

# **Industrialization of Bangkok before the Second World War**

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**Abstract:** This paper asks the question as why industrialization in Bangkok was so limited before the Second World War. It is argued that throughout the 1930s many export-dependent economies were forced to raise tariffs as export earnings slumped, and some abandoned currency convertibility which further eroded their foreign trade. Under these circumstances some countries experienced nascent industrialization in the 1930s, and governments sometimes actively helped the process as a way of reducing imports and hence protecting foreign currency holdings. Not so Thailand. In the 1930s Thailand's tariffs remained low (and where they were raised it was principally for revenue reasons rather than promotion of industry). Moreover state sponsorship of import substitution was limited, and the currency remained convertible (and for much of the 1930s linked to sterling). We may explain Thailand's experience in the 1930s, which contrasted with so many other undeveloped economies, mainly through the lack of pressure coming through the balance of trade. Although rice prices fell, they did not fall so much as other primary product staples (such as coffee, rubber, and wheat, for example), nor did they fall as fast as some main industrial import prices. Thailand was able to maintain a favorable balance of trade throughout the 1930s and hence was not forced to raise tariffs or take other measures which might have stimulated industrial growth.

## **I**

Bangkok is, and has long been, what is termed a "primate" city – a city of overwhelming dominance in terms of size and economic significance. Primate cities are not unusual in developing countries, although the extent of Bangkok's dominance during the second half of the 20<sup>th</sup> century was surely without parallel. For example, in 1947 Bangkok was twenty times the size on the country's second largest city, Chiang Mai. By 1970 the ratio was thirty-five to one and ten years later had reached fifty-five to one. Around 1960,

Bangkok's population was nearly ten times the combined populations of the next four largest cities. By 1980, Bangkok accounted for 75 percent of the nation's telephones and about half its motor vehicles, consumed 61 percent of its electricity, generated 70 percent of its income tax, held 20 percent of all commercial bank deposits, generated 75 percent of the annual value of Thai manufactures, contributed 32 percent of Gross National Product, and handled 95 percent of Thailand's sea-borne foreign trade<sup>1</sup>.

Bangkok grew rapidly from the mid 19<sup>th</sup> Century and the growth of its population accelerated more quickly than that of the population as a whole. Bangkok totally dominated the nation's urban population. Bangkok's population grew from around 100,000 in 1850 to around 360,000 in the 1910s, twelve times the size of the next largest city.<sup>2</sup> However, prior to the Second World War Bangkok's primacy did not mean the emergence of a modern industrial city. There was no large industrial base or influx of rural migrants to the city. Furthermore, Bangkok's proportion of Thailand's population increased only gradually. Bangkok contained perhaps 4-6 percent of the total between 1913-1929, and may have fallen a little by 1947, when it stood at 4.4 percent. Industry in Bangkok, even in the early 1940s, was practically limited to the preparation of agricultural produce, the building trade, utilities, and a few factories making consumer goods for local use. The most important industries in Bangkok were rice mills, shipping, and saw mills. Compounding the situation was the isolation of much of rural Thailand from Bangkok. There were no roads linking Bangkok and the provincial areas until the late 1940s.

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<sup>1</sup> Falkus (1993: 142)

<sup>2</sup> Porphant (1997), Baker (2005:99)

Prior to World War II, Bangkok was very much as a Chinese city in appearance and character. The Chinese comprised half of the total population. The Chinese migrants substantially contributed overall the city's population growth from the 19<sup>th</sup> century. The Chinese provided most of the industrial labor force, particularly in rice mills, on the quays and in construction, and also provided most of the craftsmen (carpenters, masons, fitters and other skilled occupations). They were also the chief trading class and were responsible for much of the secondary industry such as small foundries, ice factories and so on. They were also, as everywhere, the market gardeners. The influx of Chinese immigrants helped keep down wages for unskilled laborers.

## II

### **The Nature of Early Industrialization until 1945**

The Bowring Treaty of 1855 had been a turning point in Bangkok's commercial and industrial history, although we should not, however, exaggerate the impact of the Bowring Treaty on Bangkok's development. Bangkok was involved in international trade before the Treaty in 1855. It was, however, after the Bowring Treaty that Bangkok's large transformation took place. The Treaty brought Thailand increasingly absorbed in to the world economy as a leading rice exporter, open also to the penetration of western capital, ideas and technology (predominantly, before 1914, British).

The rice trade grew rapidly especially from the 1870s. Rice exports, which were 75 percent of the value of total exports in the decade before 1914, grew from around 10,000 tons annually in the 1860s to around 500,000 in the 1890s and to over 1 million

tons by the 1920s. (Wilson 1983: 212-214; Suehiro 1989: 1989: 26). For most of this long period, rice constituted between two-thirds and three-quarters of total Thai exports; even in 1950 rice formed around one half of Thailand's exports. The only other significant exports were teak, tin and rubber (after 1922). Rice and teak formed together around 90 percent by value of Bangkok's export trade, whereas tin and rubber were exported principally from southern ports until the Second World War. The bulk of these rice exports was destined for Asian markets, with Hong Kong and Singapore providing often the principal initial destinations. Trade of teak also grew rapidly after the 1880s, and saw-milling became a principal industry in Bangkok, much of it controlled by British and other European firms. Teak trees were cut in the northern forests, moved by elephants and floated down the creeks to the main river system, where they were assembled into rafts and sent down the Chaophraya river to Bangkok mills. The quantities exported were as follows: in the 1890s; 490,000 cubic meters, the 1900s; 1,150,000 cubic meters, and to 1,9450,00 cubic meters in the 1920s.<sup>3</sup>

Although the expansion of trade saw a major development in commerce and agriculture, rather than industry, yet the expansion of these sectors had some impacts on the development of complimentary industries, especially rice mills.<sup>4</sup> Rice mills not only became an important areas of investments, especially, for Chinese merchants, tax farmers, the noblemen, but also became major source of Chinese unskilled laborer employment. The first steam rice mill was introduced in 1858 by an American Company called "American Steam Rice Mills".<sup>5</sup> Afterwards, there was an increase in investment for rice milling factories for exports. Table 1 indicates that rice mills in Bangkok increased

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<sup>3</sup> Wilson (1983: 216-217).

