

Prices, Wages And The Standard Of
Living In Peking

1900 - 1924

By

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and

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INTRODUCTION

"How do the workers live?" "How does this compare with the way they have lived?" These are questions often asked the world around, especially in China where so little economic information is available. How the Chinese workers have managed to live on the wages they have received has always been a puzzle to many people. Recently it has been even more of a puzzle. Prices have been rising during the last five years. This usually means a decrease in the standard of living and it has been difficult to see how the workers could survive such a decrease.

The question "How do the workers live?" is being answered by the study of family budgets. The answer to the question "How does the present standard of living of the workers compare with that of previous years?" is attempted in this study of the changes in wages, prices and exchange in Peking. Exchange must be included in any study of the standard of living in China, for wages and prices are often quoted in different monetary units between which there is a constant fluctuating rate of exchange.

It has been necessary to limit this study to Peking because of the differences between the figures for the city and the surrounding country. Octroi (local customs) is levied on all produce coming through the

city gates; at the present time the exchange rate between silver and copper coins is higher in the country than in the city, and the cost of transportation helps make for a difference in prices. The influence of these factors cannot now be accurately measured and therefore, for the present, our figures deal only with Peking.

From a preliminary survey of the field, the amount of available material and the work necessary to handle the records, it seemed best to attempt first the study of the years from 1900 to 1924. Twenty-five years is a sufficient period to bring out possible long time and perhaps periodic price fluctuations, an undue amount of work would not be required without a survey of results; and most important of all, it would not be necessary to go beyond 1900. It very quickly developed that a great many of the records had been destroyed in the fighting of Boxer year and it would mean a long hunt to find an unbroken and available set of records if an attempt were made to go back of that year.

It is the custom of many of the Peking stores to keep all of their old account books. Business practice makes it necessary for a manager to keep all the account books as long as he is in charge of a store. After he leaves the books are usually kept, though sometimes they are sold as old paper. We know of stores with complete sets of account books covering more than one hundred years. It is this custom of keeping old account books that has made possible this study of wages, prices and exchange. Without detailed records such a study would be absolutely impossible, and it has been found that the store account books are the best and practically the only source of information covering any considerable number of years. For a time it was thought that old family account books would be a valuable source of information, but commodity prices cannot be determined

from them. They give the amount of money spent for different articles, but ordinarily they do not give the amounts purchased. Published quotations of market prices and exchange rates are available for only the last few years.

Our principal problem has been to persuade the store managers to let us see and use their old account books. Many managers feel it an insult to be asked to show their account books. Even the owners of the store are allowed to see the books only when the manager of the store makes his report to them, and we have been told of stores where the owner cannot draw out any of the profits without the permission of the manager. Due to this relationship between the owner of the store and the manager, it has been necessary to approach the manager rather than the owner, though sometimes the owner has prevented our seeing the books even after the manager had given his permission. It has also been necessary to overcome a certain amount of suspicion on the part of the managers. They find it very difficult to understand why any one should want to study old accounts and, not understanding, they have been hesitant about letting outsiders use their books.

Occasionally a set of account books can be purchased from an old paper store (Ma Tao P'u). They buy as old paper, for a few coppers a catty, the account books of stores that have been closed, have failed, or want to dispose of their account books. Just a few months before we began our study, one paper store bought a set of books covering more than one hundred years, but the set had been scattered and could not be recovered. Rather than attempt to secure the account books from the Ma Tao P'u we have procured the necessary introductions and have persuaded the managers to help us in our study. Once their cooperation has

been secured, many of them have been very helpful. They have taken time to tell us many things about Chinese business procedure, have explained problems that have arisen, and, where they have not felt that they could let us use their books, they have given us the yearly prices of various articles. One manager even undertook to have the men in his store make a copy of the account books.

The Chinese method of bookkeeping has made it necessary to transcribe the accounts completely. In neither the record of the day's sales nor in the charge accounts, is there any segregation of items. In order to follow the price changes for any one item it has been necessary to sort out the day by day sales. At the beginning of the study there was no way of determining what items would be important and give information of value. Consequently, it has been necessary to transcribe all the entries, segregating them according to commodity dealt in and the date on which they were made.

It was very soon apparent that it would not be possible to make any study of the day to day fluctuations of prices. In many cases a particular commodity would be dealt in only a few times a month. Even with the standard grains it was seldom that there were as many as twenty quotations a month. Consequently it has been necessary to use monthly and yearly averages throughout.

The Chinese account books are kept according to the lunar calendar, but in making the monthly averages the difference between the two calendars has been taken into account and the averages have been made on the basis of the foreign or solar calendar.

The accounts have been kept in different units of money and weight. Before 1913 the tael was almost universally used as the money of account. Ordinarily the

tael was considered to be one ounce of silver, even though there were several taels of varying weight and fineness in use. The coined tael has not been generally used in Peking. Payments have been made in silver bullion or more recently in dollars. Since 1913 the dollar has replaced the tael as the money of account in a large majority of the stores, though there are still many that keep their accounts in taels. Some of the stores have kept part of their accounts in *tiao*, 100 cash or ten coppers, but this is being gradually discontinued owing to the fluctuations in copper-silver exchange.

Since present prices are, for the most part, quoted in dollars, and in comparing prices it is necessary to use a single monetary unit, the dollar has been used as the standard and all tael prices have been converted. One dollar is considered as equal to 0.72 taels. There is a fluctuating rate of exchange between taels and dollars, but since the prices for one half of the study are in taels and for the other half in dollars, and conversion is made for purposes of comparison, we have felt justified in disregarding the fluctuations in this exchange.

The unit of weight has ordinarily been 100 catties, 133.33 pounds, sometimes called one picul. Since most of the retail prices are given in terms of catties, entries in many of the retail account books give the prices per 100 catties, the number of catties bought and the amount charged. For cloth the unit has been 100 feet, and for coal, 1000 catties. The wholesale prices of most of the grains are given in terms of *tan*. Originally this was a measure of capacity, but it varies from place to place, and even from store to store. The standard *tan* the Government is attempting to have adopted contains 2.937 United States bushels. Because of the variation in the size of the *tan*, it is often spoken of as containing a given number of catties. According to the figures secured from several

stores the number of catties in a *tan* varies from 130 to 160, depending upon the kind of grain and the store. As this study deals with retail rather than wholesale prices, the prices per *tan* have been converted to dollars per 100 catties. In making this conversion one *tan* has been taken as equal to 150 catties.

In making this study the following account books have been transcribed:

I Grain

1. Retail 1900-1924
2. Retail 1912-1918
3. Wholesale 1901-1924
4. Wholesale 1900-1924

II Coal

1. Retail 1900-1924
2. Retail 1914-1924

III Cloth

1. Retail 1912-1924
2. Wholesale 1900-1924

IV Meat

1. Mutton 1900-1924

V Exchange

1. Store account books 1900-1917
2. Newspaper quotations 1918-1919, 1924-1925
3. Family account books 1919-1924

We have also secured from several stores lists of their wholesale and retail prices over a series of years. The store managers were not willing to let us work over their account books, but secured for us the annual average prices. These items include pork, salt, salt vegetable, sweet oil, peanut oil, cotton cloth,

The prices charged by the different stores are not the same. Location, amount of transportation required, etc., all have their influence. Comparison of the prices over a number of years, however, shows that the differences tend to be constant and fluctuations in price ordinarily come at about the same time and are usually similar in amount. Since all of the stores have been chosen by chance, and there are no unusual variations between the different prices charged by the various stores, it is felt that a typical picture of Peking prices can be secured by using, whenever possible, the prices of one store for each commodity. This will avoid the store to store variations and the complications of an average price.

The standard of living we have attempted to study is that of the Peking laborer, artisans and coolies, whose wages are \$160.00 or less a year. They represent a large proportion of the population. Several studies have been made of their family budgets, the number of articles included in their budgets is not large and it is possible, from available information concerning their daily wages, to determine the changes in the income of those engaged in several different kinds of work.

This study, the first of its kind in Peking, is only an initial step in the statistical study of economic conditions in that city; it covers only a small part of the field and that not in any exhaustive way; it raises many questions that cannot be answered as yet, but at the same time it is felt that it is sufficiently complete to furnish the basis for tentative conclusions and to give a fair picture of some of the economic problems that have faced the Peking workingmen during the last twenty-five years and the way the workers have met them.

We are indebted to Mr. Franklin C. H. Lee (李景漢), Mr. Chang Hung-chün (張鴻鈞), and Mr. Chao En-ch'i

(趙恩啟) for their assistance in securing the material used in the studies of the prices of mutton, exchange rates and the wages of the workers; to the *Shun T'ien Shih Pao* for permission to use its files; to Dr. Louise Morrow, Dr. Ch'en Ta (陳達) and Dr. C. G. Dittmer, whose figures on family budgets have made possible our index number and our study of real wages; to Mr. T. C. Blaisdell, Jr. for many helpful suggestions; to many others who have helped in making the study; and to Dr. M. T. Z. Tyau, Managing Editor of the *Chinese Social and Political Science Review*, for very kindly arranging to publish this survey in the form of a Special Supplement to the Review as well as seeing it through the press.

