there was little fear by civilian authorities that the immigrants could not be absorbed into some form of employment, but anxiety was expressed as to the ability of the transport system to carry these hordes north at a rate rapid enough to prevent their accumulating in the debarkation centers and swelling the ranks of urban unemployed, thus creating social and public health problems. Japanese and Chinese authorities accurately recorded the arrival and departure of these migrant workers. From these records we can show the trend of net immigration from 1924 to 1943.

Table 35

Reported Migration of Chinese to and from Manchuria (1923-1943)

(In 1,000's. Includes migrants to and from Hsingan Province and the western part of Jehol Province, areas not now part of Manchuria. As only a relatively small number of Chinese migrated to and from these areas, the numbers in the table may be taken, for all practical purposes, as representing the migration of Chinese to and from the present area of Manchuria.)

Year	Net Migration	Immigration	Emigration
1923	147	434	287
1924	259	492	233
1925	318	533	215
1926	308	607	299
1927	843	1,160	317
1928	693	1,074	381
1929	445	1,046	601
1930	259	748	489
1931	6	467	461
1932	-85	414	499
1933	122	619	497
1934	251	691	440
1935	25	520	495
1936	-9	358	367
1937	65	362	297

[1]The SMR publications and statistical accounts are too numerous to relate. One of the most succinct and lucid accounts, however, was that of the Keizai Chōsa Kai, Manshū no Kurii, 1933, pp. 1-94 (The Manchurian Coolie).

Table 35 (Continued)

Year	Net Migration	Immigration	Emigration
1938	293	576	283
1939	707	1,157	450
1940	661	1,619	958
1941	386	1,206	820
1942	779	1,486	707
1943	1,125	1,266	141

Source: Waller Wynne, Jr., The Population of Manchuria, International Population Studies Report Series, P-901, No. 7, U.S. Government Printing Office, p. 20.

During the decade of the 1920's the high point reached was a net migration of 843,000 people in 1927, and this number gradually tapered off until 1932 when emigration exceeded immigration. Slack markets and low agricultural prices making for decline in incomes and rising unemployment caused this. Unrest and regional disorder from Japanese military penetrations also persuaded laborers to return to their villages where they could find greater economic and social security. Again in 1936 immigration dropped nearly forty per cent when the Kuomintang government started to curtail movement of people from North China to Manchuria; the number remained low throughout 1937, the year of the outbreak of the Sino-Japanese war. Net migration commenced to pick up again in 1938 as the demand for more workers encouraged the recruiting of free labor from the North China provinces, until finally in 1943 there was an all time high of over one million laborers that entered Manchuria.

While it is of interest to speculate about the reasons causing migrant workers to break with their native areas and move to a distant area to settle, aspects of migratory movements seldom explored are what happens to the immigrants once they settle; what occupations do they select; do they continue to move about, etc.? After 1935 their methods of surveying incoming workers improved, and a wealth of statistics accumulated relating to migrant workers.

The largest number of immigrants came from Shantung and Hopei.[1] Historically, Chinese migrating to Manchuria gathered and settled in the southern areas where land was suitable for applying similar agricultural techniques practiced in North China. Mukden, Kirin, and Pinkiang provinces absorbed the greatest number of migrants. Because Chinese officials had always encouraged farmers to settle in the remote provinces of the north and the Japanese continued this program, the data show many settling in Hsingan, Sankiang, and Heiho provinces. Mining, civil engineering works, construction, fabrication, communications, and transport absorbed 57 per cent or 211,051 immigrants in 1936 and 54 per cent or 199,546 in 1937. The next important occupation was agriculture which drew 15 per cent into this activity for these two years. Mukden, the lead ng industrial area of the region, attracted the largest number of immigrants and workers flowed into the mines and new factories located there. We may conclude that the majority of migrants in the late 1930's moved to industry and related fields. Our information on net migrational movements is not complete without some mention of the age distribution of workers that came to Manchuria for these two years. The largest share was in the age group of twenty to forty. The following table indicates this age distribution.

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[1]Mantetsu Chōsahen, Manshū Keizai Nempō, 1939. pp. 325-326, 327-328.

Table 36

Age Distribution of Workers Entering Manchuria for Years 1936-1937

Age Grouping	Year	Total Number of Workers
11 - 20	1936	39,890
	1937	46,410
20 - 30	1936	152,696
	1937	131,913
30 - 40	1936	107,654
	1937	83,363
40 - 50	1936	44,053
	1937	42,497
50 - 60	1936	16,651
	1937	16,852
60 and above	1936	3,205
	1937	2,654

Source: Mantetsu Chōsahen, Manshū Keizai Nempō, 1939. pp. 328-329.

The findings above correspond well with the age distribution data presented earlier for workers in factories and mining.

Discussion has centered chiefly upon regional population movements. What about those population movements from countryside to town? The situation in this regard is quite complex because of the interflow of population between rural areas and town. Agricultural laborers either sought employment from wealthy farmers and landlords or they drifted into the cities seeking work in construction, the factories, or nearby mines. If the grip of the city on the worker was weak, he drifted back to the village. If wages were satisfactory, housing conditions fair, and there were sufficient consumer goods to purchase, the worker became more committed to factory employment. There is some evidence to show that the percentage of population in the countryside did commence to decline after 1935. Absolute increases in population still occur after this date, but by 1944 there had been almost a twenty per cent decline in the share of population engaged in agriculture as opposed to those dwelling in the cities.

Table 37

Trends of Farm and Nonfarm Population Movements (1934-1944)
(1,000's)

Year	Farm Pop.	Index	% of Tot. Pop.	Non-Farm Pop.	Index	% of Tot. Pop.	Total Pop.	Index
1934	23,668	100	84.7	4,286	100	15.3	27,945	100
1935	24,896	105	86.3	3,952	92	13.7	28,848	103
1936	25,279	106	85.0	4,478	104	15.0	29,757	107
1938	24,568	103	76.7	7,463	174	23.3	32,031	115
1939	24,584	104	74.5	8,790	205	25.5	33,373	119
1940	29,608	125	72.5	11,234	262	27.5	40,842	146
1941	31,927	135	72.4	12,184	284	27.6	44,110	158
1942	33,423	141	72.8	12,477	292	27.2	45,899	164
1943	32,595	138	72.1	12,620	295	27.9	45,215	162
1944	32,488	137	67.4	15,723	367	32.6	48,211	173

Notes:

(1) Data for 1934 is from Ministry of Industry. Hsingan province is not included.

(2) Data from 1935-1942 from statistical division of Manchurian Railroads.
1935: Hsingan and Jehol omitted.
1936: Hsingan and Jehol omitted.
1937: Not available.
1938: Jehol and West, East, and South Hsingan omitted.
1940: Jehol and West, East, and South Hsingan omitted.
1941-1942 includes all of Manchuria.
1943-1944 computed on basis of census of provincial security bureaus of Manchuria on basis of population statistics for rationing purposes by the farm cooperatives.

Source: TPCCHTS, Vol. III (Part 1). Table 3, p. 111.

The large jump in total population from 1939 to 1940 is probably due to an improved census taking; of course, a wide margin of error may persist but it is difficult to say how much this error is. The increase in non-farm population during the early 1940's was probably the result of mobilization efforts by the Japanese to move people to the cities for the military effort, for transportation purposes, and to expand factory production.

Recruitment of Labor

Modern inquiry into the process of the transformation of peasants and primitives into members of an industrial labor force is concerned with three analytically distinct aspects of the single social process.[1] (1) What are the circumstances, incentives, and motivations which will induce workers to leave traditional modes of production and enter modern economic activity? (2) What are the processes and mechanisms whereby the personality of the worker, his social relations and cultural norms become modified so that comitment is made to the industrial way of life? (3) What is the range of social structure, cultural pattern, and personality type which may carry on industrial production? These questions can be resolved by an examination of the conditions under which agricultural labor work and the manner in which they are recruited from traditional agricultural life to engage in industrial production. Finally, those conditions which encourage the laborer to remain at his job or seek alternative forms of employment require study, for besides the mobilization of a workforce, it must be disciplined and trained to endure the routine and constancy of industrial activity.

The increased tempo in urban construction and railroad building gave rise to an immediate difficulty of acquiring adequate amounts of unskilled labor. During the early 1930's, the supply of labor for urban construction was quite adequate because of depressed conditions in agriculture which forced

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[1] Manning Nash, "The Recruitment of Wage Labor and Development of New Skills", The Annals of the American Academy of Political and Social Science (Agrarian Societies in Transition), May 1956, p. 23. For an excellent Japanese study on labor and its relationship to economic development see Takei Goichi, Manshū no Rōdō to Rōdō Seisaku, Tokyo, Ganshodo, 1941, pp. 1-252. There is a fine selection on labor recruitment and the various methods used in Manchuria. The study contains much information on labor migration into Manchuria prior to 1931. The author was a research worker for the SMR for many years.

numerous villagers to move to cities. Furthermore, advertisements for unskilled labor to engage in road, bridge, and building construction served to induce many to move into the cities.[1] There even developed conditions of over-abundance of labor in some cities. But railroad construction required labor in the sparsely populated areas in which for certain times of the year climate prevented outside work. The building of railroads in North and Northwest Manchuria could only be done for six months of the year, and the companies found themselves faced with the problem of whether to retain labor throughout the winter on a semi-employed basis or allow them to leave and early in the spring recruit a new group. The problem boiled down to equating the costs of keeping labor non-active through the winter months against the cost of recruiting labor from other provinces or North China.[2]

There were three main methods Japanese managers used to recruit labor: (1) Recruitment of labor from the immediate area and district; (2) Recruitment of labor from other provinces; (3) Recruitment of labor from North China. The first was always the course immediately considered, but this course proved successful only as long as local labor was plentiful and willing to participate in industrial employment. Much of the hiring of labor for the iron and steel works in Mukden province was done on a local basis, and considerable success was achieved because attractive wages offered induced a sufficient supply.

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[1]See remarks by Hashizumi Kanichi, Manshū Sangyō Kaihatsu to Rōdōsha Nōmin Jōtai, Kōgyō Nihonsha, 1936, p. 508, and Yoshio Satoru, op. cit., pp. 368-374.

[2]See especially the article by Matsuyama Akira and Namiki Kozo, "Hokukokusen oyobi Kaionsen ni okeru Doken Rodo Jijo", Rōdō Jihō, No. 62, 1934. p. 208. This article depicts the conditions of labor in the construction of the Peian-Heiho line and the Hsinking-Paichengtzu railroad line.

Other cases of local labor being used first were the railroad lines being built up to the Amur river. If local labor was available, it was cheaper to recruit the supply needed from this source rather than transport labor in from North China. But in many of the remote provinces of Northwest and Northeast Manchuria such as Hsingan, Sankiang, or Mutankiang, labor had to be recruited from other provinces or outside the country. When the Peian-Heiho line was completed in 1935 and stretched some 303 kilometers, workers were attracted from their villages by advertisement of labor opportunities, high wages, etc., or a paid recruiter circulated in the countryside and enlisted the services of the number of workers needed.[1] Thus both direct and indirect methods of recruiting were used.

In the case of obtaining workers from other provinces, the method of recruitment was similar as appeals in the form of posters were circulated and paid agents went out to round up on a contractual basis a certain quota of laborers. The last technique of tapping the labor market in North China was a more expensive procedure and necessitated complex transfers of the workers by rail for the overland trip. But when severe shortages of labor occurred in Manchuria it became necessary to send recruiters into Hopei and Shantung. Over time a sophisticated system of labor recruitment was established out of Tientsin which services these two provinces. Still, the system was a costly one, for it meant that laborers had to be contracted, papers issued to them, and then they were transported either overland or by sea to South Manchuria. From Dairen they had to be transported to the place of final destination. All of these items ran into considerable expense, and it was a tedious, time

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[1] Ibid., p. 217.

consuming process before the labor demand could be satisfied. From Paotingfu (Provincial seat of Hopei Province) to the Amur river valley in Heiho province, it required the expenditure of forty-three yen per person to transport him and provide him with shelter, food, and wages until he was put to work.[1] As the general price level rose after 1935 the cost of recruitment increased. For example, the cost of recruiting a single worker for the iron ore mines at Pen-ch'i hu in 1934 came to 9.80 yen (9,351 workers were recruited at a total expense of 91,630 yen) and by 1937, even though the total number of workers recruited declined to 5,504, because of rising prices the outlay came to 57,463 or 10.53 yen per person.[2]

Industries that could acquire labor from the surrounding vicinity of the plant or mine and did not rely on North China labor enjoyed a differential cost advantage over those industries that had to depend upon this supply source. Most heavy industry situated in Mukden and Kwantung provinces derived these cost benefits because they could obtain labor only a few miles away (it will be recalled that it was principally to these two provinces that labor migrated). The savings that accrued from recruiting nearby labor as opposed to obtaining it from North China is all too apparent, as in the following data for the steel industry for the last four years of the first five year plan.

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[1] Ibid., p. 220.

[2] Op. cit., Manshū Kōzan Rōdō Gaikyō Chōsa Hōkoku, pp. 194-195.

Table 38

Number of Workers Recruited and a Breakdown of Recruitment Expense for Steel Industry

Year	Number Recruited	From Immediate Locale	From Other Prov.	Outside Manchuria
1938	58,566	53,694	4,225	647
1939	73,785	60,019	2,516	11,250
1940	54,161	44,863	3,518	5,785
1941 (Jan.-July)	35,005	25,337	1,843	5,325

Year	Workers from Other Prov.	Total Outlay (yen)	Expense per Worker (yen)	Outside Manchuria	Total Outlay (yen)	Expense per Worker (yen)
1938	4,225	16,877.01	3.97	647	12,184.36	16.83
1939	2,516	16,452.88	6.54	11,250	386,437.50	34.35
1940	3,518	37,482.84	10.65	5,780	215,810.71	37.22

Source: Chōsabu, Sōgō Chōsa Hōkoku Sho, 1941. Secret. pp. 106-107. Vol. 1.

In 1939 the demand for labor increased as scarcities developed in branches of industry which had expanded. The drive to recruit more labor forced recruiters to seek it in North China and of course costs rose sharply (though fewer workers were recruited in 1940 than in 1939, the cost per worker still rose). Approximately ninety per cent of the labor recruited for the steel industry was obtained near the location of operations.

In contrast to a single industry picture, what about the situation of recruitment of all labor from within Manchuria as opposed to outside of Manchuria for Manchurian industry. This is provided in the following table.

Table 39

Number of Manchurian and Chinese Labor Recruited into Different Branches of Industry from Within Manchuria and from North China (1939-1941)

1. Within Manchuria

Year	Total	Forestry	Manufact.	Mining	Construct.	Transport.	Others
1939	-	-	-	-	-	-	-
1940	751,988	104,930	118,987	139,356	333,105	23,986	31,624
1941	564,025	28,477	73,582	80,738	355,837	9,163	16,228

2. From North China

1939	1,012,148	1,321	192,966	289,640	87,873	120,646	-
1940	1,364,706	1,825	267,421	410,272	88,908	127,539	-
1941	604,397	-	159,750	169,390	48,542	50,042	-

Source: Chōsabu, Sōgō Chōsa Hōkoku Sho, Vol. 2. 1941. Secret. p. 213.

Since forest exploitation was located in the far north, it was cheaper and easier to recruit from villages close by rather than from the south. In manufacturing, it will be noted that somehow the supply of labor in Manchuria was simply not forthcoming and industry had to reach into the North China village for it. It will be shortly seen why this difficulty came about. The story was much the same in mining, transport, and construction, although for the latter some success was registered in tapping the local urban labor markets. But when the totals are examined, it is plainly evident that the largest share of labor recruited for industry came from outside the region.

Labor Commitment to the Industrial Workforce

After labor is recruited, it must be disciplined so that it will attune itself to the rhythm of industrial activity and remain on the job. At the same time it must be trained so that it can not only perform the task assigned to it, but that over time it will acquire efficiency and its productivity will increase. While it was relatively easy to recruit labor for industry in

Manchuria, it was another thing to compel it to work and remain employed. The trouble with priming the raw agricultural worker for an industrial position was that because he was devoid of responsibilities to keep him firmly at his task, he usually worked just long enough to earn the amount he wanted and then he returned to his native village, or he might simply move to another job. The result was that with growing demand for labor by new firms, the rate of labor turnover increased greatly. A rapid turnover only intensified the labor shortages that became more numerous so that work stoppages and slowdown of production came to have an important influence on whether the company would fulfill its quota under the plan. This problem of labor scarcity (in the context of rapid, state introduced economic development) and labor turnover is not new in a planned economy desirous of accelerating the rate of investment in capital goods and raw materials production, for the Soviet Union in its early years of planning encountered very high rates of labor turnover. This made it so difficult to fulfill production schedules that workers were required to carry work papers on their persons to discourage movement from one job to another, and severe punishment was meted out for workers deliberately seeking monetary gain in this way.[1]

High rates of labor turnover forced plant managers to extend working hours in order to maintain previous output levels; this made for labor fatigue, high accident rates, breakdowns in production lines, and inefficiency.[2]

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[1] Op. cit., Franklyn Holzman, p. 32.

[2] The number of industrial accidents jumped sharply from 832 in 1934 to 2,448 in 1935, and to 3,797 in 1936. By 1937 the number of accidents was on the rise when about 1,282 accidents occurred in the first two months. Data do not extend beyond this date. See Manshu Keizai Nempō, 1938, p. 438 (Vol. 2).

High turnover rates increase operating costs too, because it was expensive in time and resources to train a worker for a task only to have to replace him a little while later. Extended commitment of the laborer to his job is the desired goal of every manager (as well as satisfactory performance in work), for this assures those running the operation that the level of output achieved can be sustained, and if production is planned it makes this task easier. Finally, as labor acquires more experience and new capital is introduced, it is very possible that changes in production functions will occur and give rise to increased productivity per labor.

In 1938 the industrial machine was under considerable pressure to generate more raw materials and articles for war purposes. To build new factories required large supplies of labor. Planners seemed to have assumed that labor would be absorbed into the industrial routine with little fuss or difficulty. In actuality the Japanese devoted little investment and time to training the worker for his job, and at first little provision was made to encourage him to continue on as an industrial worker. The result was that a very large number stayed employed at a single job for only six months to a year, and then departed. Attempts were made to measure the extent of turnover and these data show that labor commitment to industrial occupations never reached a stage where it could be stated that workers were genuine industrial workers. It is no great surprise that the Japanese referred to the majority of them as agricultural workers. The following table shows the period of time worked in four factories in South Manchuria.

Table 40

Period of Employment of Labor for Four Factories in 1939

Factory[1] Factory	Per Cent of Workforce	Period of Time Employed
A	56.8	Less than one year
	34.4	One to five years
	8.6	Five to ten years
	0.2	Ten to fifteen years
B	69.2	Less than one year
	21.8	One to five years
	6.0	Five to ten years
	3.0	Ten to fifteen years
C	64.7	Less than one year
	35.3	One to five years
	-	Five to ten years
	-	Ten to fifteen years
D	73.7	Less than one year
	24.9	One to five years
	1.3	Five to ten years
	.1	Ten to fifteen years

[1]Factory A is a certain factory at Fushun. At the end of 1938, 45% of the workers only worked at this factory for a period of six months.
Factory B is in Dairen, and this was for the period through June of 1939.
Factory C is again at Fushun and covers period through August of 1939.
Factory D was in Mukden (textile factory) and was for the year 1938.
Unfortunately we are unable to learn what types of factories A, B, C, were.

Source: Adachi Yoshinobu, "Manshū Kōgyō Rōdō ni kan suru futatsu, mitsu no Kosatsu", Mantetsu Chōsa Geppō, Feb. 1940, p. 107.

It is quite apparent that in these four factories the work period was generally about six months to a year for the largest share of workers (57 per cent - 74 per cent). The rate of turnover would have been lower if the Japanese dominated in the workforce, but in truth they comprised a very small proportion of most factories. In the case of a machine tool factory in Mukden, in 1934 about 96 per cent of the workers employed were Manchurian-Chinese and

only 4 per cent were Japanese.[1] The total factory employed 493 people. By 1939 employment had increased to 2,878 but the percentage of Manchurian-Chinese was still about 91 per cent while Japanese made up the other 9 per cent. Of the Manchurian-Chinese employed in 1939, only 59 ranked as lower grade technicians. Nearly all factories employed large amounts of Manchurian-Chinese workers who would naturally be of rural origin.

In the above case, though three factories were unknown as to what they produced, one was a textile mill where the ratio of capital to labor would be considerably less compared to that for such industries as chemicals, steel, machine tool production, etc. Does the low labor-capital ratio in an industry bias our contention as to high rates of turnover in Manchurian industry? It probably does in so far as most of these laborers would be less skilled and in greater number than workers in heavy industry where greater skill was demanded, their numbers were fewer, and wages higher. For a more complete picture of Manchurian industry for years 1939-1940 we can show the number of workers leaving and entering industry.

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[1]Adachi Yoshinobu, "Manchū Kōgyō Rōdō ni kan suru futatsu, mitsu no Kosatsu", Mantetsu Chōsa Geppō, Feb. 1940. p. 108.

Table 41

Number of Laborers Leaving and Entering Industry for Specific Months (1939-1940) According to Industry

September 1939

Industry Category	No. at Beginning of Month	Hired	Departed	Final Number
Total	37,406	3,061	2,566	37,904
1. Ceramics & Const. Mat.	4,019	67	264	3,822
2. Light Metal	3,858	193	123	3,926
3. Machine Tool	3,685	171	134	3,723
4. Transport Const.	1,005	71	56	1,020
5. Chemicals	4,150	748	404	4,495
6. Fibre	8,921	895	999	8,817
7. Finished Textiles	1,592	46	35	1,603
8. Paper	2,260	77	73	2,264
9. Hide, Hair & Bristles	319	8	-	327
10. Straw Braid & Wood Prod.	1,580	64	65	1,589
11. Food Process.	5,749	686	376	6,059
12. Others	259	35	37	257

December 1939

Total	38,615	5,479	3,025	41,069
1. Ceramics & Const. Mat.	3,390	161	146	3,405
2. Light Metal	3,958	246	165	4,039
3. Machine tool	3,953	323	209	4,067
4. Transport Const.	1,160	121	68	1,213
5. Chemicals	4,905	552	401	5,056
6. Fibre	8,548	2,714	1,151	10,111
7. Finished Textiles	1,680	203	124	1,759
8. Paper	2,257	210	71	2,396
9. Hide, Hair & Bristles	330	30	20	340
10. Straw Braid & Wood Prod.	1,518	116	186	1,448
11. Food Process.	6,671	758	448	6,981
12. Others	245	45	36	254

February 1940

1 Total	37,308	5,198	2,988	39,518
1. Ceramics & Const.Mat.	3,196	76	525	1,747
2. Light Metal	3,892	240	120	4,012
3. Machine Tool	4,016	236	152	4,100
4. Transport Const.	1,118	143	60	1,201
5. Chemicals	4,362	298	668	3,992
6. Fibre	8,489	2,443	780	10,152

Table 41 (Continued)

Industry Category	No. at Beginning of Month	Hired	Departed	Final Number
7. Finished Textiles	1,779	56	40	1,695
8. Paper	2,369	78	81	2,366
9. Hide, Hair & Bristles	344	2	20	326
10. Straw Braid & Wood Prod.	1,442	98	36	1,504
11. Food Process.	7,157	1,499	482	8,174
12. Others	244	29	24	249
April 1940				
Total	41,964	5,325	3,649	43,640
1. Ceramics & Const. Mat.	2,404	1,998	104	4,298
2. Light Metal	4,219	282	123	4,378
3. Machine Tool	4,317	404	148	4,573
4. Transport Const.	1,267	96	64	1,299
5. Chemicals	4,334	519	440	4,413
6. Fibre	10,762	1,137	1,206	10,693
7. Finished Textiles	1,878	125	96	1,905
8. Paper	2,415	77	100	2,392
9. Hide, Hair & Bristles	338	1	11	328
10. Straw Braid & Wood Prod.	1,654	82	67	1,669
11. Food Process.	8,130	560	1,273	7,417
12. Others	248	44	17	275
June 1940				
Total	44,364	3,400	3,920	43,844
1. Ceramics & Const. Mat.	5,300	531	183	5,648
2. Light Metal	4,449	220	207	4,462
3. Machine Tool	4,591	308	313	4,586
4. Transport Const.	1,300	165	124	1,341
5. Chemicals	4,444	354	495	4,303
6. Fibre	10,310	918	1,303	9,925
7. Finished Textiles	1,931	157	150	1,938
8. Paper	2,412	132	111	2,433
9. Hide, Hair & Bristles	328	6	25	309
10. Straw Braid & Wood Prod.	1,643	99	59	1,683
11. Food Process.	7,358	489	939	6,908
12. Others	298	21	11	308
August 1940				
Total	44,365	3,425	3,211	44,579*
1. Ceramics & Const. Mat.	5,767	189	179	5,777
2. Light Metal	4,571	227	197	4,601
3. Machine Tool	4,655	180	224	4,611
4. Transport Const.	1,348	200	61	1,487
5. Chemicals	4,211	475	368	4,318
6. Fibre	10,462	1,086	1,157	10,391
7. Finished Textiles	1,926	75	94	1,907

Table 41 (Continued)

Industry Category	No. at Beginning of Month	Hired	Departed	Final Number
8. Paper	2,493	59	67	2,435
9. Hide, Hair & Bristles	296	1	6	291
10. Straw Braid & Wood Prod.	1,702	93	54	1,741
11. Food Process.	6,630	325	789	6,668
12. Others	304	15	17	302

* This is but an estimate, and there is a small margin of error of 644 laborers.

Source: Manshū Rōmu Kyokokukai, Manshū Kōjō Rōdō Chōsasho, 1940. Secret. Published in Feb. 1941, pp. 36-39.

The highest turnover occurred in the fiber and food processing industries, where the ratio of capital to labor employed was extremely low. But turnover was also quite high for the chemical industry (it must be pointed out that much of this industry processed the soy bean) and machine tool industry. In mining the problem of high turnover rates was especially severe. In 1937 the number of workers hired in the entire mining industry totaled 50,753 while the number of workers that departed from their jobs totaled 42,244. We can see this situation clearly for the famous open cut Fushun colliery during the period of the latter half of 1938 on a month to month basis.

Table 42

Number of Workers Hired and Departing for Fushun from April 1938 to September 1938

Month	Workers Hired	Workers Departing
April	3,304	3,298
May	2,323	3,094
June	3,390	3,142
July	3,220	3,470
August	3,809	2,874
September	3,758	3,041

Source: Chōsabu, Manshū Kōzan Rōdō Gaikyō Chōsa Hōkoku, 1939. Secret. p. 50.

This is nearly a one hundred per cent rate of turnover. When one moves across the spectrum of heavy industry to light industry, it has been shown that the rates of labor turnover become more severe the greater degree labor is unskilled and employed in enterprises where the ratio of capital to labor is low. This labor, the majority of which was recruited from North China, came from the villages; it was young, migrant labor with few responsibilities. It was a kind of labor that still found it important to maintain strong roots with the village. But this element of agrarian labor in Manchurian industry cannot completely explain the high rates of labor turnover. Other economic factors must be examined as well.

The first factor is that of increasing demand for labor (especially skilled labor). From 1938-1941 unprecedented industrial expansion revealed severe labor shortages and as labor needs became greater firms started stealing labor from one another by offering high wages, better working conditions, etc.[1] Such cases of bidding labor away from other enterprises became more numerous when as late as 1942 "new regulations to prohibit workers (principally skilled workers and technicians) from going from one factory to another and prohibiting employers from stealing technicians from aone another" were being established.[2] As is so often the case, a problem of this nature could

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[1]The mention of managers stealing one another's supply of labor is made in a large number of sources. For mining, see Chōsabu, Manshū Kōzan Rōdō Gaikyō Chōsa Hōkoku, 1939, p. 6; for industry, see Mantetsu Sangyō buhen, Manshū Keizai Nempō, 1937, vol. 2, pp. 440-442. For a most remarkable illustration of the subtle way this was done, there is an incident depicted in the novel by Gomigawa Jumpei, Ningen no Joken, where several of the mine managers and coolie heads conspire to ship a group of laborers to another mine for a substantial sum of money, to be divided on a share basis. The plot never hatches successfully.

[2]Op. cit., Office of Strategic Services, 1944, p. 62.

not be legislated away. While powerful demand encouraged much worker mobility, a second factor accounting for it lay in the relationship of price changes of available food and consumer goods with changes in workers' real wages.

There were general wage increases in most branches of industry from 1938 to 1940; after that date wage control became tighter and more effective. This increase in the wage bill was a partial reflection of increase in demand for labor and an indication of rising turnover rates. It is interesting to note that the largest wage increases came not in branches of heavy industry where productivity was possibly higher but among the industries having low capital-labor ratios, which typically employed unskilled labor: stevedores, unskilled construction workers, laborers in fiber, food processing, and mining.[1] When wages of unskilled workers increased, their purchasing power over these years did not deteriorate as it might have for factory workers in heavy industry. As long as wages increased as rapidly as consumer goods prices because of rising turnover and labor shortages, labor would and could continue to exercise its mobility. On the other hand, committed factory workers were put in a bind if their wage increases did not keep pace with price rises. Thus, their declining purchasing power might encourage them to leave their positions to seek other jobs or return to the countryside. The following table gives indices of purchasing power for a factory worker and a harbor stevedore, and it will be seen that both suffer some cut in purchasing power when we move into the 1940's. Undoubtedly this situation worsened for the worker between 1942-1944 when wage controls became more effective, but the price level continued to rise. However, some workers in different branches of industries

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[1] Op. cit., Yoshio Satoru, p. 357.

were favored by receiving rations in terms of real goods rather than money wages, if they worked in top priority positions.[1] After 1940 the paucity of labor data makes it difficult to say very much about turnover, labor's standard of living, etc.

Table 43

Indices of Purchasing Power for a Factory Worker and a Harbor Stevedore

A. Stevedore in Dairen

Year	Wage Index	Cost of Living Index	Index of Purchasing Power
June 1937	100.0	100.0	100.0
June 1938	124.1	137.0	90.6
June 1939	167.4	165.8	101.0
June 1940	164.0	217.7	75.3

Cost of living index derived according to price index for chief items of coolie consumption. Wage index derived from a study of coolie wages by the Fukushō Kōka Hekisanka Investigating Committee.

Source: Yoshio Satoru, "Senjitaiseika no Manjin Rōdōsha no Jōtai", Manshū Keizai Kenkyū Nempō, 1940, pp. 364-365.

B. Factory Worker in a Machine Factory in Dairen

Year	Wage Index	Cost of Living Index	Index of Purchasing Power
Aug. 1937	100.0	100.0	100.0
Aug. 1938	123.0	117.0	105.1
June 1939	125.0	138.0	90.5
July 1939	134.0	141.0	95.0

Cost of living obtained from retail price indices; wages were derived from a study of labor expenditures in Manchuria.

Source: Adachi Yoshinobu, "Manshū Kōgyō Rōdō ni kan suru futatsu, mitsu no Kosatsu", Mantetsu Chōsa Geppō, Feb. 1940, p. 110.