<sup>4</sup> Hewison (1986)

<sup>5</sup> **Bangkok Calendar**, Annually, 1868.

from 1 in 1858 to 12 in 1880. Afterwards, there was significant increase from 12 in 1880 to 37 in 1898. The figures in Table 1 give puzzling figures of the number of rice mills in 1897 and 1901. Why did the number of rice mills in Bangkok drop to 26 compared to 37 in 1898 ?. It is questionable why there was a broad fluctuation in the number of rice mills in that year.

**Table 1** Number of Rice Mills in Bangkok ,1858-1930

Year	Western	Thai-Chinese	Total
1858	1	-	1
1864	3	-	3
1866	4	-	4
1867	5	-	5
1879	5	5	10
1880	5	7	12
1889	6	17	23
1892	-	-	25
1895	4	23	27
1896	4	26	30
1897	4	22	26
1898	-	-	37
1901	4	22	26
1908	3	46	46
1910	3	56	59
1919	3	63	66
1924	-	83	83
1925	-	84	84
1929	-	71	71
1930	-	71	71

Source: Thaveesilp ( 1977: 223-224)

A growth of rice mills in 1880-1898 was caused mainly by the rising world market demand, the improved network of canal transportation in the central plain linking the port of Bangkok, (around 15 canal projects were undertaken). Finally, the improvement of modern ocean transportation and communications expanded the Thai rice trade. <sup>6</sup>

<sup>6</sup> See Sompop (1989).

Table 1 also indicates that the Chinese entrepreneurial role in rice mills became increasingly significant after 1879 and completely controlled the Thai rice mills after 1924. The major reasons that Thai-Chinese rice mills gradually replaced the Westerners were that rice marketing was controlled by Chinese merchants. Chinese merchants controlled trading companies. Chinese rice businesses could gain advantage from compradors or brokers who bought direct from the cultivator and/or connected to the external rice market through their networks of distributors at Hong Kong and Singapore. Finally they could control a large share of the Thai rice exports in Asia. About 3/4 of the total rice export went to the Asian market. Many rice mill merchants were Chinese who chiefly came from tax farming and whose investments were financed by the Privy Purses Bureau. In addition, some official noblemen also operated and owned rice mill business. Therefore, as trade expanded, Chinese and indigenous capital in rice mills became increasing dominant compared to western capital in Bangkok metropolitan area. Expanding rice mills in Bangkok signified the nexus between the metropolitan and the peasant economy. The growing Chinese capital in rice trade was very much due to the growth of rice exports.

Rice milling, already, became major source of employment in Bangkok from the late 1890s. By 1900, many Chinese immigrants were employed in rice mills and skilled labor. Each mill employed about 100-200 laborers.<sup>7</sup> The situation around 1920 was noted as follows:

The rice mills are mainly worked by Chinese. The workmen in a rice-mill may be divided into three classes; (1) clerks (cashiers, accountants, secretaries) who are Chinese, (2) engineers and mechanics who are Siamese and Chinese and (3) 'coolies' who are Chinese. The first two categories of men are engaged singly and given a monthly salary, whereas the 'coolies' or workmen proper are engaged collectively through foreman and are paid weekly. As to the latter,

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<sup>7</sup>N.A.R.6.M of the Capital 31.3/48(1929).

the conditions of the engagement are settled between the mill-owner and the foreman. These conditions are generally the following: the men are to be lodged and to receive five meals a day (the quantity and nature of each meal being fixed at the time of agreement); they are to be divided into three shifts and to work at the mill in three watches of 8 hours each or four watches of 6 hours each (in the former case, each shift works 8 hours a day: in the latter case each shift works 12 hours one day and 6 hours the next day); the meal time (about 45 minutes) is included in the watch (half the shift on duty working whilst the other half is eating); in addition to working at the mill, the men are called upon to work at unloading the boats bringing paddy from the provinces or loading the sea-going steamers with husked rice, when those boats or steamers come to the mill's wharf at tide time; this work is usually done by the men of the shifts not on duty and is paid for extra. The men are given rest on the last day of each lunar week and on Chinese holidays. The mill-owner undertakes to pay to the foreman in cash (in most cases at the end of the week); the men's ordinary wages are calculated per man and per day at a rate agreed upon in the contract, and any extra pay calculated per bag or measure loaded or unloaded at a rate similarly agreed upon. The foreman, for his part, undertakes to supply such number of men as the working of the mill requires and to hand over to the men their wages. Both the mill-owner and the foreman shall be entitled to break off the contract at one month's and sometimes one week's notice; in fact, the contract is seldom broken off by the mill-owner, and when it is the foreman who breaks it off, the mill-owner has often to pay more than what was agreed upon in order to prevent 'sabotage' of the engines or 'boycottage'. It must be added that the foreman and workmen almost always belong to the same guild; the foreman is thus able easily to find other men to replace these who, as often happens, would give up work without notice after they have got some money, and would only take it up again when they have spent the money. On the other hand, the foreman is held responsible for the conclusion and execution of the contract by the men who will replace him through the influence of their guilds, if it cannot get them satisfactory terms, or if he attempts to defraud them out of their due.<sup>8</sup>

As the rice trade increased, capital investment in rice mills increased. Although, there is no way of estimating the size of this capital investments, there are some qualitative indications of its importance. By the end of the 19th century, the Chinese rice milling industry in Bangkok had already passed through the mechanized stage, and by the 1920s took up electrification. Small factories began to appear far into the country's interior as the railway network was extended further inland,<sup>9</sup> though the rice trade was still, of course, channeled through the capital.