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SECTION I

PRICES

Grains and Flour

The account books of the grain stores give quotations for nine kinds of grain—rice, old rice, wheat, beans, millet, corn, barley, buck wheat, *kao liang*—and for five kinds of flour—wheat, bean, corn, buckwheat, bean and millet. There are different kinds and qualities of these, so that altogether there are thirty different quotations for the grains and twenty-four for the flours. For many of these the quotations are very scattered. Some are quoted only two or three times, others will be quoted during a few months of several years. Where they are so scattered, it is impossible to work out any price history. The quotations for wheat, millet, rice (*pai mi*), old rice (*lao mi*), wheat flour, bean flour, corn flour, bean and millet flour are complete enough to make it possible to trace the history of the increases and decreases in their prices. For wheat flour there are quotations for every month but one in the twenty-five years. The store managers all agree that these are the most important and most generally used of the grains and flours. The account books certainly show that they are the ones most frequently bought.

It has been rather surprising to find that *kaoliang* is not used to any extent in Peking. It is one of the staple crops in the surrounding country and is an important article in the diet of the country people. The grain deal-

ers, however, say that however inside the city *kaitang* is used almost exclusively as a food for animals.

WHEAT FLOUR

Two distinct types of wheat flour, the so-called foreign and Chinese flours, are sold in Peking. The foreign flours are ground with modern machinery and are the whitest and finest. They are usually sold by the bag under a trade mark. An incomplete count showed over twenty different brands, among them Fort, Green Deer, Red Horse, Double Deer, Gunboat. A bag of flour ordinarily is supposed to weigh forty catties (53 pounds), but usually weighs one or two catties less. Some of the flour is taken out before the bag is sold. At present the foreign flours are selling about 18 per cent higher than the best of the Chinese flours. Even so, their use is increasing as they are drier and a given amount makes more food than does an equivalent amount of Chinese flour.

The Chinese flours are ground with the old-style Chinese mill stones and sifted in a wooden foot-driven rocker. The flour is graded according to fineness and whiteness. In the order of their quality and price the different grades are: Ch'ung Lo, specially sifted; Kao Cheng, the first grade of flour for making steamed bread; Pai, white; Kao Erh, better second grade, used especially in making *lao ping* and *hsiao ping*, round wheat cakes; La, used in making noodles; Erh, second grade; Hsien and Hei, black. One series of quotations (1907) gave the price of black flour as \$2.15 for 100 catties. The price of a similar amount of Ch'ung Lo flour was \$4.95.

The foreign method of grinding flour and the necessary machinery have been introduced into China comparatively recently and the foreign flour has only gradually come into general use. Consequently the study of its price changes has not been attempted. The figures given here

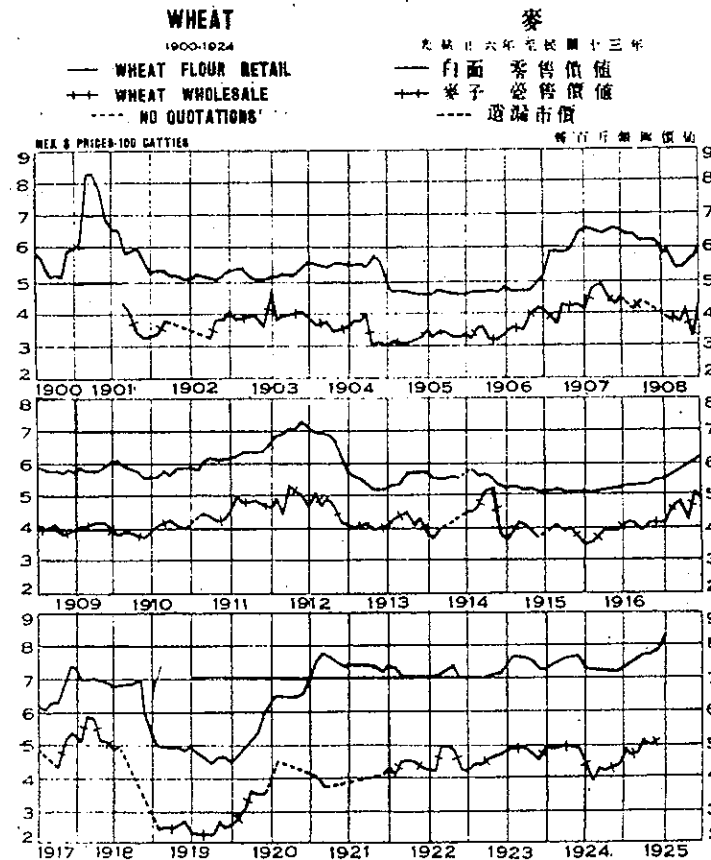


Figure No. 1.

are for Pai Mien or White Flour, the second or third grade of Chinese flour.

In January 1900 the price of Pai Mien was Tls. 4.20, or \$5.84 per 100 catties. In May of that year it was only \$5.15, but in September and October the average price was \$8.33, an increase of \$3.18, sixty-two per cent, in four months. This rapid rise was due almost entirely to the

disturbances caused by the Boxer outbreak, the fighting in Peking and the siege of the Legation Quarter. By December the price was down to \$6.94 and by July of 1901 to \$5.53. Except for two increases, one in 1906 and one in 1911, the price of Pai Mien fluctuated between \$5.00 and \$6.00 a hundred catties from 1901 to 1916. Figure No. I shows the price changes. The graph has the usual wave shape, up for a year or two, then down for a time, then up again. Prices were high in 1903, 1906, 1907, 1911 and 1912. They were low in 1904, 1905, 1909, 1910, and 1915. The changes in price seem to be largely determined by the nature of the wheat harvest, for the changes in price usually come in May and June. The wheat crop, which around Peking is almost entirely winter wheat, is harvested during the middle and latter part of June. In Honan, which is sometimes called Peking's granary because of the larger amount of wheat that it ships to the capital, the harvest comes early in June. It is possible, therefore, to estimate the coming harvest by the end of May or early in June and prices react accordingly.

The influence of the weather on the price of wheat flour is very evident in 1914 and 1915. In those years there was an unusual amount of rain in the spring and winter months. The total for each year was 28 inches. The annual average for Peking is 24.68 inches. (Table No. I). The relation between rainfall and the price of wheat cannot be determined for the years before 1914, as the weather statistics are not available.

TABLE I
RAINFALL¹
Millimetres

	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
January	1.4	2.9	1.6	0.2	0.9	3.7	2.8	0.6	1.0	0.3	0.4	2.7
February	10.4	4.4	6.0	0.2	0.8	0.0	5.4	0.0	4.0	0.3	6.0	0.0
March	39.8	2.5	2.7	2.6	4.9	8.0	5.4	4.0	3.3	16.4	2.9	6.8
April	0.0	0.5	8.1	0.0	21.0	3.6	1.0	0.4	11.2	11.3	0.0	43.2
May	9.0	58.0	28.3	19.3	116.5	23.8	12.6	35.2	8.2	3.5	19.7	61.1
June	116.9	90.5	46.4	37.7	67.7	91.1	42.4	44.4	135.1	8.6	54.7	133.8
July	256.2	415.0	81.3	438.3	114.9	264.1	143.6	98.9	297.9	137.8	641.3	463.4
August	86.4	82.4	178.7	120.3	142.0	87.8	27.1	62.1	337.4	156.2	253.6	197.2
September	33.3	33.2	32.7	122.4	5.0	26.4	24.6	8.9	35.8	35.6	37.4	65.8
October	95.8	19.2	8.4	38.5	0.6	52.1	0.9	1.1	0.5	3.7	21.3	0.9
November	71.0	5.2	21.0	0.0	26.9	44.0	3.9	0.1	3.2	1.1	15.1	6.0
December	0.8	4.2	7.4	1.8	1.4	1.6	6.9	0.0	0.3	4.1	7.1	0.0
Inches	721.0	718.0	422.5	781.3	512.6	566.2	276.6	255.7	837.9	379.5	1059.5	980.9
Average	28.4	28.3	16.65	30.78	20.20	22.31	10.90	10.07	33.01	14.95	41.8	38.8
	625.98 Millimetres											
	24.68 Inches											

¹ Government Weather Bureau Report.

The influence of political events on the price of wheat flour is especially clear in 1900. The Boxer uprising began toward the end of May, just about harvest time. Many of the people were driven from their homes and a large part of the crop around Peking was never harvested. Prices went up very rapidly but came down almost as fast as soon as the fighting ended and transportation was re-established. By the time the 1901 harvest had reached the city the price was back to where it had been before the Boxer outbreak.