A decline in purchasing power must have reinforced those trends of worker mobility and movement to new jobs where wage differentials were higher or to

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[1]See TPCCHTS, Vol.1-B, p. 37. "Due to the shortage in the daily necessities, workers employed in critical jobs were given food, extra clothing, and soap rations as well as rubber sneakers, etc." p. 37.

the village. For the semi-skilled and unskilled laborer, if opportunity was denied him to buy a larger basket of goods with his additional wages there was little inducement for him to remain at his job; thus while it was quite possible for the Japanese to mobilize a workforce, it was quite another thing to keep these workers employed continuously. As inflation ate away at their wage gains, it encouraged a rapid departure from the factory or mine. The Japanese retalliated with threats of imprisonment and fines for workers leaving their jobs without due cause, and these threats continued, for as late as 1944 the problem of high turnover was still unsolved in Manchurian industry.[1]

Labor Control and Labor Policy

Japanese attitudes toward labor control in Manchuria were manifested in two diametrically opposed policies that received official sanction throughout the 1930's until 1941. The first approach was followed from 1933 to 1937, when the focus was upon restriction of immigration of foreign labor and the encouragement of Japanese and Korean laborers to migrate into Manchuria. This expression found support from three theoretical positions.[2] (1) The Japanese feared the outflow of specie in the form of remittances and wages that Chinese labor sent back or took with them when they returned to North China. This mercantilist notion was never completely or clearly spelled out, but it was

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[1]For an admission of this see Manshū Sangyō Chōsa Kaihen, Manshūkoku Seishido Sōkan, 1944. p. 262. An interesting revelation of acute labor shortages is provided by a request from the Kwantung Army for prisoners of war for the Manchu Machine Tool Company. A shortage of skilled workers at this company encouraged such a request to the Defense Ministry in the hope that skilled workers could be found among Allied P.O.W. See RG 98 Army Command, Document 580.

[2]Keizai Chōsakai, Manshū Rōdō Tōsei Hōsaku, Secret. Nov. 1935, pp. 66-73.

frequently uttered as a defense of immigration restriction.[1] (2) Because of world depression and the 'crisis' in agriculture, Manchurian labor markets were glutted; further increases in the supply of labor would cause a fall in wages and a decline in living standards. Why after all, it was argued, import unemployment?[2] (3) Finally, the vigorous pacification campaign to stamp out Manchurian 'bandits' was in full force, and large net migrational flows threatened to impede progress of these policing activities as undesirable elements and communists might be admitted among the immigrants.

Labor immigration declined from 1932-1933 as a result of this policy when specially reduced immigrants' fares on railways were abolished, and the Mukden provincial authorities were instructed to refuse entry to persons who lacked proper passports or who were without funds.[3] But Chinese immigrants stopped coming too as they recognized that opportunities were limited for them as long as agriculture remained depressed and local military forays were continued. In 1934 steps were taken in November for more orderly control of immigration when regulations were proposed that incoming laborers be supplied with passes and identity papers.[4] Passes were to be issued by the Kokumin Seibu (National Political Bureau) and workers had to present them on demand. To obtain these papers a laborer had to submit to a physical examination to ascertain if he was in good health; he had to be capable of performing arduous work; and he had to produce evidence that his past record was 'clean', that is, free of

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[1] Ibid., p. 72.

[2] Ibid., p. 69.

[3] Op. cit., F. C. Jones, p. 167.

[4] Op. cit., Manshū Rōdō Tōsei Hōsaku, pp. 14-16.

bandit or communist associations and activities. On the person's identity card was printed his name, birthplace, date of birth, history of employment, and finger prints. To facilitate the inspection of laborers and the distribution of passes and papers, the Tatung Company was authorized in April 1934 as the immigration agency to handle these matters. In 1935 it began its investigation of prospective laborers, recruited immigrants, and issued identity papers.[1] From 1935 to 1939, this organization issued 2,626,902 identity papers.

Meanwhile, within Manchuria little was really done regarding the regulation of supply and demand conditions of labor. Several large industrial firms did manage to organize their own labor control councils to implement their industrial program with labor recruitment and wage regulation policies. In April of 1934 such a group was created at Anshan in the Showa steel works.[2] This council was charged with responsibility of labor receuiting and investigation of labor conditions to determine an adequate wage level within its plants. Wages were to be fixed according to different grades of skills and the wages paid to day laborers were frozen at certain rates. Workers released from their jobs had their papers stamped with a seal indicating they had been emp employed at the Anshan Showa steel works for a prescribed period of time and the job they held. Soon other firms at Fushun and Pen-ch'i hu also set up labor control councils and took similar courses of action. But such actions still were rare.

After 1937 attitudes toward immigration quickly changed and serious thinking commenced on how to devise a national labor policy. On January 7,

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[1] Op. cit., Manchoukuo Year Book, 1942, p. 632.

[2] Op. cit., Manshū Keizai Nempō, 1937, vol. 2, pp. 535-536.

1938, the Manchuria Labor Association was established to control labor, allocate it to high priority needs, and assure that the living conditions of labor did not deteriorate.[1] Although the latter goal was never adhered to, legislation did try to tackle the first two issues. Immigration was openly encouraged for the first time since 1932, and the Tatung Company was amalgamated with the Labor and Industrial Foundation in July of 1939 to step up operations of recruiting labor. On February 26, 1938 the National Mobilization Law was passed which undertook registration of laborers in order to clarify their place of residence and to minimize criminal offenses. In 1940 and early 1941 legislation was passed to prevent large wage increases (it will be recalled that wage increases had been especially large in 1938-1939) and to curtail the stealing of workers from factories. This rash of labor legislation comes at a time when labor turnover was rising; as a response to these conditions controls became tighter, more legislation was passed, and infractions of the law were to be severely punished.

On September 17, 1941 a new labor control system was devised and enacted November 1st of that same year.[2] This called for the creation of a labor management system which would consist of the factory managers themselves with the purpose of acquiring labor from within Manchuria and utilizing the existent supply of labor more carefully; distribution of this labor supply was to be more carefully regulated than in the past. The cycle was now complete. Because of the demand for agricultural labor in North China for industrial and agricultural production in Manchuria it was difficult to draw upon that

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[1] Op. cit., Manchoukuo Year Book, 1942, p. 638.

[2] Op. cit., Manshūkoku Seishidō Sōkan, 1944. p. 256.

resevoir of cheap labor (in essence this labor was not as cheap as the literature makes it out to be), and it was becoming increasingly expensive to recruit labor from North China, too. Henceforth labor was to be mobilized from both city and countryside, and emphasis was placed on using women and children to a greater extent than ever before.[1] These proposals called for plant managers to plan recruitment more carefully and train labor acquired in adjacent locales; from these efforts, ties between village and factory might be broken and the rate of turnover reduced. It was admitted that labor was not being utilized properly and that surpluses were quite apparent which had not yet been properly tapped for industrial employment.

The new labor management system was to mobilize labor for rapid use in industries which had a great demand for labor. Meanwhile the state went ahead to try to mechanize agriculture so that as machines replaced labor there would be less demand for labor when the harvest and spring planting rolled around.[2] Little success was achieved along these lines because mechanized agriculture never became a reality. The need to increase the supply of labor forced the regime to introduce elaborate controls to mobilize labor within Manchuria. Yet according to the table on net migration presented earlier in this chapter there was no decline in net migration (instead a dramatic increase) as planned during the early 1940's. This meant factories were unable to recruit necessary labor from within Manchuria, and had to resort to North China for labor. This fact points to the difficulty the Japanese had in getting labor in the Northeast fully committed to industrial occupations.

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[1] Ibid., p. 263.

[2] Ibid., p. 271.

CHAPTER VII

FOREIGN TRADE

> From Japan, technology and capital will be exported to Manchuria and China; from Manchuria, agricultural products will be exported to Japan and China; from China, cotton and iron will be exported to Japan and labor power sent to Manchuria. Such mutually interdependent relationships will not be severed by political undertakings or population pressure; this economic cooperation will be preserved intact by some structure. On the basis of this, it will entail closer international trade ties between the three countries in which the Kwantung peninsula will play a most important role and will serve as a line of defense.[1]

The world depression of 1929-1930 reversed the general expansion of the 1920's in which population, agricultural and industrial output, and the volume of foreign trade had significantly increased. Contracting world markets meant declining exports, falling domestic prices, and the rise of unemployment in agriculture, mining, and industry. The depressed state of the economy worsened because of political and economic dislocations brought about by the Japanese military in their occupation of Manchuria. The loss of a large share of the China market and the decline in trade flows between North China and Manchuria tended to reinforce domestic economic depression. Industrial and agricultural output continued to fall, but finally in late 1934 and early 1935 aggregate output probably commenced to resume an upward course. This was achieved not by expanding exports, for world depression was as intense as ever, but by capital export from Japan which flowed into forms of capital construction that subsequently created a derived demand for idle, unemployed resources. This encouraged an increase in output of agricultural and mining products and rather rapidly most unemployed resources were again absorbed into

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[1] Itani Zenichi, Nichi Manshi Keizai Ron, Genkai Shōkyoku, 1935, p. 27.

some production process. By 1937 output was again roughly equivalent to levels reached in 1929.

What we want to examine in this section is how foreign trade contributed to growth in Manchuria after 1933 and in what way it played a part in making for the enlargement of the manufacturing complex after 1938. Two important factors operated quite strongly. One was the flow of capital into the region for this made for a substantial transfer of resources from Japan into Manchuria which was reflected by a larger and larger import surplus. The other factor was the composition of imports changed. Instead of continuing the traditional import of textiles and other consumer goods which previously bulked large in value of total import value, control and policy emphasized that the major components of imports should now become producer goods and semi-fabricated industrial products. It was these imports which were the critical inputs vital to developing further Manchuria's iron and steel capacity, hydro-electric power generation, and chemical production.

It has been recently stated that capital exports from private enterprise economies do not augment capital formation in borrowing countries.[1] The argument runs that for such countries as the United States during the 19th century foreign indebtedness was a reflection more of the underdeveloped state of her banking system and capital market than of her need for unrequited foreign supplies. What indebtedness occurred should be looked upon rather as excess borrowing in the sense that it represents borrowing to finance interest

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[1] J. Knapp, "Capital Exports and Growth", The Economic Journal, Vol. LXVII, Sept. 1957, pp. 432-445. See also the article by H. Myint, "The Gains from International Trade and the Backward Countries", The Review of Economic Studies, Vol. XXII, No. 2, who also finds no evidence of a real transfer of resources.

repayments; no real transfer of resources is at all evident. While such contentions might have some theoretical basis, they still require more empirical justification. Certainly for Manchuria after 1931 it can be demonstrated that a positive resource transfer took place.

Now it might be argued that Manchuria after 1933 can no longer be considered a separate, national state, and in actuality is an integral part of the Japanese empire; therefore it must be looked upon as an important appendage of the home islands. After 1934 this is borne out by the fact that the currencies in the respective countries were at parity with one another and no currency conversion problems existed when Manchuria conducted transactions with Japan. But on the other hand, Manchuria kept her own account of international transactions with countries within and outside the yen bloc. Furthermore, she had her own tariff structure and levied duties on various imports from Japan and other countries. After 1938, though economic planning became geared to Japan's industrial growth, Manchuria maintained independent control over her foreign exchange reserves and directed in a rigid manner the volume and flow of goods passing through her ports in Kwantung province. Tariff autonomy, exchange control, and regulation of trade were the product of decision making coming from the army command in Manchuria. This is sufficient basis to regard the region as an independent trading partner.

The Character of Foreign Trade

Ever since the opening of the port of Yinkow in 1862 to 1932, Manchuria had enjoyed a favorable balance of trade. This stemmed from improved means of production and distribution which reduced costs within the expanding export industry sector and increased demand within East Asia for her staple export products. But from 1932 until the end of the Pacific War Manchuria

had an import surplus on current account that became more prominent with every year as industrial growth required the importation of more capital and materials. After 1937 this imbalance became especially acute. This phenomena can be examined in the following table where original yuan values have been converted into U.S. dollars.

Table 44

Manchuria's Trade Balance (1931-1944); Value in 1,000 Units

	Trade Balances[1] in U.S. $		
Year	With all Countries	With Yen Bloc	With other Countries
1927-1931 average	+ 61,863	+ 24,338	+ 37,525
1932	+ 59,098	+ 8,274	+ 50,824
1933	- 17,324	- 33,479	+ 16,155
1934	- 47,300	- 61,756	+ 14,456
1935	- 54,775	- 71,591	+ 16,816
1936	- 25,439	- 99,161	+ 45,597
1937	- 69.680	-164,352	+ 29,481
1938	-156,327	-262,201	+ 8,025
1939	-250,462	-253,214	+ 11,739
1940	-253,967	-172,974	- 753
1941	-172,184	-172,974	+ 790
1942	----	-109,792 [2]	----
1943	----	- 97,979	----
1944	----	- 41,636	----
Total	-1,047,458	-1,189,764	+142,306

Note: - import balance; + export balance.

[1]Figures up to 1942 are based on Manchurian trade returns and converted from Manchurian yuan to U.S. dollars at exchange rates shown in table in appendix.

[2]From 1942 to 1944 the figures are based on Japan's trade returns only, and Manchurian trade with Korea and Formosa is not included. The Japanese figures have not been adjusted to F.O.B. values (Manchurian ports) in the case of exports and to C.I.F. values in the case of imports. Hence the import balance values are vastly under-estimated.

Source: Yu-Kwei Cheng, Foreign Trade and Industrial Development of China, The University Press of Washington, D.C., p. 204.

In 1933, with the stress on railroad and urban construction, cement, iron, steel, etc. were imported and construction items totaled around 12 per cent of total imports (in value terms) in 1932 and increased rapidly to 24 per cent in 1934.[1] These same items continued to assume greater importance as a share of total import value when in 1941 they accounted for 32 per cent of total import value. Producer goods (machinery, tools, vehicles, ores, metals, manufactured products) were included in this same group. In 1941 consumer goods (foodstuffs, textile products) accounted for 33 per cent of total import value, and as a percentage of imports they declined, for in 1932 about 46 per cent of imports consisted of consumer goods. This changing composition of imports did not take place automatically because of the workings of the price system, but it was the outcome of the state's deliberate attempt to gear the flows of trade to favor development of industry. Streamlining the tariff system to exclude consumer goods, lowering duties on manufactured goods to encourage their flow, and maintaining rigid control over allocation of imports were the chief methods authorities in Manchoukuo used to exploit Japan's advanced industrial position. The following table shows the changing composition of imports by groups as expressed in value terms of U.S. dollars. The percentage shares are provided also.

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[1]Nichiman Jitsugyō Kyōkai, Bōeki Jo yori mitaru Manshūkokusai Shūshi no Shōrai, Sept. 1935, p. 10.

Table 45

Principal Import Groups of Foreign Goods into Manchuria
(Values in U.S. $1,000 and percentage shares)

Year	Total Value	%	Producers' Goods (as % of total)[1] Mach. Tools, etc.	Ores & Metals	Tot.	Consumer Goods Food	Textiles	Total	All Others[2]
1932	71,148	100	3.4	10.4	13.8	27.2	18.7	45.9	40.3
1933	132,635	100	6.3	12.1	18.4	25.6	21.3	46.9	34.7
1934	193,411	100	9.9	16.0	25.9	19.2	20.1	39.3	34.8
1935	180,734	100	12.3	16.0	28.3	20.1	20.0	40.1	31.6
1936	197,587	100	11.3	12.9	24.2	17.0	26.3	43.3	32.5
1937	255,361	100	12.7	17.5	30.2	12.0	22.3	34.3	35.5
1938	362,162	100	18.9	17.7	36.6	15.0	20.4	35.4	28.0
1939	467,221	100	21.5	14.2	35.7	17.4	18.1	35.5	28.8
1940	409,184	100	22.5	12.4	34.9	15.5	17.3	32.8	32.3
1941	330,409	100	21.7	10.8	32.5	16.6	16.5	33.1	34.4

Notes:

[1]Subdivision of these two groups conveniently follows the broad grouping of the Manchurian trade returns after 1937. Reclassification was nearly impossible for lack of itemized trade accounts of major import commodities.

[2]Many commodities fall into this category which would be consumer goods, such as books, paper dyes, cosmetics, certain chemicals, morphine, medicines, etc. Other goods might normally be put under construction or producer goods.

Source: Ku-Kwei Cheng, Foreign Trade and Industrial Development of China, The University Press of Washington, D.C., p. 202. The author in turn derived the above table from the Annual Returns of Foreign Trade of Manchoukuo, 1932-1941.

Historically, the soy bean and bean derivatives occupied the chief position of importance in the region's export trade. This continued until 1940 when with military control and threat of war Japan sought to obtain more foodstuffs, ores, and metallic products from Manchuria for stockpiling purposes. This step had to be taken to compensate for Japan's loss of foreign suppliers of these same products. Though imports underwent a change after 1932, the traditional character of the export trade remained much the same. Soy beans, bean cake, bean oil, wheat, millet, kaoliang, corn, coal, and pig iron continued to be the major export commodities as they had always been.

For a glance at the changing composition of exports according to different commodity groups, the following table is cited. Value is again in U.S. dollars and the groups are given on a percentage basis.

Table 46

Principal Export Groups of Native Products From Manchuria
(Value in U.S. $1,000 and percentage share)

			Beans & Bean Prod.				Grains,	Minerals	Ores,	
			Yellow Bean	Bean	Bean		Food &	& Ceramic	Metal	All
Year	Value	%	Bean	Oil	Cake	Tot.	Provision	Products	Products	Other
1932	126,370	100	36.2	6.2	17.3	59.7	17.3	9.0	2.7	11.3
1933	108,999	100	39.1	4.2	13.6	56.9	12.9	11.8	2.8	15.6
1934	136,864	100	37.4	3.7	12.3	53.4	11.5	10.9	2.8	21.4
1935	117,150	100	32.3	5.1	13.1	50.5	8.0	11.5	3.3	26.7
1936	150,973	100	39.8	4.0	10.0	53.8	10.5	8.3	3.5	23.9
1937	161,937	100	39.6	4.5	11.1	55.2	9.1	7.7	4.2	23.8
1938	189,262	100	34.8	2.1	10.6	47.5	17.3	6.0	9.1	20.1
1939	199,013	100	26.4	3.0	16.3	45.7	21.8	5.3	7.1	20.1
1940	137,970	100	15.2	1.8	11.9	28.9	24.0	9.7	10.2	27.2
1941	146,735	100	19.8	1.8	9.6	31.2	17.4	8.6	17.4	25.4

Source: Yu-Kwei Cheng, Foreign Trade and Industrial Development of China, The University Press of Washington, D.C., p. 201. The author in turn derived the above table from the Annual Returns of Foreign Trade of Manchoukuo, 1932-1941.

What of the direction of trade flows to different parts of the world? In 1932 about 38 per cent of Manchuria's exports went to the Japanese empire, i.e., Japan, Korea, and Formosa. Another 29.6 per cent went to China; Germany absorbed 12 per cent, and Russia, Great Britain, U.S.A., India, Egypt and others took care of the rest. With the annexation of Manchuria, the China trade declined from 29.6 per cent of total exports (in value terms) in 1932 to 16 per cent in 1933, and 14 per cent in 1934. The loss of this important market for raw agricultural produce worsened the agricultural depression by forcing soy bean exporters and producers to stop shipments and contract output. Part of the trade loss was made up by extensive smuggling

across the North China-Manchuria border and via water by coastal craft,[1] thus demonstrating the profitability of carrying out trade between two areas no longer able to trade with one another but historically economically dependent upon each other. But gradually Japan came to acquire a greater share of Manchuria's output as military planners tightened ties between the two countries; by 1941 nearly 70 per cent of total exports were absorbed by Japan. When the Japanese army had fully consolidated its position in North China normal trade flows were resumed, and soon as much as 23 per cent of Manchuria's exports again found their way into China. Trade with European countries, especially Germany, declined to zero with the outbreak of World War II.[2] Over the ten year span Manchuria became more dependent on Japan as a market for her goods. Trade relations with China proper had improved as well. In 1932 about 58 per cent of Manchuria's imports came from Japan, Korea, and Formosa; another 18 per cent came from China; the remainder was shared by Russia, India, Egypt, Germany, Great Britain, the USSR, and other countries. By 1941 85 per cent of imports came from Japan alone while only 7 per cent came from China.[3]

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[1]Op. cit., Itani Zenichi, p. 33, and Nichiman Jitsugyō Kyōkai, Ōshu Daisen to Manshūkoku Bōeki, Oct, 1939, p. 4. From 1931 to 1934 the latter study reveals that the percentage of exports of total export trade value declined from 32 per cent to 14.7 per cent, or if 1931 is set equal to 100 the index showing export decline would fall to 29.

[2]The Japanese were desirous of expanding the German-Manchoukuo trade agreements which were essentially barter arrangements. Germany usually ran a deficit with Manchuria but this was offset by her export surplus to Japan. A special study by the SMR research bureau in Shinkyō published a study in May 1939 entitled Tokusan Keishutsu Shinkyō o chūshin to suru Bōeki Tōsei no Genjō. Pp. 1-20 dealt with the possibility of expanding the export trade of soy beans as well as the future of trade with Europe if war should break out.

[3]The information of trade flows to various countries was obtained from Yu-Kwei Cheng, op. cit., Table 75. For detailed coverage of the period 1932-1936, see Kiyoshi Kanai, "Economic Development in Manchoukuo", Japanese Council Paper No. 15; 6th Conference of IPR at Yosemite, Calif., 1936, pp. 44-55.

Up until 1941 Manchuria's demand for Japanese output was probably far more inelastic than Japan's demand for Manchuria's exports, which is to say that increases in price for Japan's exports to Manchuria caused but a slight decline in quantity imported by Manchuria. This reflects the desire of an under-developed area which attempts to industrialize rapidly to import as much capital as possible for its development plans. When war severed Japan's trade with the West, Japan's demand for Manchurian products, particularly agricultural staples, fuels, and ores, became more inelastic. At the same time Manchuria's inability to supply more to the home islands because of difficulties in collecting larger farm surpluses, increasing domestic requirements of fuel, etc., made the supply of exports more inelastic. Increased Japanese demand for more goods from Manchuria with shifts in elasticities of demand and supply resulted in price rises and the need for strict price and trade controls.

Changing price structures within the two countries and shifts in composition of trade flows gave Manchuria a favorable net barter terms of trade. From 1932 to 1945 the price rise in Manchuria was about five fold, while for Japan over the same period it was only about three fold. Furthermore, the composition of exports was such that about ten important commodities, particularly cereals, coal, pig iron, and soy bean products, made up more than 75 per cent of the total value of exports for 1937. The price rise for these goods was particularly sharp after 1936. On the other hand, goods imported from Japan and elsewhere were of such variety and number that it is difficult to give any particular commodity grouping a heavy weight. Further, Japanese price control measures kept manufactured goods prices from rising as rapidly as Manchoukuo's agricultural prices. The following table gives

the indices for export and import prices, and from these the net barter terms of trade were computed by dividing export price index by the import price index.

Table 47

Net Barter Terms of Trade for Manchuria and the World

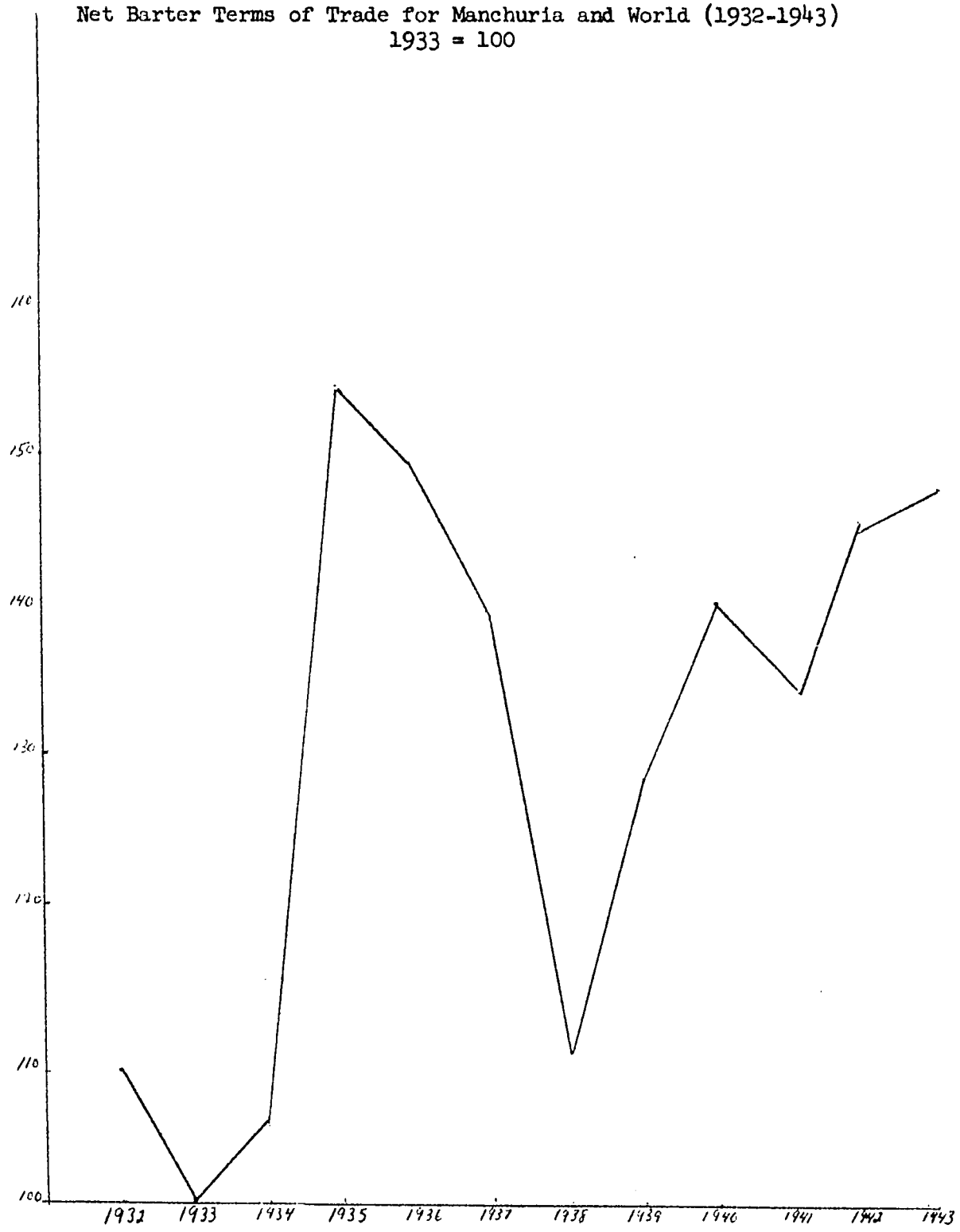
Year	Price Index for Exports	Price Index for Imports	Net Barter Terms of Trade Index
1932	111.4	101.1	110.1
1933	100.0	100.0	100.0
1934	95.5	90.6	105.4
1935	136.7	60.7	225.2
1936	147.3	90.7	150.7
1937	165.4	113.3	139.1
1938	167.2	149.0	112.2
1939	218.9	169.9	128.6
1940	286.0	201.9	141.6
1941	295.1	217.7	135.5
1942	324.3	224.4	144.1
1943	357.8	243.5	146.9

Source: Manshū Chūo Ginkō, Manshu Bukka Shirabe, December 1943, p. 10. The price indices for exports and imports were obtained from this source. These are Hsingking wholesale price indices compiled by the Central Bank of Manchuria with 1933 as the base year. The indices are calculated on a simple arithmetic average. These data were kindly provided for me by Miss Ann Rasmussen of Columbia University.

The favorable movement of net barter terms of trade for Manchuria dating from the early 1930's meant that Manchuria acquired a greater value of resource of imports than she yielded in exports. Manchuria's exports were heavily concentrated on agricultural staples and minerals, while imports over time assumed a larger composition of industrial products as well as traditional consumer goods. The quantity of exports, particularly agricultural crops, did not increase significantly after 1937 but valuewise they did because of sharp price rises. On the other hand, consumer goods imports tapered off after 1938 but the volume of manufactured and semi-manufactured products continued to expand. Export prices increased but not to the degree they did in Manchoukuo.

Graph I

Net Barter Terms of Trade for Manchuria and World (1932-1943)
1933 = 100



In this way trade benefitted Manchoukuo industrialization to a great extent.

Such trade flows were strengthened by foreign exchange controls.[1] On November 30, 1935 a foreign exchange control law was passed which aimed to control speculative purchases and sales of domestic currency. The rationale for this was to prevent an outflow of capital. But these controls were general and somewhat poorly enforced. But in 1937 a licensing system was introduced and banks and firms were required to have licenses for the export and import of foreign exchange. While restrictions were extended to persons leaving Manchoukuo with currency, labor remittances flowing to China from migrant workers in mining, agriculture, and construction industries were unmolested.

The central bank was the coordinating agency which controlled the supply and allocation of Manchoukuo's and Kwantung Province's foreign exchange.[2] In October 1937 an exchange commission was established to purchase and sell exchange to the following five banks: the Central Bank's branch banks in Mukden, Hsinkyo, Harbin, Dairen, and Yingkow. The Japanese Specie Bank opened an account in Manchuria's name in London and capital balances in foreign exchange were held in this account. When any of the above five banks acquired foreign exchange from exporters they turned it over to the Central Bank of Manchuria, and it was duly deposited in the London account. When any of the exchange banks required capital for imports, they purchased pound sterling from the Central Bank. The Central Bank fixed the exchange rate at one yuan equal to one shilling and two pence of pound sterling. This rate was fixed by the

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[1]The general information on exchange control was obtained from Vols 1 and 19 of the Economic Encyclopedia of the Northeast (Tung-pei Ching-chi Hsiao-ts'ung-shu), January 1948.

[2]Ibid., Vol. 19, pp. 153-158.

Central Bank so that trade was quite controlled.

When World War II erupted, accounts in London were closed in April 1941 and transferred to a special Japanese gold yen account for Manchurian capital balances of foreign exchange account in the Tokyo Branch of the Yokohama Specie Bank. Now when foreign exchange banks obtained foreign exchange from exports they were required to sell their exchange to the central bank, which turned it over to the special Japanese gold yen for deposit in the special account at the Yokohama Specie Bank. Banks needing exchange for imports would sell their special Japanese gold notes. However, there were few worries about foreign exchange now, given free convertibility within the Yen bloc.

Along with foreign exchange controls there were of course adjustments of the tariff structure and strict enforcement of how imports were to be rationed and distributed. In April 1940 the Kantoshu Bōeki Jitsugyō Sōgō Rengōkai was created to handle distribution of imports by price fixing and rationing and to see to it that the flow of imports in no way disrupted the domestic price level.[1] The agency had power to permit only certain types of consumer goods under quota through ports in Kwantung and store, allocate, and distribute these goods uto other agencies within the general consumer goods rationing system. Imports of capital goods as well were carefully supervised by this same agency. In handling capital goods imports, their policy was to favor special companies within industry and supply directly to them goods urgently needed. Before 1940 high tariff rates were levied on imports of automobiles, rubber, etc., because these were 'infant industries' the Manchoukuo government

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[1]Kantoshu Bōeki Jitsugyō Sōgō Rengōkai, Nichikanman Bōeki Tōsei no Genjō, July 1940, p. 54. See also the study by a group at Osaka University, Manshūkoku Bōeki Yoran, 1942, pp. 1-301. This study is merely a catalogue of laws relating to foreign trade controls.

tried to stimulate. With war, however, tariffs were discarded when strategic goods for the military were involved.