The expansion of manufacturing production industries was also marked in the course of Bangkok's development in the late 19<sup>th</sup> century including ice manufacture and cold storage which were owned by British companies.

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<sup>8</sup>N.A.M.of Foreign Affairs 96.1.8.4/10(133)(1919-1922).

<sup>9</sup>Skinner (1957: 214).

Electric power was practically confined to Bangkok, where there were already in the 1887. The larger and older station was under Belgian-Danish management with a normal running capacity of 12,000 KW and a reserve capacity of 15,000 KW, part of which was periodically employed. Apart from lighting most of town, this plant owned and operated the city tramways and provided power for two suburban tram services for operating the road bridge across the Chaophraya River, for oil refinery, for tobacco factory and soap works, and for part of the needs for the power of several of rice mills and industrial establishments (in the 1910s). The other station, Samsen station, was government owned. It had a capacity of about 10,000 KW and supplied light and power to the Northern part of the city. About half of the output served to drive cement factory (operated in 1915) and also provided power to the airfield establishment at Don muang and the military arsenal.<sup>10</sup>

Established in 1913, Siam Cement began operating cement production in 1915. The Privy Purse, with the backing of the king, provided half of the cement venture's total capital of 1 million baht. The king also approved the loan of a further 220,000 baht to secure shares in the name of *Chaophraya* Yomarat (Pan Sukhum, 1862–1934), Minister of the Capital (1907–22), and his associates, against the mortgage of the shares. In this way, nearly three-quarters of the initial capital of the Siam Cement Company came from the Privy Purse. Siam Cement's operation was successful from the beginning. During the first five years of the business operation, distributed profits were approximately 5-10 percent per share. The capital of the company was increased to three million baht and the

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<sup>10</sup> Anonymous (1926).

size of plant expanded the production capacity, by importing modern machine.<sup>11</sup> The company employed 150 Siamese, including some women, and 95 Chinese. By 1925, the Siam Cement was tapping into export markets, shipping to Singapore, Indochina countries, and the countries in Borneo Island, but the amount of exports were few.<sup>12</sup> The Siam Cement was fortunately placed with a monopoly of domestic production of cement at a time of steady urban expansion.

After the outbreak of World War I, and a number of plants were brought into Bangkok by foreign investors and were set up including tobacco factories by British-American Tobacco companies, soap production industries, coconut oil, and textile factories.<sup>13</sup> At the same time, the state became directly involved in some industrial enterprises in the 1920s. The Army imported experimental paper making equipment at Samsen with a daily production capacity about 1 ton. Afterward, the government ran the Bangkok waterworks, at Samsen Power Station. According to one source, there were several factories in Bangkok, big and small, for making nails, soap, tobacco, fireworks, bricks, medicines, and matches as well as for tanning leather, furniture making, boot and shoe-making, boat-building, and tailoring.<sup>14</sup>

A match factory, The Min Sae Co. Ltd was registered by a group of Chinese in 1928, with a capital of 200,000 Baht. The Min Sae factory opened on a 20 rai site on Rama IV road, employing some 700 workers, 600 of whom were day laborers, most being Chinese women and children, with Siamese employed as outworkers making boxes

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<sup>11</sup> N.A. R.6. R.S. 20/13 no. 4/656, (1921)

<sup>12</sup> Hewison (1986:7), N.A. R.6 M of the Capital 21/5 (1918)

<sup>13</sup> Anon (1985: 74)

<sup>14</sup> Anon (1985:75)

at home.<sup>15</sup> A reporter described the “complicated automatic machinery, partly driven by electric motor and partly driven by hand”. The company hoped to capture 20% of the local market<sup>16</sup> The Siam Match Factory was opened in 1931 by the Swedish Match Company in partnership with the Borneo Company. Work continued for 24 hours, in two shifts, with 325 laborers on the day shift and 225 at night. Most of work was automated, with Siamese workers being employed on a piecework basis.<sup>17</sup>

In 1930, Phraya Bhirombakdi ( Boonrawd Sethabutr) established a company to brew beer in Bangkok named Boonrawd Brewery. The company was registered with a capital of one million baht. In addition to Phraya Bhirombakdi and his family, promoters included one European and Phraya Devahastin, Hoon Kim Huat, Phya Sukhum Naya Vinich, and Ek Yoo Jan Sue. In 1931/2, there was 1.3 million liters of beer imported (value - 558,682 baht), with over 54 percent coming from Japan. The brewery was erected on land owned by Chao Phya Rama Raghob at a yearly rental of 5,000 baht.<sup>18</sup> The brewery eventually opened in July 1934, with the Regent performing the opening ceremony.<sup>19</sup> Local beer production was seen as a serious threat to the future of European imports, which were predicted to almost cease. In the provinces local beer is already established in the market<sup>20</sup>. For the first nine months of 1934, the company earned profits with 6 percent dividends being distributed to shareholders.

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<sup>15</sup> It should be noted that pre-war industries in Bangkok, and elsewhere in Thailand were characterized as a small number of female workers employed in production. Chinese female migrants formed a very high proportion of entire female labor supply in various industries.

<sup>16</sup>BTWM (Bangkok Times Weekly Mail) (25 November 1929).

<sup>17</sup> Hewison (1986 : 10).