The other outstanding political event before 1916 was the Revolution of 1911-1912. Prices began to rise early in the fall of 1910, but increased rapidly only after June 1911. The peak came in December 1911 when Nanking was captured and the negotiations were being carried on between the revolutionists and the Imperial Government. Following the election of Yuan Shih-k'ai as president in March 1912 and with the coming of the new harvest the price of flour dropped rapidly. By July it was back to the level of January 1910. The decline continued until November when the average price was \$5.23 for 100 catties. This was a decrease of \$2.07 or 28 per cent in eleven months. It is difficult to say whether or not the political situation was responsible for the rise from 1910 to 1912. It undoubtedly was the cause of considerable fluctuation during the latter months of 1911, but it seems evident that much of the increase which came before that time was due to small harvests in 1910 and 1911 and that the big drop in 1912 came as the result of a good harvest.

During 1916 the price of flour rose almost continuously. The total increase for the year was \$1.00 per 100 catties. This was the time when Yuan Shih-k'ai attempted to restore the monarchy and make himself emperor. The latter part of the year saw the death of

Yuan Shih-k'ai and the election of Li Yuan-hung as president. During the summer there were floods on the Yung Ting Ho and the Government provided funds for the relief of the refugees. In all probability the price of flour was influenced much more by the weather than by the political events. The rainfall in 1916 was 32 per cent below the average and the rains came very late.

Following the dry summer of 1916, the spring of 1917 was exceptionally dry. Before June 1st there was less than 0.9 of an inch of rain and by July 1st only 2.4 inches had fallen. This was less than the rainfall in the first half of 1920, the famine year. From April to June the average price of flour jumped from \$6.23 to \$7.45. Although the local crop was almost a complete failure, the Honan crop apparently was better, for the price of flour came down slowly until April of 1918. The floods in July of 1917 apparently had but little influence on the retail price of flour, nor did Chang Hsün's attempt to restore the monarchy. The fighting and disturbance connected with the attempted *coup d'etat* were so short and so well confined to Peking that they had but little influence on prices, especially on the average prices for the month.

Starting in May 1918 and continuing to April 1919, flour took a tremendous drop. In four months the price declined \$1.93 per 100 catties. In eleven months the drop was \$2.35 or 34 per cent. The 1918 rainfall in Peking was a little below normal. The spring rains, however, came unusually early and were exceptionally heavy, 5.7 inches before the end of May and 8 inches by the end of June. This, combined with the tremendous soaking of the previous summer, produced bumper crops and a corresponding decrease in the prices of grains and flours.

It is difficult to determine what influence, if any, the falling off of any foreign demand had in this decline.

It was the last summer of the European War, shipping was scarce and the rising price of silver limited any foreign buying even though there was a large decrease in the Chinese prices.

The low prices did not last long for, beginning in April 1919, they went up almost as fast as they had come down. The rainfall in 1919 was only a little less than average and the spring rains were better than usual, but apparently the big harvest of 1918 had been used up and with an average harvest in 1919 prices returned to normal.

Problems of transportation may very well have been responsible for part of this increase. Due to the war in Europe the railroads were finding it impossible to get additional rolling stock and difficult to maintain what they had. From 1917 on there has been an increasing shortage of cars. The fact that the value of silver increased 88 per cent from March 1919 to February 1920 would eliminate any possible purchases for export and the influence of such a demand.

1920 was a famine year. The rainfall for the year was only 10.9 inches or 44 per cent of the average. The spring rains were especially short. The rainfall for the first six months of the year was only 2.7 inches. This meant short crops and soaring prices. In the country millions of people were starving. In Peking the high prices brought distress and want to many. The highest prices came in September. By October relief work had been begun, supplies were coming in from other parts of the country, and prices came down a little.

There was civil war around Peking in July 1920. Wu Pei-fu and Chang Tso-lin defeated the Anfu party and drove them from the capital. The fighting came in July after the wheat harvest and lasted but a few days. However, the dislocation of transportation that followed

the fighting and the consequent difficulty of getting supplies from other parts of the country to help meet the approaching famine undoubtedly helped increase prices. Something of the influence of the political changes that resulted from the fighting is seen in the fact that since July 1920 the price of flour has not been below \$7.00, whereas before 1920 it had been over \$7.00 only on three occasions, and then for not more than four months at a time.

There was fighting around Peking again in April and May, 1922. Chang Tso-lin was defeated and driven outside the Great Wall. The actual fighting lasted about a week, but what with the movement of troops and the general political re-arrangement it was not until late in June that the Peking-Shanghai train service was restored. It was August before trains were running to Mukden. The effect of the fighting on prices is shown in a sharp rise in the price of flour in April and May. With the return of peace the price went down so rapidly that in June the average price was the same as in March.

The rainfall for 1922 was 33 per cent more than normal, but this was not reflected in the prices. Troops marched over a large part of the country around Peking and a great deal of damage was done to the crops. The dislocation of the railroads made it difficult to ship grain in from other parts of the country and prices remained high.

The spring of 1924 was very dry. Only 1.1 inches of rain fell before June 1st. Around Peking it was only where water was available for irrigation that there was any wheat crop. In the other fields the stand of grain was very sparse and short. The price of flour started going up in July and rose month by month until the end of the year. The rise due to the shortness of the crop was increased by the political disturbances that started late in August and developed into active fighting in September. Wu

Pei-fu came north from Honan and attempted to drive Chang Tso-lin north from Shanhaikuan. The railroads were used almost exclusively for the transportation of men and munitions for the army. Probably the only reason that the price of flour did not rise faster than it did was that there had been time for part of the new harvest to be transported from Honan and Kalgan before the railroads were blocked.

In October Feng Yu-hsiang came back from the North and took over Peking. Wu Pei-fu's campaign collapsed and he was driven from North China. Chang Tso-lin pushed his forces as far south as Shanghai. Passenger traffic was badly dislocated for months because of the lack of equipment and the precedence given military transportation. So many freight cars were commandeered and held by the various armies that it was impossible for the railroads to maintain more than a minimum freight service. The supply of food and fuel was consequently short and prices correspondingly high. Even with good harvests in Honan and around Kalgan the prices in Peking were higher than during the worst of the famine year of 1920 and almost as high as the peak of Boxer year.

In December 1924 the price of wheat flour averaged \$8.27 per hundred cattie's. This was \$2.43 (42 per cent) higher than the price in January 1900, \$2.72 (49 per cent) more than the average price in 1913 and an increase of \$1.12 (15 per cent) in seven months. The average price in 1924 was \$7.47. This was 16 per cent higher than the average for 1900 and 35 per cent higher than the average for 1913.

WHEAT WHOLESALE

The wholesale prices of grain are taken from the account books showing the purchases of the grain stores. In Peking there is no market price for goods according to

the American or European meaning of the term. The buyers and sellers meet in the grain market, but there is almost never any open bidding. Bids may be made for others to hear but they are seldom the true bids. The actual bidding is done by the buyer and seller making their offers with their hands inside the other man's right sleeve.

As is usually the case, wholesale prices show many more fluctuations than do retail prices. Supply and demand are much more quickly reflected than in the retail quotations. In general, however, the two prices follow each other very closely. There are several sharp increases in the wholesale prices that are not reflected in the retail price, but in these cases the wholesale price recovers very quickly, generally in one or two months. Especially sharp movements of this sort came in 1903, 1908, 1911, 1916, and 1917. (Figure No.1). It is interesting to note that in 1917 the wholesale price reacted to the excessive rains and the floods around Tientsin in August and September. Although the retail prices remained stationary the wholesale price was 90 cents higher in September than it was in August. By November it was five cents lower than it had been in August. By that time the railroads were running again, supplies were coming in from the outside and relief had been secured for most of the refugees.

In March 1922 the wholesale market reacted to the signs of the coming war, though hostilities did not break out until the end of April. The price jumped 80 cents in one month. By June the price had dropped until it was only two cents above the average for February. We have not been able to discover the cause of the decline that came at the end of 1923.

The difference between the wholesale price of wheat and the retail price of flour represents the cost of grinding the flour, wages, loss in grinding, and the dealer's profit.

In 1915 the average difference was \$1.28. In 1923 it was \$1.60, and in 1924 \$1.19. Increases in the wages of the grinders are probably responsible for part of this change. In 1915 wages were \$4.00 a month and food. In 1924 they were \$5.00 a month, and in 1925 \$6.00 a month with food. The price of food for a workman, as set by the Masons' guild, was fifteen cents a day in 1915. It was the same in 1924, but was raised to twenty cents in May of 1925.

Hsiao Mi Mien—BEAN AND MILLET FLOUR

Hsiao Mi Mien, small grain flour, is a mixture of yellow bean flour and non-glutinous broom-corn millet flour. The best grade of Hsiao Mi Mien contains approximately 60 per cent millet flour and 40 per cent bean flour. The second grade is 70 per cent millet flour. Corn flour is put into some of the cheaper grades. The poorest quality of Hsiao Mi Mien contains approximately three parts millet flour, two parts bean flour and one part corn flour.