Records are available for Manchoukuo's annual balance of payments, but these are only with Japan.[1] The Japanese compiled these accounts themselves and they were made available to the Northeast China Resource Commission after the war. These show and suggest the great dependency on Japan. For current account, an import surplus rises rapidly after 1940 to an all time high in 1940 of 1.3 million yen. Important changes occurred in the invisibles component of current account as well. The big item of change was that of government expenditures, which were received from Japan in 1938 of an amount of 1,500 yen, but which grew to staggering proportions in 1941 to over one million yen. The reasons for this increase may have been due to the following two causes. 1) The flow of investment funds from Japan was not sufficient to counteract the growing import surplus; thus the government of Japan directly paid Manchuria and enterprises funds for necessary purchases from Japan. 2) An increase in military expenditures in the Northeast by Japan to cover the building of fortifications, increased production for the military, maintenance of troops, and for military operations in China. On the outlay side the Manchurian government also made substantial payments to Japan from 1942-1944. These might have been expenditures to cover procurement of military goods from Japan.

In the capital account category, investment in Manchuria was an important item tending to correct the disequilibrium in balance of payments. These investment flows were extremely important in making it possible for

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[1]See appendix for data on balance of payments of Manchoukuo and Japan.

Manchuria to rely on Japan's resources to build industrial projects. Without these flows, a large import surplus could not have been sustained and development would have been seriously hindered. It is to a discussion of investment in Manchuria that we now want to turn.

Japanese Investment in Manchuria

> The purpose of capital export is to acquire profits and interest payments and it represents the flow of capital from one country to another; but in order to be able to export capital in such fashion, idle capital must exist in the exporting country apart from that required for accumulation, and there must be conditions where the rate of return on investment is higher in the importing country than in the exporting country. If it is possible to acquire a level of profits domestically, there is some risk element and no need to export capital abroad. Thus capital export is determined first, by the quantity of idle capital at home, and secondly, by the disparity in rates of return on investment within the two countries.[1]

Such were the theoretical bases for Japanese capital exports to Manchuria in the 1930's offered by Japanese economists. Certainly both elements undoubtedly prevailed, for considerable idle capital had accumulated in Japan during the depression years, and the state's opening up of Manchuria, guaranteeing fixed returns on investment, provided an incentive to put this idle capital to use there.

We can check the capital flows into Manchuria from two sets of studies. The first is that compiled by the Northeast China economic commission, and the second was done by Nakajima Kunizō , an economist who worked for the Chōsabu research bureau of the SMR during the 1930's. When these two findings are matched, it is found that total investment flows for the same periods

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[1]See Nakajima Kunizō's article, "Taiman Tōshi no Gendo ni kan suru ichi Chiron", Mantetsu Chōsa Geppō, May 1940, pp. 1-2. Mr. Nakajima also conducted another study on the same topic which was not circulated but classified for official use. Cf. Chōsabu, Taiman Tōshi no Gendo ni kan suru Kenkyū, April 1940. Secret. pp. 1-79.

Table 48

Total Investment Flowing Into Manchuria From Japan (1932-1945; 1,000 Yen)[f]

Year	Total[1]	Bonds	Loans	Stocks	Other[d]	Stock Held by Japanese Govt. Invest.	Total[2]	Bonds	Loans	Stocks
1932	97,203	60,000	12,203	25,000			97,203	40,000	20,000	37,203
1933	160,529	78,900	11,765	69,684			151,145	50,200	1,700	99,345
1934	252,185	178,850	26,535	36,000			271,675	158,000	12,450	101,225
1935	382,175	324,400	17,775	38,500			378,598	230,000	91,275	57,983
1936	263,677	157,510	37,966	50,427		17,724	262,995	244,000	93,650	95,440
1937	453,036	231,360	72,215	86,124			341,272	68,000	132,410	140,863
1938	525,405	343,590	91,492	58,424		3,444	430,981	222,400	53,340	153,897
1939	1,075,361	756,912	96,819	84,280		64,748				
							1,103,713	792,000	87,110	267,981
1940	1,225,489	796,500	139,633	166,380		68,685				
1941	1,424,488	901,312	154,890	216,874		100,783				
1942	1,299,266	761,500	271,920[a]	260,346						
1943	989,744	516,700	237,841[b]	210,875						
1944[e]	920,554	277,000	111,514[c]	426,133	101,242					
Total	19,069,112	5,384,534	1,282,568	1,729,277	101,242	255,384				

[a]Includes that capital invested for housing by the Manchurian Colonization Company.

[b]For some reason the Chinese figures indicate that 932,000 yen are not included.

[c]This figure excludes capital invested in agricultural development but includes that portion absorbed by the Manchurian Colonization Company.

[d]This lone figure was an amount expended for non-profit enterprises. No explanation as to what these enterprises consisted of or who invested the capital is available.

[e]For the Chinese figures 1944 covers the period from April of that year to March of 1945.

[f]Debt refunds are not entered in the above calculations.

Source:

1) The data for the first set is from Vol. 19, Chin Jung (Finance), from the study by the North East China Economic Commission.
2) The data for the second set is from Nakajima Kunizō , "Taiman Tōshi no Gendo ni Kansuru ichi Shiron", Mantetsu Chōsa Geppō, May 1940, p. 22.

check quite closely, but when we disaggregate and arrange investments according to types of securities, e.g., bonds and stocks, and loans, there are some discrepancies. Table 48 (page 215) indicates the total investment flowing into Manchuria, and then each total is broken down according to bonds, loans, and stocks.

The data from the Northeast commission's study indicate that over the thirteen year span, roughly nine billion yen was invested in Manchuria, and if we convert this to dollars by using a conversion ratio of four yen to one U.S. dollar (this is the ratio used by the Pauly Commission), we obtain an amount of 2.2 billion U.S. dollars. This is certainly a tremendous sum for the Japanese economy to invest in Manchuria alone. Investment from 1939-1942, the years of the close of the first five year plan, was quite high. For the earlier years the SMR Company provided a very large sum of investible funds, but after 1936 its importance declines. The proportion of investment that the SMR and its subsidiary companies invested in 1932 was 67 per cent, and this climbed to 73 per cent in 1936, only to decline to 26 per cent in 1939. Meanwhile the share provided by the state and its related enterprises increased from 33 per cent in 1932 to 74 per cent in 1939.[1]

We note too that investment in the form of bond holdings increased at a much more rapid rate than for stocks and as a percentage of total investment it also increased rapidly. Nakajima's figures show that the amount of bonds held as a per cent of total investment in 1932 amounted to 41.2 per cent, but by 1939 had increased to 65.8 per cent. At the same time purchases of enterprise stock continued to rise after 1938. Probably inflationary movements

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[1]Cf. Nakajima Kunizō, Mantetsu Chōsa Geppō, p. 20.

accounted for this, for with the rapid price rises that took place after 1938 (despite efforts to stabilize prices) investors found it profitable to invest in stocks as a form of anticipatory earnings.

What provided the incentive for capital to move to Manchuria? Was the vigorous construction activity at home not sufficient to absorb domestic savings? A glance at the relative yield earnings from securities floated by the Japanese government and enterprises as compared to those by Manchuria and related enterprises shows some disparity in earnings, but it is not great.

Table 49

Comparison of Bond Yields for Japanese and Manchurian Bonds

Year	Japanese Co. Bonds	Manchuria Co. Bonds	Difference
1936 (Jan.-June)	4.379	4.500	0.121
1936 (July-Dec.)	4.375	-	-
1937	4.203	-	-
1937	4.888	-	-
1938	4.314	-	-
1938	4.327	4.372	0.035
1939	4.319	4.372	0.053
1939	4.334	4.346	0.012

Source: Nakajima Kumizō, op. cit., Mantetsu Chōsa Geppō, May 1940, p. 23.

Bond yields were slightly higher and remained stable. But because of quick, high profits that could be earned in Manchurian industry, stock prices rose; stocks continued to be purchased despite the fact that dividend payments were carefully controlled. The following table shows the par value for stocks issued by various industrial companies, their rate of dividends, their average stock price, and the yield per share of stock. Finally, the average stock yield from Manchurian industrials is compared with that of Japanese companies.

Table 50

Stock Yields for Different Manchurian Enterprises as Compared to Japanese Industrial Stock for December 1939

Enterprise	Par Value of One Share Stock	Dividend Rate	Average Stock Price (Dec.1939)	Yield
Man. Heavy Ind.	50.00 Yen	10.0%	81.45	6.138
SMR Co.	50.00	8.0%	74.90	5.340
Man. Elect. Ind.	50.00	7.0%	60.55	5.780
Man. Tel. & Tel.	37.50	6.0%	62.55	3.597
Jap.-Man. Flax Co.	50.00	9.0%	94.55	4.759
Man. Arsenal	50.00	10.0%	81.50	6.135
Average	-	-	-	5.291
Average Yield for Jap. Ind. Co.	-	-	-	4.990

Source: Nakajima Kunizo, "Taiman Toshi no Gendo ni Kan suru ichi Shiron", Mantetsu Chosa Geppo, May 1940, p. 23.

Higher investment earnings plus the backing of the Manchurian government that investment holdings would be honored stimulated the flow of capital from Japan into Manchuria.

Conclusion

The exchange of goods and services between Manchuria and Japan was carried out only by an ever increasing flow of funds from Japan to Manchuria. This enabled a considerable amount of resources within Japan to be transferred into Manchuria which Manchuria was not immediately held accountable for payment. Payment was naturally made good by the capital transfer process. In brief, the Manchoukuo state and enterprises floated securities on the Japanese capital markets. These were purchased by the Japanese government, enterprises, banks, and other financial intermediaries and a transfer of purchasing power took place, usually via the Central Bank of Japan which undertook the floating of Manchurian debt issue. Now the Manchoukuo government and enterprises with their newly acquired funds could embark on ordering raw materials, import

capital goods, etc.

Often private capital interests in Japan invested directly in Manchuria by establishing subsidiary companies and built new plant space. In order to finance these constructions, they borrowed from the Manchurian central bank. This bank in turn created deposits for them, and the companies then drew against these deposits to pay for whatever imports, and other inputs they would need. This creation of credit through new demand deposits made for a rise in note issue and with the large number of transactions taking place an increase in the velocity of money. The outcome of course was a rise in prices. Whether the cause of price rise was solely through new note issue or pushes from the cost side due to emerging bottlenecks in production is difficult to say.

It is unlikely that the rapid growth that occurred from 1932 onwards could have been achieved without the important capital movements into the region which made it possible to transfer resources from Japan to firms in Manchuria. Though Manchuria's balance of payments were strained, as long as new credit was issued and additional investible funds made available, the imbalance on current account could be financed. This of course gave rise to strong inflationary pressures within the region, which presented new problems for the planners.

CHAPTER VIII

FINANCE

> The state's expenditures in a period of war and rapid build up of the economy's defense, are obtained from the national economy by six methods: 1) restricting consumption; 2) suspending investment in new capital; 3) discontinuing the repair and additions to present capital stock; 4) extending labor time on the job; 5) direct utilization of capital equipment or capital wealth; 6) direct utilization of existing capital or assets. This is identical to financing through tax receipts, increasing the national debt, and financing by inflationary means.[1]

There were four general methods by which the Japanese financed their development schemes in Manchuria: 1) increased budgetary expenditures by adjusting taxes upward; 2) direct Japanese investment in Manchuria; 3) increasing the national debt and subsequently increasing note issue; 4) reinvesting accumulations in the form of retained profits from enterprises. Some mention already has been made of the character and volume of investment flows into Manchuria from Japan in the preceding section dealing with foreign trade so only cursory references will be made to this financing technique here. The discussion that follows will treat rather extensively the development of the state budget and how it underwent specific changes in response to the state's demand for a greater volume of funds to initiate growth. Because of the central control exerted throughout the economy, it is impossible to divorce consideration of the budget from the field of money and banking, so some mention of early monetary reforms and how the banking system lent itself to furthering the state's objectives will be made.

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[1]Mantetsu Chōsabuhen, Manshū Keizai Kenkyū Nempō, 1941. Cf. Kurazono Sussumu, "Tenkanki no Manshūkoku Zaisei", p. 420.

An insufficient volume of savings to match the unprecedented magnitude of state investment forced the central authorities to resort to inflationary measures, and this meant financing investment from involuntary savings or exacting a levy on the country's populace. To mobilize resources and build projects called for in the plan, credit was created, and gradually larger and larger injections of new note issue into the economy were made. Government bonds permitted this, but soon the situation resulted in which "too much money chased too few goods". The price level drifted upward, but until 1943 state administrative machinery prevented the rise from being alarming. After 1943 price control became quite ineffective. In this chapter, the main focus will be upon budgetary expenditures and how these became more and more financed by inflationary policy. Retained profits were an extremely important component of voluntary savings, but how much this covered new investment expenditures is exceedingly difficult to say. This could only be determined by an extensive study of corporate records, but first aggregate investment by corporate enterprises would have to be determined and then the percentage of retained profits of this investment calculated. Granted the possibility of arriving at such figures, there is the problem of separating government from private investment. Because of the immense research demanded for this task, I have instead dealt only with state investment in the form of state budget expenditures.

Which of the above sources of financing was most important in this period can perhaps be generalized as follows. In the early period, 1932-1936, Japanese investment in Manchuria and financing from the state budget of a non-inflationary type were the catalytic agents prompting a resurgence of economic activity after the "incident". These sources continued to be important in the first five year plan, but enterprise retained earnings and some inflationary

financing became evident after 1938. From 1941-1945 the latter was the prime lever to build further industrial capacity and promote military preparation in the region. In order to capture this sequence of change the three period scheme introduced in Chapter III will again be used.

Establishing the Foundations of the Economy, 1932-1945

Before embarking on a review of the Japanese military's efforts to establish a balanced budget, reform the tax structure, and create a uniform money supply subject to control by a central bank, some comment is necessary about the fiscal and monetary affairs of the three eastern provinces prior to 1931. Up until 1928, the Peking government and regional authorities possessed different tax privileges and exercised different taxing rights.[1] This separation between regional and central government fiscal functions became more acute after the Kuomintang revolution of 1927-1928. The central government collected taxes from consumption expenditures (excise taxes levied on luxury goods, etc.) and foreign trade imposts. The regional authorities were free to collect taxes on business profits, land taxes, charges for purchase of real estate, etc. Political decentralization in China had become quite pronounced in the latter years of the Imperial dynasty and continued even far into the Republican period after 1912. The failure to unify the country under a strong central government after the ousting of the Manchu Imperial ruling class accentuated even more the demarcation of fiscal functions between state and regional authorities. Because political control by the central government

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[1]For a good discussion of tax collection by regional and government collectors, rates of tax, methods and time of payment, see Mantetsu Hokushi Jimmu Kyoku Chōsabu, Kahokusho Zaisei Chōsa Hokokushō, 1938, pp. 1-68; also Mantetsu Keizai Chosakai, Manshūkoku Genkō Sozei Seido, 1932, pp. 1-26.

never extended directly into each province and locale, expenditures such as the financing of defense, railroads, engineering projects, industry, education, sanitation, were left to the provinces to settle. While financing of these types of outlays had to be accounted for by the provinces, the central government sought to collect the most lucrative taxes it was able, and left the provinces a fairly narrow tax base and restricted source of tax revenue in the form of land taxes, occasional excises and a profit tax on enterprises which was exceedingly hard to capture because of persistent evasion in reporting of earnings. For the most part these revenues were inadequate to meet the increased demands that called for larger regional expenditures. Provincial and local tax collectors tried to make good the gap by illegal and ruthless methods of tax extraction.[1] As military cliques came to fill the power vacuum created by a weak Republican government, they assumed major positions of control in certain strategic regions of China and almost always resorted to this technique of revenue collection.

In the three eastern provinces, the tax burden increased for the rural classes in the late 1920's as military cliques sought to raise more funds for their local armies during the years of the 1927-1928 revolution.[2] To obtain this revenue it became necessary to increase taxes on merchants and enterprisers, raise land taxes, and not infrequently a provincial war lord

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[1]Mantetsu Chōsaka, Kokuryūkōsho no Zaisei, 1930, p. 5.

[2]Shomubu Chōsaka, Tosansho Zaisei Kiyō, 1930, p. 5.

simply printed his own notes and expanded their issue.[1] By 1931 the budgets of the three provinces, Heilungkiang, Kirin, and Mukden were strained because of rising debt issue to finance pressing military commitments. Because of the absence of a unified banking system, different banks and money houses in each major city in Manchuria issued their own notes. By 1932 there were as many as fifteen kinds of currency in circulation.[2]

On September 19, 1931 when the Kwantung army overran the Mukden garrison they immediately seized all financial agencies and suspended their financial activities.[3] This procedure was duplicated in Kirin and Heilungkiang provinces as well until new administrative machinery under Japanese tutelage could be reassembled again. On June 15, 1932 the Central Bank was established and given full control to regulate the expansion and contraction of the money supply, control over supply and distribution of foreign exchange, and the handling of the state's fiscal affairs. Before steps could be taken to eliminate the old, complicated money supply and substitute a new one in its place, a metallic

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[1]Shinozaki Yoshiro, Manshū Kinyū Oyobi Zaikai no Genjō, Vol. 1 & 2. Dairen, 1927. These two volumes are a veritable encyclopedia of the state of money and banking in the Northeast prior to 1930. While very little analysis is used, the author has nevertheless assembled a wealth of tables showing the different currencies used in major cities, the types of financial houses, banks and intermediaries, exchange rates with Shanghai silver market, etc. There is also considerable data on agriculture, mining, factories, trade, etc.

[2]Op. cit., TPCCHTS, Money and Banking in Northeast China, Vol. XIX, p. 124. Because of the complexities in the money supply as to type of currency circulating, the institute issuing it, amounts in circulation, etc., prior to 1931, I have omitted further discussion on this topic. For our purposes, we are only interested in how this situation was altered by the Japanese after 1931. Another excellent study of the money supply on the eve of reform was that of the Kinyū Kenkyūkai, Manshūkoku Heisei to Kinyū, 1932, pp. 1-219. The rates at which old currency exchanged for the new Central Bank yuan note are given on pages 93-94, where the fifteen different kinds of old currency were to be redeemed for new ones at a certain prescribed rate of exchange.

[3]Keizai Chōsakai, Manshūkoku Tsuka Kinyū Seiko Tōitsu Ryakushi, 1935, pp. 5-9.

standard of value had to be decided upon. In an SMR monetary publication during this early period it is shown that the arguments projected by Mr. Shudo Seiji, who had studied banking activities in the three eastern provinces for a number of years,[1] were instrumental in convincing the Kwantung Army officers of the value of adopting a silver standard instead of gold. He argued that to adopt a gold standard would be premature and cause such a sharp break away from the traditional transactions requiring silver exchange that this would be disastrous for the commercial groups in Manchuria. Furthermore, the supply of gold was insufficient to place Manchuria solidly in the world of international trade and finance, and if a serious outflow of gold occurred it might have dangerous consequences on domestic prices and production. Therefore it was better to retain the old standard and peg the domestic currency to silver as the store of value. Policy over time should be oriented toward gradually moving toward a gold standard so the economies of Japan and Manchuria could be better integrated.

When the decision to adopt silver was made, the Ministry of Finance stipulated the rates of exchange of old currencies with the new Manchoukuo state currency, the yuan note. The new Central Bank immediately undertook steps to recall old currency and exchange for the new yuan at different exchange rates as stipulated by law.[2] By 1934, 93 per cent of the old currency had been recalled and by 1935 the amount of new currency issued for old totaled 142,234,881 yuan. Historically, Shanghai stood as the principal money market for all of China, where various currencies and coins were exchanged for silver

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[1] Ibid., pp. 15-19.

[2] Op. cit., TPCCHTS, XIX, p. 123.

bullion. Despite the existing reserves of silver the new state could ill afford to permit transactions of the new domestic currency with Shanghai because the balances for exchange purposes were insufficient. The actual reserves to maintain the circulation of new currency consisted only of seven million yuan of silver, Specie Bank notes (notes of the Bank of Chosen) in the form of 20 million yuan, and the old "Hsien-Ta-Yang" silver dollars of an amount of seven million yuan.[1] Alarm about the shortage of reserves against currency gained ground when the United States in early July, 1934 commenced to buy silver and thereby bid up the world price of silver. This prompted an outflow of silver from Manchuria, and domestic prices fell, thus complicating the difficulties of an economy already contending with a slump in export of its primary products and generally falling prices. The Central Bank tried to maintain stability of the domestic price level by gradually abandoning the silver standard and moving closer to a parity with the Japanese yen, which for all practical purposes was still tied to gold.[2] The Manchoukuo government pegged the foreign exchange rate so that 109 Manchoukuo yuan exchanged with 100 Japanese yen. When the government withdrew, speculators commenced to buy Japanese yen which were over-valued, and sold reserves of Manchoukuo yuan; gradually and slowly the two currencies settled at par.[3] When this happened the Central Bank

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[1] Ibid., p. 126.

[2] Manshū Chūo Ginkō, Manshūkoku Tsuka Mondai Narabi ni Kinyū Jijō ni Tsuite, 1935, p. 5. For various economic reasons why the Central Bank selected the gold standard and tried to maintain stable prices and currency values, see Manshū Chūo Ginkō, Manshū Chūo Ginkō Junenshi, 1942, Shinkyo, Manchoukuo, pp. 86-90. This study covers the first ten years of operations of the Central Bank of Manchoukuo and contains a mass of financial data on its activities.

[3] Kyoroku Yamanari, "The Monetary Policy of Manchoukuo", Japanese Council Paper No. 13. Institute of Pacific Relations, Nihon Kokusai Kyokai, Tokyo, 1936, p. 9.

immediately seized control of all foreign exchange transactions and sought to maintain parity of the two currencies indefinitely.

In a space of only four years the Japanese military moved swiftly, and with considerable success dispensed with old media of exchange and substituted a unified, centrally controlled money supply. The Central Bank received full priority to expand the money supply by note issue. It kept branch offices in the large cities of both North and South Manchuria and vigorously regulated the activities of other authorized banks in the new state. In the same time span the money system had changed from a silver to a gold standard, and now the economies of Manchuria and Japan were more closely linked than ever so that currency conversion problems were eliminated. This naturally facilitated the mobilization and transfer of Japanese capital to the new state. Meanwhile, what important steps had been taken to amend the tax structure and centralize collection of tax receipts?

In April of 1932 the principles upon which reform of the old tax system were to be based were set forth.[1] They were: 1) adopt a system of double taxation; 2) centralize the collection of tax receipts; 3) the tax system was to be organized along lines where local taxes were to be collected and retained only by the cities and districts; 4) the state's tax system was to be organized so that direct taxes constituted the prime source of state revenue, and indirect taxes were collected only as a form of supplementary taxes. With these fiscal underpinnings, the state collected its tax receipts chiefly from profits and income which consisted of land taxes, incorporated and unincorporated business profits tax, and property taxes. These represented direct levies on

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[1]Keizai Chōsakai, Manshūkoku Zaimu Kōsei Hōsaku, Sept. 1935. Secret. pp. 31-35.

sources of income from holding or producing wealth. But while on paper it appeared that upper income or property holding classes bore a heavy tax burden this was far from the truth, for it was this same class that could exercise power in the market, and virtually all such taxes were passed on to the consumer in the form of higher prices. Meanwhile, the indirect taxes collected (and these too were passed along to the consumer in the form of higher commodity prices) were duties collected from foreign trade, excises, and quasi-indirect taxes. The imposts from foreign trade were made up of import duties and taxes on exports, the former exceeding the latter as a source of revenue. Commodity taxes were made up chiefly of excises on salt, liquor, and tobacco. The quasi-indirect taxes came from registration fees, revenue from stamps, etc.

The revenue accruing to the regional or provincial authorities depended largely on the subsidiary taxes levied upon forms of wealth which the state taxed as well. These included land taxes, business enterprise profits taxes, and certain excises. These surcharges brought out the element of double taxation in the system. The city and district authorities in each province were also permitted to collect taxes on various household enterprises and levied taxes as a form of excise on various consumer goods. The redistribution of tax privileges and functions between state and province was quite sharp in these reforms. Now the state had a much larger tax base, and with central power definitely vested in the hands of the puppet government backed by the Kwantung Army, more revenue could be transferred to the state for capital construction, control and direct exploitation of natural resources, development of a defense system, etc. These objectives were envisaged in the initial general four point economic development program launched in 1933. On the

other hand the local authorities acquired some new sources of potential revenue when they were allowed to tax household enterprises; they also managed to hold on to traditional sources of tax receipts by permission to levy surcharges on land, business profits, and commodity excises.

The new tax system was characterized by the modern note of a tax on income and profits. As will be demonstrated later when the revenue side of the budget is examined, land taxes, excise taxes, and tariffs provided the major share of gross tax receipts. While on paper an element of tax progressivity was expressed, the new system was undoubtedly deflationary and bore heavily upon those employed in agriculture. Given the control of distribution by Chinese merchant capital, such profit and income taxes that were introduced could easily have been shifted to the consumer by price markups. Little evidence is available to suggest that this happened, but the price disparities for agricultural products between countryside and town as well as centers of shipment and export were often such that transportation costs could not have accounted for everything. The new system was not complicated by a wide range of schedules or ways in which payment could be made. Tax rates, times of payment, and conditions under which payments could be deferred were carefully published and were quite simplified. For the land tax, all cultivated land was divided roughly into three grades on the basis of value and productivity and a tax rate levied on each grade. All imports were itemized and categorized and duties prescribed accordingly.

How were state and local expenditures to be made, or rather, how was tax revenue to be distributed between state and provincial needs? Now that the old three eastern provinces were unified under one all-embracing administrative structure, centralized authority extended to every province (by 1936 the

three old eastern provinces had become nineteen new provinces). The government stipulated it would assume financial obligations for maintaining defense, creating new administration, a judicial system, police force, and new social welfare measures, as well as promote capital construction in industry and communications. On the other hand, city and local authorities were held accountable for expenditures necessary to assure peace and political stability at the city and village level. The large, important responsibilities undertaken by the state, justified in the eyes of the state a larger tax share and an abrogation by the provincial seats of traditional tax prerogatives.

Before showing the nature and amounts of budget expenditures and revenues for the period 1932-1936, it is desirable to discuss first the actual composition of the state budget. For both the revenues and expenditures side there were two accounts:[1] the first was the general account (ippan kai kei) and the second, the special account (tokubetsu kai kei). The sum of these two accounts made up the state's total receipts and outlays. The first account, the general account, can best be considered as an administrative budget while the sum of both accounts represents the total cash budget of the state. Let us examine in some detail the receipt and expenditures sides of both accounts.

The general account on the revenue side consisted of two sections called the ordinary revenue account (keijo bukaku) and the extraordinary account (rinji bukaku). Revenue for the ordinary revenue account flowed primarily from taxes (foreign trade imposts, salt tax, and domestic taxes composed of

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[1]For an excellent discussion of the character of the general account for both revenue and expenditure side of the budget for this same period, see Keizai Chōsakai, Manshūkoku Zaisei no Shōraisei, 1936. Secret. pp. 1-205. It is very difficult to find theoretical explanations of the role of the special account. Data for this account are available, however, in certain financial statistical studies and some detailed breakdown of flows can be derived, but that is about all.

excises, profits, and income taxes) and revenue other than taxes such as receipts from stamp sales, government monopoly sales, and miscellaneous revenue. For revenue flowing into the extraordinary account, this was derived from sale of state debentures, surpluses transferred from previous years' special account, intra-account transfers of previous period surpluses, and miscellaneous.

For the expenditure side there were again two sections of the general account. These were called the kindai naru ichi sanbu and keisho naru rokubu. The former might be considered large scale administrative expenditures of great importance to the state and the latter, less important outlays. For the former, the composition consisted of administrative expenditures for military affairs (outlays for the General Staff, army, navy, engineering works, national defense, suppressing banditry, etc.), the general affairs board, general welfare, and the financial section. For the keisho naru rokubu outlays, expenditures encompassed judicial matters, general business (commerce, industry, and agriculture), cultural affairs, communications, foreign affairs, and administration of those parts of Mongolia occupied by the Japanese.

As stated above, the general account of the state budget was to make an orderly disposition of funds for administrative purposes. Revenue for these purposes came largely from tax receipts and state monopoly receipts. If it turned out that additional revenue for the fiscal year was required, the extraordinary revenue section of the receipts side of the budget was utilized and income obtained from debt flotations, previous budget surpluses, or intra-account transfers. The budget data given in SMR or government sources was of two types: yosan or estimated revenue and expenditures, and kessan or

actual revenue and expenditures. Up until 1937 both kessan and yosan budget figures are available and the spread between them is not great, although for individual items the difference might often be large. After 1937 I was unable to f nd detailed budget figures expressed as kessan. Thus all budget figures after 1937 are but estimates. Since we are only interested in the order of magnitude and relative size of different components of the budget, such discrepancy will not make any difference.[1] For the general account budget, the administrative budget, special effort was made to have this always in balance or have a surplus. Balancing of this budget was to be done primarily from tax receipts or revenue from certain monopoly sales. The technique of reliance upon debt flotation was used only for the special account budget.

Now for the special account it is possible to consider both receipts and expenditures simultaneously. In this account receipts and expenditures were collected and made by the various segments of the government bureaucracy, chiefly the general affairs board, military section, financial section, welfare department, judicial department, etc. The first three were the important components of this account. The primary expenditures made by the state under this part of the budget were related to military defense, industrialization, capital construction, colonization, handling debt issue, sinking fund operations, etc.[2] In other words, these were state expenditures that went far

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[1]Comparing for a moment aggregate budget figures we note the mild differences between Japanese yosan data and kessan data as noted in the encyclopedia of economic conditions in the Northeast for 1946-1947. For 1937, actual expenditures ran 586,227,000 yuan while in yosan they were 583,667,000; in 1938 actual figures were 980,152,000 while estimates were 889,738,000; in 1939 actual figures were 1,056,227,000 and estimates were 1,044,814,000 yuan; in 1940 actual figures were 1,955,166,000 yuan and estimates were 1,639,862,000 (the greatest discrepancy); 1941, actual expenditures were 1,891,000,000 and estimages were 1,700,969,000.

[2]Op. cit., Kurazono Sussumu, "Tenkanki no Manshūkoku Zaisei", pp. 408, 421.

beyond normal administrative expenditures and represent active participation of the government in the economy by producing wealth through its various types of expenditures. From 1932-1936 these were not too large, and probably those for railroad financing bulked largest, but of course after 1937 they assumed tremendous magnitude. How were these forms of state expenditures financed? On the revenue side, income was acquired from two general sources. The first came from government owned and operated enterprises. These might be monopolies (salt, opium, etc.), but in most instances they were government controlled enterprises, forest projects, postal services, etc. The second and by far the largest source of state revenue came from debt flotation and borrowing. These came from both domestic and foreign sources. The state accountants were able always to bring this account of the budget into some semblance of balance by crediting the state with so much revenue from sale of debt when it was increasing its liabilities by floating such a debt.