<sup>18</sup>BTWM( 24 April 1933 : 4, 19 )

<sup>19</sup> BTWM ( 7 July 1934 : 26)

<sup>20</sup>Anon (1935; 18,28)

Until 1932, Bangkok's industrial establishment was very small. Most important were rice mills, with a few other industrial concerns. Prior to 1932, there were no economic plan towards industrial development, although exported industries had been rapidly growing in terms of the major source of income earning such as rice after 1870s. The task of industrial promotion was left to the westerners, and the Chinese entrepreneurs and the Thai elite, which came from the Privy Purse. According to Chathip Nartsupha "The government ignored some private initiatives in promoting local industry. Many local enterprise proposals for promotion were not given any substantial support for these schemes. For example, a setting up a cotton spinning mill and tanning plant, in a smelting houses was rejected, even though the proposals aimed that the promotion of these industries would contribute to a saving of foreign exchanges and the encouragement of local production of raw materials and increase in employment opportunities."<sup>21</sup>

Following the overthrow of the absolute monarchy in 1932, new elite group emerged ; these were the "bureaucratic capitalist who, with close military ties and close links also with powerful Chinese business groups. These groups pushed new economic policies towards the economy towards Thai economic nationalism and state led enterprise (especially after 1938, when Phibun became prime minister and Pridi the minister of finance). The state investment and involvement in business development were significant for Bangkok and national economic development. The investments by the state was far more visible than it had been previously, and covered various fields including trading, banking, industrial production, transport, and so on. Thirty state enterprises and public companies were started before 1945.

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<sup>21</sup> Chathip (1981: 8-9)

War years and its aftermath saw critical period of Thailand's industrial development. During the war the Thai people experienced a shortage of goods especially medical supply which became very expensive. The economy was beset by dislocation and people were greatly disturbed. To cite a few example, prior to World War II the population of Bangkok was only 600,000. Around 1954 , it multiplied to well over 1,200,000. One reason for such a great expansion of population in the capital city was the post- war migration to the city where jobs were more available and wages higher than in the provinces. During the war while economic activities in general were curtailed a great number of farmers deserted their farms to seek employment in the Bangkok area because farming hardly seemed to pay.<sup>22</sup> Meanwhile export was definitely suspended. Furthermore, the war - time situation continued in Thailand until liberation. as soon as the Japanese military was lifted foreign merchants began to resume their business activities. The cost of living started to rise while the value of the baht began to depreciate; inflation was gathering force. As wages began to rise, prices soared to new levels; consequently wages were increased which in turn sent prices higher. The cost-of-living index rose approximately 12-fold in the period 1940 to 1947. Before the war , the population of Thailand was estimated to be between 17-18 million, but in around 1954, it exceeded 22 million. Despite the increase in population, productivity did not increase in proportion, resulting in a stagnation in the economy. For instance, the low - income group found it difficult to make ends meet. There was a housing shortage which compelled the people to live in crowded quarters unsuitable to their health. Goods and services became scarce; price soared. Shifts in world prices caused unfavorable terms of trade. All of this greatly affected the economy, and the government was trying in earnest to improve the

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<sup>22</sup>Bank of Thailand (1946)

situation by various corrective measures. The Thai government therefore launched a program of industrial promotion along with its agricultural program. The government also had to see to the economic stability of the country, enabling the people to enjoy a certain degree of public welfare with an increased income conducive to a higher standard of living. If and when the people were properly provided with the necessary requirement in welfare, housing and reasonably high income, and a fair share of public utility and social services, they would have the assurance of their security. It was with such aims in view that the Thai government was trying in every possible manner to strive toward an increased level social welfare and personal income. In order to achieve this ends as described above, the government intended to chart the national economic policy to promote simultaneously agricultural development and industrial expansion. In this way agricultural surplus might be diverted to industry in case it could not be exported. On the other hand, if we could establish our own factories we would be in a position to process our surplus materials and export our home-made products to strengthen the country's foreign earnings.<sup>23</sup>

One of the major reasons of the growth of the state enterprises was the government now defined nation-building in terms of self sufficiency, industrialization and economic progress, whereas previous regime was interested in securing a nation-state through defense and improved communication.<sup>24</sup> State enterprises (as either full or partial owners) played an important role in Thailand economic development in the 1940s, in terms of, large capital investment, controlling internal and external trade, income contributing to the government, large source of employment, and providing

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<sup>23</sup> N.A. M. of Finance 0301.2 12/3 ( 1959-1961) .

<sup>24</sup> Hewison (1986: 16)

public utilities ( railways, electricity generation, public abattoirs, and water works). It produced a variety of products such as textiles, soap, paper, glass, silk, cigarettes, sugar, rubber goods, and gunny sack<sup>25</sup> . In addition to this, most important was the banking under the control of Ministry of Finance including Bank of Thailand (1942), Provincial Bank (1942), Thai Saving Bank, and Agricultural Bank (1950). It also owned the most profitable manufacturing plant, the Thai Tobacco Monopoly Factory<sup>26</sup>.

The government encouraged industrial growth by various measures. For example it raised a number of internal loans for industrial development, and established the Thai National Bank Bureau in 1939, which became the Bank of Thailand in 1942. Also in April 1942, the Thai Industrial Promotion Company (borisat songsoem utsahakam thai chamkat) was formed. This state enterprise was set up with a registered capital of 12 million baht and was probably the largest domestic enterprise at that time. The largest shareholders were the Finance and Industry Ministries, and the latter had control of the company. It had two sugar mills, a glass factory, a farm implements factory, a hat manufacturer and a coconut oil plant under its wing.<sup>27</sup> In addition, in 1943, the Ministry of Industry became an independent Ministry with the task of promotion manufacturing industries.<sup>28</sup>

No comprehensive statistics of long term growth on industrial establishments in Bangkok are available and, we are not able to compare the growth in various years. Table 2 may be useful to understand the industrial establishments in prewar years. It indicates that industry in Bangkok had a reasonable wide manufacturing base, though

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<sup>25</sup> Pasuk (1995: 119)

<sup>26</sup> Suehiro (1989: 139)

<sup>27</sup> Hewison (1986: 13), Suehiro (1989: 129)

<sup>28</sup> Suehiro (1989: 130)

most of industrial plants were small and light industries supplying to domestic consumption.