Hsiao Mi Mien combines nourishment and cheapness and therefore is the most important item in the diet of the Peking workers. According to figures secured from the grain stores and the workers, the laborers eat six times more Hsiao Mi Mien than they do rice and two and a half times more Hsiao Mi Mien than they do wheat flour.

It is striking to see how closely the prices of Hsiao Mi Mien and wheat flour follow each other (Figure No. 2). The fact that the bean and millet harvest comes in September, while the main wheat harvest is in June, will account for the fact that the highest prices of the two flours come at different times of the year.

Unfortunately there are no quotations for Hsiao Mi Mien during and immediately after the Boxer siege, so it is impossible to say how the prices were affected at that time.

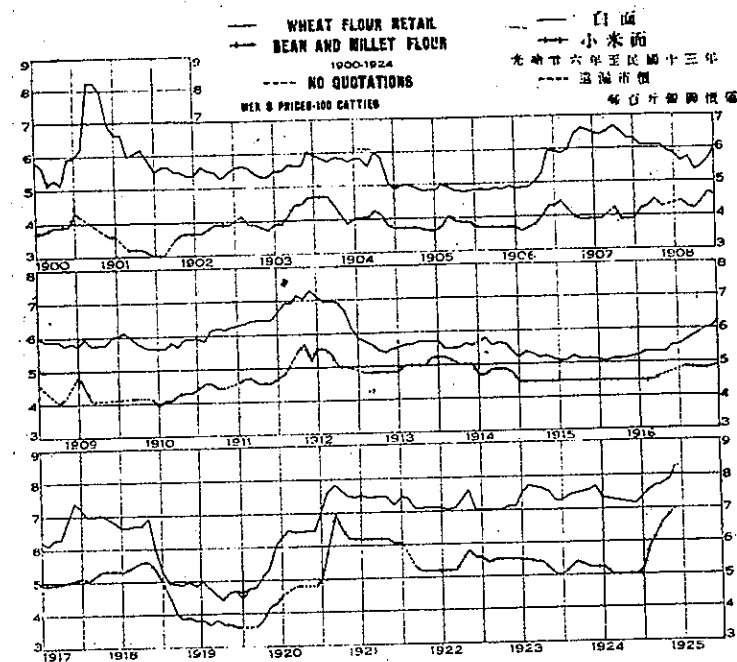


Figure No. 2.

The fact that there was no change in the price of Hsiao Mi Mien from July 1914 to March 1916, and that there were so many months in 1921 without any fluctuation, raises some very interesting questions. It looks as though there might be some control of prices. The Government has sometimes opened P'ing T'iao Chü, centers where grain and flour are sold for a copper a catty less than the market price, but it is doubtful how much this influences the prices of flour. The centers were ordinarily opened only during bad years when prices were high and were usually kept open but a few months. They sold only in small quantities and buying grain there involved long waits and a loss of "face." Probably average harvests and the lack of any political disturbances would be the reason for the

steady prices. The price of bean flour (Figure No. 4) shows almost the same lack of fluctuation from July 1914 to January 1916. The quotations for millet are missing for several months during that time, but those we have show only slight variations. (Figure No. 3).

In 1920, famine year, the price of Hsiao Mi Mien rose much faster and farther than the price of wheat flour, but the peak in September was sharper and the price came down more rapidly. The large increase in the price of Hsiao Mi Mien was partly due to the fact that the flour is such an important item in the workers' diet and its price would therefore be especially affected by the panic of the first months of the famine, and partly to the fact that the available supplies were only what was left over from the year before. The new harvest would not come in before October and November. In those two months the price of Hsiao Mi Mien came down 80 cents. The price of wheat flour dropped only 28 cents in the same two months.

During the last six months of 1924 the price of Hsiao Mi Mien again rose much faster than the price of wheat flour. For Hsiao Mi Mien the increase was 40 per cent, for wheat flour 15 per cent. Again the fighting and dislocation of transportation came just at the time of the bean and millet harvest and it was almost impossible to ship the grain to Peking.

In 25 years the price of Hsiao Mi Mien increased from \$3.75 to \$7.00 per hundred catties, a rise of 87 per cent. The war and the difficulties of transportation at the end of 1924 make these figures larger than they would ordinarily be. The average price for 1924 was only 45 per cent more than the average for 1900 and 11 per cent higher than the average for 1913. From 1900 to 1907 the average price was \$3.92. For the next nine years, 1908 to 1916, the average was \$4.65. From 1917 to 1924

it was \$5.21. The big decline in price in 1918 and 1919 was offset by the high prices resulting from famine and civil war. If conditions could return to normal the price of Hsiao Mi Mien would probably be about \$6.00, or some 50 per cent higher than it was of 25 years ago.

RICE

Since 1900 there has been practically a complete change in the kind of rice eaten in Peking. *Lao mi*, or old rice, so called because it had been blackened by mold, used to be in general use. White rice, *pai mi*, was a luxury. Now *lao mi* is the luxury.

In the days of the Empire many taxes were paid in kind. Tremendous quantities of rice were collected in the provinces of central China. Part of this was used in the province, but large amounts had to be sent to Peking every year. In the old days most of this was shipped on the Grand Canal, which meant a trip of several months. By the least the market price of *lao mi* was only slightly affected when the distribution of free grain was stopped in 1907.

There were four grades of *lao mi*. Wang Feng Mi was the best and was almost like white rice. Lao Mi was the second grade and So Tzu Mi, shuttle rice, the third. The lowest grade was called Hu Ting Tzu or burnt nails. The quality of these grades was quite different and the prices varied accordingly.

The opening of the Peking-Hankow railroad in 1905 made it possible to ship rice to Peking in a short time and deliver it as white rice rather than as moldy rice. There were changes in the tax system and the amount of government rice shipped to Peking rapidly decreased. Free distribution to the Manchus was discontinued in August 1907.

Before 1912 the quotations for white rice are so scattered that it is impossible to determine its price history.

Lao mi practically disappears from the accounts after 1911. There has been a gradual change in the supply and price of the two kinds of rice. Demand has gradually shifted from *lao mi* to *pai mi*, until now the former is used only on special occasions. It is made by heating white rice in a very damp, tightly closed room.

The account books do not differentiate between the various qualities of *lao mi* and it is not unusual to find as many as six or seven different prices on one day. The highest price will often be 50 per cent more than the

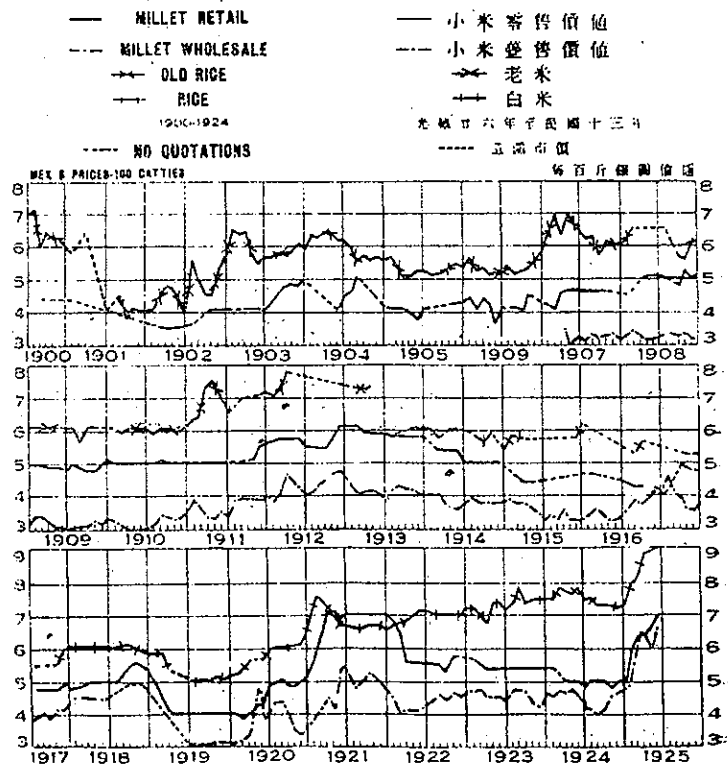


Figure No. 3.

lowest, but the difference between most of the quotations is usually a small one, fifteen or twenty cents. It is not clear how far some of these represent different qualities or simply different prices given to different stores. It has been impossible to trace the price history of any one grade of *lao mi*. The best that can be done is to show the general price changes. This has been done by taking the price of a middle grade of *lao mi*, as a study of the various quotation made it evident that this would give a better picture than would the average of the various quotations. Figure No. 3 does not show the fluctuations in the price of a single grade of *lao mi*, but it does show the general price changes.