In this way the special accounts always appeared to be running a surplus when in actuality all the state had done was pass its debt issue to the Central Bank or the Manchoukuo Industrial Development Bank. In exchange for holding this debt the banks allowed the government deposits to draw against. The Central Bank, through its agencies and its power to issue notes, simply expanded the note issue for whatever amounts the government needed to make for its various expenditures. But this dependence of the state budget upon the banking system did not come about until late in the first five year plan. While some debt flotation took place in this early period, it did not demand the simple printing of note issue for the government to make its purchases. Capital flows from Japan, enterprise retained earnings, and the revised tax system enabled the government to conduct sound financing and at the same time

Table 51

Revenue and Expenditures for General Account of Manchoukuo Budget, 1932-1936 (000 Yuan)

A. Revenue of General Account

Ordinary Revenue	1932*	1933	1934	1935	1936
1. Foreign Trade Duties	52,355	75,619	88,999	43,897	93,535
2. Salt Tax	-	20,543	22,030	8,759	27,390
3. Domestic taxes	44,178**	37,392	46,152	24,782	62,701
Total Tax Receipts	96,553	133,554	155,181	77,436	183,626
4. Stamp Revenue	-	4,322	7,587	4,266	9,958
5. State Monopoly Profits	4,730	6,063	11,389	6,373	20,116
6. Other Revenue	7,168	7,206	6,282	5,311	10,018
Total Revenue for Ordinary Revenue	108,431	151,145	180,439	93,386	223,719
Extraordinary Revenue					
1. State Debentures	36,480	9,000	-	5,000	-
2. Surplus on Account	-	24,713	29,795	28,569	32,933
3. Transfers from Special Account	-	789	803	679	3,051
4. Other	7,651	8,927	3,862	5,134	3,907
Total for Extraordinary Revenue	44,491	43,429	34,460	38,382	38,891
Total Revenue for General Account	152,922	194,574	214,899	132,768	262,610

B. Expenditures of General Account

1. Imperial Household	1,150	1,400	3,753	1,035	2,000
2. General Affairs Board	42,402	43,848	40,637	22,102	45,384
3. Welfare Section	9,226	27,600	37,081	22,530	38,872
4. Military Section	43,711	47,828	60,029	27,483	82,772
5. Finance Section	24,036	25,891	19,534	11,629	23,263
6. Industrial Bureau	634	5,961	5,159	3,168	5,657
7. Communication Bureau	1,645	2,925	3,352	2,091	4,229
8. Judicial Bureau	3,184	5,730	7,507	4,527	9,328
9. Cultural Affairs	420	850	5,808	2,871	4,657
10. Foreign Affairs	1,181	1,192	1,489	873	1,460
11. Mongol Administration	1,416	2,257	2,893	1,526	3,047
Total	129,635	165,482	187,242	99,835	220,790

*Data for 1932 obtained from Keizai Chōsakai, Manshūkoku Zaisei no Shōraisei, 1936. Secret. p. 145, 194.

**Domestic taxes for 1932 include salt taxes as well.

Source: Manshū Chūo Ginko, Kinyū Keizai Tōkei Nempō, July 1938. pp. 26-27.

Table 52

Revenue and Expenditures for Special Account of Manchoukuo Budget, 1932-1936 (000 Yuan)

Item	1932 Revenue	1932 Expend.	1933 Revenue	1933 Expend.	1934 Revenue	1934 Expend.
A. General Affairs Board						
1. Protective Tariff for dom. salt prod.	13,475	13,475	25,863	25,863	36,160	--
2. Debt Management	-	-	-	-	-	-
3. Sinking Fund	-	-	1,759	1,759	7,663	7,663
4. Extraordinary outlays for urban const.	5,283	1,947	7,856	7,340	7,640	6,713
5. Warehouse stores	2,133	2,133	5,612	5,612	9,324	9,032
6. Railroad Bureau	1,500	1,155	7,620	7,231	-	-
7. State debentures	-	-	-	-	-	-
B. Military Section						
1. Stores of uniforms	-	-	5,889	5,302	4,630	5,148
2. Stores of weapons	-	-	-	-	1,623	1,623
C. Financial Section						
1. Monopoly Bureau	3,972	6,172	11,141	13,008	21,683	44,093
2. Monopoly Transport Bureau	-	-	17,218	17,218	18,041	12,404
3. Monopoly Enterprise (fuel, opium, tobacco)	-	-	-	-	638	1,453
4. Management of govt. real estate	-	-	1,437	1,437	4,802	4,001
5. Investment	-	-	-	-	17,962	15,945
6. Railroad & Highway debentures	-	-	-	-	44,648	40,468
D. Industrial Bureau						
1. State forest enterprises	-	-	-	-	-	-
2. Gold mining enterprises	-	-	-	-	-	-
E. Communications Section						
1. Postal Service	-	-	3,638	2,940	4,158	3,894
2. Postal Savings	-	-	-	-	-	-
F. Judicial						
1. State Prisons	-	-	-	-	-	-
G. Welfare						
1. North Manchurian Special Districts	-	-	2,557	2,742	-	-
Grand Total	26,363	24,882	90,589	90,845	173,972	132,437

Table 52 (Continued)

Item	1935 Revenue	1935 Expend.	1936 Revenue	1936 Expend.
A. General Affairs Board				
1. Protective Tariff for dom. salt prod.	36,173	-	46,498	-
2. Debt Management	-	-	-	-
3. Sinking Fund	4,973	-	7,122	1,057
4. Extraordinary outlays for urban const.	6,068	4,839	7,666	6,201
5. Warehouse stores	4,658	4,873	8,641	8,500
6. Railroad Bureau	-	-	-	-
7. State debentures	-	-	-	-
B. Military Section				
1. Stores of uniforms	2,522	1,914	4,300	3,576
2. Stores of weapons	1,281	1,281	2,444	2,444
C. Financial Section				
1. Monopoly Bureau	-	-	-	-
2. Monopoly Transport Bureau	8,360	5,880	21,235	15,419
3. Monopoly Enterprise (fuel, opium, tobacco)	22,084	24,608	62,519	45,256
4. Management of gov. real estate	4,136	2,247	6,090	2,990
5. Investment	9,250	10,909	25,004	23,875
6. Railroad & Highway debentures	34,925	32,166	51,904	50,501
D. Industrial Bureau				
1. State forest enterprises	-	-	10,747	9,161
2. Gold mining enterprises	-	-	-	-
E. Communications Section				
1. Postal Services	2,658	2,054	6,084	5,024
2. Postal Savings	-	-	-	-
F. Judicial				
1. State Prisons	-	-	-	-
G. Welfare				
1. North Manchurian Special Districts	-	-	-	-
Grand Total	137,058	90,771	260,553	174,091

Source: Data for 1932 from Manshū Chūo Ginko, Keizai Kinyū Tōkei Nempō, p. 35 (1935). Data for 1933-1936 from Manshū Chūo Ginko, Kinyū Keizai Tōkei Nempō, 1937, p. 28.

promote considerable capital construction. Let us examine in more detail the composition of the total budget for the years 1932-1936 by first examining actual receipts and expenditures for general account and then for the special account (Tables 51 and 52, pp. 234, 235, 236). First a listing of actual amounts and then a discussion of the significance of these amounts in terms of economic undevelopment undertaken in this period.

From the data on receipts for ordinary revenue in the general account, foreign trade duties comprised the largest amount. Taxes from land, profits, and commodity sales rapidly increased and later superceded receipts from the foreign trade sector. For extraordinary revenue, debentures were a very small amount and what additional receipts were necessary for administrative expenditures, intra-account transfers and surpluses from previous years made up the gap. Total revenue for the general account increased rapidly after 1932 and with the exception of a decline in 1935 (and it seems this occurred because of changing the fiscal year for the budget) showed an upward trend.

For the expenditures under the general account, outlays for military affairs made up the largest outlay, and much of this was used for regional 'pacification'.[1] The second largest item was absorbed by the general affairs board which handled all central administration and economic planning and control. The third largest category was for general welfare in which the principal component for this category was regional administration, policing, and sanitation. The fourth largest category was devoted to financial affairs which included expense for tax collection, debt management, and general investment in capital construction for government administration. Total expenditures

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[1] Op. cit., Manshūkoku Zaisei no Shōraisei, pp. 150-180.

increased too, but were much less than total receipts for this account, so that a general surplus was available over these years.

It has already been pointed out that the special account of the budget assumed larger significance after 1937, but even for this early period it constituted the better part of the total budget for 1935 and 1936, as the state was compelled to spend greater amounts for military and transportation purposes. Within the special account the breakdown was very similar to that of the general account inasmuch as the same government agencies were represented, e.g., general affairs board, military section, financial section, judicial, general welfare, etc. The first three branches were the most important for investment and financing. The chief source for expenditures for these sections were flotation of Manchoukuo debt instruments which were absorbed by the Japanese banking community, the state, and Manchoukuo banks and enterprises. Whenever it became necessary to acquire large sums of income for military defense, capital construction, railroad building, etc., debt financing provided the needed amounts and this was entered in the account both as revenue and as an expenditure for the item at hand.

The imposing items under special account are found in the financial section (after 1941 this became known as the economic bureau or department) in which debentures for railroad and highway activity and receipts from operation of monopoly enterprises were the most outstanding. It would be interesting to be able to give an account of proportions of government debt issue held and by whom. For the early period the SMR and interests in Japan absorbed most of Manchoukuo debt. After 1937 the total amount of state debt was 462,030,250 yuan in which 55 per cent or 255,030,250 was held domestically (of the total amount of domestic debt 198,175,250 was debentures and the remainder of 56,855,000 loans), while 45 per cent was foreign held (207,000,000), being

credit flowing from Japan.[1] The general reliance on financing of economic activity in Manchoukuo by debt issue raised the problem in many quarters of the likelihood of pernicious inflation. Many feared that enterprises such as the SMR and financial groups in Japan had reached the limit of their ability to absorb more debt issue.[1]

Despite these fears, such key economic indicators as the money supply and price level showed that fear of inflation at this time was groundless. The money supply, if we consider only currency and coinage and exclude deposits, totaled 151,865,000 in 1932 and by 1936 stood at 295,139,000, a twofold increase.[3] Expanding enterprise activity and need for cash balances for transaction purposes required an expanding money supply and the twofold increase did not precipitate any sharp movements in the general price level. According to the Central Bank of Manchoukuo, the general commodity price index with base year in 1933 had increased only to 106.1% in 1936.[4] The vigorous economic activity that marked this period had not really caused a push in prices. Excess capacity and a moderate expansion of credit encouraged employment of more resources. The expansion of industry and additional capital formation required for building more transport capacity made for remarkably little price rise.

Between 1932 and 1936 the state successfully created a new budget and managed to keep administrative expenses in line with current receipts. The

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[1] Op. cit., Manshū Chūo Ginkō, Kinyū Keizai Tōkei Nempō, 1937, p. 29.

[2] Op. cit., Keizai Chōsakai, Manshūkoku Zaisei no Shōraisei, p. 286.

[3] Op. cit., TPCCHFS, Vol. IX, p. 35.

[4] Ibid., p. 12.

reliance on intra-account transfers, previous year surpluses, and debt issue to meet administrative outlays was not great. The main way in which the government could and did effect resource transfers was by its direct purchases of goods and services in the economy either from revenue diverted from government monopoly or enterprise earnings and from larger government debt issues. This was entirely handled under the account in the budget, the special account. It is worth noting that dependence on the special account to finance development was maintained during the entire period of Japanese activity in Manchuria. The shift in emphasis from depending on capital flows from Japan to floating state debt became the unusual feature after 1938.

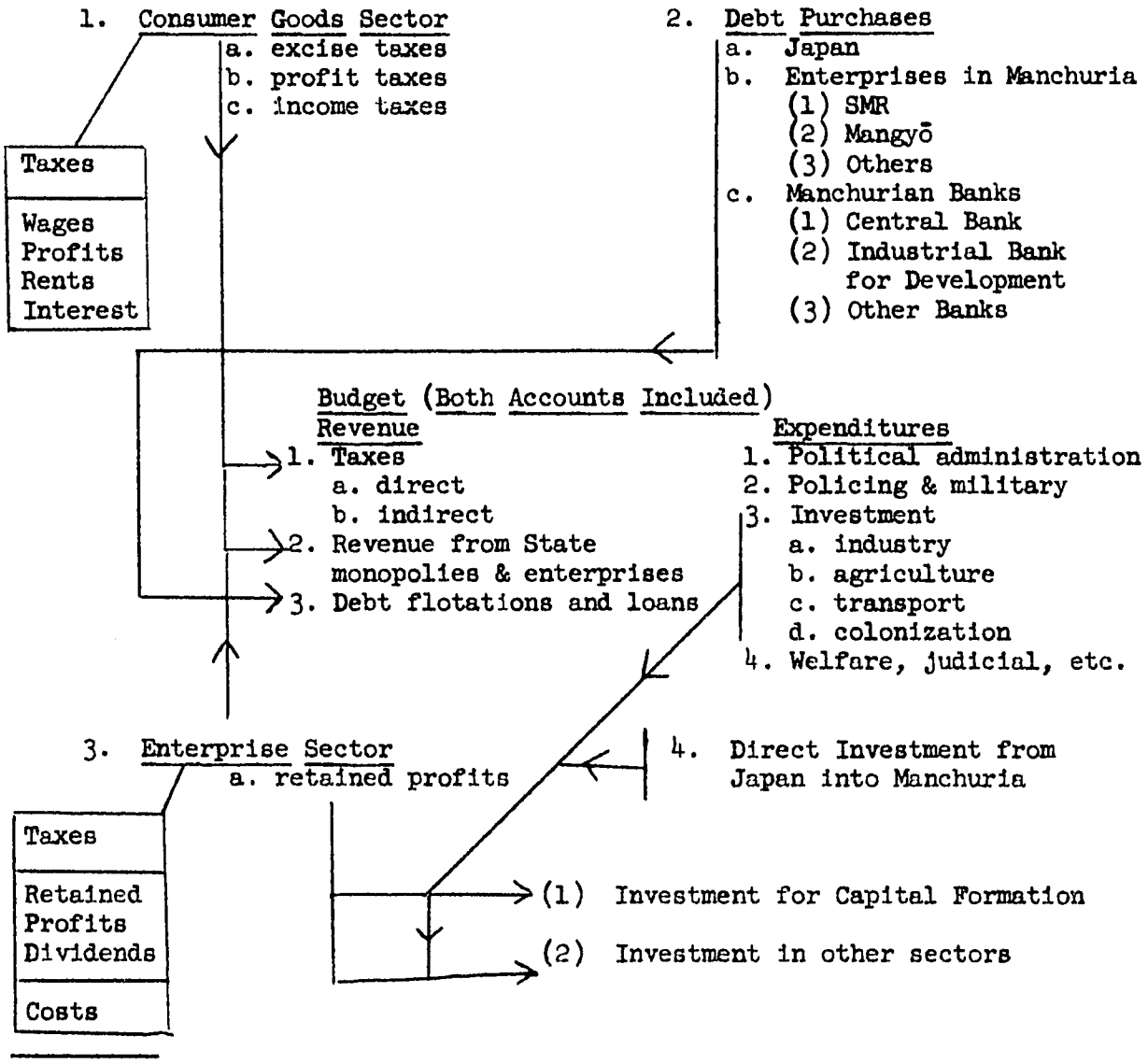
Financing Economic Development Under the First Five Year Plan

The first plan, enacted in 1937, typified a balanced yet more rapid rate of industrial development than envisaged in the general economic program launched in 1933. Furthermore the state had a much greater source of information about the region's resources at its fingertips. By 1937 activity was restored to the pre-depression levels when military pressures dictated a speed up in output of industrial goods and raw materials. The rather sudden external pressures of war in the form of Japanese Imperial troops moving into North China forced the revision of previously planned goals in such priority industries as metallurgy, fuels, and chemicals. To realize a much larger volume and flow of raw materials and labor into such key industries, administrative control and effective policing had to be introduced. Such organizational structures and economic measures have already been discussed. While regulation of the avenues of distribution of inputs and goods and services was necessary before development could be accelerated, a way had to be found whereby the state could muster its financial resources to get this great effort under

way. This meant that the rate of investment from current income produced had to be substantially increased and levels of current consumption fixed so that an increase in investment on a per annum basis was possible and forthcoming. This made for pressure on the existing resource base and brought about an over full employment of resources in various sectors. It then tended to aggravate factor price structures and create the grave problem of suppressed inflation.

Before discussing changes within the budget and a general reliance on debt financing and note issue to finance growth, a simple diagrammatic presentation of how investment for expansion of capital formation took place is presented to clarify much of what follows. This diagram shows the main flows by which the state was able to have resources transferred to the industrial sector and rate of investment subsequently increased.

Diagram



The above diagram shows the four sources of industrial financing and it is seen that the state budget is instrumental in the entire network of investment financing. While all sources were important for the fourteen year period, at different times some sources loomed more crucial than others and thus became the principal means by which growth would not falter. The state is the principal agent governing the flow of funds. Though all sources played a part in the growth of productive capacity after 1938 it is our task here to

show the predominance of the role of the state.[1]

The restoration of peace and order between 1932-1936 had been accomplished with speed, and investment had increased principally by capital inflows which balanced the rising import deficit. Higher taxes also had helped. The first five year plan called for the smooth transfer of capital and technological skill from Japan, and this was to be financed by expanding exports of agricultural produce and raw materials to Japan as well as by further flows of funds from Japan. The goals for output and capacity have already been cited. The impending war meant the revamping of original goals and these were drastically increased. To realize the revised plan meant the amount of capital originally planned for allotment to different branches of industry also had to be increased. Some indication of the proportion of capital allocated between industries and the increases needed for fulfillment of the new plan are given below.

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[1]It is very difficult to gauge accurately what proportion of national income was diverted into capital formation because of the difficulty of constructing intelligent sets of figures. The Japanese themselves made some estimates of their national income, but we are provided with very little knowledge of the methods they used in their computations. Miss Ann Rasmussen of Columbia University, in her forthcoming study of financing economic growth in Manchuria, made use of these figures and calculated an investment rate as high as 27-29 per cent for the years 1938-1943. Given the wide margin of error possible in the Japanese income data, this still compares reasonably well with similar dubious Soviet figures for annual investment.

Table 53

Capital Requirements for First Year Plan and Revised Plan
(1,000 Yuan)

Category	First Five Year	Revised Plan Figures
1. Iron & Steel Industries	248,485	726,000
2. Liquid Fuel Industry	436,370	1,057,000
3. Coal Industry	150,000	315,000
4. Electrical Power	245,958	1,339,500
5. Rolling Stock for Railroads	27,813	-
6. Light Metal Industries	120,360	148,000
7. Automobiles & work tools	20,000	195,000
8. Armaments (including armored cars)	100,000	100,000
9. Aircraft	30,000	50,000
Grand Total	1,378,996	3,871,000

Source: TPCCHTS, Vol. 1, Resources and Industry in Northeast China, pp. 135-141.

The near tripling of required capital was made good in part by retained earnings and the establishment of Mangyō consolidated heavy industry under one gigantic corporate structure in 1938 so that assets of new zaibatsu from within Japan were easily transferred to Manchuria. Yet the major share of funds had to come eventually from state loans and investments in enterprises. This could only be done by larger increases in government expenditures made under special account. If both accounts are aggregated to show the flow of expenditures according to different items we find the following trend occurring from 1937 to 1941.

Table 54

Comparison of Expenditures According to Category for General and Special Account (1,000 yuan)

Year	Pol. Admin. Expend.	Pacification & Defense	Indust. Develop.	Social Welfare, etc.	Colonization	Others	Total Expend.
1937	45,333	135,074	229,496	7,141	389	166,233	583,667
1938	91,922	129,698	478,884	12,251	635	176,346	889,738
1939	103,393	162,610	522,492	15,564	48,358	193,354	1,044,814
1940	147,886	272,981	852,211	26,180	103,581	237,021	1,639,862
1941	149,918	375,124	814,418	38,133	106,301	217,075	1,700,969

Source: For 1937-1940, Cf. Kurazone Sussumu, "Tenkanki no Manshūkoku Zaisei" Manshū Keizai Kenkyū Nempō, 1941, p. 410.
For 1941, cf. Chōsabu, Sōgō Chōsa Hōkokusho, 1941, p. 2.

In the course of four years total outlays increased nearly threefold. The largest item for the period was that allotted for industrial development; this sum accounted for approximately half of total budget outlays for the period. It is interesting to note for 1941 the amount of retrenchment in expenditures that was to take place (and did take place) as the government made an earnest attempt to restrict unnecessary expenditures so as to ease the pressure of inflation. Industrial development outlays were curbed slightly while political and military outlays were permitted to rise. Between 1940 and 1941 attempts were made to cut industrial costs and eliminate waste and inefficiency in the production lines. It is rather surprising to see the assistance colonization received, for by 1941 these expenditures surpassed those for social welfare. The Japanese somehow refused to give up their obsession that they could transplant large numbers of people into the northern waste lands for reclamation projects and thereby alleviate population pressure at home.

Outlays at the provincial level increased as well. Between 1937 and 1938 these expenditures jumped from 42 million yuan to 70 million yuan, about a seventy per cent increase.[1] Again the main reasons were necessity for a larger police force, urban expansion, and industrial construction. The large expense item for policing reveals the difficulty the Japanese administrators had in maintaining order and for general economic control. Yet even with this diversion of funds from capital formation construction at the local level went on at a spirited pace.

With the exception of the year 1941 the increases in budget outlays were fairly staggering. The question comes to mind, how were these outlays financed; what were the main sources for state revenue? The following table shows the revenue side for both accounts in the budget and enables a focus on the primary revenue sources.

Table 55

Comparison of Revenue by Category for General and Special Account
(1,000 Yuan

Year	Direct Taxes	Tariff Duties	Printing of Stamps	Revenue from State Monopoly Enterprises	Interest on Capital and Loans	Transfers from prior yr. surpluses
1937	72,584	108,069	10,400	194,165	5,700	48,520
1938	76,509	96,448	9,888	255,408	40,000	53,000
1939	94,742	107,551	14,997	475,732	65,000	85,000
1940	151,946	171,907	19,180	735,825	75,000	73,015
1941	211,740	165,368	32,149	712,510	79,298	44,307

Year	Debt Issue	Gifts to State	Receipts from Land Sales, etc.	Miscellaneous* Revenue	Total Outlays
1937	110,735	-	-	176,128	631,656
1938	366,916	-	-	86,423	892,055
1939	396,428	-	-	40,009	1,030,697

[1] For a good article on the nature of regional finance in Manchoukuo see Sekiuchi Takeo, "Manshūkoku Chiho Zaisei no Seikaku", Mantetsu Chōsa Geppo, 1939, Feb. p. 3.

Table 55 (Continued)

Year	Debt Issue	Gifts to State	Receipts from Land Sales, etc.	Miscellaneous* Revenue	Total Outlays
1940	506,880	-	-	43,154	1,639,862
1941	385,598	44,195	23,123	16,021	1,714,310

*There might be some discrepancies between data taken from both of the sources listed below. Data from Kurazono's study had to be aggregated (that is, totaled up for both accounts) and then disaggregated in order to be fitted into comparable categories in the SMR Chōsabu study. For this reason, values under Miscellaneous Revenue loom very large. Actually, part of this revenue for years 1937-1940 should be placed in categories: gifts to state and receipts from land sales.

Source: For 1941, Cf. Chōsabu, Sōgō Chōsa Hōkokusho, 1941. Vol. 1, p. 2.
For 1937-1940, Cf. Kurazono Sussumu, pp. 413, 419.

Despite the high state expenditures, revenues were to be anticipated of such a volume to leave a surplus for the total budget. While the largest share of outlays came from government monopolies and operated enterprises, another important item which enabled the state to cover its expenditures was that of an ever growing debt issue. Taking the above five years, debt issue as a per cent of total government revenue ran as follows: 17 per cent for 1937, 40 per cent for 1938, 38 per cent for 1939, 31 per cent for 1940, and in 1941 it drops to about 23 per cent. Thus for years when the price rise was especially sharp (1938-1940), debt issue ran from 30-40 per cent of total government receipts. This was definitely a new trend in the state budget, and shows a gradual dependency on inflationary measures to finance growth and military programs. The cumulative debt outstanding at the end, after refunds had been made, stood at 2,053,727,250 yuan.

In 1941, in order to reduce inflationary pressures, state outlays were cut and taxes raised.[1] Greater economy in the budget was introduced and such devices as taxes, savings associations, lotteries, etc., were resorted to for purposes of absorbing excess purchasing power and reducing the demand for the limited goods available. 1941 was a year of war for the Japanese empire, and such a state of affairs should have prompted even greater increases in the state budget. The fact that the state sought to push economy and cut back its expenditures reflects the growing fear among planners and administrators that inflation was getting out of hand and making economic planning very difficult. This event shows also that to fulfill the ambitious revised first five year plan, Japanese planners had been forced to rely tremendously upon note issue to finance development. Taxes thus were broadened so as to cut across a wider area of consumer purchasing power holdings. New taxes such as special sales taxes, transit tax, capital gains tax, corporation income tax, made their appearance, and such taxes as the cigarette tax, tobacco tax, real estate tax, wine tax, and business income tax were increased.

How was debt shared between Manchuria and Japan? The following table shows the amounts of debt held in the respective countries by enterprises, banking institutions, and private individuals net of refunded debt.

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[1]Cf. TPCCHTS, Vol. 19, p. 192. Also see Manshū Chūo Ginkō Junenshi, 1943, p. 330. "Because of a gradual inflationary tendency which resulted from outlays of capital for industrial expansion, the government re-examined its financial affairs closely. This resulted in curbing government and enterprise investment outlays."

Table 56

Amount of Debt Held in Manchoukuo and Japan net of Refunded Debt
(1,000 Yuan)

Year	Annual Issue	Debt Held in Japan	Debt Held in Manchoukuo	Cumulative Total
1932	3,412	3,412	-	3,412
1933	50,925	-	51,925	54,337
1934	10,799	7,200	3,599	65,136
1935	66,200	58,050	8,150	131,336
1936	88,650	58,650	30,000	219,986
1937	150,500	55,000	105,500	370,486
1938	199,750	49,750	150,000	570,236
1939	306,000	200,000	106,000	876,236
1940	727,490	370,000	357,490	1,603,726
1941	450,000	220,000	230,000	2,053,726

Source: Manshūkoku Chūo Ginkō, Manshū Chūo Ginkō Junenshi, 1943, pp. 375-79.

From 1932-1936 the largest share of debt was absorbed by Japan. But after 1937 much more came to shifted to Manchoukuo proper. Still, for years 1939 and 1940 an unusually large amount was floated in both countries. The cumulative total for debt issue rises at a rapid pace and by the end of 1941 exceeded two billion yuan. If this sum were converted to dollars at the exchange rate of 4: 1, the total debt would have been around 500 million U.S. dollars. Thus when expressed in familiar western currencies the total Manchoukuo debt does not seem really great. But this is only because in today's world we have gradually become accustomed to dealing in such large sums. The fact that Manchuria was still an under-developed economy and that debt issue of this magnitude was a new phenomenon in the finance of East Asia makes it a more impressive figure.

The two main banks in Manchuria, the Central Bank and the Industrial Bank for Development, absorbed most of the state debt. In turn, they issued loans and established deposits for the state, thereby making credit available to the

state and to enterprises. Debt held by the Central Bank was a device to enable the government to finance its administrative chores while debt held by the Industrial Bank was the mechanism by which the state financed capital formation. After 1936 debt held by these two banks rose. For the Central Bank alone the amount of debt assumed in 1936 was only 30 million yuan, and of this amount the bank managed to sell 1,186,000 yuan. In 1937 the amount held rose to 100 million yuan, and sales were pushed so that roughly 49 million of that amount was passed along by the banks to businesses and consumers. By 1940 the bank had assumed 505 million yuan and disbursed only one-fifth of this amount (109 million yuan).[1]

The difficulty in establishing a long term capital market in Manchuria stems from the historical evolution of financial institutions and the general agricultural nature of the economy. Domestic capital had never been mobilized except by local merchants and money lenders and then only on a very small scale. Capital mobilized by these groups seldom left the locale from which it was organized and channeled to financial houses, etc. It was only with the banking system initiated by the Japanese after 1931 that a responsible mechanism was established to finance accelerated growth. The Central Bank really was the only agency under law that could print notes, control foreign exchange, and lead the way in correcting the structure of prevailing interest rates. It served as the fiscal right arm of the state. When funds from Japan proved insufficient and outlays by government were not matched correspondingly by taxes or other forms of available state income, bonds were handled by the Central Bank. The narrow limitations of the region's money

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[1] TPCCHTS, Vol. 19, p. 261, and Kurozono Sussumu, p. 421.

markets prevented any sizeable amount of bonds being absorbed by native and mercantile groups. The only dependable agency was the banking system the Japanese themselves had created. The handling of government debt by the Industrial Bank insured the creation of deposits by which the state could then draw upon and transfer funds for purchases of goods and services in the business sector. As funds moved out of the bank and were paid by the state to enterprises, trading companies, etc. (and this was done simply by expanding note issue) most of these notes, checks, etc., eventually returned to the banks again in the form of savings deposits, repayments of loans by enterprises, etc. Thus greater state spending, a corresponding rise in currency issue and bank loans, and then a rise in bank deposits were of the same cumulative process of financing development projects. The table below shows the magnitude of change in this process of credit creation.

Table 57

Note Issue, Bank Deposits, Bank Loans, and the General Price Index

Year	Amount of Currency Issued	Bank Deposits	Bank Loans	Price Index
1932	151,000,000	-	-	102.0
1933	129,000,000	300,000,000	287,000,000	100.0
1934	168,000,000	427,000,000	429,000,000	92.6
1935	178,000,000	505,000,000	424,000,000	103.4
1936	254,000,000	647,000,000	501,000,000	106.1
1937	329,000,000	808,053,000	767,912,000	125.1
1938	452,000,000	1,107,753,000	1,205,167,000	149.6
1939	657,000,000	1,875,718,000	2,398,379,000	181.3
1940	991,000,000	2,125,177,000	3,343,101,000	225.7
1941	1,371,029,000	2,886,171,000	3,296,571,000	248.7

Source: TPCCHTS, Vol. 19, pp. 12, 20, 29.

Though the period 1937-1941 is interesting from the standpoint of the greater dependence upon note issue to finance investment plans, other sources of revenue were still crucial, such as funds flowing directly from Japan, net

retained earnings that enterprises ploughed back into their operations, and the growing revenue from state controlled enterprises, monopoly sales, etc. But a definite turn had taken place some time after 1937, when the reliance upon inflationary financing became an established fact. The sudden spurt in prices so dramatically revealed by the above general price index and the trebling of money supply showed that inflation had become the instrument to compensate for insufficient savings. Thus some "forced" savings took place by the printing of more notes and as a form of involuntary savings it helped to sustain the inflationary gap created by large planned investment.[1]

The War Years, 1942-1945

After 1941 the Manchurian administrators tried to reduce that region's dependency on Japan and simultaneously increase the supply of raw materials and semi-finished goods that the home islands so vitally needed and now depended upon Manchuria to provide. To counter inflationary pressures and maintain a balance between general supply and demand conditions within the economy, the government tried to pinch expenditures which were likely to be wasteful and economize wherever possible.[2] Private capital was more stringently

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[1]"To talk about forced saving seems .... unfortunate, as the people with fixed incomes, who reduce consumption when prices go up, nevertheless probably save less than before. A 'forced levy' is therefore the better term." See Bertil Ohlin, "Some Notes on the Stockholm Theory of Saving and Investment", Economic Journal, Vol. 47, 1937, p. 69.

[2]These proposals were in line with the Economic Policy contained in the "Summary of the Fundamental National Policy of Manchoukuo" which was issued at the first anniversary of the East Asia War, December 8, 1942. In brief, the program for financial policy embodied in Section Seven called for a maintenance of the yuan value, efficient allocation of domestic capital to all industrial agencies, restriction on private business investment, selling government bonds, encouraging civilian savings, and improving the banking system. Cf. Program of Japan in Manchoukuo, p. 60.

controlled and state enterprises had to account for their funds acquired from the banks and government. Because of controls on consumption and a general consumer goods shortage, it was essential to mop up excess purchasing power that had been building up rapidly from industrial financing. Government bond sales and savings deposit banks were pushed.[1] Lotteries were held and the populace was exhorted to make greater sacrifices for the war effort.