**Table 2** Industrial Establishments in Bangkok –Thonburi in 1939.

<b>Enterprise</b>	<b>No</b>
Tanneries	32
Power Rice and Timber Mills	27
Textile factories	26
Food canning and Bottling	21
Machinery shops	20
Ice factories	12
Coconut oil plants	5
Match Factories	4
Toothpaste and Toothbrush Factories	4
Soap factories	3
Cigarette and Tobacco Factories	1
Brewery	1
Glazing works	1
Paper Mill	1
Cement Plant	1
Metal Shops	285

Source: Hewison (1986 : 14 )

### **Supply of labor in Bangkok until 1945**

Until 1945, the industrialization in Bangkok was based on Chinese migrants labor supply. The role of the Chinese has been analyzed in many studies and will not be discussed here. Needless to say that the Chinese dominated, not only, in industrial sector, but also in many cases exclusively, non-traditional occupations in 19<sup>th</sup> Century Siam. The vast majority of the Siamese, more than 80 percent, lived in the rice villages, and carried on such traditional pursuits as village based handicrafts, fishing. The Chinese were found in non agricultural work from the lowest to the highest such as unskilled and skilled laborer, shopkeepers, middlemen, and businessmen. Bangkok was very much a

Chinese city, and many estimates suggest that the Chinese formed one half of Bangkok's entire population until the outbreak of World War II. Chinese migrants contributed overall to the growth of city's population. According to Skinner's estimates, in the 1880s and 1890s as many as 15,000 a year arrived Bangkok's port, while in the prosperous year between 1913 and 1929 some 95,000 came each year (see Skinner 1957), and most of them lived in Bangkok. By the early 1880s, the postal census indicates that city was a very much a marketing and trading center. No fewer than 60 percent of the employed population was engaged in the agricultural sector including "commerce and manufacturing", "marketing" and "professional" occupations in Bangkok.<sup>29</sup> Unfortunately, there is no way of estimating "supply" of Chinese labor in Bangkok's economy. Even the numbers of Chinese are unknown, due to inadequate registration, a high degree of cultural assimilation, and the inclusion of those born in the country as Thai nationals in national census after 1913.

There are lack of time-series of unskilled wage rates in various industries, and it is impossible to make any comparison between industries.

In the early 1930s, unskilled male workers of the Siam Cement Co earned 0.8 baht per day, unskilled female workers earned lower at 0.56 baht per day, coolies working in the department of highway were paid at 0.9 baht per day, daily wages for coolies working in slaughter house at Bangkoalaem was 0.8 baht per day; the department of public works; 0.75 baht per day; coolies working at Bangkok port, department of

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<sup>29</sup> Porphant and Tsubouchi (2001: 390)

customs 0.90 baht per day, department of railways at least 0.60 baht per day, department of post and telegraph 0.6 baht.<sup>30</sup>

The most useful data on wages may be obtained from 1942/43 survey. (Table 3). In that year, the Thai government was faced with the shortage of labors in various key factories, and suspected that high inflation had made the wage levels unattractive. It undertook a survey of wage rates and income earnings of workers in various state enterprises and governmental departments, in order to estimate the numbers of laborers whose standard of living lay below the threshold minimum income requirement to cover basic expenditure. The Government estimated the threshold minimum income requirement based on the minimum budget required for one single laborer for food, clothes, housing, rent, transportation costs and some basic miscellaneous items. In 1942-43, this estimation gave a figure of 29 baht per month.<sup>31</sup> Although the survey did not cover private business, the industries in the government sector give a good picture of unskilled labors market conditions in Bangkok. The reliability of this data is also supported by the large numbers included in the sample size.

Table 3 indicates that unskilled laborers in Tobacco factory, and Thai Industrial Promotion Company were paid at highest at 2 baht per day, and followed by workers engaged in Thai Rice Co.,( 1.65 baht per day); Whisky Factory (1.04 baht per day), while in terms of minimum daily, unskilled workers in Tobacco factory earned the lowest as well (0.20 baht per day).

**Table 3** Wages for Industrial Unskilled Laborers in Selected Industries in Bangkok in 1942/43 (baht per day)

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<sup>30</sup> N.A. (2) Office of the Prime Minister 0201.75/18 (1933-34)

<sup>31</sup> N.A. (3) Office of the Prime Minister 0201/75/13 (1943-1951).

<b>Concern</b>	<b>Daily Minimum</b>	<b>Daily Maximum</b>
Thai rice co.,.	0.60	1.65
Railways	0.50	0.75
Thai paper factory	0.56	0.72
Whisky factory	0.50	1.04
Thai Industrial Promotion Company	0.50	2.00
<i>Utsahakam sanhaharn</i> (Military industrial supplies)	0.48	0.60
Saw mills	0.80	0.85
Tobacco factory	0.20	2.00

Source: N.A. (2) office of the Prime Minister 0201.75/13 (1943-1951); N.A. (2) Office of the Prime Minister 0201.75/35 (1943-1951).

### III

In this section, I would like to question why Bangkok was industrialization very limited before the World War II .

Throughout the period between the end of the First World War and the beginning of the Second, the structure of the Thai economy underwent remarkably little change. Most of the population remained rural, living in rice-producing villages, and except in a few central regions, having little contacts with other than local markets. According to the Population Census of 1929, 83 percent of the total population was engaged in the agricultural sector. An economic report of 1926 claimed that “ it cannot be said that Siam [Thailand] is in any sense of the developed industrially. It is essentially an agricultural country, and such it will probably remain”.<sup>32</sup>

The main points to be questioned are: just why the industrialization in Bangkok remained minimal, and on the other side of the coin, why the Thai economy became so overwhelmingly dependent on rice cultivation as a smallholder staple export crop which helped Thai agriculture remained so undiversified?