The outstanding variations are the very low prices in 1901 and the high prices in 1902 and 1903, the high prices in 1906 and the sharp peak at the end of 1911.

Apparently all grain prices were coming down in 1900 before the Boxer outbreak. The disturbances in Peking sent prices up for several months, but with the end of the fighting the decline in prices continued and lasted until after the middle of 1901. Because the *lao mi* had to be shipped in from the South, we would expect to see its price go up rather than down after the fighting in 1900, but the rise did not come until 1902. The low prices of *lao mi* in 1901 was due partly to the general decline in prices, but more especially to the fact that while Peking was held by the allied troops the Japanese took over the thirteen Imperial granaries in the city, opened them and sold the *lao mi* at very low prices. This depleted the stocks. Prices began to increase after the signing of the peace treaty in July, 1901 and rose very rapidly after the return of the Court in January 1902. By August 1902 the price of *lao mi* was back to the pre-Boxer level.

Practically all of the grains rose in price during 1903. This may have been due to a smaller harvest than usual,

but some of the increase was probably due to an added demand created by the presence of extra troops in the city. They were brought to Peking in connection with the problems raised by the Russian occupation of Manchuria. Prices went down in 1904 even though that was the time of the Russo-Japanese war. The lack of railroad transportation prevented the drawing of supplies from around Peking.

In August 1905 Kiangsu was swept by a typhoon that killed 10,000 people and destroyed more than 10,000,000 taels worth of property. The effect of this disaster was not felt in Peking until the next year. All of the grains went up somewhat, but the rise in the price of *lao mi* was especially rapid, \$1.80 in six months. Supplies were getting very short in Peking. Not only was the 1905 rice crop badly damaged, but the amount that could be shipped to Peking was limited. The Government was called on to give relief to the flood sufferers. The provincial granaries were opened and the grain distributed. This, of course, would include most, if not all, of the grain that would ordinarily be sent to Peking. As a further relief measure the Government usually remitted taxes. As many of these were paid in kind this would limit still further the supply of *lao mi*. The effect on the Peking supplies can be partly gauged from a statement found in some old official records. It shows that one-seventh of the rice that reached Peking came from Kiangsu Province, though technically one-third should come from that province.

In December 1906 the Government was called on to help return 470,000 refugees to their homes. In March 1907, 150,000 *tan* (13,800 tons) of rice were ordered to be distributed as relief in Northern Kiangsu.

The free distribution of *lao mi* was discontinued in Peking in 1907, but this seemed to have but little effect on

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1913	5.54	4.10	5.07	7.24	5.86	5.97	5.72	4.29	3.90
1914	5.39	4.27	4.65	5.89	5.24	4.89	4.05	3.34
1915	5.09	3.81	4.50	5.92	5.03	3.72	3.74	3.03
1916	5.54	4.33	4.75	.....	5.52	5.31	4.55	4.15	3.80
1917	6.77	5.23	5.08	.....	6.00	6.28	4.89	4.45	4.00
1918	5.80	3.94	4.82	.....	5.89	6.09	4.95	4.96	3.45
1919	4.89	3.83	3.79	.....	5.35	4.71	4.03	3.56	2.85
1920	6.99	5.12	5.59	.....	6.54	6.04	5.62	4.45	4.42
1921	7.32	5.21	5.81	.....	7.48	7.01	6.59	4.95	4.30
1922	7.11	5.97	5.45	.....	7.21	6.77	5.55	4.85	4.11
1923	7.51	5.77	5.28	.....	7.57	6.85	5.45	4.99	4.39
1924	7.47	.....	5.65	.....	7.94	7.00	5.57	5.40	5.23

28

The relatively small decline in 1918 rise in 1924 are the two outstanding features of rice from 1913 to 1924. The weather produced the bumper crops in North China not necessarily affect the rice crop in Peking. Prices in Peking, however, would, of necessity somewhat follow the prices of the other grains, otherwise there would be a decrease in the price of rice.

The rise in the price of rice after the strike of the railroads in the fall of 1924 was very sharp. The increase in the price of the other grains was also actual and proportionate increases were seen for rice, \$1.80 and 25 per cent in five months.

From 1913 to 1918 the price of rice averaged less than \$6.00 a hundred catties. After 1919 and just before the famine in 1920 the price rose to the \$6.00 level. After the famine it remained in the neighborhood of \$7.00 until the fall of 1924 when it has been over \$8.00 or more than 35 per cent above the 1913-1918 average. In December 1924 it was \$9.00 a hundred catties, 53 per cent above the price in 1913.

MILLET

Hsiao mi, or small millet, is widely grown in North China, but as far as can be determined it is not widely used as a food in Peking. When it is cooked as a porridge rather than steamed it is made into cakes. There are two principal grades sold in Peking. The better grade is grown in the poorer quality comes from the country around Peking. On the account books the latter is usually marked *Mi* or *Kalgan* millet. Between the two grades there is often a difference of \$1.20 a *tan*, 20 per cent.

TABLE IV
FLOUR AND GRAIN

Year	Annual Average Prices—Dollars per 100 Catties									
	Wheat Flour	Wheat Wholesale	Hsiao Mi	Mien Mi	Lao Mi	Rice	Bean Flour	Millet Retail	Millet Wholesale	Corn Flour
1900	6.41	.....	3.90	6.32	.....	.....	5.55	4.45	.....	3.06
1901	5.76	3.71	3.29	4.27	.....	.....	5.26	3.62	2.70	2.14
1902	5.52	3.75	3.84	5.37	.....	.....	5.17	4.00	3.40	2.92
1903	5.77	3.87	4.36	6.01	.....	.....	5.38	4.56	3.74	3.48
1904	5.29	3.33	3.90	5.52	.....	.....	5.08	4.35	3.39	3.11
1905	4.88	3.39	3.80	5.35	.....	.....	4.84	4.25	.....	2.87
1906	5.71	3.90	4.08	5.80	.....	.....	5.05	4.50	3.47	3.24
1907	6.32	4.50	4.25	6.25	.....	.....	4.95	4.90	.....	3.13
1908	5.75	3.91	4.36	6.11	.....	.....	5.07	5.01	3.57	3.65
1909	5.85	3.98	4.32	6.08	.....	.....	5.29	4.98	3.35	3.25
1910	5.94	4.21	4.26	6.53	.....	.....	5.58	5.01	3.73	3.48
1911	6.77	4.88	4.90	7.33	.....	.....	5.97	5.56	4.34	3.74
1912	6.10	4.37	5.10	7.40	.....	.....	6.60	5.91	4.66	3.97
1913	5.54	4.10	5.07	7.24	.....	.....	5.97	5.72	4.29	3.90
1914	5.39	4.27	4.65	.....	.....	.....	5.24	4.89	4.05	3.34
1915	5.09	3.81	4.50	.....	.....	.....	5.03	3.72	3.74	3.03
1916	5.54	4.33	4.75	.....	.....	.....	5.31	4.55	4.15	3.80
1917	6.77	5.23	5.08	.....	.....	.....	6.28	4.89	4.45	4.00
1918	5.80	3.94	4.82	.....	.....	.....	6.09	4.95	4.96	3.45
1919	4.89	3.83	3.79	.....	.....	.....	4.71	4.03	3.56	2.85
1920	6.99	5.12	5.59	.....	.....	.....	6.04	5.62	4.45	4.42
1921	7.32	5.21	5.81	.....	.....	.....	7.01	6.59	4.95	4.30
1922	7.11	5.97	5.45	.....	.....	.....	6.77	5.55	4.85	4.11
1923	7.51	5.77	5.28	.....	.....	.....	6.85	5.45	4.90	4.33
1924	7.47	.....	5.65	.....	.....	.....	7.00	5.57	5.40	5.23

The relatively small decline in 1918 and the sharp rise in 1924 are the two outstanding features in the price of rice from 1913 to 1924. The weather conditions that produced the bumper crops in North China in 1918 would not necessarily affect the rice crop in Central China. Prices in Peking, however, would, of necessity, tend to somewhat follow the prices of the other grains. Otherwise there would be a decrease in the demand for rice.

The rise in the price of rice after the stopping of the railroads in the fall of 1924 was very similar to the increase in the price of the other grains except that the actual and proportionate increases were slightly smaller for rice, \$1.80 and 25 per cent in five months.

From 1913 to 1918 the price of rice averaged a little less than \$6.00 a hundred catties. After the decline of 1919 and just before the famine in 1920 the price returned to the \$6.00 level. After the famine it stayed in the neighborhood of \$7.00 until the fall of 1924. Since then it has been over \$8.00 or more than 35 per cent higher than the 1913-1918 average. In December 1924 the price was \$9.00 a hundred catties, 53 per cent higher than the price in 1913.