Taxes continued to be raised, and these increases occurred chiefly in the form of excises levied on various assortments of consumer goods still being distributed according to rationing schemes. Higher taxes and effective means of tax collection had increased the state's receipts since 1932. It was reported on October 8, 1943 that since 1932 revenue from taxes alone had increased from 49 million yuan to 384 million yuan.[2] But while the general populace was forced to bear a greater share of the financial burden to wage war, this source alone was insufficient to match the required amount of state expenditures that had to be forthcoming if certain segments of heavy industry were to expand and a steady flow of goods and materials to Japan maintained.

Revenue for the total budget (general and special account) was to total 2,574,141,000 yuan in 1942 ;3,399,233,000 yuan in 1943; and 3,982,222,000 yuan in 1944. Expenditures on the other hand were slightly less to leave an operating surplus: 2,503,179,000 for 1942; 3,197,431,000 in 1943; and 3,861,051,000 yuan for 1944. As was traditionally the case, the budget was balanced for the general account. A balance was set aside for unanticipated

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[1]For a detailed description of types of savings institutions established during the war for mobilizing civilian savings and state efforts to recoup purchasing power through lotteries see TPCCHTS, Vol. 19, pp. 162-168.

[2]Op. cit., PoProgram of Japanese in Manchoukuo, p. 176.

contingencies within the special account. The following two tables show both accounts for the revenue and expenditures side of the budget.

It will be noted that for the general account the chief source of revenue is taxes. Meanwhile on the expenditures side, outlays from the general affairs board, military, and financial (this now became known as the keizaibu or economic section) account for the largest share. The trend first started in the five year plan is continued. Again, it is the special account which provides for the large increases by which investment is undertaken for capital formation. The economic section within this account is the critical item and the values within this sector cover between 40-70 per cent of the total revenue for that account over the years under examination. I have itemized this account in some detail relative to discussion of the other components of the account. Within the economic section it is seen that the main source of revenue comes from debt flotations and state enterprise revenue. The character of the budget for the war years does not differ fundamentally from that of the years of the first five year plan except for the actual values of monetary outlays and receipts.

Table 58

Estimates of General Account Budget Revenues and Expenditures, 1942-1944
(000 Yuan)

		1942*	1943	1944
A.	Revenue			
	1) Taxes & Tariffs	610,152	808,460	1,047,594
	2) Stamps, Monopoly enterprise revenue, State enterprise revenue	213,248	246,540	267,406
	3) Total	823,400	1,055,000	1,315,000
B.	Expenditures			
	1. Imperial Household	3,060	2,500	3,000
	2. General Affairs Board	246,504	297,029	437,111
	3. Military Bureau	236,219	260,226	280,627
	4. Welfare Dept.	45,837	70,785	21,423
	5. Education Dept.	-	-	39,859
	6. Foreign Affairs	-	5,338	7,325
	7. Judicial Dept.	14,071	15,757	18,217
	8. Economic Bureau	114,895	175,245	149,848
	9. Communications Bureau	82,814	134,547	150,963
	10. Industrial Bureau	-	-	-
	11. Agricultural Bureau	79,999	93,297	114,402
	Total	823,400	1,055,000	1,315,000

*After 1941 revenue was reported according to departments and bureaus and was not recorded according to source. Thus each department and bureau, the same in the expenditures section of the above received their revenue direct according to stated amounts established and guaranteed by the state.

Source: Tōyō Keizai Shimposha, Keizai Nenkan, 1944, pp. 230-231.

Table 59

Estimates of Special Account Budget Revenues & Expenditures, 1942-1944
(000 Yuan)

A.	Revenue	1942	1943	1944
	1. General Affairs			
1.	General Affairs Board[a]	130,797	272,950	297,534
2.	Military Bureau[b]	30,835	30,481	40,431
3.	Welfare Dept.[c]	94,216	126,509	194,517
4.	Judicial Dept.[d]	26,230	25,613	49,593
5.	Agricultural Dept.[e]	194,044	246,601	409,782
6.	Economic Bureau			
	a. State debt	432,112	546,117	647,070
	b. Debt management	138,978	212,787	311,205
	c. Investment	202,727	236,787	238,626
	d. Management of state assets	17,535	33,283	22,806
	e. Hydroelectric power	37,444	51,430	70,488
	f. Railroad debt flotations	-	-	-
	g. Mining enterprises	-	-	-
	h. Monopoly enterprises	323,547	363,564	234,353
	Total	1,147,347	1,244,307	1,569,541
7.	Communications Bureau[f]	74,219	99,657	135,708
	Grand Total	1,750,741	2,244,233	2,667,222

[a]This section includes revenue from city construction, regional financial offices, warehousing, etc.

[b]Military section includes revenue from munitions, supplies, etc.

[c]Gifts to the state from and out of workers' salaries.

[d]Revenue from state prisons.

[e]Revenue from forest enterprises, colonization enterprises.

[f]Postal services, Dairen port, etc.

Revenue from Economic Bureau has been disaggregated above.

Source: Tōyō Keizai Shomposha, Keizai Nenkan, 1944, p. 232.

Table 59 (Continued)

B.	Expenditures	1942	1943	1944
1.	General Affairs Board[a]	175,908	193,379	291,642
2.	Military Bureau[b]	30,835	30,481	40,431
3.	Welfare Dept.[c]	99,452	102,405	181,577
4.	Judicial Dept.[d]	26,230	35,013	49,593
5.	Agricultural Dept.[e]	177,620	246,602	379,883
6.	Economic Bureau			
	a. State debt	432,112	546,117	647,070
	b. Debt management	138,978	212,787	311,205
	c. Investment	202,727	236,787	283,626
	d. Management of state assets	17,321	32,922	22,405
	e. Hydroelectric projects	37,444	51,430	70,488
	f. Railroad debt flotations	-	-	-
	g. Mining enterprises	-	-	-
	h. Monopoly enterprises	276,315	296,366	149,220
	Total	1,103,397	1,356,257	1,434,007
7.	Communications Bureau[f]	64,183	86,389	118,850
	Grand Total	1,679,679	2,142,431	2,546,051

[a]Expenditures on city construction, northern frontier, regional financial apparatus, warehousing, etc.

[b]Military expenditures on munitions production, stock piling, etc.

[c]Labor brigades, etc.

[d]State penal system.

e Revenue from forest enterprise, colonization enterprises.

[f]Postal services, construction of Dairen harbor, etc.
Revenue for Economic Bureau has been disaggregated above.

Source: Tōyō Keizai Shimposha, Keizai Nenkan, 1944, p. 233.

November 1, 1942, a new Manchurian Central Bank was established and with the old Central Bank it too was permitted to issue government certificates and be responsible for the fiscal affairs of the government.[1] The state put up an amount of ten million yuan to enable this bank to commence its operations. Meanwhile, the old Central Bank transferred many of its financial dealings with industries, especially mining, to other financial institutions such as the Manchurian Prosperity Bank and the New Industrial Financial Cooperative Association in February of 1943.[2] The old Central Bank's prime function now was one of handling state debt operations, refunding, and providing adequate note issue for the government to implement its economic and political policy. The Manchurian Prosperity Bank was to provide capital for exploiting mining industries and the Industrial Financial Cooperative Association and other domestic private banks were to handle the financial affairs for general industries and distributors in business fields. A new organ, the Agricultural Prosperity Cooperative Treasury, made its appearance also and was to take charge of financing agricultural efforts, principally in the field of colonization. The drastic reorganization of the banking system in late 1942 and early 1943 was probably prompted by the need to have more efficient credit machinery available to finance the second five year plan. The Central Bank had found it very difficult from time to time to discharge its obligations to the state and manage its other financial affairs. Thus reorganization was supposed to bring about a more effective division of labor in the banking system. The Central Bank was recapitalized at a sum of 100 million yuan instead

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[1] Ibid., p. 160.

[2] Ibid., p. 162.

of the original 30 million when it was first conceived. Disbursement of credit and loans to branches of industry was now distributed among other banking institutions.

Meanwhile, what was the situation regarding changes in money supply and movement of prices in this period? The following table provides some knowledge of this. Indicated are the increases in note issue, number of deposits, amount of bank loans, and the course of the general price level.

Table 60

Amount of Note Issue, Deposits, Loans and PricesIndex, 1942-1945

Year	Cumulative Note Issue	Amount of Loans	Amount of Deposits	Commodity Price Index*
1942	1,728,145,000	3,913,628,000	3,809,392,000	267.9
1943	3,079,783,000	7,146,956,000	5,132,404,000	298.7
1944	5,876,854,000	15,520,715,000	8,840,305,000	358.3
1945	7,609,334,000	21,451,777,000	10,062,100,000	599.1

*1933 is the base year. Commodity wholesale price index of Changchun (Hsinkyo).
Source: Data from Vol. 19, Money & Banking in Northeast China, p. 29. The Chinese Resource Commission obtained these data from the Financial Department of the Manchoukuo government, which in turn had obtained most of it from the Central Bank of Manchoukuo.

Certainly a dangerous inflationary trend developed after 1942. With war Japan could no longer be counted upon to handle Manchoukuo's debt flotations. Payments for corporate and state bonds could only be obtained by loan capital made available by the state banks. This accounts for the tremendous outpouring of loans after 1942 to enable industrial enterprises to secure funds for additional capital investment. In the second half of 1944, the total amount of corporate bonds issued in currency reached 911,000,000 yuan, which when compared to the first half of that year represented an increase of 385,000,000 yuan.[1]

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[1] TPCCHTS, Vol. 19, p. 27.

Note issue between 1942 and 1945 increased nearly sevenfold while the price level rose more than threefold. By 1945 runaway inflation threatened many sectors of the economy. Black market activities received official sanction since this was one technique of allowing consumers to obtain commodities through exchange. Still, vigorous administrative and policing controls prevented inflation from getting completely out of hand, but we do not know how much longer even this device could have continued to be successful in keeping it within controlled limits. There had been a number of studies of price movements between 1937 and 1939 by investigators of the SMR to try to unearth the real reasons why prices in that period moved upward so rapidly. Though there is an abundance of price data for the early planning years, there is none for the early 1940's, so no clear picture emerges as to which commodity prices led the increases and what general change in price structure occurred.[1]

In the final period of financing, there is little doubt that budget expenditures rose and were paid from the state treasury through the banking system. This was the prime means of financing further capital formation between 1942 and 1945. In this period inflationary financing became the main lever for development. What prevented a total collapse of the economy before 1945 when black market activity soared and the price level moved up quickly was the ability of the Japanese to maintain tight administrative control. This in itself was no small achievement, for it will be recalled that large amounts of skilled manpower were drawn away to other theatres of war as the conflict

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[1]See Yoshihara Jirō, "Manshū Senji Bukka no Ippanteki Kōsatsu", Mantetsu Chosā Geppō, Nov. 1938, pp. 1-41, and Kondo Atsuhi, "Bukka Hendo yori Mitaru Manshūkoku no Keizai Jijo", Tōa Keizai Kenkyū, April, 1938, pp. 114-145.

in the Pacific came ever nearer to the home islands. The Japanese in Manchuria were probably fast approaching the limits to inflationary financing in early 1945. Experience in this line would seem to indicate that such financing of development can be fruitful and sound if some proper limits are respected and not violated. The real problem is to determine these limits, and this only experience can do. Effective policing of markets and channels of distribution of course underlay the success of such financing operations and cannot in any measure be wholly divorced from this type of economic planning. How long such a state of affairs could have continued in Manchuria is hard to say. Probably the Japanese planners were running out of time when the Soviet Union entered the war.

CHAPTER IX

CONCLUSION

The Japanese remained in full control of Manchuria for a short time (fourteen years), yet they demonstrated ingenuity and skill in mobilizing resources from within Manchuria and transferring capital and skilled labor from Japan on a large scale to launch an ambitious program of rapid industrialization. The new plant capacity envisaged by planners did not serve any particular welfare needs but was designed to serve the military. After a period of reorganization and adjustment, a five year plan was launched in 1937. Targets were drawn up for industry and a bit later, a material and commodity mobilization plan was drafted to implement this plan. Price control, regulation of wages, foreign exchange controls, and stringent restrictions on allocation of capital rapidly followed so that by 1939 economic development was guided by planned economic control. The goals postulated in the plan were extremely ambitious and as already seen, only rarely realized. Despite nonfulfillment of planners' targets, a rate of growth in industrial output was achieved that compared favorably to results scored in the early period of Soviet industrialization. An extensive communications network had been constructed, a hydro-electric system built, and numerous fabricating plants and processing centers to handle ores and chemicals made their appearance.

We should not be blinded by a criterion of performance based solely on the rate of industrial output. Serious problems in planning and neglect of structural conditions gave the Japanese military planners difficulty in accomplishing their tasks of transforming the economy to serve Japan's industrial needs and to further the objectives of the Kwantung military group.

Furthermore, the burden on Japan in terms of the loss of output and productive capacity from resources she gave up to Manchuria must be considered. Despite the knowledge the Japanese possessed of agricultural conditions, they made no positive effort to change the basic conditions within agriculture or competently attack the real problems at hand. These problems resided in the socio-economic character of the village and were the basic economic problems of low productivity and inefficiency (not only in production but in marketing, provision of credit, etc.) which prevented any substantial increases in output and an elevation of per capita incomes. This state of affairs is explained primarily by the lack of ability and desire of land operators to apply new techniques to improve output yields. Though the lot of the Manchurian farmer improved noticeably over the previous sixty years (this is indicated if for no other reason than by the fact that extremely poor farmers of North China could move to this land and acquire land to farm and after a number of years eat better, dress better, and enjoy many more comforts), a dangerous situation of declining land fertility and larger population numbers to be supported made slump periods difficult to adjust to and served only to perpetuate the landlord-tenant-usurer relationships of siphoning away available surpluses in the form of rents and interest payments. In this way income was diverted from future productive investment in agriculture to consumption of luxury goods, extension of mercantile activities such as brokerage, money lending, etc., or agricultural processing industries. Failure to invest in more efficient farming methods assured the continuation of the circle of low productivity, low incomes, and a trend toward further tenantry and increasing the number of agricultural workers. While tenantry and a system of land rents enabled much disguised unemployment to participate in farming, a point was ultimately reached

where it ceased to promote further productivity and only encouraged despoilation of soil and improper care and maintenance of landlord capital stock.

SMR research teams published their findings and pointed out these problems, but the state did little to grapple with them. This is quite obvious when after 1936 little investment outlay was expended for agriculture and the state relied upon price fixing and policing in order to acquire the produce it needed to maintain the planned rate of industrial expansion. Thus in the early years of Japanese agrarian policy administrative bungling and ineffective policies made for difficulty in acquiring the surpluses needed. Gradually these difficulties were corrected by changing administrative methods and introducing some incentives into the system, e.g., bonuses, sale of consumer goods, rent reductions, etc. By 1943 and 1944 many of the rough spots had been smoothed over and there were instances where the actual produce extracted concurred with intended planned surpluses. Throughout the early 1940's the Japanese were just able to maintain a steady output of produce. How much longer could this system have worked? Capital stock was being worn out and not replaced. A constant output was being achieved only by improper use of land and dependence on extensive cultivation. Furthermore, the inability of the state to supply the farmer with adequate consumer goods and forcing him to part with his produce at fixed prices made it more difficult for him to maintain even his traditional living standards. This occurred when the prices of consumer goods and productive inputs were rising faster relative to the prices he received for his produce. This engendered a mood of indifference and extreme disgust for Japanese rule. Life under this economic system might have been an important element which allowed the Chinese Communist cadres to work their subtle agrarian revolution in the countryside with such dramatic success.

Agricultural output over the period was not appreciably increased. The difficulty of acquiring sufficient produce in the early years of agricultural control illuminates the difficulties of labor recruitment and training which the Japanese planners were carrying out at precisely the same time. Inability to control prices satisfactorily and the severe wage goods scarcities discouraged workers from settling to jobs for any duration of time. High labor turnover and increased demand for skilled and unskilled labor alike caused sluggish production and breakdowns when the Japanese could ill afford to suffer them. In late 1939 and 1940 the situation became quite critical, but possibly the enforcement and tightening of administrative control saved the day.

To solve the labor shortage problem large contingents of labor were recruited from North China. The application of numerous units of unskilled rural labor to mines and factories only compounded the difficulties of training and disciplining. For political and military control purposes all key technical and managerial positions remained in the hands of the Japanese. Little effort was made to impart new skills to the indigenous labor force. Considerable numbers of skilled workers and technicians were attracted to Manchuria from Japan by high salaries and favorable living conditions to work in steel, liquid fuels and light metal fabrication plants. Even as the labor force swelled in the latter half of the first five year plan, the ratio of Japanese technicians and managers to unskilled and semi-skilled workers remained the same.[1] It is probable that the Japanese bequeathed little in the

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[1]See Adachi Yoshinobu, "Manshū Kōgyō Rōdō ni Kan Suru Futatsu, mitsu no Kosatsu", Mantetsu Chōsa Geppō, Feb. 1940, p. 108. Taking a machine tool factory in Mukden as an example in 1934, 96% of laborers employed were Chinese and Manchurians and 4 % were Japanese. By 1939 91% were still Manchurians and Chinese and only 9% Japanese. Of the 2,612 Chinese employed in 1939, only 59 could be considered as lower grade technicians. The larger number of Japanese in 1939 is explained by the fact that many were receiving on-the-job training.

form of a skilled, disciplined work force to the new regime in China today. The Chinese Communists thus would have had to train their own technicians, accountants, managers, etc. Whey they in turn pushed their planning schemes, it is also possible that the raw industrial workforce they had at their disposal would have to be disciplined to attune itself to the new pressures and demands of a different ruling class seeking to change Chinese society today.

For the growth of industrial output, one gets the feeling that more might have been accomplished in terms of actual output gains and use of resources if a balanced and slower rate of growth had been followed as envisaged in the original first five year plan. Gains might have been less spectacular in the first few years, but a little later on they would have multiplied prodigiously and a rapid growth rate could then have manifested itself in all economic sectors rather than a few isolated ones. The waste of resources and productive inputs was great, as evident in the ratio of capacity to actual plant working operations in various branches of industry, e.g., iron and steel especially. On the other hand, some industries which were incompatible with the given resource base in terms of cost should never have been attempted, even under extreme emergencies such as war. Furthermore, the building of a giant hydro-electric system which was never fully used was certainly a malallocation of resources and represented waste despite the fact that these enterprises were supposed to support subsidiary industrial development at some future date. Granted that such projects are extremely capital intensive and can only be projected as a form of lumpy investment, this still does not justify constructing an electrical complex where there is no industrial plant complex to feed. Industrial planning which conceived of output expansion by a balanced enlargement of all economic sectors (agriculture,

mining, transport, etc.) would have placed less pressure on the narrow resource base (here I have in mind specifically capital and skilled labor) and reduced the serious inflationary pressures that built up.

The absence of a machine tool industry to service industry and support further expansion caught the Japanese unaware, for they ran into serious shortages of machines and parts in the latter half of the first five year plan. The failure of the U.S. and Germany to supply the contracted amounts placed the plan in great jeopardy. But the imbalances between sectors and the great disparity between industry and agriculture came only from a "big push" in growth; the effort to accelerate growth by setting ceilings to consumption and ploughing back larger and larger portions of national output into industrial investment strained all sectors of the economy. Concentrating resources to build up certain branches of industry to the detriment of others caused such great pressure on the limited resource base that serious shortages, inefficiencies in production lines, and general consumer discontent all interacted to retard fulfillment of the plans.[1]

Out of this, resulted distortions in the pricing system which pushed costs up and threw planning of production schedules off; this gave military administrators great difficulty when they needed certain goods and raw materials for immediate use. Without doubt this contributed to the decline in output in certain branches of industry between 1938-1940, which has already been demonstrated in a preceding chapter. The Manchurian case of rapid industrialization based on large scale investment in specific forms of capital formation

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[1]For an excellent article on the pressures that can build up in an economy as investment is raised and resources are strained, see S. Pollard, "Investment, Consumption and the Industrial Revolution", The Economic History Review, Vol. XI, No. 2, December 1958, pp. 215-227.

raises the important question of whether greater advantages to accelerate future rates of growth cannot accrue to an economy if it instead favors a more moderate growth pace in the beginning by stressing more balanced development between sectors and stages within an industry.[1] I am using the concept "balanced growth" as an input-output matrix calling for balance not only in the composition of final goods but also for balance vertically in the different stages of production.[2] With the advantage of hindsight, it is possible to point out that Japan's war effort would have been greatly assisted by Manchuria if the latter could have exported more fibers, food products, minerals, and semi-processed materials. Manchuria's ability to supply these goods in greater abundance would have of course necessitated a more rational use of labor as well as encouraging gains in agriculture so that all sectors could have advanced simultaneously. A better allocation of inputs of capital, technical skill, and financing among critical branches of heavy industry such as power, fuels, and construction materials would have permitted the growth of certain consumer goods industries and assured more adequate utilization of existing capacity in heavy industry.

We note the odd situation of Japanese planners building capacity simply to build capacity, with little regard whether that available capacity would be used effectively to support growth in other sectors. The delays, wastes,

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[1]The "big push" proponents of economic development have recently been taken to task for their one-sided emphasis on certain forms of intensive capital investment. See Howard S. Ellis, "Accelerated Investment as a Force in Economic Development", Quarterly Journal of Economics, November 1958, pp. 485-496.

[2]I am defining "balanced growth" as Prof. Rudolph Blitz has suggested as one way to clarify this term. See Rudolph C. Blitz, discussant for papers on Balanced Economic Growth in History in Papers and Proceedings of the American Economic Association, May, 1959, p. 354.

and self-inflicted commodity and material shortages from the prime concern of building more capacity was self-defeating for the Japanese.

Another remarkable characteristic about Manchurian industrial development was that it was achieved not by any husbanding of scarce resources and mobilizing savings but primarily by a staggering resource transfer from Japan in terms of capital, technology, skilled labor, and administrative talent. Without this transfer process of factor complementarity taking place, Manchurian industry could never have expanded so rapidly. The flows of capital can be measured, but it is extremely difficult to assess the net contributions of labor, skill, technology, etc., that were inserted by the Japanese. Just how much this resource transfer was a drain on Japan is hard to say. The high hopes of using Manchuria to solve the population problem and the resource scarcity problem in Japan proper fell far short of ever being realized.[1] Though Japan gained in acquiring much needed materials to wage war from this portion of her empire after 1940, the investment flows into Manchuria never really yielded the returns that were originally expected.

Perhaps some of the above problems and failures in planning would not have occurred if the Japanese had demonstrated the same keen native ability to be flexible in altering their objectives as they were in discarding methods which did not prove appropriate to realize certain ends.[2] Take for example

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[1]The notion that Manchuria never benefitted Japan in any material way has already been cogently, if not laboriously, argued by Irving I. Kramer, Japan in Manchuria, The Foreign Affairs Association of Japan, Tokyo, 1954, pp. 1-54.

[2]As cited earlier, the Japanese were very flexible in correcting administrative defects as regards agriculture and the recruitment of labor.

the objective of colonization, which represented a great waste of continual pouring of men and materials into the northern frontier areas to expand colonization projects in which the marginal gains fell far short of the investments made. This effort could have yielded greater fruits if it had instead been diverted to improving agricultural yields in South Manchuria for such important crops as cotton, oil seed bearing crops, and basic food crops. The Japanese seemed to suffer the same disease of "investment in 'grandiose' projects" as the Soviets did. Witness their feverish efforts to locate airplane works, automobile plants, rolling stock factories in Manchuria which never succeeded in doing anything more than servicing a few military planes and vehicles. This again shows that peculiar acumen of the Kwantung 'militarists' to do things in a big way in Manchuria irrespective of the more sound though drab proposals suggested by economists of the SMR of fashioning better integration of the two economies and selecting a more efficient investment criterion.

Thus we have the picture of the military masterminding the development of a small heavy industrial complex insulated from the remainder of the economy at large, namely, an inefficient and unproductive agricultural sector confronted with the problem of maintaining greater and greater population numbers. The industrial development of Manchuria by the Japanese was undoubtedly an exciting and fascinating piece of empire building, and reflected the efforts of a more advanced economy and society to impose its order upon one more underdeveloped. In many ways the type of planned economic development conceived and fostered by the Japanese in Manchuria and the character of economic development of that region offer interesting insights into the complexities and problems of economic transformation in other underdeveloped areas where similar conditions prevail.

STATISTICAL APPENDIX

A. TABLES AND DIAGRAMS

TABLE 1

QUANTITY OF EXPORTS AND INDEX WITH

(Tons)

Year	Soy Beans		Other Beans		Corn		Kaoliang		Millet		Qu
	Quantity	Index	Quantity	Index	Quantity	Index	Quantity	Index	Quantity	Index	
1917	589,853	100	46,519	100	51,207	100	221,105	100	51,492	100	
1918	445,196	75	63,257	136	52,766	102	185,113	84	49,414	96	
1919	720,022	122	79,626	171	57,638	113	79,427	36	155,540	302	1
1920	630,467	107	34,426	74	54,413	106	159,725	72	134,455	261	4
1921	768,891	130	64,391	138	77,513	151	240,982	109	55,108	107	2
1922	1,036,111	176	76,527	165	187,067	365	680,125	308	129,547	252	
1923	1,184,227	201	79,933	172	146,656	286	417,393	189	175,535	341	
1924	1,365,516	232	91,312	196	52,264	102	118,265	53	241,312	469	
1925	1,387,128	237	90,037	194	144,725	282	488,654	221	272,735	529	
1926	1,356,328	230	116,886	251	205,351	401	387,090	176	411,098	798	
1927	1,723,004	292	146,302	314	108,644	212	500,690	236	396,331	770	
1928	2,383,362	404	114,167	224	82,023	160	480,309	217	318,751	619	1
1929	2,718,309	661	120,410	259	90,081	176	315,292	143	231,411	449	
1930	1,971,295	334	132,213	284	65,604	128	142,673	65	247,499	481	
1931	2,836,338	481	165,969	357	59,903	117	301,937	137	180,401	350	
1932	2,572,584	436	96,871	208	70,333	137	374,151	169	231,578	449	
1933	2,365,467	401	92,580	199	71,382	139	155,184	70	169,579	329	
1934	2,498,355	424	136,707	281	124,365	243	201,582	91	242,290	471	
1935	1,766,251	299	160,142	344	33,258	65	71,746	32	105,374	205	
1936	1,968,006	334	143,293	308	118,797	232	168,033	84	160,927	313	
1937	1,974,235	335	112,621	242	111,911	233	126,910	57	127,366	247	
1938	2,164,887	361	139,335	300	222,399	434	216,195	98	163,390	317	
1939	1,711,804	270	164,044	353	263,321	514	226,218	102	215,641	415	
1940	451,195	-	73,335	-	44,109	-	37,676	-	43,950	-	N

Source: Manshū Nōgyō Yōran, pp. 821-822.

ABLE 1

DEX WITH 1917 AS BASE YEAR

(Tons)

ndex	Wheat		Sesame Seeds		Peanuts		Hemp		Total No. of Agri. X's	
	Quantity	Index	Quantity	Index	Quantity	Index	Quantity	Index	Quantity	Index
100	48,277	100	2,272	100	3,264	100	-	-	1,056,052	100
96	41,357	86	845	37	1,016	37	-	-	862,694	82
302	120,034	249	13,330	587	3,719	134	-	-	1,290,566	122
261	454,237	941	18,372	809	6,918	249	-	-	1,564,898	148
107	227,287	471	10,231	450	9,937	357	-	-	1,515,045	143
252	84,059	174	10,489	462	-	-	18,229	100	2,278,273	216
341	39,016	81	23,217	1,021	-	-	14,353	79	2,120,874	201
469	9,880	20	15,174	668	-	-	29,468	162	1,984,474	188
529	12,809	27	11,935	525	-	-	13,933	76	2,497,818	237
798	582	1	10,741	473	-	-	28,718	158	2,596,376	245
770	37,516	78	4,611	203	-	-	21,174	116	3,041,022	288
619	113,474	235	8,214	362	-	-	28,317	155	3,630,856	344
449	49,415	102	14,059	619	-	-	31,670	174	3,689,266	349
481	6,818	14	4,814	212	-	-	49,195	270	2,766,162	262
350	584	1	-	-	64,688	2,333	-	-	3,575,979	355
449	25,338	53	4,994	220	42,247	1,519	33,102	182	3,530,820	334
329	216	-	20,779	915	55,511	1,996	32,816	180	3,055,161	289
471	105	-	35,253	1,155	94,526	3,400	65,215	358	3,525,431	334
205	21,020	44	17,067	751	103,850	3,734	91,464	502	2,533,589	240
313	15,354	32	38,851	1,171	97,096	3,491	46,459	255	2,922,948	277
247	12,967	27	8,354	367	92,924	3,341	24,037	132	2,730,299	259
317	-	-	9,466	417	81,565	2,932	29,868	164	3,143,338	298
415	-	-	19,868	894	27,810	1,000	51,000	280	2,765,881	262
-	Not Completed		Not Completed		13,572	-	Not Completed		Not Completed	

TABLE 2

MANCHURIA'S BALANCE OF PAYMENTS

	Receipts	Payments	Def. Bal.	Receipts	Payments
		1938			1939
Current account					
Visible trade	416,825	993,413	-576,588	521,342	1,540,756
Invisibles					
Interest and dividends	8,222	151,436		9,461	206,912
Business and labor profits	24,911	66,117		43,971	101,165
Shipping	43,622	5,487		40,572	6,067
Insurance	20,939	35,159		21,363	38,724
Tourist expenditure	290,635	46,729		418,182	133,908
Government expenditure	1,523	19,795		1,764	2,825
Other	3,184	19,774		5,351	26,794
Total	393,034	334,496	+ 48,538	540,765	516,395
Capital account					
Investment in Manchu and others	726,691	92,496		1,447,738	169,399
Recall of capital loans	88,415	215,093		61,624	158,519
Other					
Total	815,106	307,589	+507,517	1,508,162	327,918
GRAND TOTAL	1,624,965	1,645,497	- 20,533	2,570,251	2,385,070
		1942			1943
Current account					
Visible trade	593,291	1,525,926	-932,635	693,507	1,511,041
Invisibles					
Interest and dividends	5,506	157,073		2,001	141,580
Business and labor profits	81,158	144,466		77,338	168,216
Shipping	5,309	12,046		5,888	10,164
Insurance	7,117	17,000		5,188	19,801
Tourist expenditure	65,348	168,339		90,455	213,241
Government expenditure	1,445,306	665,595		1,842,461	670,906
Other	3,164	15,843		6,343	14,027
Total	1,612,908	1,180,362	+432,546	2,028,674	1,237,935
Capital account					
Investment in Manchu and others	1,046,684	67,924		698,510	130,552
Recall of capital loans	106,658	96,560		53,962	142,213
Other					
Total	1,152,742	164,484	+988,258	752,472	272,765
GRAND TOTAL	3,368,941	2,860,772	+488,169	3,474,543	3,021,741

Source: TPCCHTS, Vol. 19. See Appendix, Table 23.

*Enterprise profits and profits from services rendered.