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<sup>32</sup> cited in Suehiro (1989: 1)

Some points may be mentioned briefly. Firstly, the Thai economy after the mid 19<sup>th</sup> Century until World War II was characterized as a land-abundant and labor expensive country, which gained comparative advantage from free trade after the Bowring Treaty in 1855. Based on David Ricardo's static comparative advantage theory, Thailand at that time with the abundant land, very scarce capital, and very scarce labor should concentrate on agricultural production rather than manufacturing. Land resources, especially land resources of the Central Plain (much of the upland areas being highly malarial) unsuitable for much beyond rice cultivation. Since Thailand was freed from the western colonization, and helped the country was not being under the political domination of external powers. The state policy on land, was, then, biased in favor of smallholders and against plantations. Thai export economy was thus pushed by small indigenous rice growers. In response to the Bowring Treaty's free trade, the abundance of land encouraged rice growing with existing traditional techniques, and the number of hectares of cultivated land per worker increased. Feeny's estimates show that the paddy area per person (land man ratio) which in 1905/06 was .164 hectare/person grew at an average annual rate of 1.19 percent during the period of 1905/06-1941.<sup>33</sup>

Nobody knows how "gains from trade" were distributed among various groups of people in rice trade; farmers, Chinese middlemen, landlord. Many historical accounts show that most if not all of these gains were captured by the Chinese middlemen who remitted money to China, and landlord. However, farmers also shared part of such gains as well, but how much nobody knows. Historical evidence records that as rice gained growing importance in trade, cultivate area expanded, farmers improved their welfare

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<sup>33</sup>From 1905/6 to 1924-25 the paddy area per person grew at 2.45 percent per year and then declined at .21 per cent from 1924/25 to 1941. He also found that land /man ratio( using the area in major crop grew at a similar rate as it was in the case of paddy areas ( Feeny 1982: 44-45)

by earning income from selling rice to buy goods and services and then expanded the use of hired farm laborers for rice cultivation which gradually expanded from the central plain to various parts of Thailand. By the 1930s, hired farm laborers were found even in the northeast.<sup>34</sup> Wage rates for unskilled laborers were very high, perhaps the highest in any neighboring Asian country prior to the World War II.<sup>35</sup> Furthermore, Zimmerman's 1930 survey revealed that the Thai peasant had a high average income compared to the rest of Asia.<sup>36</sup> Prior to the second World War, unskilled labor wages were often higher in rural provincial areas than in Bangkok.<sup>37</sup> It is still doubtful that gain from trade that were made by the farmers were once- and for all-gain, or just temporary rather than permanently, since farmers expanded their cultivation as a result of population growth and the expanded land for rice cultivation rather than increase in income through the investment and the introduction of new technology as happened in developed countries such as U. S.A. and New Zealand.<sup>38</sup> However, under the favorable circumstance of high income in the provincial countryside, there was little incentive for the Thai peasants to move out from villages to take up, say, industrial work, while greater agricultural output could be achieved by adding land rather than by improving existing holdings. Together agricultural life was relatively easy, and opportunities for earning one's living were ample. One document from the League of Nations reported the situation of Thai laborers in 1919:

The cost of living being very cheap in Siam and the country not being overcrowded, the inhabitants, both nationals and foreigners, are always able to secure a comfortable living in some way or other (especially by cultivation or retail trade); in a consequence they are not anxious to find employment in an industry and even feel so independent of their

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<sup>34</sup>N.A. M. of Agriculture 15.2/25 (1931).

<sup>35</sup>Falkus, "The Economic History", p. 61.

<sup>36</sup>Zimmerman (1931: 318)

<sup>37</sup> See for example, Feeny (1982: 132-3), Porphant (1998), Sompop (1989).

<sup>38</sup> See Ammar (1975: 33)

employers that they do not mind giving up the employment they have got for the mere sake of change, or living for some time without doing anything, on the money they have saved out of their earnings. [N.A. M. of Foreign Affairs, 96.1.8.4/3 (1919) ].

Secondly, before the outbreak of World War II, Thai government played a very limited role in encouraging industrial development. Partly due to “the Bowring Treaty” and other unequal treaties, Thailand faced limited fiscal autonomy. The full sovereignty was regained after 1936, and substantial fiscal autonomy was achieved already in 1926. Although some tariff levels were raised, they were scaled up from the very low level imposed by the treaty. Low levels of tariffs remained until the time of world depression in 1930s. Low level of tariffs discouraged industrial expansion. The Reasons for low tariffs are not hard to find, and it is appropriate to discuss Thailand’s experience which was different to other countries.

Throughout the 1930s many export-dependent economies were forced to raise tariffs as export earnings slumped, and some abandoned currency convertibility which further eroded their foreign trade. Under these circumstances some countries experienced nascent industrialization in the 1930s, and governments sometimes actively helped the process as a way of reducing imports and hence protecting foreign currency holdings. Not so Thailand. In the 1930s, as mentioned earlier Thailand’s tariffs remained low (and where they were raised it was principally for revenue reasons rather than promotion of industry). Moreover state sponsorship of import substitution was limited, and the currency remained convertible (and for much of the 1930s linked to sterling).

Thailand’s experience in the 1930s contrasted with so many other undeveloped economies, mainly through the lack of pressure coming through the balance of trade. Although rice prices fell, they did not fall so much as other primary product staples (such

as coffee, rubber, and wheat, for example), nor did they fall as fast as some main industrial import prices. Thailand was able to maintain a favorable balance of trade throughout the 1930s (Table 4) and hence was not forced to raise tariffs or take other measures which might have stimulated industrial growth.