MILLET

Hsiao mi, or small millet, is widely grown throughout North China, but as far as can be determined it is not widely used as a food in Peking. When eaten it usually is cooked as a porridge rather than steamed or ground and made into cakes. There are two principal grades of millet sold in Peking. The better grade is grown locally. The poorer quality comes from the country around Kalgan. In the account books the latter is usually marked K'ou Hsiao Mi or Kalgan millet. Between the two grades there is often a difference of \$1.20 a *tan*, 20 per cent of the price

TABLE II
FLOUR AND GRAIN

Year	Annual Average Prices—Dollars per 100 Catties									
	Wheat Flour	Wheat Wholesale	Hsiao Mi Mien	Lao Mi	Rice	Bean Flour	Millet Retail	Millet Wholesale	Corn Flour	Corn Flour
1900	6.41	.....	3.90	6.32	.....	5.55	4.45	.....	3.06	.....
1901	5.76	3.71	3.29	4.27	.....	5.26	3.62	2.70	2.14	.....
1902	5.52	3.75	3.84	5.37	.....	5.17	4.00	3.40	2.92	.....
1903	5.77	3.87	4.36	6.01	.....	5.38	4.56	3.74	3.48	.....
1904	5.29	3.33	3.90	5.52	.....	5.08	4.35	3.39	3.11	.....
1905	4.88	3.39	3.80	5.35	.....	4.84	4.25	.....	2.87	.....
1906	5.71	3.90	4.08	5.80	.....	5.05	4.50	.....	3.24	.....
1907	6.32	4.50	4.25	6.25	.....	4.95	4.90	3.47	3.13	.....
1908	5.75	3.91	4.36	6.11	.....	5.07	5.01	3.57	3.65	.....
1909	5.85	3.98	4.32	6.08	.....	5.29	4.98	3.35	3.25	.....
1910	5.94	4.21	4.26	6.53	5.58	5.01	3.73	3.48
1911	6.77	4.88	4.90	7.33	5.97	5.56	4.34	3.74
1912	6.10	4.27	5.10	7.40	6.60	5.01	4.65	3.07

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portation Peking.

In Aug killed 10,00 taels worth not felt in I went up so especially getting ver crop badly to Peking give relief were open would inclu dinarily be the Govern were paid of lao mi. gauged fro It shows th came from should con

In Dec help return 1907, 150, distributed The fr Peking in

of the Kalgan millet. The prices given in Figure No. 3 and Table No. II are for the locally grown grain.

It is quite noticeable that the price of millet does not have nearly as much month by month fluctuation as do the prices of the other grains. Many times there are several months in succession in which the price is the same.

The prices of most of the grains began to rise in 1910. The price of millet, however, did not increase until 1911. The rise then was fairly rapid. The maximum came just before the harvest of 1912, about the same time as the highest prices for corn flour and bean flour, but six months after the maximum for wheat flour and *hsiao mi mien*. The decline after 1912 was a gradual one for millet, bean flour and corn flour. The low point for millet was not reached until July 1916. Bean flour reached its low point in July 1914.

From the low point in 1919 to the peak in famine year the increase was \$3.10, or 80 per cent of the lowest price in 1919. The highest price for millet did not come until October, at least a month after the other grains had reached their maximum.

Unlike the other grains, millet did not decline in price toward the end of 1920. It stayed at practically the same level, \$7.00 a hundred cattles, until just before the 1921 harvest. Millet and *kaoliang* were the two grains most used in famine relief. The relief work would tend to stabilize prices. Furthermore, the price in Peking, which was a trans-shipping point, would be largely governed by the demand of surrounding country. The country people are accustomed to eating millet and would buy it if it were available.

The 1921 harvest brought the price down to \$5.60. A gradual further decline took the price to \$5.00 in the last

half of 1923 and the first half of 1924. The fighting in 1922 had but little effect on the price of millet, increasing it only 25 cents. As the fighting came in May and lasted but a short time it did not affect the millet harvest.

The fall of 1924 saw the price of millet jump from \$5.00 to \$7.00. This was the maximum price in 1920, famine year. Millet was the only grain studied whose price in December 1924 did not exceed the highest price reached during the 1920 famine.

From March 1900 to December 1924 the price of millet increased 58 per cent. From January 1913 to the end of 1924 it rose 17 per cent. The highest price in 1924 was 75 per cent more than the lowest price in 1919. The average from 1900 to 1908 was approximately \$4.35, from 1908 to 1919 it was \$5.10 and from 1918 to 1929 it was \$5.40. If conditions could now return to normal, the price of millet would probably be about \$6.00 per hundred cattles.

The difference between the wholesale and retail prices varies greatly, of course. During some months it was \$2.00 per hundred cattles or 40 per cent of the retail price. At other times the wholesale price was more than the retail, though this condition was always followed by a sharp decline in the wholesale price and usually by a rapid increase in the retail price. The average spread between the wholesale and retail prices is \$1.00 per 100 cattles or about 21 per cent of the average retail price. Some of the wholesale prices give a much larger difference than this, but they are the prices paid outside of Peking and do not include the cost of transportation, cleaning, etc.

BEAN FLOUR

Many different kinds of beans are sold in Peking—green, black, yellow, white, red, black and white, round,

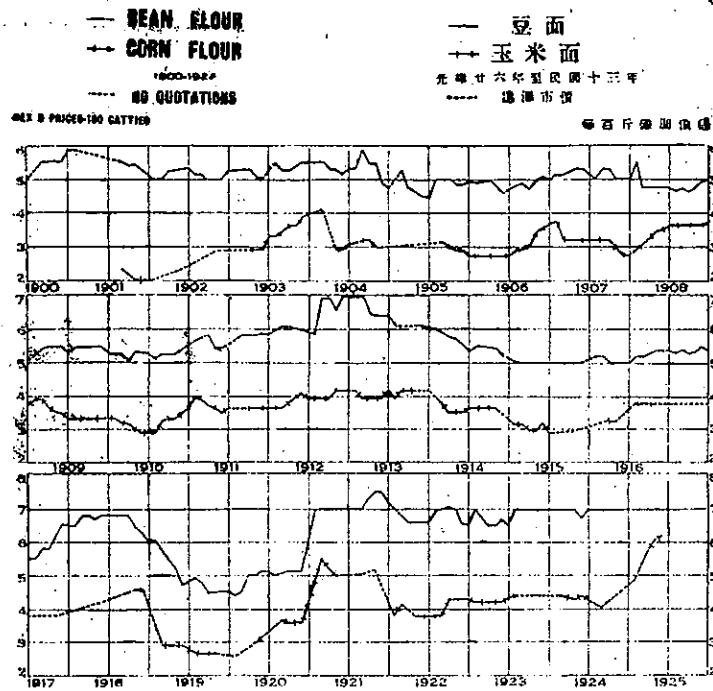


Figure No. 4.

big, little. The account books give the prices of eleven different varieties, but the quotations are so scattered that it is impossible to determine the complete price history of any of them. In March 1922 the wholesale price of black beans was \$3.81 per hundred catties; for green beans, \$5.32. In December 1924 black beans were \$4.80 and green beans \$6.25. From January 1913 to December 1924 the price of black beans increased 47 per cent, of green beans, 44 per cent. The increase from 1901 to 1924 was 150 and 122 per cent.

The account books do give a complete price history for the flour made from green beans. This is shown in

Figure No. 4. The fluctuations correspond very closely with those for wheat flour (Figure No. 1). From 1900 to 1910 the price stayed in the neighborhood of \$5.00 per hundred catties, the annual averages varying from \$4.84 to \$5.58. In March 1910 a rise started that lasted for over two years. The increase was slow and gradual until February 1912, amounting to only 80 cents in two years. In March 1912 the price jumped to \$5.95, a rise of \$1.00 in one month. In October the price started down again and by the middle of 1914 was down to \$5.00. There was an increase of \$1.30 during 1917, but most of it came too early to have been caused by the summer floods. Apparently the crop was very short, for during the last half of 1917 and the first half of 1918 the price was only 20 cents lower than the highest price in the famine of 1920.

The low point in the 1918-1919 decline came in August 1919. The price was \$4.40 a hundred catties, the lowest during 25 years. The increase after June 1920 was second only to that of *hsiao mi mien*.

It is to be noted that the price of bean flours did not come down after September 1920 but, like millet, remained steady until well into 1921. Unlike the other flours there was an increase just before the 1921 harvest. The maximum price, \$7.60, came in May 1921. During 1923 and the first half of 1924 the price remained practically stationary at \$7.00 per hundred catties. The quotations for the latter half of 1924 are missing, so it is impossible to determine the effect of the 1924 fighting. In the first half of 1924 the price of bean flour was 40 per cent higher than it was in January 1900, but only 17 per cent higher than the average price for 1913.