TABLE 2

PAYMENTS WITH JAPAN, 1938-1944

yments	Def. Bal.	Receipts	Payments	Def. Bal.	Receipts	Payments	Def. Bal.
1939			1940			1941	
,540,756	-1,019,432	468,539	1,859,881	-1,391,342	485,028	1,509,433	-1,024,405
206,912		10,880	255,479		12,861	300,731	
101,165		47,356*	394,088*		27,095*	103,507*	
6,067		36,739	6,017		33,509	6,465	
38,724		23,499	42,596		27,683	50,497	
133,908		80,057	143,685		62,704	122,669	
2,825		696,690	47,209		1,264,035	456,933	
26,794							
516,395	+ 24,370	895,221	889,074	+ 6,147	1,428,888	1,040,802	+ 388,086
169,399		1,448,327	168,526		1,562,134	100,780	
158,519		25,406	152,135		14,465	205,970	
		10,839	30,019		18,849	55,310	
327,918	+1,180,243	1,484,572	350,680	+1,133,892	1,595,448	362,060	+1,233,383
,385,070	+ 185,081	2,848,332	3,099,635	- 251,303	3,509,364	2,912,295	+ 597,069
1943			1944				
,511,041	- 817,534	706,675	1,100,086	- 393,411			
141,580		17,585	96,641				
168,216		310,280	373,638				
10,164		14,203	8,974				
19,801		4,974	14,013				
213,241		78,720	350,897				
670,906		1,258,597	1,278,070				
14,027		15,026	59,202				
,237,935	+ 790,739	1,699,385	2,181,435	- 482,050			
130,552		437,806	307,949				
142,213	+ 479,767	52,308	232,401				
		312,268	593,301				
272,765		802,382	1,133,650	- 331,268			
,021,741	+ 452,812	3,208,441	4,415,171	-1,206,719			

TABLE 3

VOLUME OF TRAFFIC AND EARNINGS FO

Date	Length of Lines for Traffic*	Amount of Investment*	Passengers		
			Number	Receipt*	Tons
1907-08	706.1	9,694	1,512,231	3,594	1,486,43
1908-09	707.0	32,545	1,686,140	2,965	2,609,03
1909-10	704.0	40,879	2,179,062	3,250	3,568,52
1910-11	710.2	55,830	2,349,088	3,265	3,922,16
1911-12	693.8	67,759	3,158,270	4,273	4,705,69
1912-13	693.9	72,265	3,905,822	5,009	4,681,69
1913-14	690.9	74,317	4,143,687	5,069	5,782,16
1914-15	690.8	75,558	3,617,547	4,367	5,705,94
1915-16	687.3	76,257	3,708,165	4,842	5,860,71
1916-17	687.2	78,040	4,410,816	6,040	6,229,75
1917-18	687.2	80,682	5,844,929	8,137	7,274,17
1918-19	687.2	86,136	7,491,946	10,911	8,334,08
1919-20	686.9	113,269	9,274,114	14,244	10,096,67
1920-21	686.2	141,377	8,123,411	14,659	10,154,05
1921-22	686.0	153,999	6,926,619	12,194	10,400,20
1922-23	686.0	164,768	7,645,068	12,389	12,043,87
1923-24	686.9	173,274	8,762,862	13,432	13,371,67
1924-25	693.3	186,608	8,732,718	13,645	14,588,43
1925-26	694.8	195,940	9,109,004	14,531	15,045,29
1926-27	693.5	200,191	8,290,085	15,216	16,535,19
1927-28	690.8	214,669	8,263,089	16,103	18,427,77

*Omitted 000 yen.

Source: Report on Progress in Manchuria 1907-1928, Dairen, March 1929, p. 81.

TABLE 3

C AND EARNINGS FOR THE SMR (1907-1928)

ers *	Tons	Receipt*	Total Receipt*	Expenditures*	Profit*	Profit per mile
	1,486,434	6,160	9,769	6,102	3,667	5.194
	2,609,036	9,542	12,537	5,161	7,376	10.432
	3,568,527	11,242	15,016	5,818	9,198	13.065
	3,922,164	11,642	15,672	6,548	9,129	12.841
	4,705,690	12,471	17,526	6,908	10,618	15.143
	4,681,698	13,912	19,907	7,847	12,060	17.383
	5,782,161	16,159	22,275	7,914	14,361	20.696
	5,705,948	17,550	23,217	8,345	14,872	21.528
	5,860,716	17,261	23,532	8,175	15,357	22.345
	6,229,757	19,882	27,815	8,436	19,379	28.201
	7,274,177	23,793	34,458	10,859	23,599	34.341
	8,334,084	30,378	44,993	17,038	27,955	40.679
	10,096,672	46,306	67,061	30,529	36,532	53.184
	10,154,059	63,867	85,316	36,760	48,557	70.762
	10,400,208	59,616	78,204	32,173	45,031	65.642
	12,043,870	69,518	87,813	34,169	53,644	78.198
	13,371,673	72,583	92,270	35,788	56,482	82.228
	14,588,437	77,019	92,562	36,553	56,008	80.785
	15,045,292	80,536	97,395	38,801	58,594	84.333
	16,535,194	89,513	107,924	45,952	61,972	89.861
	18,427,775	94,041	113,244	45,236	68,008	98.449

arch 1929, p. 81.

TABLE 4

PARTIAL GEOGRAPHICAL DISTRIBUTION OF MANCHURIA EX

(In millions of Haikwar

Principal Commodities	Japan			Korea			China			Ho
	1923	1927	1928	1923	1927	1928	1923	1927	1928	192
Bean	20.6	19.0	34.3	0.9	1.6	1.2	14.4	21.1	19.0	0.9
Bean Coke	46.4	37.8	34.0	1.6	5.4	4.8	14.8	24.3	16.2	-
Bean Oil	0.1	-	0.1	-	-	-	2.3	5.2	13.3	0.1
Millet	0.2	0.6	1.3	9.7	28.5	19.6	0.7	0.8	0.2	-
Kaoliang	1.2	0.6	1.5	0.2	0.3	0.3	14.5	16.2	16.1	-
Wheat	0.1	0.5	3.1	0.1	-	0.2	0.1	0.5	0.5	-
Coal and Coke	7.1	16.1	16.2	4.4	3.4	3.3	3.8	11.9	11.9	0.5
Silk and Silk Products	9.0	8.1	7.5	-	-	-	10.4	4.5	3.8	-
Timber, Bamboo, etc.	5.4	-	-	4.9	4.3	3.1	3.0	1.7	1.1	-
Iron and Iron Manufacture	2.9	5.2	6.4	0.1	0.3	0.4	0.2	0.5	0.7	0.2
Seeds	2.7	1.8	3.5	0.2	0.4	0.7	0.7	2.2	3.0	0.2
Leather, Hides and Skins	0.1	0.8	1.3	-	0.1	-	0.3	0.2	0.6	-
Cigarettes, Cigars and Tobacco	1.0	1.2	1.2	-	0.3	0.1	1.7	1.1	1.0	-
Flour	0.1	-	-	0.1	-	-	0.4	0.3	1.6	-

To quote author, "These figures taken from Annual Trade Returns of North China, Vol. 1, Manchuri including receipts of Chinese goods from other ports. They contain some amplification and are r exports to Germany, Dutch East Indies, Turkey, Persia, and Egypt. The exports to Germany are al soya beans, and Turkey, Persia and Egypt took over 16 million taels of beans."

Source: From International Conciliation (Documents for the Year) 1931. The International Trade

TABLE 4

OF MANCHURIA EXPORTS BY COUNTRIES OF DISTRIBUTION

lions of Haikwan Taels)

hina		Hong Kong			United Kingdom			United States			Total			Through Harbin	
927	1928	1923	1927	1928	1923	1927	1928	1923	1927	1928	1923	1927	1928	1927	1928
1.1	19.0	0.9	1.6	2.7	1.2	3.2	9.6	-	0.1	-	42.1	72.2	108.3	34.6	46.4
4.3	16.2	-	-	-	-	-	0.2	0.4	0.9	1.7	63.1	68.4	57.2	16.6	16.0
5.2	13.3	0.1	0.1	0.2	4.7	8.7	2.6	2.9	1.6	1.3	18.8	25.8	21.1	7.0	0.5
0.8	0.2	-	-	-	-	-	-	0.1	-	-	10.6	30.0	21.2	1.4	1.5
6.2	16.1	-	-	-	-	-	0.1	-	-	0.1	15.8	17.1	18.7	1.7	0.5
0.5	0.5	-	-	-	-	-	-	-	-	-	0.3	1.0	3.7	1.7	3.7
1.9	11.9	0.5	1.1	0.8	0.2	0.3	0.3	-	0.3	0.3	17.6	35.3	34.9	-	-
4.5	3.8	-	-	-	-	-	0.1	0.3	-	-	19.6	12.6	11.3	-	-
1.7	1.1	-	-	-	-	-	-	-	-	-	13.3	6.0	4.5	0.1	0.1
0.5	0.7	0.2	-	-	-	-	-	-	-	-	3.3	6.1	7.5	-	-
2.2	3.0	0.2	1.1	1.3	-	0.1	0.1	-	0.1	0.3	5.0	6.7	10.0	0.5	0.1
0.2	0.6	-	-	-	-	0.1	0.3	0.2	0.2	1.0	0.8	1.3	3.4	0.1	1.0
1.1	1.0	-	-	-	-	-	-	-	-	-	2.8	2.5	2.3	-	-
0.3	1.6	-	-	-	-	-	-	-	-	-	0.5	0.4	1.6	-	-

Vol. 1, Manchuria pub. by S.M.R, give total exports to foreign countries by steamer and junk,
cation and are not comparable with figures given elsewhere. The above does not include
o Germany are almost negligible, the Dutch East Indies import from 4 - 6 million taels of

ernational Trade of Manchuria by Herbert Fei, pp. 244-245.

TABLE 5

PARTIAL GEOGRAPHICAL DISTRIBUTION OF SOURCE OF IMPORTS

(In millions of Hai

Commodity	Japan			Korea			Hong Kong			United Ki	
	1923	1927	1928	1923	1927	1928	1923	1927	1928	1923	1927
Cotton Piece Goods	22.3	33.1	37.2	-	-	-	-	-	-	0.3	0.3
Cotton Yarn	6.3	2.5	3.4	-	-	-	-	-	-	-	-
Raw Cotton	-	3.3	2.8	-	-	-	-	-	-	-	-
Gunny Bags	1.7	4.0	2.8	0.1	0.3	0.2	1.1	5.4	6.2	-	-
Sugar	0.8	2.0	3.2	0.5	1.3	1.9	2.0	1.9	1.1	-	-
Flour	0.6	1.3	3.9	-	-	-	-	-	-	-	-
Glass Manufacturing and Pottery	0.9	1.2	1.3	-	-	-	-	0.1	-	-	-
Cigars, Cigarettes, Tobacco	1.3	0.7	0.5	0.4	-	-	-	-	-	0.1	0.1
Woolen Goods	0.6	1.0	2.1	-	-	-	-	-	-	0.6	1.2
Leather, Hides, Skins, Bones, Hair	0.5	1.0	1.1	0.8	0.9	0.8	0.5	0.5	0.5	-	-
Iron and Steel	2.9	4.5	4.8	0.2	-	-	-	-	-	0.3	0.3
Other Metals, Minerals	1.4	2.9	1.8	-	-	-	0.2	0.1	0.1	0.1	0.1
Vehicles	1.2	3.6	3.4	0.1	-	-	-	-	-	0.1	0.1
Machines and Machinery	2.6	4.8	3.8	0.1	-	-	-	-	-	0.6	0.7
Chemical Products and Medicine	1.6	2.7	2.6	-	0.1	0.1	0.1	0.4	0.5	0.4	0.8
Electric Materials	2.2	2.7	2.5	-	-	-	-	-	-	0.1	-
Dyes, Paints, Colors	0.3	0.5	0.5	0.1	-	-	0.1	0.1	0.1	-	0.1
Kerosene Oil	0.3	0.5	0.4	-	-	-	-	-	-	-	-
Machine Oil	0.3	0.3	0.3	-	-	-	-	-	-	-	-

IMPORTS INTO MANCHURIA THROUGH SOUTH MANCHURIAN PORTS

of Haikwan Taels)

ited Kingdom			Germany			United States			China			Grand Total			Through Harbin from Manchouli and Sui Fenho	
23	1927	1928	1923	1927	1928	1923	1927	1928	1923	1927	1928	1923	1927	1928	1927	1928
.3	0.3	0.3	-	0.1	0.1	0.1	0.1	0.1	16.5	15.7	15.2	49.2	49.3	52.9	2.2	2.9
-	-	-	-	-	-	-	-	-	9.2	10.4	9.3	15.5	12.9	12.7	-	-
-	-	-	-	-	-	-	-	0.4	1.1	2.5	2.2	1.1	5.8	5.4	-	-
-	-	-	-	-	-	-	-	-	0.2	0.7	0.7	3.1	10.4	3.9	2.2	3.2
-	-	-	-	-	-	-	-	-	-	-	-	3.3	5.2	6.2	3.4	2.5
-	-	-	-	-	-	4.0	1.4	1.4	3.3	3.4	2.7	7.9	6.1	7.7	-	-
-	-	-	-	-	0.1	-	-	-	0.9	1.2	1.4	1.8	2.5	2.8	-	0.1
.1	0.1	0.1	-	-	-	2.7	2.0	1.4	5.2	5.4	7.5	8.7	8.2	9.5	0.1	-
.6	1.2	0.1	0.3	0.9	1.4	-	-	-	-	-	-	1.5	3.1	3.6	0.1	0.1
-	-	0.1	-	0.2	0.4	0.1	0.3	0.5	1.8	3.3	2.8	3.7	6.2	6.2	1.9	0.4
.3	0.3	0.4	0.3	0.4	0.6	1.4	1.7	1.9	-	-	-	5.1	6.9	7.7	1.7	4.8
.1	0.1	0.2	0.1	0.1	-	0.1	0.1	0.1	0.1	0.1	0.1	2.0	3.4	2.3	-	0.4
.1	0.1	-	0.1	0.1	0.2	0.8	1.7	2.1	-	-	-	2.3	5.5	5.7	0.6	0.6
.6	0.7	0.8	0.6	1.0	1.3	1.3	1.0	2.1	0.1	0.2	0.2	5.8	7.7	8.2	0.5	1.2
.4	0.8	0.9	0.1	0.2	0.2	-	-	-	0.7	0.9	0.9	3.3	5.1	5.2	0.2	0.2
.1	-	0.1	-	0.1	0.2	0.1	0.1	0.2	-	-	-	2.9	2.9	3.0	0.3	0.4
-	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.8	1.1	1.0	0.1	0.2
-	-	-	-	-	-	4.0	5.2	4.5	-	-	-	4.3	5.7	4.9	0.6	0.9
-	-	-	-	-	-	0.6	0.8	0.8	-	-	-	0.9	1.1	1.1	0.1	0.3

TABLE 6

BREAKDOWN OF THE FACTORY SYSTEM ACCORDING TO BRANCHES OF INDUSTRY FOR 1932, 1934, AND 1936 BY INVESTMENT, OUTPUT VALUE, WORKFORCE EMPLOYED, AND COSTS OF INPUTS

Type of Factory[a]	Year	Number[b]	Investment	Value of Output[c]	Number of Laborers[d]	Wage Bill	Inputs[e] Raw Material and Fuel
Total	1932	1,388	168,529,375	196,362,262	64,208	15,204,069	149,819,983
	1934	8,164	337,553,974	448,421,421	189,858	40,780,694	320,163,854
	1936	8,521	587,730,210	801,492,864	227,842	46,452,959	607,367,299
Textiles	1932	104	13,877,409	23,312,501	10,714	1,480,709	18,154,304
	1934	1,258	78,375,821	67,172,698	46,106	6,598,374	52,473,515
	1936	1,173	63,025,854	110,647,366	55,564	6,345,746	90,668,685
Light Metals	1932	93	2,804,219	4,561,101	2,467	675,040	2,885,659
	1934	869	24,545,143	40,866,723	12,887	3,033,298	24,572,684
	1936	1,001	65,224,454	117,362,358	20,697	6,198,199	90,974,906
Machine Tool	1932	134	19,908,439	22,550,802	11,593	5,369,453	14,358,053
	1934	493	23,719,564	44,572,112	20,098	8,274,474	23,629,121
	1936	652	36,011,894	50,167,810	26,045	9,846,879	32,666,782
Ceramic[f]	1932	157	17,403,422	10,569,446	11,335	1,771,725	4,672,878
	1934	580	34,604,413	20,907,492	30,211	4,924,891	5,284,786
	1936	636	52,518,641	29,182,817	26,434	4,309,759	13,178,743
Chemicals[g]	1932	186	42,916,177	74,005,505	9,440	1,655,785	65,156,297
	1934	811	52,787,752	123,388,771	18,851	4,176,606	104,817,019
	1936	993	97,499,393	195,651,259	22,816	4,536,816	163,899,409
Food Processing[h]	1932	329	32,764,795	28,862,754	7,153	1,180,482	23,896,252
	1934	1,120	46,197,372	83,692,025	14,837	4,298,819	67,777,260
	1936	1,280	97,870,226	179,754,044	21,215	3,891,784	144,010,238
Electrical	1932	9	14,034,940	3,020,315	528	321,037	1,700,731
	1934	8	32,969,149	4,625,183	854	476,606	1,357,488
	1936	9	46,864,130	8,539,553	1,003	576,604	4,968,592
Gas	1932	6	7,436,660	2,792,707	631	165,289	786,521
	1934	5	13,669,221	3,168,999	579	171,369	1,354,622
	1936	6	8,233,129	4,753,287	671	197,211	1,931,129
Wood Products	1932	94	4,422,389	10,947,569	3,103	654,440	8,705,588

	1936	9	46,864,130	8,539,553	1,003	576,604	4,900,592
Gas	1932	6	7,436,660	2,792,707	631	165,289	786,521
	1934	5	13,669,221	3,168,999	579	171,369	1,354,622
	1936	6	8,233,129	4,753,287	671	197,211	1,931,129
Wood Products	1932	94	4,422,389	10,947,569	3,103	654,440	8,705,588
	1934	645	7,173,029	20,266,958	10,068	1,817,478	15,125,826
	1936	677	12,640,129	26,298,634	11,061	2,133,771	20,087,105
Paper Products	1932	86	5,603,907	4,126,011	2,384	823,780	2,415,042
	1934	391	8,321,503	9,145,098	8,085	2,387,294	5,277,501
	1936	450	8,880,986	13,466,237	9,917	2,564,359	5,954,033
Miscellaneous[i]	1932	190	7,357,016	11,613,551	4,760	1,004,549	7,087,738
	1934	1,984	15,191,007	30,615,362	27,282	4,621,891	18,514,032
	1936	1,644	98,961,244	65,669,499	32,419	5,851,831	39,625,677

a Factories that are listed here employ over five laborers. These figures include Kwantung as well. Munitions factories are not included in these factory statistics and are unobtainable.

b The number of factories includes both those in operation and idle.

c This is expressed in yen and is gross value.

d Number of laborers includes men and women.

e Value of inputs expressed in yen and again is gross value.

f Ceramic industry consists of cement, brick, dolmite, magnesite, etc., production.

g Chemical industry consists of sulphur, bean products, coal tar, pitch, coke, fuels, etc.

h Food processing industry consists of flour, miso, beer, livestock products, etc.

i Miscellaneous products are straw braid, tobacco, hemp, hats, bamboo products, etc.

Source: For 1932: Kantō Kyokuka Seibu Shokusanka, Manshūkoku Jigyōbu Kōshōka Komuryō, Mantetsu Keizai Chōsakai, Manshū Kōjō Tōkei, pp. 2-9. Covers only Kwantung and S.M.R. zone.

For 1934: Maruzen Kabushiki Kaisha, Manshū no Shigen to Kagaku Kōgyō, Tokyo, August, 1937. See Appendix, p. 63.

For 1936: Op. Cit., Kantō Kyokuka, etc., Manshū Kōjō Tōkei, 1936, pp. 2-15.

TABLE I

QUANTITY AND VALUE OF EXPORTS OF SOY BEANS AND DERIVATIVES (1900-1930)[a]

Year	Soy Beans[b]	Bean Cake	Bean Oil	Export Value[c]	% of Exports to Total Exports
1900	n.a[d]	n.a	n.a	9.6	85.9
1901	n.a	n.a	n.a	16.1	86.0
1902	n.a	n.a	n.a	14.5	81.7
1903	n.a	n.a	n.a	13.9	73.4
1904	n.a	n.a	n.a	8.7	71.3
1905	n.a	n.a	n.a	9.1	76.8
1906	n.a	n.a	n.a	12.3	83.4
1907	n.a	n.a	n.a	14.5	68.3
1908	917,890	624,237	20,650	26.9	59.6
1909	714,524	497,124	24,749	54.0	69.8
1910	804,538	804,566	42,098	49.6	61.9
1911	686,347	746,172	52,695	63.7	68.8
1912	588,364	820,423	50,537	50.3	60.4
1913	611,665	736,506	45,841	54.8	58.2
1914	928,390	1,020,304	83,453	54.2	61.3
1915	575,883	902,098	104,201	63.7	61.1
1916	558,363	1,090,493	111,614	62.8	56.1
1917	500,361	1,149,598	206,622	69.5	57.4
1918	n.a	n.a	n.a	77.8	62.3
1919	771,987	1,504,596	153,350	72.8	61.0
1920	n.a	n.a	n.a	93.8	52.1
1921	n.a	n.a	n.a	113.1	57.5
1922	n.a	n.a	n.a	134.6	56.1
1923	n.a	n.a	n.a	151.3	59.1
1924	1,509,560	1,879,708	152,036	159.3	64.4
1925	1,614,111	1,747,422	168,736	169.5	60.1
1926	1,577,471	2,129,225	199,285	202.7	59.5
1927	2,034,645	2,192,317	180,597	222.1	59.4
1928	2,681,402	1,813,169	142,159	244.7	60.8
1929	3,041,932	1,548,897	130,221	n.a	n.a
1930	2,155,699	1,662,051	147,485	n.a	n.a

a These data were taken from the following sources: Export value of beans, etc., and the percent of total export from International Conciliation, 1931, "The International Trade of Manchuria," by Dr. Herbert Feis, p. 240. Data of quantity exported for years 1908-1917 from Economic History of Manchuria, Bank of Chosen Korea, 1920, pp. 147-148. The data of quantity exported for years 1919, 1924-1930 from Third Report on Progress in Manchuria, 1907-1932, South Manchuria Railway, Dairen, 1932, p. 135.

b Stated in metric tons (soybean, bean cake and bean oil).

c Stated in millions of Haikwan Taels.

147-148. ... on Progress in Manchuria, 1907-1932, South Manchuria Railway, Dairen, 1932, p. 135.

b Stated in metric tons (soybean, bean cake and bean oil).

c Stated in millions of Haikwan Taels.

d Nonavailable.

TABLE 8

VALUE OF MANCHURIAN IMPORTS AND EXPORTS, 1907-1927

(In Haikwan Taels)

Year	Imports	Exports	Balance
1907	30,685,152	22,042,323	- 8,642,829
1908	53,112,034	47,585,123	- 5,526,911
1909	69,159,331	83,026,018	13,866,687
1910	81,731,940	88,999,422	7,267,482
1911	94,797,846	103,733,492	8,935,646
1912	102,232,018	100,166,041	- 2,065,977
1913	125,683,660	113,041,999	-12,641,661
1914	112,409,981	109,331,936	- 3,078,045
1915	108,111,646	130,084,502	21,972,856
1916	129,555,872	130,807,129	1,251,257
1917	158,562,010	161,120,501	2,558,491
1918	177,219,156	166,856,166	-10,362,990
1919	231,303,593	212,008,762	-19,294,831
1920	205,129,451	225,926,429	20,796,971
1921	218,187,674	234,407,892	16,220,218
1922	196,432,072	274,661,906	78,229,834
1923	207,055,228	293,928,940	86,873,712
1924	200,648,460	269,018,082	68,369,612
1925	244,721,505	312,368,194	67,646,689
1926	276,840,619	370,742,398	93,901,779
1927	268,913,586	408,036,179	139,122,593

Source: SMR Report for 1907-1928, pp. 103, 104.

TABLE 9

NUMBER OF FACTORIES AND WORKERS ACCORDING TO REGION AND TYPE

Regional Distribution	1936 Number of Factories	1936 Number of Workers	1937 Number of Factories	1937 Number of Workers	1938 Number of Factories	1938 Number of Workers	Num Factori
1. Kwantung	26	1,618	29	1,999	32	2,273	34
2. Manchuria	428	24,078	464	26,811	549	36,523	612
Mukden Province	224	13,394	247	14,545	300	20,613	341
Kirin	44	2,257	45	2,543	52	3,167	56
Pinkiang	32	1,418	34	1,627	37	2,223	45
Lungkiang	15	573	17	623	19	776	20
Antung	53	3,976	59	4,689	75	6,572	82
Sankiang	14	590	14	652	16	829	17
Heiho	1	52	1	53	2	163	2
Chinchow	15	679	15	683	15	703	15
Jehol	2	60	2	74	2	89	12
W. Hsingan	11	453	13	584	13	621	13
Chientao	-	-	-	-	-	-	-
Tunghua	4	191	4	208	4	220	4
Mutankiang	4	162	4	163	5	187	5
E. Hsingan	-	-	-	-	-	-	-
N. Hsingan	9	355	9	367	9	360	10
Total	454	25,696	493	28,810	581	38,796	646

Type of Factory	1936 Number of Factories	1936 Number of Workers	1937 Number of Factories	1937 Number of Workers	1938 Number of Factories	1938 Number of Workers
Ceramics and Construction	19	1,947	23	2,311	26	2,849
Metallurgical	39	1,811	42	2,166	51	3,159
Machine Tool	40	1,601	43	2,026	57	2,973
Transport, Ship Building	12	593	12	732	15	1,081
Luxury Goods	-	-	-	-	-	-
Chemical	36	2,959	38	3,286	42	3,952
Fiber	117	8,965	130	9,366	165	13,140
Textiles	20	633	22	792	25	993
Paper and Printing	35	1,373	39	1,648	41	1,992
Hides, Hair, Leather	7	308	7	295	7	373
Timber, Straw Braid	28	1,009	30	1,153	35	1,346
Food Processing	98	4,407	104	4,900	113	6,761
Electrical, Gas	-	-	-	-	-	-
Others	3	92	3	135	4	177

Note: An establishment employing five people or more is considered a factory. Factori are excluded.

Source: Manshū Rōmu Kyokoku Kai, Manshū Kōjō Rōdō Chōsa Sho, 1940. Secret. Published

TABLE 9

IES AND WORKERS ACCORDING TO REGION AND TYPE OF FACTORY

1937 umber of ries	Workers	1938 Number of Factories	Workers	1939 Number of Factories	Workers	1940 Number of Factories	Workers
9	1,999	32	2,273	34	2,450	35	3,331
4	26,811	549	36,523	612	39,739	684	41,892
7	14,545	300	20,613	341	22,963	372	24,576
5	2,543	52	3,167	56	3,844	59	3,655
4	1,627	37	2,223	45	2,946	74	4,615
7	623	19	776	20	848	23	860
9	4,689	75	6,572	82	5,476	85	4,982
4	652	16	829	17	938	17	638
1	53	2	163	2	206	2	144
5	683	15	703	15	757	14	685
2	74	2	89	12	103	3	129
3	584	13	621	13	959	14	692
	-	-	-	-	-	-	-
4	208	4	220	4	257	4	253
4	163	5	187	5	188	5	136
	-	-	-	-	-	1	164
9	367	9	360	10	454	11	363
3	28,810	581	38,796	646	42,189	719	45,223

ers	1937 Number of Factories	Workers	1938 Number of Factories	Workers	1939 Number of Factories	Workers	1940 Number of Factories	Workers
7	23	2,311	26	2,849	33	3,407	42	6,259
1	42	2,166	51	3,159	57	4,039	63	4,601
1	43	2,026	57	2,973	69	4,067	77	4,728
3	12	732	15	1,081	16	1,213	18	1,487
	-	-	-	-	-	-	-	-
9	38	3,286	42	3,952	47	5,116	47	4,363
5	130	9,366	165	13,140	178	10,111	201	10,391
3	22	792	25	993	30	1,759	39	1,907
3	39	1,648	41	1,992	48	2,396	52	2,485
8	7	295	7	373	7	340	7	291
9	30	1,153	35	1,346	36	1,448	40	1,741
7	104	4,900	113	6,761	120	8,039	128	6,668
	-	-	-	-	-	-	-	-
2	3	135	4	177	5	254	5	302

le or more is considered a factory. Factories producing armaments and steel

jō Rōdō Chōsa Sho, 1940. Secret. Published February, 1941. Pp. 1-4.

TABLE 10

DISTRIBUTION OF FACTORIES ACCORDING TO NUMBER OF LABO

(For year 1940, through August)

Manufacturing Industry[a]	Total	20-50[b]	100[c]	150[c]	200[c]	300[c]	400[c]	5
Total Number of Factories	719	457	183	34	14	19	4	
Ceramics and Construction	42	13	8	5	5	7	2	
Metallurgy	63	37	17	5	-	3	-	
Machine Tool	77	46	21	5	4	2	-	
Shipping and Transport	18	11	4	1	-	1	-	
Luxury goods	-	-	-	-	-	-	-	
Fiber	201	119	68	11	1	2	-	
Clothing	39	24	11	2	-	1	-	
Paper and Printing	52	35	16	-	1	-	-	
Chemical	47	26	10	4	2	2	2	
Leather, Hides, Hair	7	4	3	-	-	-	-	
Wood Products	40	33	6	1	-	-	-	
Food Processing	128	107	16	1	1	1	-	
Electrical and Gas, Water	-	-	-	-	-	-	-	
Other	5	2	2	-	-	-	-	

a Exclusive of Kwantung Province, all munitions and weapons works, mining and fuel ind of the iron and steel industry is absent as well.

b Factories employing 20-50 workers.

c Factories employing not more than 100, 150, 200, ..., 900 employees.

d Factories employing 1,000 workers or more.

Source: Manshū Rōmu Kyokokukai, Manshū Kōjō Rōdō Chōsashō, 1940. Secret. Pp. 24-25.

TABLE 10

ISTRIBUTION OF FACTORIES ACCORDING TO NUMBER OF LABORERS

(For year 1940, through August)

20-50[b]	100[c]	150[c]	200[c]	300[c]	400[c]	500[c]	600[c]	700[c]	800[c]	900[c]	1,000[d]
457	183	34	14	19	4	1	-	5	-	1	1
13	8	5	5	7	2	-	-	2	-	-	-
37	17	5	-	3	-	-	-	-	-	1	-
46	21	5	4	2	-	-	-	-	-	-	-
11	4	1	-	1	-	1	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
119	68	11	1	2	-	-	-	-	-	-	-
24	11	2	-	1	-	-	-	1	-	-	-
35	16	-	1	-	-	-	-	-	-	-	-
26	10	4	2	2	2	-	-	1	-	-	-
4	3	-	-	-	-	-	-	-	-	-	-
33	6	1	-	-	-	-	-	-	-	-	-
107	16	1	1	1	-	-	-	1	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-
2	2	-	-	-	-	-	-	-	-	-	-

all munitions and weapons works, mining and fuel industries. It must be assumed that much
s absent as well.

s.

n 100, 150, 200, ..., 900 employees.

s or more.

nshū Kōjō Rōdō Chōsashō, 1940. Secret. Pp. 24-25.