**Table 4:** Foreign Trade of Thailand, 1930/1-1939/40 (in million of baht)

<b>Year</b>	<b>Imports</b>	<b>Exports</b>	<b>Balance</b>
1930/31	155.01	161.52	6.51
1931/32	99.91	134.21	34.30
1932/33	89.50	152.52	63.02
1933/34	92.96	144.08	51.12
1934/35	101.72	172.60	70.88
1935/36	108.75	158.22	49.47
1936/37	110.04	184.36	74.32
1937/38	111.82	169.49	57.67
1938/39	129.63	204.42	74.79
1939/40	194.60	216.55	21.95

Source: Wilson (1983: 210)

The world depression, which affected all countries within the international economy in the 1930s, might have been expected to have had a considerable impact in Thailand. While we cannot detail the impact of the depression, a few relevant points may be noted. First, countries dependent on the export of primary products were severely hit through the shrinking of world trade and the fall in price levels for primary products. Their exports (in volume and value, fell). Second, such countries were usually dependent on imports of industrial products. Prices of industrial products tended to fall less than primary product prices. Third, primary producing countries were often heavy international debtors, and it was difficult for them to service loans with export revenues declining. Fourth, primary producing countries were typically dependent on one or two export markets. If these markets collapsed, the economies of primary producers suffered particularly.

To give just a few examples, in 1929 eighteen countries sent one-third or more of their exports to the United States (Malaya sent nearly all its rubber there; Brazil nearly all its coffee). Export prices then collapsed, rubber and coffee by more than three quarters. Almost all the great primary producing exporters, Australia, New Zealand, the Dutch East Indies, Argentina, and an array of others, including Brazil and Malaya, faced huge adverse trade balances in an environment where international lending, too, had collapsed.

As is well known, the depression of the 1930s saw many, often counter-productive, efforts on the part of governments to deal with the situation. Principal among such measures were high tariffs and other policies to restrict imports and produce a favorable balance of trade. Other steps including included currency devaluation, bilateral trade agreements, and loan defaults.

Yet some of these measures actually promoted significant and welcome relief in the form of a stimulus to industrial growth. As one author has written, “thus, sheltered behind the barrage of tariff restrictions, quotas, exchange controls, and the like industries of all kinds mushroomed in agricultural countries. In the Argentine, Brazil, South Africa, India, and many others the depression sparked off enforced industrialization. Total industrial production in India, for example, passed its 1929 level in 1933, and by 1938 was 50% higher again”<sup>39</sup>

The question to be considered here is why Thailand’s experience during the depression was so different to those of many other primary producers. Industrialization remained minimal, the country’s economy was little diversified, and Thailand’s foreign

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<sup>39</sup> Falkus, unpublished manuscript on The World Depression, 1975 p.79

trade, while suffering during the depression, did not experience the catastrophes experienced by many others.

The matter is relevant, of course, to the issue of labor supply, since clearly there was no increased demand for the labor which industrialization would have produced. At least a partial answer to this question lies in the structure and direction of Thailand's foreign trade. Rice continued to account for over 60 per cent of Thailand's exports throughout the interwar years, and rice did not suffer the extreme price falls experienced by other primary commodities (such as wheat, rubber, and coffee). Indeed, while most primary producers experienced declining terms of trade, Thailand's terms of trade tended to be favorable throughout the 1930s.<sup>40</sup> As a result, Thailand did not have the pressure of an adverse balance of trade. (see Ingram 1971: 332-335, Wilson 1983: 210). On the contrary, the volume of rice exports rose in the 1930s and despite lower rice prices, the trade surplus was actually higher overall in the 1930s than it had been in the 1920s. (Table 5).

**Table 5:** Thai Rice Export, 1920-1940

Year	Quantity (million ton)	Value (million baht)
1920/21-1924/25 (average)(a)	1.07	116.2
1925/26	1.37	167.4
1926/27	1.30	165.2
1927/28	1.72	201.1
1928/29	1.48	175.1
1929/30	1.13	139.0
1930/31	1.02	103.0
1931/32	1.33	77.5
1932/33	1.67	94.2
1933/34	1.66	82.9
1934/35	2.00	98.4
1935/36	1.50	90.8
1936/37	1.55	97.4
1937/38	1.10	75.3

<sup>40</sup> Dr. Sompop Manarungsan calculated terms of trade of Thailand in terms of export price of rice divided by grey shirting price and found that such ratio increased in the 1930s (except in 1933 and 1934) as the year of 1880 as base year (see Sompop 1989: 215-216)

1938/39	1.55	97.4
1939/40	1.89	113.3

Source: Wilson (1983: 213-214), Suehiro (1989: 26)

Note (a) the exports of rice were banned in 1920 due to a serious severe drought..

Thailand's favorable terms of trade in the 1930s, or before (especially after 1880) might well explain why Thai economy was heavy dependent in agricultural production rather than industrialization because of *comparative advantage* of agricultural sector, chiefly rice production. In this sense, it meant that industrialization might not benefit from positive gain from trade. Industrialization was very costly relative to import goods from overseas. Terms of trade which measured in terms of export price for rice divided by grey shirting price, shows favorable Thai international trade for much of period in 1880- 1940. (Table 6)