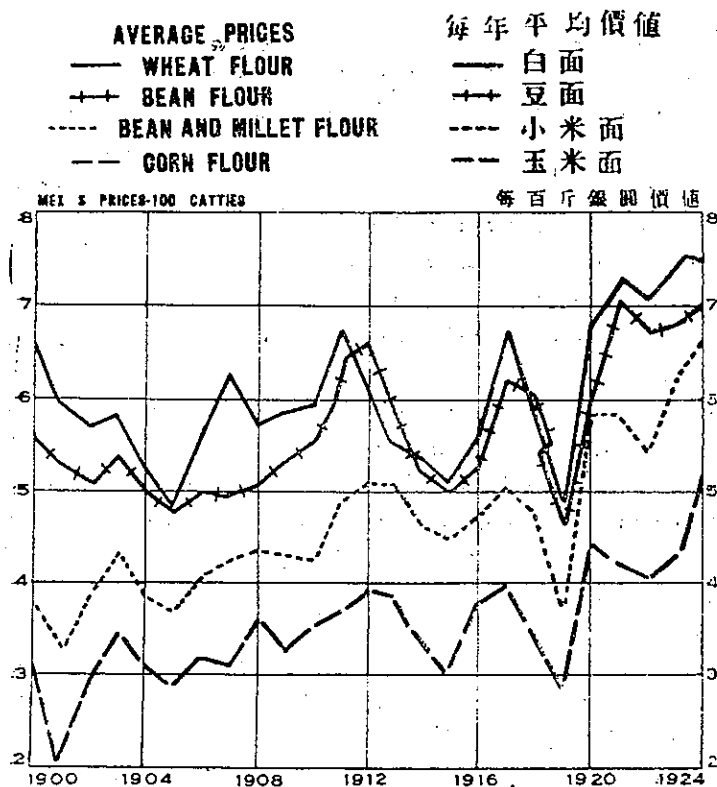


Figure No. 5.

CORN FLOUR

Yellow corn flour, next to *hsiao mi mien*, is the most important item in the diet of the Peking workers. It is generally eaten in the form of steamed loaves, *wo wo t'ou*, or else is made into cakes that are baked and steamed inside of an iron kettle. Porridge is sometimes cooked in the water in the bottom of the kettle at the same time that the cakes are being steamed.

The price changes of corn flour (Figure No. 4, Table No. II) follow very closely those of wheat flour and *hsiao mi mien*. The correspondence is so close that there are no outstanding features in the price history of corn flour. In general the price of corn flour has been approximately \$1.00 less than that of *hsiao mi mien*. The average price from 1901 to 1907 was \$3.25. From 1908 to 1916 it was \$3.66, and from 1917 to 1924 \$4.09.

From the low point in 1901 to the highest quotation in 1924 the range was \$4.20, or 210 per cent. The proportional increase is the largest of any for the grains and flours. The percentage increase from the minimum in 1919 to the maximum in 1920 was also the largest for corn flour, 106 per cent. For bean flour the increase was only 60 per cent, for rice 45 per cent. From 1913 to 1924 the price of corn flour increased 59 per cent.

There are naturally many factors influencing the prices of the various grains and flours, different times of harvest, varying supply, and the month by month variations do not follow each other so very closely. There is, however, a surprisingly close correspondence between the annual averages. Figure No. 5 shows how closely the average prices of the different flours have followed each other. If the price changes were shown by index numbers the correspondence would be even closer, especially from 1900 to 1913. Apparently the demand for the different grains and flours is so adjusted that it tends to keep prices at about the same relative levels. It seems evident that, owing to the ease with which demand can be shifted from one grain to another, a change in the average price of any grain is pretty sure to be reflected in the prices of the others.

From the available records it seems evident that the Peking prices of grain and flour depend very largely on

the weather, the character of the harvest and the ease with which it can be brought to the city. The political events of the twenty-five years, Boxer Rebellion, death, deposition, attempted restoration of the Emperor, establishment of the Republic, three civil wars have all influenced prices largely through their effect on the harvest and on transportation. It is true that when there has been fighting in or near the city prices have risen rapidly, but as soon as the fighting has stopped, prices have started to come down immediately and sometimes have come down fully as fast as they went up.

Besides the year to year fluctuations there appears to have been a slow increase in the general price level. Averaging the prices of the various grains and flours together for several years shows that the average for the years 1916-1924 was 23 per cent higher than for 1900-1907. From the first part of 1900 to the middle of 1924 the increase is 30 per cent; to the end of 1924 it is approximately 60 per cent.

MEAT

Pork and mutton are the principal meats eaten by the people of Peking. Fowl, fish, beef are all to be had in the markets, but they are not used to any extent by the ordinary people. In fact a great many of the working class eat meat only on special feast days, although the schedule of wages issued by the masons guild states that the masons shall be given special food on the second and sixteenth of the month and that this food shall include meat and wheat bread.

Peking's supply of pigs comes largely from the surrounding country. Sheep are brought from outside of the Great Wall, most of them from around Kalgan. It has not been possible to get any figures giving the number of pigs and sheep coming into the city. Their import is care-

fully watched, however, as a tax is collected on every pig and sheep killed, thirty cents for a sheep and forty cents for a pig. The tax for killing beef is \$3.00 an animal. Under the Empire the tax for killing a sheep was five tael cents. Something of the size of the meat industry can be determined from the number of men engaged in it. In 1918 the pig butchers guild had 750 members and 200 apprentices; the sheep butchers 2,840 members and 650 apprentices.¹ On the other hand, it seems evident that the people eat more pork than mutton.

The killing and selling of mutton is entirely in the hands of Mohammedans. Pork for them is unclean and even mutton must be killed by a priest who repeats a phrase of the Koran before cutting the sheep's throat. The slaughter houses are found scattered throughout the city.

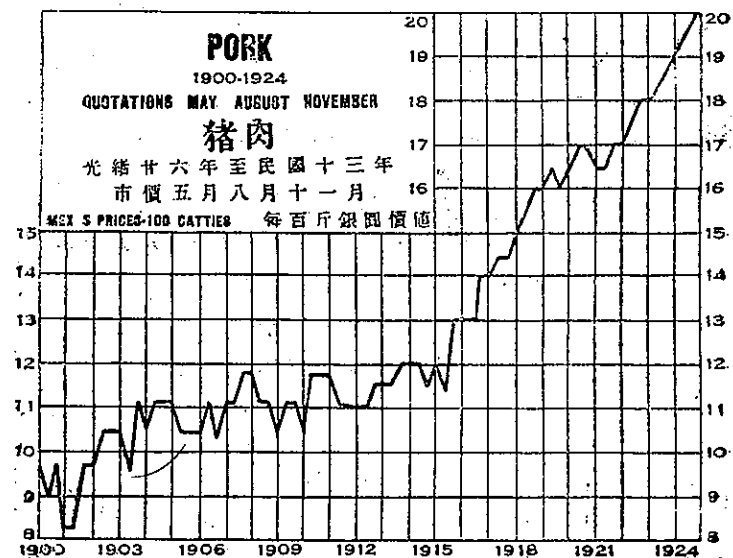


Figure No. 6.

1. Peking: A Social Survey, by Sidney D. Gamble.

The pork slaughter houses are grouped around the two pig markets, near the East and West four *pailous*. Most of them buy their animals directly from the market, where the pigs, with their feet tied together, are laid in rows along the street. If they are in the East market they have four feet tied together, if in the West market only three feet are tied. When the pigs are sold to the slaughter houses, they are carried off on a pole struck between their tied feet.

In connection with the killing of the pigs the Chinese still seem to have some remnants of the old idea that the killing of animals is done as a punishment. Around the East pig market there are seventy-two slaughter houses corresponding to the seventy-two sections of hell that are shown in the Tung Yueh Miao (Eastern Mountain Temple) outside the East Wall of Peking. The killing of the pigs is done at night on a floor lighted only by an old-fashioned oil lamp. The killers go naked onto the killing floor and are said to represent the devils and evil spirits that the Chinese picture as administering the tortures of hell.

TABLE III
PORK AND MUTTON
Dollars Per 100 Catties

Year	Pork		Mutton	
	Average	Maximum	Minimum	Average
1900	9.45	16.20	11.10	14.00
1901	8.75	18.40	12.30	15.30
1902	10.10	13.80	8.70	10.00
1903	10.40	15.60	8.90	11.30
1904	10.80	.....	.....	.....
1905	10.70	16.00	12.80	14.00
1906	10.70	15.90	11.60	13.86
1907	11.40	18.10	9.80	14.80

1908	11.40	14.10	11.10	12.50
1909	10.80	13.10	8.50	10.50
1910	11.40	13.30	9.00	11.00
1911	11.40	19.40	10.80	14.63
1912	11.20	19.50	9.80	13.10
1913	11.70	20.00	13.90	15.60
1914	11.80	19.80	13.10	16.30
1915	12.20	19.00	11.20	15.10
1916	13.30	19.80	10.70	15.40
1917	14.30	20.30	11.80	16.30
1918	15.50	19.60	11.80	14.90
1919	16.20	18.20	10.50	14.70
1920	16.80	18.30	9.90	13.70
1921	16.70	16.60	12.50	14.40
1922	17.50	19.80	11.50	15.00
1923	17.50	19.00	12.10	15.00
1924	19.00	19.80	12.20	16.00

PORK

It has not been possible to secure the account books of a pork shop, but one of the dealers went over his accounts and secured the quotations for May, August and November of each year. (Figure No. 6, Table No. III) The prices were given in terms of cents per catty and represented the amount received from small purchasers. They were given to the nearest half tael or dollar cent. This makes the fluctuations in Figure No. 6 seem large. Before 1912 seventy cents per hundred catties was the smallest possible fluctuation. After 1912 it was fifty cents.