TABLE 11

NUMBER OF FACTORIES ACCORDING TO BRANCHES OF INDUSTRY AND OWNERSHIP FOR YEARS 1936, 1938, 1939, 1940

Industry	1936			1938			1939			1940		
	Total	Active	Idle	Total	Active	Idle	Total	Active	Idle	Total	Active	Idle
Total Number of Factories												
Japanese	1,471	1,437	34	1,215	1,209	6	1,629	1,625	4	1,875	1,853	22
Manchurian	6,976	6,917	59	8,096	8,018	78	9,526	9,507	19	11,181	10,806	375
Foreign	74	73	1	96	94	2	98	98	-	113	110	3
Total	8,521	8,427	94	9,407	9,321	86	11,253	11,230	23	13,169	12,769	400
Textiles												
Japanese	48	44	4	41	40	1	69	69	-	101	101	-
Manchurian	1,121	1,111	10	1,637	1,576	61	1,512	1,504	8	1,710	1,620	90
Foreign	4	4	-	14	12	2	5	5	-	5	4	1
Total	1,173	1,159	14	1,692	1,628	64	1,586	1,578	8	1,816	1,725	91
Metallurgy and Light Metals												
Japanese	123	122	1	87	87	-	116	116	-	113	110	3
Manchurian	874	873	1	831	831	-	963	960	3	888	851	37
Foreign	4	3	1	7	7	-	3	3	-	5	5	-
Total	1,001	998	3	925	925	-	1,082	1,079	3	1,006	966	40
Machine Tool												
Japanese	190	188	2	136	136	-	173	173	-	228	228	-
Manchurian	453	452	1	396	395	1	490	489	1	735	723	12
Foreign	9	9	-	7	7	-	20	20	-	18	17	1
Total	652	649	3	539	538	1	683	682	1	981	968	13
Ceramics and Construction												
Japanese	173	168	5	143	143	-	209	209	-	271	271	-
Manchurian	462	460	2	450	448	2	682	681	1	951	927	24
Foreign	1	1	-	-	-	-	3	3	-	2	2	-
Total	636	629	7	593	591	2	892	891	1	1,224	1,200	24
Chemical												
Japanese	102	94	8	88	88	-	126	126	-	136	136	-
Manchurian	889	855	34	1,113	1,103	10	1,426	1,424	2	1,666	1,558	108
Foreign	2	2	-	12	12	-	8	8	-	13	13	-
Total	993	951	42	1,213	1,203	10	1,560	1,558	2	1,815	1,707	108
Food Processing												
Japanese	385	374	11	367	363	4	462	458	4	500	488	12

Japanese	102	94	8	88	88	-	126	126	-	130	130	-
Manchurian	889	855	34	1,113	1,103	10	1,426	1,424	2	1,666	1,558	108
Foreign	2	2	-	12	12	-	8	8	-	13	13	-
Total	993	951	42	1,213	1,203	10	1,560	1,558	2	1,815	1,707	108
Food Processing												
Japanese	385	374	11	367	363	4	462	458	4	500	488	12
Manchurian	863	856	7	1,180	1,179	1	1,659	1,656	3	2,054	2,020	34
Foreign	32	32	-	35	35	-	38	38	-	45	45	-
Total	1,280	1,262	18	1,582	1,577	5	2,159	2,150	7	2,599	2,553	46
Electricity												
Japanese	9	9	-	-	-	-	-	-	-	-	-	-
Manchurian	-	-	-	-	-	-	-	-	-	-	-	-
Foreign	-	-	-	-	-	-	-	-	-	-	-	-
Total	9	9	-	-	-	-	-	-	-	-	-	-
Gas												
Japanese	6	6	-	-	-	-	5	5	-	5	5	-
Manchurian	-	-	-	-	-	-	-	-	-	-	-	-
Foreign	-	-	-	-	-	-	-	-	-	-	-	-
Total	6	6	-	-	-	-	5	5	-	5	5	-
Paper												
Japanese	157	157	-	112	111	1	122	122	-	122	122	-
Manchurian	285	285	-	307	306	1	324	323	1	356	352	4
Foreign	8	8	-	2	2	-	6	6	-	16	5	1
Total	450	450	-	421	419	2	452	451	1	484	479	5
Miscellaneous												
Japanese	187	185	2	155	155	-	213	213	-	256	253	3
Manchurian	1,446	1,444	2	1,469	1,468	1	1,674	1,674	-	1,909	1,803	46
Foreign	11	11	-	18	18	-	16	16	-	3	3	-
Total	1,644	1,646	4	1,642	1,641	1	1,903	1,903	-	2,168	2,059	49
Forest Products												
Japanese	91	90	1	86	86	-	134	134	-	143	139	4
Manchurian	583	581	2	713	712	1	796	796	-	912	892	20
Foreign	3	3	-	1	1	-	1	-	-	3	3	-
Total	677	674	3	800	799	1	931	931	-	1,058	1,034	24

Note: A factory is any establishment employing more than five workers.

Source: Data for 1936 from Manshū Kōjō Tōkei, 1936, Secret.
Data for 1938-1940 from Manshū Kōjō Tōkei for these years.

TABLE 12

COMPARISON OF ACTUAL OUTPUT AND THE INDEX FOR SELECTED COMMODITIES (1937 = 100.0)

Year	Output	Index	Output	Index	Output	Index	Output	Index
	Flour (tons)		Iron Ore (tons)		Steel Ingots (tons)		Creosote Oil (tons)	
1937	425,931,404	100.0	2,256,707	100.0	453,889	100.0	17,753	100.0
1938	417,614,098	97.6	2,695,570	119.5	610,864	134.6	17,299	97.4
1939	253,651,286	59.7	3,075,957	136.3	542,579	119.5	16,425	92.5
1940	281,654,164	66.2	2,977,587	131.9	557,370	122.8	16,807	94.7
1941	265,843,020	62.5	3,703,025	164.7	559,146	123.2	14,574	82.1
1942	309,933,470	72.9			676,582	149.1	21,561	121.5
	Coal (tons)		Pig Iron (tons)		Sulphur (tons)			
1937	11,745,621	100.0	762,366	100.0	182,054	100.0		
1938	14,476,097	123.2	827,126	108.5	229,423	136.1		
1939	17,243,022	146.8	995,307	130.6	160,241	88.0		
1940	19,580,597	166.7	1,068,968	140.2	176,810	97.1		
1941	23,591,299	200.9	1,092,699	174.5	189,660	104.2		
1942	24,235,828	206.3	1,302,313	208.0	154,215	84.7		
	Bean Oil (tons)		Cement (tons)		Alcohol (hectoliters)			
1937	74,283,530	100.0	797,209	100.0	64,354	100.0		
1938	72,515,332	97.6	1,239,250	155.3	130,303	202.5		
1939	98,894,338	133.1	1,035,112	129.8	141,630	219.3		
1940	45,910,753	61.8	1,035,456	129.9	88,883	138.1		
1941	38,580,078	51.9	1,076,637	135.1	167,943	261.0		
	Paper (tons)		Cotton Cloth (pieces)[a]		Bloom (tons)[b]			
1937	19,149,930	100.0	2,278,728	100.0	406,641	100.0		
1938	21,020,131	109.8	2,778,457	121.9	534,407	132.1		
1939	20,961,611	109.5	2,529,807	111.0	460,249	113.7		
1940	20,556,426	107.3	3,395,626	149.0	470,695	116.3		
1941	21,188,718	110.6	4,364,259	191.5	469,611	116.1		
1942			3,406,436	149.5	482,174	119.1		

a A piece is roughly 25-30 shaku or 30-40 feet.

b Wrought iron extracted from forge or puddling furnace in which steel products are made.

Source: Chōsabu, Manshū Keizai Tōkei Kihō, Nov. 1941 and Aug. 1943. Indices were taken from Nov. 1941 issue for years 1937-1940; for 1941-1942, Aug. 1942 volume. All output came from Aug. 1942 volume.

TABLE 13

AREA UNDER CULTIVATION FOR VARIOUS CROPS FROM 1925 TO 1936

(in 1,000 hectares)

Year	Soya Beans	Other Beans	Kaoliang	Millet	Maize	Wheat	Rice	Upland Rice	Other Cereals	(Including others) Total
1925	2,691	303	2,532	1,902	1,107	881	94	111	694	10,314
1926	3,349	438	2,401	1,926	1,177	896	111	120	777	11,196
1927	3,559	448	2,674	2,115	1,083	1,139	126	117	813	12,070
1928	3,760	474	2,916	2,184	1,068	1,317	83	101	1,169	13,072
1929	4,017	401	2,988	2,148	937	1,299	89	112	1,051	13,042
1930	4,153	407	3,056	2,227	957	1,382	99	109	1,096	13,486
1931	4,235	367	3,004	2,351	1,086	1,588	83	119	1,242	14,315
1932	4,144	375	2,710	2,272	1,112	1,488	67	107	1,212	13,486
1933	3,879	301	2,661	2,157	980	1,395	63	105	1,124	12,665
1934	3,273	322	2,706	2,170	1,123	826	101	102	1,273	11,897
1935	3,303	347	2,855	2,458	1,254	993	121	114	977	12,422
1936	3,468	379	2,994	2,555	1,313	1,094	175	114	983	13,076

Source: Manchurian Year Book, 1942, p. 425.

TABLE 14

OUTPUT OF PRINCIPAL CROPS FROM 1924 TO 1936

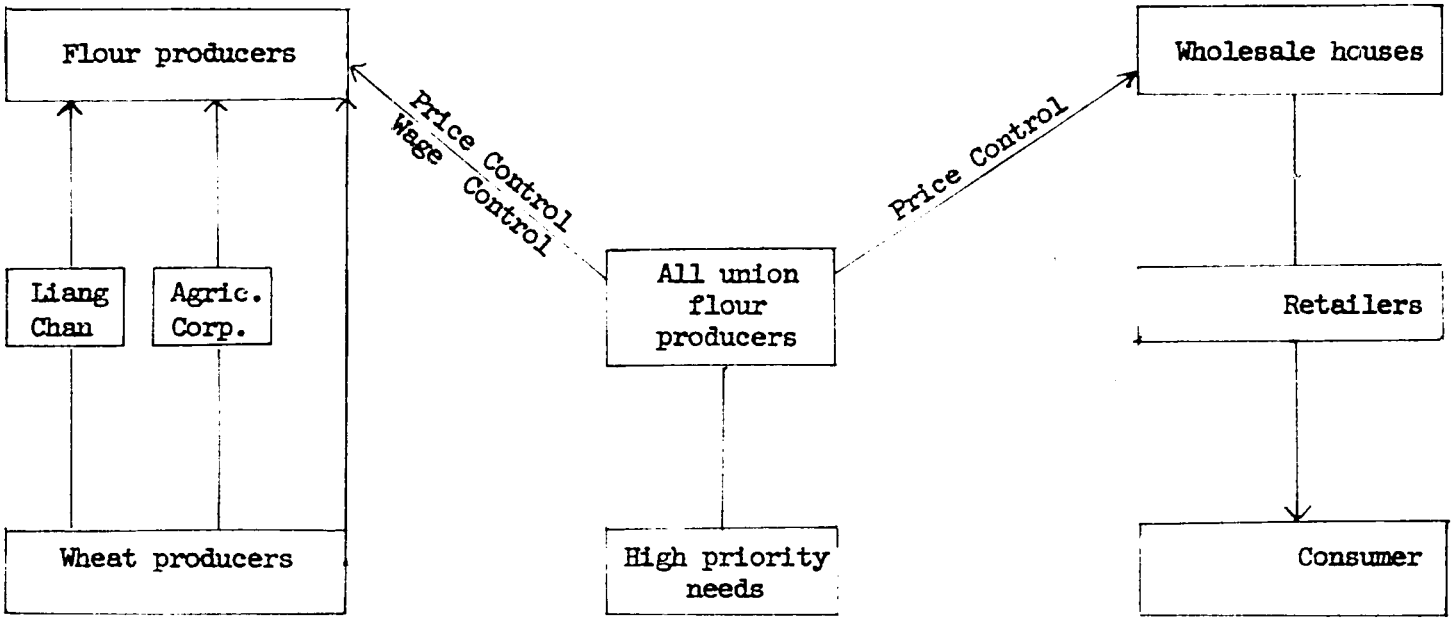
(in 1,000 metric tons)

Year	Soya Beans	Other Beans	Kaoliang	Millet	Maize	Wheat	Rice	Upland Rice	Other Cereals	(Including others) Total
1924	3,455	256	4,477	3,042	1,694	806	95	88	760	14,672
1925	4,188	334	4,710	3,137	1,888	962	193	150	891	16,453
1926	4,790	523	4,550	2,982	1,774	969	181	134	829	16,731
1927	4,835	580	4,605	3,226	1,803	1,446	149	147	1,018	17,810
1928	4,852	622	4,643	3,290	1,853	1,471	151	145	1,271	18,298
1929	4,865	550	4,712	3,374	1,733	1,303	138	157	1,601	18,434
1930	5,318	519	4,818	3,304	1,719	1,538	156	158	1,730	19,080
1931	5,245	462	4,533	2,983	1,833	1,582	161	163	1,862	18,829
1932	4,288	456	3,757	2,635	1,687	1,134	112	138	1,561	15,764
1933	4,601	304	4,022	3,184	1,759	651	166	143	1,804	16,847
1934	3,398	277	3,470	2,123	1,503	643	200	126	1,046	12,787
1935	3,859	327	4,103	2,968	1,903	1,015	296	147	1,106	15,725
1936	4,147	341	4,241	3,187	2,072	959	442	155	1,093	16,638

Source: Manchurian Year Book, 1942, p. 425.

Diagram 1

Diagram of control over production and distribution of flour

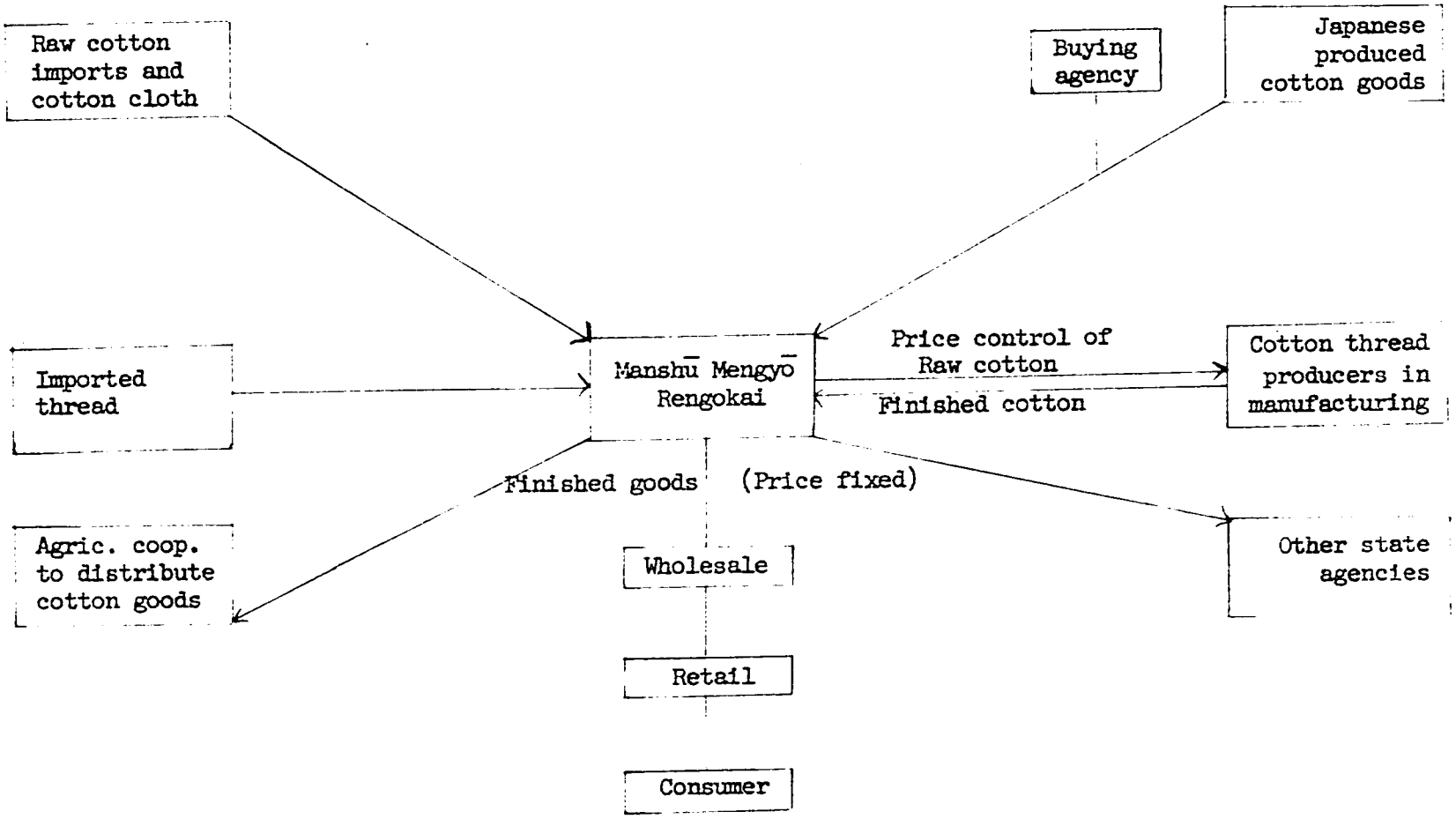


Wholesale grain purchasing houses, in the main, operated and controlled by Chinese merchants' capital.

Source: Mantetsu Chōsabu, Manchū Tōsei Keizai Shiryō, 1938 (Top Secret), p. 236.

Diagram 2

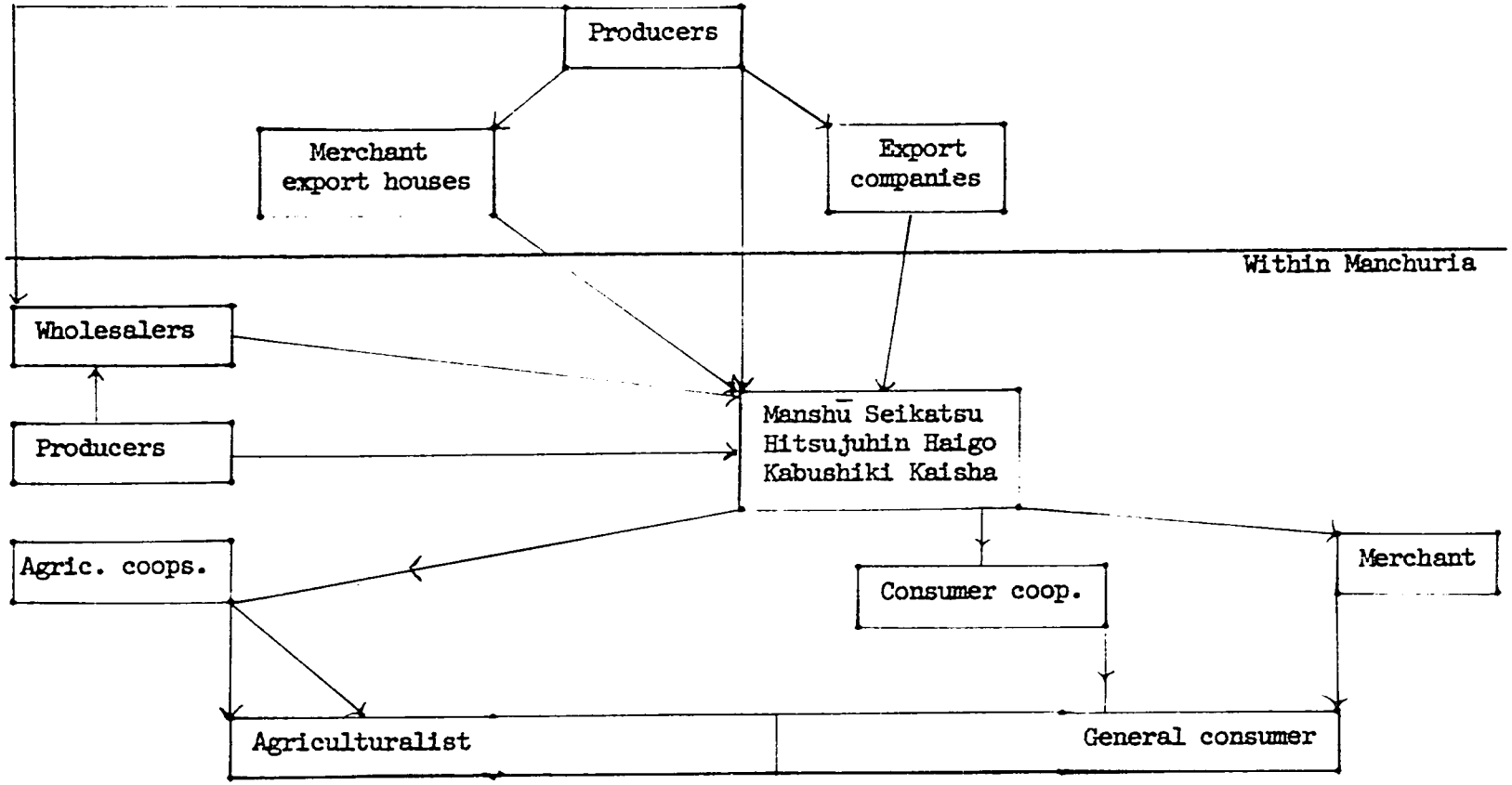
Diagram of control over production and distribution of cotton



Source: Mantetsu Chōsabu, Manshū Tōsei Keizai Shiryō, 1938, p. 243. Top Secret.

Diagram 3

Diagram of control over prices of consumer goods in Manchuria



Source: Mantetsu Chōsabu, Manshū Tōsei Keizai Shiryō, 1938, p. 248. Top Secret.

A NOTE ON SOURCE MATERIALS

Most of the factual and statistical material used in this study was obtained from publications by the different research offices of the South Manchurian Railway Company. The dependence on one principal source of information as this inquiry represents necessitates some discussion on why and how the SMR Co. studied the economy of Manchuria. From this, we can move to commenting on the problem of the validity or "usefulness" of the data and whether complete reliance on it makes for distortion and an inaccurate story of economic development.

In March of 1908, an investigation bureau called the Chōsabu was established within the Company's administrative system in Southern Manchuria.[1] From that date until 1923, that body was the single research unit responsible for collection of materials and data on the economic and sociological conditions in Manchuria and Mongolia. The findings were published in monograph studies, pamphlets, and full length books. In the sphere of sociology, the topics studied were land customs and practices, the area's legal structure, political and diplomatic events, and general cultural matters. In the field of economics, more extensive publications marked the bureau's efforts as a large number of works on a variety of topics ranging over agriculture, monetary institutions, and public finance

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1 Most of the information on the early history of the SMR's research bureaus was obtained from the second anniversary volume the company published in 1927 titled Nanmanshū Tetsudo Kabushiki Kaisha Dai Niju Nenshi, SMR Co., 1927, pp. 1,250-1,278.

made their appearance. A careful examination of these publications shows that the bureau's efforts seemed to be more concerned with producing studies of a monographic character. An enormous amount of attention was devoted simply to grubbing for all available facts. In doing this, members of the Chōsabu went about their task with a meticulousness and care to detail seldom seen in organizations of this nature which are created by private business concerns. No studies of a broad sweeping nature that might lead to eventual hypothesis formulation to explain certain cause and effect relationships can be found. As for efforts to generalize about the history of economic change and evolution of political and social institutions in Manchuria, such studies did not make their appearance until the late 1920's, and then only by scholars in universities in Japan (principally Osaka and Tokyo Imperial University). During this first period, a large amount of detailed information was collected, classified, and filed in the Chōsabu's archives and libraries for future reference. There was no systematic effort to amass statistical information. The only work done in the field of statistics concerned the compilation of foreign trade returns. The Chōsabu in Dairen collected and sorted customs data for all Manchurian and North China ports to show the flow of commodities, value of trade, exchange rates, etc.

From 1923 to the Manchurian incident, several important changes in the technique of research manifested themselves. The events of World War I accelerated Japanese commercial penetration of China and Southern Manchuria. The SMR Co., which was in a strong position to compete with firms of Western capitalist countries, expanded its operations in all phases of

activities, especially in the fields of transportation, finance, and industry. The large investment, further installation of capital equipment, and subsequent risk that was borne in the wake of such expansion, forced the company to examine more closely economic conditions that might impinge upon the profitability of the firm's operations. It became more important to forecast and evaluate the significance of economic changes taking place, in the light of foreign competitors' threats and actions, and this induced the company to expand the facilities of the Chōsabu and encouraged more intensive research to study price trends, agricultural output, foreign trade fluctuations, and conditions in the field of finance. A vigorous step was made to collect detailed information on prices and their movements. Consideration of prices prompted an inquiry not only of individual commodity price movements but a need to compile indices of price changes for selected commodity groupings.[1] Because of the importance of migrational movements from North China into Manchuria during the decade, it became important to study wage rates so as to determine what impact population shifts made on the standard of living. At the same time, several new branch research offices were set up to study economic conditions in the Soviet Union and North China.

From 1932 to 1938, all research agencies of the Chōsabu were enlisted to assist the newly created state of Manchukuo which sought to stabilize economic conditions and initiate rapid growth. Resources of the

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1 For studies of commodity prices, the reader may examine the SMR's early efforts along these lines. See Shomubu Chōsaka, Manshū Bukka Chōsa, 1927. I will comment on this study in greater detail later.

Chōsabu were mobilized to study very thoroughly the availability of resources in the light of the new state's demands. Complete political and administrative mastery in the region now enabled the SMR Co. for the first time to have a free hand to investigate as carefully as its facilities permitted every aspect of the Manchurian and Mongol economy. Detailed surveys of mineral reserves, forest area, and agricultural potential were made. Studies of population were conducted with an eye to future labor supply to feed heavy industry should such demand increase greatly. Virtually all large industrial establishments were canvassed to note the amount of capital equipment, its value, number of skilled workers and managers, financial conditions, location, markets, etc. In this period an enormous number of publications made their appearance and the Company's research offices increased their accuracy of reporting as they acquired more experience and additional administrative machinery made collection and reporting easier. These studies served as the basic building blocks from which the first five-year plan was grafted. The Manchukuo government and Kwantung Army were completely dependent on this research agency for its survey of resource potential and economic advice. Whether, of course, they accepted it on all occasions is a matter of grave doubt and interest and only more study on this issue can provide these answers.

From 1938 to 1945, the SMR's Chōsabu and the Hsinkyō branch office concerned itself with plotting the course of the economy under planned control and wartime conditions. Both published new statistical journals in which time series on industrial and agricultural output, prices, quantity of money and composition of money supply, capital stock flotations,

stock prices, foreign trade returns were published. In one particular journal, the results of the first and a portion of the second year plan were published. Meanwhile, the Chōsabu continued to make forays into the area's economic history with studies of China during the Ch'ing dynasty and of problems in public finance, agriculture, and commerce during the interim period from 1912 to 1932.

From the time when the first research office of the SMR Co. opened its doors in 1908 in Dairen until 1941 when the system had evolved into a complex, highly independent research bureau, the actual organizational structure for conducting study underwent considerable change. Rather than trace this, let us indicate the various research groups in the SMR in 1941. One of the largest sections of the Chōsabu was devoted to pure and practical scientific research in the physical sciences alone. Experimentation and research went on in the fields of metallurgy, chemistry, fuels, agriculture, machine tool production, etc. In North China, the Chōsabu maintained a small research group to study agriculture, commerce, finance, and industry in that region. The Chōsabu, however, existed as only one part of the SMR's research organization, for four branch offices were located respectively in Shanghai (Shanghai Jimmusho), Hsinkyo (Hsinkyo Shisha), Tokyo (Tokyo Shisha), and a railroad statistical agency (Tetsudo Sokyoku) that gathered data on railway activity in Manchuria, e.g., freight, rates, new construction, etc. Each of these offices conducted different research as agreed upon by officials of the government and the company. The following diagram presents a general idea of the scope and activity of the SMR.

The Principal Research Agencies within the SMR Company

I. Shanghai Jimmusho

1. Research Office (pertains to economic conditions in N., S., Central China)

2. General Affairs Office (handles matters of R.R., Business, and personnel)

II. Shinkyo Shisha

1. N. Manchurian Economic Research Office (study of economy of N. Man.)

2. General Affairs Office (concerned with matters of research, surveys, study of economic conditions in Man.)

III. Tokyo Shisha

1. East Asia Economic Research Office (makes study of S.E. and S.W. Asian economy and resources)

IV. Tetsudo Sokyoku

1. Research Office (studies economic conditions within Japan proper)

2. Research Office to collect data at Harbin and Mukden

3. Makes study of R.R. system

4. General Business Affairs Office

V. Chōsabu of SMR Company

1. Central Experimental Station
   a. Agricultural Station (research in leather, food processing, and general agricultural chemistry)
   b. Fuels Section (research on gas, synthetic fuels, coal shale liquefaction, etc.)
   c. Organic Chemistry Section (research on soy bean, bean oil fibers, organic studies, etc.)
   d. Inorganic Chemical Section (research concerned with electricity, ceramics, general inorganic chemistry, and inorganic analysis)
   e. General Business Section (concerning management and general business conditions)

2. Ten Substations to Study Economy of North China
   a. In North China the Chōsabu maintained ten affiliated research stations to study statistics, collect materials, local customs, transport, resources, agriculture, labor, general economic planning, capital accumulation, etc.
   b. The Company also maintained a General Business Affairs Office which handled the Company's general business and internal affairs.

3. Various Research Offices within Manchuria Proper

   The following is a brief listing of the different offices and and their functions:
   a. Research Office to study Mongolian Economy
   b. Research Office to study resources in Manchuria and Mongolia
   c. Office to manage library and archives at Dairen
   d. Fourth Research Office (research on resources of East Asia)
   e. Third Research Office (study of Northern areas of N. Manchuria)
   f. Second Research Office (concerned with statistics and planning within the SMR Co.)
   g. First Research Office (concerned with statistics and planning within general economy)
   h. Materials Section (concerned with publishing and collection of research materials)
   i. Office to Study Planning (related to controls and setting of targets in Manchurian Economy)
   j. General Business Office

The above administrative outline shows the various offices that studied Mongolia, Manchuria, China, Japan, and Southeast Asia. In most instances efforts were devoted to maintaining high scholarly standards with considerable emphasis on collection of many basic materials. Many of the offices made special efforts to find local data and material and teams were organized and dispatched to make on-the-spot surveys of conditions relating to the problem at hand. We have discussed research organizations and their functions; let us now turn to examine some of the general publications of the company.

One of the best scholarly journals and a source which has proved indispensable in this study was that of the Mantetsu Chōsa Geppō, a monthly publication devoted essentially to economic affairs in Manchuria and China. The journal appeared about the time of the annexation of Manchuria by Japan and continued as a monthly publication until the end of World War II. It was comprised of three basic sections. The first dealt with a wide area of economic topics and consisted of several lengthy leading articles. High scholarly standards usually prevailed: sources were properly footnoted, tables and other relevant statistics cited were acknowledged and explained, and in nearly all instances, new material was presented and analyzed.

The second section provided a list of basic materials that represented new acquisitions of the company. They were presented with comments by the research workers. They might consist of village land records, studies of regional tax systems, individual enterprise studies, household budget surveys, etc. In the final section, bibliographical material and statistics completed the publication. The bibliographical section carried a listing of major books and journals dealing with the Far East. Chinese and Western materials were well covered. The statistics consisted of prices, industrial and agricultural output, stock values, changes in the components of the region's money supply, and foreign trade returns. The coverage is suitable until 1937 and then the statistics thin out a bit. For prices, we are given index numbers only. Output data have all but disappeared. Matters that are adequately covered are quantity of paper, coinage in circulation and issued, volume of freight transported, stock

prices and some foreign trade data expressed in value terms.

While the Geppōs considered a wide variety of economic subjects and problems, both past and present, the company's publication, the Manshu Keizai Nempō, an economic year book appearing from 1931 to 1941 contained information about the progress of the economy. The early issues are very useful as they make reference to conditions prior to 1931 and many data from the company archives are utilized. After 1937, the focus is upon the five-year plan. These studies had fairly wide circulation so that secret data on results of the plan after 1938 were withheld. Thus the picture we get is one of goals and targets. The final issue in 1941 departed in content and manner from early issues. This study contained a series of essays by economists on various problems of economic growth: maintaining increased agricultural output alongside of accelerated capital goods investment, problems of agricultural workers, changing pattern of public finance, the difficulties of mobilizing indigenous capital, and instability and growth in one industry, textiles. From a security standpoint, the company was not permitted to discuss openly basic problems in heavy industry.