**Table 6:** Terms of Trade: Textiles for Rice 1875-1941

Year	Grey Shirting Price (baht/ton) (1)	Farm Gate Paddy Price (baht/ton) (2)	Export Price for Rice (baht/ton) (3)	(2)/(1)	Index Of (2)/(1) (1880 = 100) (3)/(1)	Index Of (3)/(1) (1880 = 100)	
1875	730	21	43	0.029	110	0.059	110
1880	800	21	43	0.026	100	0.054	100
1885	640	25	43	0.039	149	0.067	125
1900	780	35	59	0.045	171	0.076	141
1903	1,100	50	81	0.045	173	0.074	137
1904	1,280	55	81	0.043	164	0.063	118
1905	1,350	60	82	0.044	169	0.061	113
1906	1,280	60	83	0.047	179	0.065	121
1907	1,080	55	79	0.051	194	0.073	136
1908	1,040	45	77	0.043	165	0.074	138
1909	1,140	38	78	0.033	127	0.068	127
1910	1,300	34	75	0.026	100	0.058	107
1911	1,280		90			0.070	131
1912	1,330	52	90	0.039	149	0.069	129
1913	1,370		72			0.053	98
1914	1,310	35	67	0.027	102	0.051	95
1915	1,230	40	66	0.033	124	0.054	100
1916	1,410	42	69	0.030	113	0.049	91
1917	2,370	45	74	0.019	72	0.031	58
1918	3,650	81	126	0.022	85	0.035	64
1919	3,420	60	236	0.018	67	0.069	128
1920	3,320	67	81	0.020	77	0.024	45

1921	1,960	55	91	0.028	107	0.046	86
1922	1,730	34	85	0.020	75	0.049	91
1923	1,820	58	92	0.032	121	0.051	94
1924	1,810	63	105	0.035	133	0.058	108
1925	1,890	64	105	0.034	129	0.056	103
1926	1,650	64	109	0.039	148	0.066	123
1927	1,430	54	104	0.038	144	0.073	135
1928	1,390	56	102	0.040	153	0.073	137
1929	1,480	50	105	0.034	129	0.071	132
1930	1,120	30	88	0.027	102	0.079	146
1931	870	20	50	0.023	88	0.057	107
1932	850	28	48	0.033	125	0.056	105
1933	920	22	44	0.024	91	0.048	89
1934	860	25	42	0.029	111	.0049	91
1935	840	30	52	0.036	136	0.062	115
1936	850	45	52	0.053	202	0.061	114
1937	1,030	32	56	0.031	118	0.054	101
1938	760	29	52	0.038	145	0.068	127
1939	790	28	50	0.035	135	0.063	118
1940	900	39	60	0.043	165	0.067	124
1941	1,070	57	93	0.053	203	0.087	162

Source: Sompop (1989: 215-216)

Exports were also helped by the decision to leave the gold standard in early 1932 and link the currency to sterling. Thailand's exports were not over-dependent on a single outlet, and the principal export markets (China, Singapore and Hong Kong) remained relatively strong. Moreover, Thailand did not enter the depression with extensive foreign loans which needed to be serviced.

Under these circumstances Thailand did not pursue the policies which elsewhere led to significant import substitution. True, tariff levels were raised on a number of occasions, after 1926 the year that Thailand gained fiscal autonomy. The percentage of total import duties to the value of commodity imports rose from 3.7 percent in 1926/27 to 8.5 percent 22.0 percent in 1935/36, and import duties increased from 7.0 percent to 25.0 percent of total government revenue. But, as Ingram has pointed out, these tariffs were mostly imposed to raise revenues and their impetus to local industries (which included, for example, cigarettes, soap and matches) was unintended. (Fuller discussion, see

Ingram 1971: 182-184). Not only low level of tariffs, the government had no consistent program to implement considered to have noticeable impact on the industrial sector.

Thirdly, low level of industrialization may be related with the character of Thai economic development. With the growth of rice exports, rice production was negligible in forwards and backwards linkage impacts on industrial expansion. The growth of the rice trade saw major developments in commerce and agriculture, rather than industry. Only milling became a significant area of investment especially for the Chinese, while other impacts on other related industries were not found. It is interesting to understand the nature of industrialization which created urbanization in the international perspective. We must understand the rise of industrial urban centers in England in terms of the availability of raw materials, especially coal and iron. Thailand's industrialization was not dependent on raw materials such as coal, and important factors in Thailand's case were labor supply and access to foreign markets. In England, the rise of new urban centers was propitious for economic growth. The new centers brought transport links, attracted immigrants from the countryside, developed their own merchant classes and sources of capital, and acted as growth poles for the surrounding regions. Thailand, with a different pattern, could not benefit in this way. In both Japan and the Netherlands, it would appear that pre-industrial urban centers promoted economic growth. Such centers encouraged internal trade, transport links, the rise of independent merchant classes, the accumulation of local capital, and in other ways fostered economic change. Thailand, with virtually no significant urban center outside Bangkok until the last two or three decades of the twentieth century, could not benefit from the economic spur that comes from a cluster of sizeable cities. Thailand's pattern of urbanization and industrialization

may well have been unfortunate for the economic development of the country as a whole. The Thai economy was long characterized by an overwhelmingly rural population, inadequate or absent road systems (before the World War II), and rural backwardness. If large towns acted as growth poles for the surrounding region, such an impetus to growth was certainly absent for much of Thailand until very recent times.

Fourthly, the lack of roads linking Bangkok and the provinces was also a major factor affecting the low level of industrialization. Even as late as 1940 there was not a single trunk road linking Bangkok to other provinces. Before 1940, transportation between Bangkok and the outer regions was possible by way of waterways<sup>41</sup> and railways. The Chaophraya river and canals provided the most important means of transportation from Bangkok to the central plain and outer regions. Lack of highways linking Bangkok and the provinces retarded inter regional migration, increasing the isolation and self-sufficiency, limited markets and so on. Transport from Bangkok to the outside provinces was very costly, especially, via the network of Chaophraya river, when transport which were carried out upwards the river was very costly. The river flows downwards from the North, and helped Bangkok benefited from cheap-transportation, while other provincial towns, especially in the North of Bangkok, had to import expensive goods, therefore no big towns developed and domestic markets were not expanded. Under these circumstances of narrow internal markets, industrialization in Bangkok or elsewhere were very limited.

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<sup>41</sup> A comprehensive study of canal construction in Bangkok and the Central Plain is contained in Hubbard, (1977)"; and Kitti (1977).

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