Besides publications of a general economic character, the company issued numerous statistical journals on finance, labor, trade, and industry. In the latter years of the first plan and all throughout the war years, a very fine statistical journal titled the Manshū Keizai Tokei Kihō devoted its pages to reviewing results in planning as well as many other topics. I am not exactly sure when the final issue was published. At date, the most recent edition I have seen was that of August, 1943 which gives the

results of the first five-year plan for agriculture, forestry, livestock, manufacturing, and extractive industries. For many commodities, the results of the first year of the second plan were given too. This statistical quarterly was for official use only and circulated among planners and administrators at the plant level.

Besides these efforts to measure the different currents of the growth process, the company played an important role in surveying the region's resources so that the Kwantung Army could set up the first five-year plan. Several hundred publications were grouped under the series titled Manshū Gokanen Keikaku narabini Ritsuan which were considered the basic building blocks for laying out targets for all branches of the economy. These studies were classfied secret and only since the end of the war have they become available for use in this country. They contain a wealth of material on agricultural resources (amount of cultivated land, population in rural areas, output of different crops, etc.), mineral reserves (estimated quantity of particular minerals in ground, location, evaluation of quality of reserves, etc.), and numerous industry studies (showing location, output, workers employed, amount of capital, etc.).

Another extremely useful statistical publication is that of the Manshūkoku Kōjō Tōkei, or statistics on factories in Manchukuo. The SMR company and two other government agencies published this study jointly. Issues published ran from 1932 to 1940. Unfortunately, I have not located a complete set and there are several gaps. To my mind, this is one of the most important sources of manufacturing statistics with which to study the course of industrialization. The study consists of two parts. The first

comprises aggregate data for all factories in Manchukuo (including Kwantung) for nine branches of industry: metallurgy, ceramics, gas and electricity, textiles, paper, machine tool products, miscellaneous, chemicals, wood products. The number of factors for each branch of industry is given with data on employment, hours worked, wage outlays, outlays for fuel, power, raw materials. The second part then proceeds to show what this same situation is in industry for each province in Manchukuo. If all publications were available, it would be very possible to conduct an input-output study for various branches of Manchukuo industry and calculate labor-output and capital-output ratios. Unfortunately, however, all industry is not covered, for military production (airplanes, munitions, weapons, etc.) is conspicuously absent.

The above listed works are some of the best materials the company produced on the Manchurian economy. Their usefulness is limited, however, to a careful portrayal of economic conditions prior to 1941. For those critical war years 1942-1945 we are unable to depend upon SMR publications because they are simply not available in this country (or probably Japan for that matter). But now we can make use of the publications of the China Resource Commission (mentioned in Chapter I, Introduction). All data and information collected in this compendium of twenty volumes were obtained from Japanese publications made during the war. These studies stress especially wartime statistics so that this source makes a valuable addition to the SMR company studies.

The major publications of the company have been listed. What can be said of the statistics themselves? Just how good are they and can they

be relied upon to isolate certain problems, observe trends, cite cause and effect, and in all, measure the economic performance of the Japanese in Manchuria? These questions can be answered in part by relating them to the methods of data collection and the questions research staffs asked themselves when they amassed information. From procedures of collection, it is possible to note the representativeness of the data and what was done with statistics once they were tabulated. Then the indices that were compiled can be examined to determine how good a measure they provide for the quantities originally examined. These reflections may provide an evaluation of the Company's fact-finding techniques to determine the usefulness of the statistics employed. Let us do this in some orderly fashion. First, a discussion of agricultural statistics, since they are most abundant and are the province of long company research and observation. Better knowledge of how good the data are for this industry can be a benchmark to cast judgment on validity of other industrial data. After discussing agricultural data, we will move to comment on price indices, and finally, how standard of living indices were compiled. In these three important areas, the above sets of problems can be adequately discussed.

The SMR Co. certainly devoted a tremendous amount of time and effort to study agriculture in Manchuria. Because most of the population depended upon this form of production for a livelihood and the general welfare of society was closely allied to the health and prosperity of this industry, we find that the company's prime concern was with the fields of production and distribution, especially, the former. From the literature itself, it does not seem that any dominant question obsessed the minds of

research workers. It is apparent, however, that from the time and attention devoted to matters of production alone, these matters particularly invited the concern of the investigators. Yet the field work done only touched upon this issue indirectly.

When field work was conducted, it was oriented toward learning about the distribution of property and land in the villages. On the basis of evidence gathered here, an attempt was made to categorize rural society on the basis of a distribution of rural wealth. Frequency tables of land distribution, property, etc., were made by household and also on a rather schematized classification system of grouping farmers, e.g., rich peasants, landlords, poor peasants, agricultural workers. From this, generalizations were made about the concentration of relative social and economic power in the countryside. Class relationships in the process of production were of great interest to the researchers.

The implicit assumption adopted by the company seemed to be that once production in agriculture was evaluated on grounds of class relationships, the cause of low productivity could then be determined and policy enacted to correct this. I say implicit assumption, for methodology and technique were never carefully spelled out in any of the publications I have seen. The data collected were of two types: there was the information pertaining to actual village economic conditions; secondly, the company tried to see the industry as a whole and measure its output and modes of land utilization.

For the former, research teams visited villages and were responsible for the records acquired and examined. These materials provided the

data from which frequency distribution tables on land and other asset distribution were made. The Mantetsu Chōsa Geppō especially published many such results of villages and hsien studies for both N. and S. Manchuria on matters of land holding distribution, household revenue and expenditures, taxes, etc. In using these data, the scholar is faced with two important problems. He knows little of the sampling procedure used and this casts doubt on the representativeness of the data at hand. Some studies do make mention of this, but in most instances we know little as to whether the village selected was chosen on an arbitrary basis or whether a systematic policy did govern the inquiry. Most of the time we are forced to operate on the rather heroic assumption that these village studies portray fairly accurately conditions in the surrounding vicinity or hsien and to discount any possibility of diversity of conditions when generalizations are adduced.

The second problem concerns different land measures used in the surveys. Teams that operated throughout Manchuria and Mongolia wrote up their reports in the same land units they found. No attempt was made to convert different measurements to some standard land measurement. The company did publish several studies on the different units of measures used in Manchuria and North China over the past fifty years and these have been used in this study to reduce different land units to some common denominator (preferably the familiar Japanese land measures). This was attempted in Chapter IV but with considerable difficulty.

To the above two problems there is perhaps a third to be added. The economic historian is always interested in plotting trends and

describing cause and effect. Village data were never collected over a sufficiently long time period to show any possible trend. Researchers failed to conceive of their fact finding in long-run terms. Thus we are provided with a static picture of Manchurian agriculture and this is quite inadequate when we are aware that important changes in foreign trade, capital penetration, and urbanization have taken place. Long-run price series and output and cultivation data are required to discuss agriculture change and responsiveness to other stimuli. While we do possess good price data for the 1920's, we do not have sufficient output and cultivation data to make too much use of these price data. The situation is altered for the 1930's for then it does become available.

The absence of time series in agricultural statistics was one noticeable oversight on the company's research efforts, but this does point out one important characteristic of this research. It points to the fact that the prime motivation in gathering statistics was more for the sake of fact collecting than anything else. When a research group is dominated by the desire to produce only monographic types of study, it would seem that the statistics collected would accurately reflect quantities measured. This is the basis for my belief that the SMR's agricultural data are quite reliable and dependable. For this reason, I believe that actual data on land holding, tenantry, rents, taxes, farm income are probably pretty reliable. The great chore that remains for the scholar is to go through the many, many village and hsien studies and note the regional differences and changes over time if he is concerned with obtaining a picture of a changing agriculture.

In North China in 1939, the research branch office of the SMR undertook a large-scale research project in Hopei and Shantung to study six villages each. The purpose of this project was to obtain detailed data on land holding, purchases and sale of land, credit institutions, taxes, tenantry, family structure, etc., in order to obtain greater knowledge on the social economic fabric of village life in North China. However, rather than send research teams to collect data from village headmen and examine records on the spot, a number of teams went out accompanied with interpreters. They carried with them questionnaires in which a list of questions were to be put to all households in the village. Detailed notes were kept of the questions and answers and these became the raw material for the general study of agriculture in North China. The technique of approaching the Chinese peasant directly and asking him questions about his farming methods, taxes paid, land owned, rent and interest payments marked an evolution of field work technique that had begun years before in South Manchuria. The results of this study, which took between three and four years to complete, have been published in six lengthy volumes in 1952.[1] It is not the province of this note to evaluate this study but to mention only how village studies developed.

Many of the works on agriculture in Manchuria were cited in a bibliography published by the SMR in January of 1941.[2] This issue of this

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1 Chūgoku Nōson Kankō Chōsa Kankō Kaihen, Chūgoku Nōson Kankō Chōsa, Vols. I-VI, 1952.

2 Sato Yo, "Manshū Nōgyō ni Kansuru Jakkan no Bunken ni tsuite," Mantetsu Shiryō Ihō, January, 1941, pp. 1-25. Bibliographical section extends from page 1 to page 49 in appendix of this same issue.

particular journal cites work done in agrarian economic studies since the Japanese moved into South Manchuria after the Russo-Japanese war. Western and Chinese language studies are also mentioned. The Mantetsu Shiryō Ihō is a valuable journal discussing statistical work and statistical methods for weighting in compilation of indices. It is a very useful guide to the general economic work done in this period.

The other method of data collection already suggested was that of determining the aggregate farm output according to product and amount of land under cultivation. The railroad administration branch was important here because they reported all produce hauled to market and stored at various junctions. For actual farm consumption, these figures were estimated. Because harvests are reported after it has been collected, we are not involved in the problem of trying to determine whether figures represent actual harvested crop or that still standing in the field, which is a fairly knotty problem when using Soviet agricultural figures. I am still not certain as to how area under cultivation was acquired. It might have been done through examination of land taxes paid, since these were paid on the basis of area owned and worked. It might also have been arrived at by teams canvassing certain areas and making estimates on a sampling basis.

The publication of a journal devoted strictly to the study of prices marked a major milestone in economic research in East Asia for the company.[1] This was a scholarly study publishing the results of careful investigation of prices and their movements in which careful methods of collection of statistics and construction of indices and graphs were

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1 Shomubu Chōsaka, Manshū Bukka Chōsa, November 10, 1928, pp. 1-152.

employed. The reasons for such a work were apparent. Rapid gains in trade, expansion in agriculture, increased population, and a burgeoning commercial class strongly affected the activities of the SMR railroad network. The company now was in a position of influence and responsibility and was regarded by most enterprises as the most important concern in Manchuria. Widening commercial ties and a growing interpendency of domestic and international markets made such a price study valuable for all concerned.

In the introduction, some general theoretical postulates are laid down. These pertain to price selection, construction of indices, base year, and application of indices. This is followed by some discussion of how data were collected and from which source. The remainder consists of a listing of different prices according to commodities and prices for different commodity groupings to cover the period 1912-1926 for different areas within Manchuria.

Rather than immediately plunging into the matter of price series the ground is first cleared by some formal discussion of why prices should be studied at all. Their rationale for this study is that knowledge of price trends can enhance our knowledge of the inner workings of the economic system. The authors are careful to set definite limits, for they state they are concerned only with presenting prices to show trends and fluctuations in the market. Cause and effect discussion are omitted and the results are to stand on their own merit. Government and business must make their evaluation of the data at hand. The authors do express the hope that the study will serve some use by illuminating the course of the

business cycle, changes in living standards, and fluctuations in value of money standard used.

Two principal types of indices were constructed in this work. The first, a general commodity index, was simply a rough average of an assortment of different exchange values over time to serve as an indicator of economic activity. Its usefulness would be quite limited, however, as such an index can tell us little more than trend in exchange value between a monetary unit and goods. The other type of index proved to be more important and consisted of various disaggregations of the general price index according to defined clusters of commodity groupings. Selection of a method to compile these different indices was to be made on the basis of what the indices were supposed to reflect. By far, the most frequently used technique employed was that of a simple arithmetic average, although reference was made to geometric, aggregate, and Fisher ideal indices. All methods of index compilation were given in bare mathematical form.

Wholesale prices were selected rather than retail prices on the premise that the latter followed the trend in wholesale prices and supposedly knowledge of these price movements was more informative. Groupings of goods prices were made according to similar methods of production and consumption. Thus, there were series for minerals, raw agricultural produce, processed food, fuels, household consumer goods, construction materials, etc. The weighting problem was solved by selecting goods which were most important in each series, ranked by household, industry, or government consumption.

The authors were aware of the importance of choosing appropriate base years so as to eliminate inherent bias in the index. Base prices were usually running averages for different months or several years. The location effect on price structure was observed as well when it was stated that as one moved away from the large urban-market-financial areas in southern Kwantung Province, north, prices increased. Enough has been mentioned to point out that the authors did take a lot of care and exert caution in making this price study. The purpose of the study and the techniques used are clearly explained in the beginning. Furthermore, we are informed on how prices were gathered. The company exploited as many organizations as it could for purposes of collecting price data. When grouped together there were roughly four such sources: the Kwantung administration seat in Dairen provided price data for that area; the SMR railroad gave price listings for its different zones; the Chosen bank assisted strongly in providing additional materials; finally, a score of commerce houses (principally Chinese) which existed in every major city were very cooperative too. These sources were canvassed carefully for past and current prices. The Chosen bank proved instrumental in assisting with the actual construction of a general price index, while the local commercial houses were the major storehouse for price data in different markets over time.

The actual citation of price data was done by first listing the wholesale aggregate price indices for Tokyo, Mukden, Dairen, and Antung for years 1914-1927. After that, most attention focused upon Dairen prices. Next, an unusually large amount of material on foreign trade

values for Dairen were given (import and export prices and exchange rates for different currencies). The remaining portion covered price series for different commodities for different locales. A large number of graphs for the fifteen-year period show the leading and lagging commodity group prices. After 1931, the company continued its price investigations, but official Manchukuo price publications made their appearance when the Central Bank was established. It is worth pointing out that the Bank's price data publications are very similar to that of the early SMR study, as to how commodity groups were selected, areas covered, etc. How much the Chōsaka price study influenced methods of the Central Bank is hard to say, but it is not too presumptuous to assume that some communication existed between the two and the Central Bank always had recourse to this initial study if it so desired.

Of course after 1932 it was possible to show price movements far more accurately than in the past. More area could be easily covered, methods of gathering improved, and more available personnel could take part. We should remember that the 1928 study represented a bold step into an unexplored field. The price data here have some use (though limited, I fear, because other data were not collected with as much care; for instance agricultural and industry data) and can be considered a measuring rod reflecting business changes, purchasing power, and standard of living.

Our final consideration is that of consumer expenditures indices during the late 1930's.[1] While this work does not show the work that went

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1 Mantetsu Chosabu, Manshū ni okeru Seikatsuhi Shisu no Jissai, October, 1939, pp. 1-10. Pamphlet.

on in this field, it does concentrate fully on methodology of sampling and weights used for index construction. In this small pamphlet we see how the Central Bank and the SMR collected their data and constructed indices of consumer expenditures for salaried workers. The purpose here was to note changes in general purchasing power, since the threat of inflation was always in the background.

In 1936, the Central Bank investigated the number of salary earning households in Hsinkyo, Harbin, and Mukden. A total of 325 households were selected for study and information collected on income and its disposition on a monthly basis. The samples chosen were selected as to their representativeness. From the evidence accumulated, the share of income spent for food, housing, fuel, clothing, etc., was determined. Weights were given on the basis of the principal items purchased and consumed in each of the above categories. Once obtained, these weights were inserted into a simple formula in which price relatives of goods purchased were used to construct a simple arithmetic average index for each month beginning with 1936.

The SMR standard of living index was compiled from data obtained from salary workers employed for the railway company in Dairen. The base year was 1931. Average monthly salaries were examined so as to note disposition of income. The same weighting system was adopted and the identical formula of multiplying these weights by the price relatives and aggregating into a simple arithmetic average index was used.

The problems both agencies confronted when setting up these indices were (1) determination of the pattern of consumption expenditures of

households examined; this was essentially an empirical problem and accuracy depended upon the care with which the data were tabulated; (2) investigation of retail prices to use in the index formulae; again this information was to be obtained from published data on current prices; (3) selection of commodities principally consumed in order to allocate weights; this frequently called for subjective and arbitrary selection of price weights; (4) finally, construction of the index and setting a base period. The authors felt that data were abundant and this was no problem. They did express anxiety over some of the theoretical aspects of index construction and cautioned care in using these indices for only specific purposes.

To conclude, we can state with some certitude that the company proved competent in collecting data and exercised care in making it available for others in a variety of forms. Fairly high scientific standards characterize their studies. The authors seem only interested in presenting the information for others to use. This would justify using SMR statistics in a prima facie way. Frequently, discussion of tables in certain studies is omitted, but if the above findings apply to all SMR work we can be fairly assured that the statistics gathered approximate reality fairly closely; at least, as close as modern statistical procedures permit.

BIBLIOGRAPHY

English Materials

Public Documents

Library of Congress. Manchuria, an Annotated Bibliography. (Compiled by Peter A. Berton), Reference Department, Washington, 1951.

Northeast China Resources Investigation Committee. Economic Encyclopedia of the Northeast, Volume 1, I-b, 19. (Translated from the Chinese by Office of External Research, Department of State, USA.)

Office of Strategic Services. Programs of Japan in Manchukuo, Volume i, Dec. 1941-Feb. 1, 1944, Honolulu.

Books

Borton, Hugh. Japan's Modern Century. The Ronald Press Co., New York, 1955.

Cheng, Yu Kwei. Foreign Trade and Industrial Development of China. University Press of Washington, D.C., 1957.

Davies, R. W. The Development of the Soviet Budgetary System. Cambridge University Press, 1958.

Fleming, Peter. One's Company, a Journey to China in 1933. Penguin Books, 1956.

Heckscher, Eli. Economic History of Sweden. Harvard University Press, Cambridge, 1954.

Holzman, F. D. Soviet Taxation. Harvard University Press, Cambridge, 1955.

Hosei, Alexander. Manchuria, Its People, Resources, and Recent History. Methuen & Company, London, 1904.

Huc, Abe. Travels in Tartary, Thibet, and China, Vol. 1. Chicago, 1898.

Jones, F. C. Manchuria Since 1931. Royal Institute of International Affairs, London, 1941.

Kramer, Irving. Japan in Manchuria. Foreign Affairs Association of Japan, Tokyo, 1954.

Maxon, Yale Condee. Control of Japanese Foreign Policy; A Study of Civil-Military Rivalry, 1930-1945. University of California Press, Berkeley, 1957.

Romanov, B. A. Russia in Manchuria (1892-1906). American Council of Learned Societies, 1952.

Wynn, Waller, Jr. The Population of Manchuria. Bureau of the Census, U.S. Government Printing Office, Washington, 1958.

Articles and Periodicals

Bonnit, Ralph. "Communist China's Leap Forward," Pacific Affairs, Vol. XXXI, No. 2 (June, 1958).

Chang, L. C., Chen, W., and Hou, K. C. "A Reconnaissance Soil Survey of the Harbin Regions," China Geological Survey Soil Bulletin, No. 11, Peipin.

Ellis, Howard S. "Accelerated Investment as a Force in Economic Development," Quarterly Journal of Economics, Vol. LXXII, No. 4 (November, 1958).

Feis, Herbert. "The International Trade of Manchuria," International Conciliations (1931).

Fenzel, G. "Report on Forest Regions of Fengtien and Kirin Provinces," China Lingnan Science Journal (1928).

Isard, Walter. "Current Development in Regional Analysis," Weltwirtshaftliches Archiv, Vol. 69, No. 1 (1952).

Knapp, J. "Capital Exports and Growth," The Economic Journal, Vol. LXVII (September, 1957).

Kiyoshi, Kanai. "Economic Development in Manchoukuo," Japanese Council Paper No. 15. Prepared for Sixth Conference of IPR at Yosemite, California (1936).

Ladejinsky, W. I. "Manchurian Agriculture under Japanese Control," Foreign Agriculture, Vol. 5, No. 8 (August, 1941).

Moyer, Raymond T. "The Agricultural Potentialities of Manchuria," Foreign Agriculture, Vol. 8, No. 8 (August, 1944).

Myint, H. "The Classical Theory of International Trade and the Underdeveloped Countries," The Economic Journal, Vol. LXVIII (June, 1958).

Myint, H. "The Gains from International Trade and the Backward Countries," The Review of Economic Studies, Vol. XXII, No. 2.

Nash, Manning. "The Recruitment of Wage Labor and Development and New Skills," The Annals of the American Academy of Political and Social Science (May, 1956).

Ohlin, Bertil. "Some Notes on the Stockholm Theory of Saving and Investment," The Economic Journal, Vol. 47 (1937).

Pollard, S. "Investment, Consumption, and the Industrial Revolution," The Economic History Review, Vol. XI, No. 2 (December, 1958).

Sonoshin, Inoue. "Japanese Immigration to Manchuria," Manchuria (February 1, 1940).

South Manchurian Railway Co. "The Liang Chan, a Peculiar Institution in Agricultural Community," Contemporary Manchuria, Vol. II, No. 4 (July, 1938).

Steward, John R. "Monopoly Control of Agriculture in Manchuria," Far Eastern Survey (April 21, 1941).

Yamanari, Kyoraku. "The Monetary Policy of Manchoukuo," Japanese Council Papers No. 13 (1936).

Young, C. Walter. "Supplementary Note on Manchurian Railways and the Trade in Railway Materials," International Conciliations (1931).

Young, C. Walter. "Chinese Labor Migration to Manchuria," Chinese Economic Journal, Vol. 1 (July, 1927).

Reports

Edwin Wendell Pauley. Report on Japanese Assets in Manchuria to the President of the United States, July, 1946.

Harbin. Decennial Reports, 1902-1911.

South Manchuria Railway Company. Report on Progress in Manchuria, 1907-1928, Dairen, March, 1929.

Unpublished Material

Rassmussen, Ann. B. "The Development of the Manchurian Iron and Steel Industry, 1931-1945." Unpublished thesis submitted for certificate at East Asia Institute, Columbia University, 1955.

Wald, Royal Jules. "The Young Officer Movement in Japan, CA. 1925-1937: Ideology and Actions." Unpublished Ph.D. dissertation, Berkeley, University of California, 1949.

Other Sources

Chinese Eastern Railway Printing Office. North Manchuria and the Chinese Railway, Harbin, 1924.

Department of Foreign Affairs. General Survey of Conditions in Manchoukuo, Hsingking, 1935.

Institute of Pacific Relations. Agrarian China. G. Allen and Unwin, London, 1939.

Japan Economic Federation. The Heavy Industry of Manchukuo, East Asia Economic Series, No. 3, Tokyo, 1940.

Manchoukuo Year Book Co. Manchukuo Yearbook, 1942, Hsingking, 1942.

Manchuria Daily News. Special Companies in Manchoukuo, 1940.

Oriental Economist. Manchuria Industrial Development Corporation, Tokyo, 1938.

Russian Materials

Books

Fomicheva, M. V. Ocherki Ekonomicheskogo Stroitelstva Na Severo-Vostoke Kitaya. Academy of Sciences, USSR, Moscow, 1957.

Istoriya Ekonomicheskogo Razvitiya Kitaya, 1840-1848, Moscow, 1958.

Chinese Materials

Public Documents

Research Office of the Northeast Natural Resources Control Committee. Tungpei Ching-chi Hsai Ts'ung-shu, Vol. 1, 2, Mukden, October, 1947.

Japanese Materials

Books

Fujiwara Yutaka. Manshūkoku Tōsei Keizai Ron, Nihon Hyoron Shappanbu, 1942.

Gomigawa Jumpei. Ningen no Joken, 1957.

Hashizume Kanichi. Manshū Sangyō Kaihatsu to Rōdōsha Nōmin Jōtai, Kōgyō Nihonsha, 1936.

Hori Tsuneo. Manshūkoku Keizai no Kenkyū, Nihon Hyoronsha, 1942.

Itani Zenichi. Nichimanshi Keizairon, Genkai, Shokyoku, 1935.

Jikaku Iin Kai. Jikyoku Bukke Seisaku Daiko, October, 1939.

Kantoshu Bōeki Jitsugyō Sōgō Rengokai. Nichikanman Bōeki Tōsei no Genjō, July, 1940.

Kinyū Kenkyūkai. Manshūkoku Heisei to Kinyū, 1932.

Kojima Seiichi. Nichiman Tōsei Keizai, Vol. 8, Nihon Tosei Keizai Zenshu, Kaizo Shappan, 1933.

Manshū Chūo Ginko. Manshū Bukka Nempō, 1939.
Manshū Bukka Shirabe, 1940, 1942.
Manshūkoku Tsuka Mondai narabi ni Kinyū ni tsuite, 1935.
Manshū Chūo Ginko Junenshi, 1942.
Kinyu Keizai Tokei Nempo, July, 1938.

Manshūkoku Kokushin Kaisha. Manshu Nenkan, 1941.

Manshū Rōmu Kyokukai. Manshū Kōjō Chōsahō, 1940.

Manshū Sangyō Chōsa Kaihen. Manshūkoku Seishido Sōran, 1944.

Mantetsu Chōsabu. Manshū Keizai Kenkyū Nempō, 1941.
Manshū Keizai Nempō, 1932, 1933, 1934, 1935, 1936, 1937, 1938.
Taiman Toshi no Gendo ni kan suru Kenkyū, April, 1940.
Mantetsu Shiryō Iho, 1941.
Tokusan Keishutsu Shinkyo o chūshin to suru Bōeki Tōsei no Genjō, May, 1939.
Manshū Sangyō Kaihatsu Gokanen Keikaku Jiseki no Kento narabi ni Senji Tōsei Keizai no Dokyo, 1939.
Manshu Rodo Tosei Hosaku, Nov. 1935.
Rōdō Bumon Kankei Shiryō, Dec. 1937.
Manshu Kozan Rodo Gaikyo Chōsa Hōkokusho, Nov. 1939.
Manshu Gokanen Keikaku Gaiyō, 1937.

Mantetsu Keizai Chosakai, Manshūkoku Zaimu Kōsei Hōsaku, Sept. 1933.
Manshūkoku Zaisei no Shoraisei, 1936.
Manshukoku Genko Sozei Seido, 1932.
Manshukoku Tsuka Kinyū Seiko Tōitsu Ryakushi, 1935.
Manshu no Kurii, 1933.
Manshū Sangyō Tokei, 1932.
Manshū Tōsei Keizai Shiryō, 1938.
Manshukoku Doryoko Tōsie Hōsaku, 1935.
Manshū Keizai Tōsei Hōsaku, 1935.
Manshu Kogyo Kaihatsu Kabushiki Kaisha Setsuritsu Hōsaku, 1936.
Manshū Denki Jigyō oyobi Gasu Jigyō Hōsaku, 1935.
Manshū Cemento Kogyo Hosaku, 1935.

Mantetsu Hōkokushi Jimmukyoku Chōsabu. Kahosho Zeisei Chōsa Hōkokusho, 1938.

Mantetsu Sangyobu. Manshū ni okeru Kikai Kigu Kōgyō no Genjō, Aug. 1937.

Maruzen Kabushiki Kaisha. Manshū no Shigen to Kagaku Kōgyō, Tokyo, 1937.

Minami Manshu Tetsudo Kabushiki Kaisha. Sōgō Chōsa Hōkoku Sho, Vol. 1, 2, 1941.
Manshū Keizai Tōkei Kihō, Aug. 1942, 1943.

Nichiman Jitsugyo Kyokai. Bōeki yori mitaru Manshūkokusai Shūshi no Shōrai, Sept. 1935.
Ōshu Daisen to Manshūkoku Bōeki, Oct. 1939.

Nichiman Nōsei Kenkyūkai. Manshū Nōgyō Yōran, Hsinkyo, 1940.

Shinozaki Yoshiro. Manshū Kinyū oyobi Zaikai no Genjō, Vol. 1, 2, Dairen, 1927.

Shomubu Chosaka. Tosansho Zaisei Kiyo, 1930.
Tosansho no okeru Doryoko, 1927.
Daizu no Kako, 1924.

Takei Goichi. Manshū no Rōdō to Rōdō Seisaku, Ganshodo, Tokyo, 1941.

Tōa Keizai Chōsa Kyokucho. Shina, Manshū Keizai Kenkyū, Kaizo Shappan, Dec. 1937.

Tōyō Keizai Shimpōsha. Keizai Nenkan, Tokyo, 1944.

Yoshio Hosokawa. Shokumin Shi, Gendai Nihon Bummei Shi, Tōyō Keizai Shimpōshappanbbu, 1954.

Articles and Periodicals

Adachi Yoshinobu. "Manshū Kōgyō Rōdō ni kan suru futatsu, mitsu no Kōsatsu," Mantetsu Chōsa Geppō (February, 1940).

Aikawa Yoshisuke. "Manshū Keizai Shihai no Kee Pointo," Bessetsu Chisei (December, 1956).

Amano Motonosuke. "Manshū Keizai no Hattatsu," Mantetsu Chōsa Geppō (July, 1932).
"Shina Nōson ni okeru Shōgyō Shihon no Chokarijun no Kakutoku ni tsuite," Tōa Keizai Kenkyū (February, 1942).

Chūgoku Kenkyūsho. "Chūgoku no Gokanen Keikaku," No. 91, Chūgoku Shiryō Geppō, Vol. 82-94 (1954-1955).
"Tohoku no Nōgyō Kenketsu," Chūgoku Shiryō Geppō, No. 61 (1953).

Furuta Dosohei, Suzuki Heihachi, Wang chi-en. "Nanman Ichi Nōson no Saikin no Dokyo," Mantetsu Chōsa Geppō (September, 1942).

Iwase Suteichi. "Hokuman no Tōchi Shoyu Haibun Fuson Jinushi," Mantetsu Chōsa Geppō (July, 1942).

Kasai Mitsu. "Manshū ni okeru Kō-Kōgyō Rōdōsha no Rōdō Jiken," Manshū Hyoron (October 5, 1940).

Kondo Atsuhi. "Bukka Hendo yori mitaru Manshūkoku no Keizai Jijō," Tōa Keizai Kenkyū (April, 1938).

Matsuyama Akira, Namiki Kozo. "Kokukokusen oyobi Kaionsen ni okeru Doken Rodo Jijō," Rōdō Jihō, No. 62 (1934).

Nakajima Kunizo. "Taiman Tōshi no Gendo ni kan suru ichi Shiron," Mantetsu Chōsa Geppō (May, 1940).

Saito Yukio. "Jihengo ni okeru Liang Chan no Henkaku ni tsuite," Mantetsu Chōsa Geppō (March, 1936).

Sekiuchi Takeo. "Manshūkoku Chiho Zaisei no Seikaku," Mantetsu Chōsa Geppō (February, 1939).

Suzuki Kobei. "Chūbu Nanman ni okeru Nōmin Bunka," Mantetsu Chōsa Geppō (October, 1935).
"Ichi Shiryō yori mitaru Manshū Kakuchi no Nōmin Bunka," Mantetsu Chōsa Geppō (September, 1935).

Watanabe Yuji. "Manshu ni okeru Nōgyō Kyōka," Mantetsu Chōsa Geppō (June, 1932).

Yoshihara Jiro. "Manshū Senji Bukka no Ippanteki Kōsatsu," Mantetsu Chōsa Geppō (November, 1938).

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