From the variations in the quotations it is not possible to determine that there is any regular seasonal fluctuation. Any downward movement of prices has come more often in May and August. Increases have come more often in August and November.

The annual average prices show that the price of pork has been going up almost constantly. For only five years is the average less than that of the previous year. Only two of these decreases amounted to more than twenty cents on a hundred cattles. One was in 1901 just after the Boxer year, the other in 1909.

From 1901 to 1907 the increase was fairly rapid, \$2.65 in six years. From 1907 to 1914 the annual average went up only 40 cents. From 1914 to 1924 the price rose rapidly, \$7.20 in ten years. The rise was constant, during these last eleven years, except that in 1921 there was a decrease of ten cents and in 1923 the price was the same as in 1922. The total increase from 1900 to 1924 was \$9.55 or 101 per cent. From 1913 to 1924 the increase was \$7.30, or 62 per cent of the 1913 average. In one year from November 1924 to November 1925, the price of pork went from \$20.00 a hundred cattles to \$27.50, an increase larger than that from 1916 to 1924.

One would expect that the price of pork would tend to follow the price of grain, but there seems to be no relationship. Changes in the price of pork and of cloth are much more similar.

The detailed study of the account books would probably bring out many variations and seasonal changes that are not shown by the present figures.

MUTTON

The price of mutton fluctuates in a very different way from that of pork. The price of pork has gone up almost every year, but average the price of mutton has been up and down at least three times in twenty-five years (Figure No. 7). In 1924 the average price was \$16.00 per hundred cattles. This was only \$2.00, 14 per cent, higher than the average for 1900 and only 3 per cent

higher than the 1913 average. Of all the commodities studied mutton has the smallest proportional increase. The lowest average prices were \$10.00 in 1902 and \$10.50 in 1909; the highest \$16.30 in 1914 and 1917.

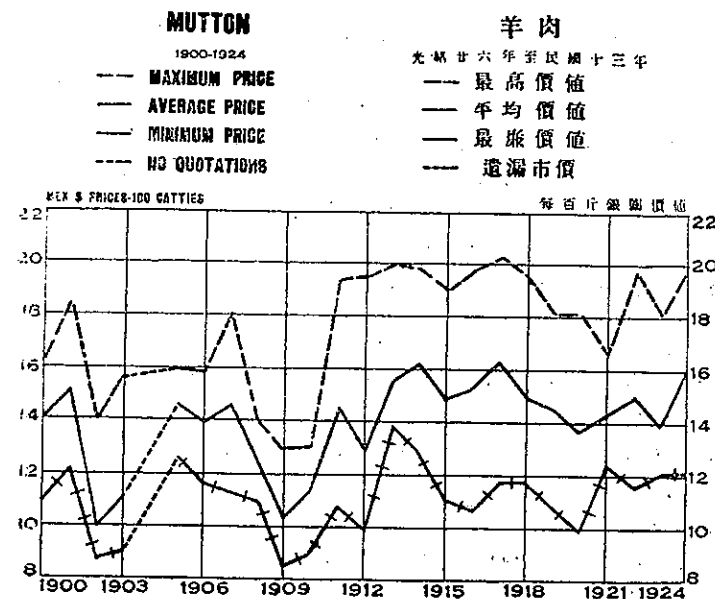


Figure No. 7.

On any one day the account books often give several different prices, sometimes as many as seven or eight. Ordinarily these are close together, differing only by tenths of a cent per catty. The usual difference between the maximum and minimum is from one and a half to two cents, a little more than ten per cent. The maximum difference found was four coppers, about three and a third cents, 20 per cent of the lowest price. All of the quotations given have been used in determining the average prices.

The account books show how the monetary units have changed during twenty-five years. From 1900 to 1912 the accounts were kept in tael cents and copper *tiao*. A Peking *tiao* equals ten coppers or one hundred cash. From 1912 to 1918 the accounts were kept entirely in *tiao*. In 1919 they were kept in terms of *tiao* and dollar cents. Tael cents began to be used again in 1920 and the accounts were kept in three different units. Due to the rapidly rising copper exchange, the entries in terms of *tiao* became fewer and fewer until, in 1923, coppers had disappeared from the accounts entirely and dollar and tael cents were the only units used. There is some difference between the prices as given in terms of taels, dollars and coppers, but ordinarily this difference is small.

The monthly average prices show tremendous fluctuations (Figure No. 8). In any one year the smallest difference between the maximum and minimum monthly averages was \$3.20 in 1905. This was 25 per cent of the minimum price. The largest variation was in 1911 and amounted to \$9.60 or 97 per cent of the minimum price. The average range is \$6.50 or 60 per cent of the minimum price.

The fluctuations are so extreme and so different from those of the other commodities studied that one would be inclined to question the report of the account books except for the fact that the fluctuations come every year and are very nearly periodic. In fourteen out of twenty-four years the maximum price came in the third or fourth month, April or May. In only one year does the maximum price come in the twelfth month, or just before the Chinese New Year. All other maximums come before the sixth month. Most of the minimum prices are found in September, October, November, though the minimum prices for one or more years are found in every month after the third. However, when the minimum price comes

Before the seventh month there is always a second decline before the end of the year. Lambing, shearing, winter feeding make big differences in the number of sheep shipped in from the ranges each month and a consequent difference in the price of mutton. Peking has no cold storage plants and the meat must be sold as soon as it comes into the market.

It is interesting to note that in 1924 the price of mutton dropped from \$19.70 in the fourth month to \$14.20 in the eleventh month, although the civil war began in the eighth month and the prices of other commodities rose rapidly after the seventh month.

Since the sheep come from a distance where weather and crop conditions may be very different from those that prevail in Peking, it is impossible to draw any definite conclusions concerning the relation of the price of mutton to that of other farm products, but it is suggestive that the low prices of mutton tend to come a year later than the low prices of grain. The average price of mutton was high in 1901 and low in 1902; was lower in 1912 than in 1911, dropped in 1920, famine year and again in 1923.

It is the custom of the mutton dealers in selling dressed sheep to figure the price according to the net weight, of the carcass, but the head, feet, heart, lungs, stomach go with the sheep. The intestines are not included, for they belong to the employees of the shop. In 1918 a sheep's intestines sold for 10 coppers, 7.5 cents silver. With the increasing copper exchange they went up to 15 and then to 20 coppers. Now (1925) they are selling for about 30 coppers, 10 cents silver. The sheep's blood is another of the employees' perquisites. Before 1900 the blood from one sheep sold for 10 cash, one copper. After Boxer year it went up to 12 cash. Now it is selling for 12 coppers, 4 cents silver.

Mohammedans are not allowed to eat blood, intestines or unborn lambs.

If a store buys less than a whole animal the head, feet, etc. are not included, but the purchaser has the privilege of exchanging the bones for an equal amount of meat. This does not mean much of a loss to the store making the exchange, as the oil from the bones commands a high price and there is a market for the bones themselves. In 1917 bones sold for \$1.98 per 100 catties.

The account books give scattered quotations for the viscera. The price of heads has varied from 16.5 to 18 cents a piece. In 1922 the average price was 17.8 cents. The price of the neck has fluctuated from 24 to 40 cents. The average is 30 cents. Lungs have ordinarily sold for ten, eleven or twelve cents, though they have been as low as 8.2 cents and as high as 16.9 cents. The kidneys usually have sold for a little more than a cent a piece. The price of liver has generally been about 20 cents a catty. The price of stomachs has fluctuated considerably from year to year. In 1900 it was 28.7 cents; in 1902 it was 33 cents, 19.5 cents in 1903, 16 cents in 1912, 32 cents in 1914, and 27 cents in 1921. The average price is 24 cents. Fat sold for 11.8 cents a catty in 1908, 18.3 cents in 1911, and 23.7 cents in 1913. There is only one quotation given for feet. That was 1.5 cents a piece in 1911. Hides sold for \$1.49 a piece in 1919 and \$1.02 in 1923. In 1924 large hides averaged \$1.19, small hides 55 cents a piece. There seems to be but little connection between the fluctuations in the viscera prices and the variations in the price of mutton, as the prices of the former are often high when the price of meat is low, and *vice versa*.

The mutton account books give scattered quotations for beef and goat meat. These usually sell for about the same price, and are from 15 to 20 per cent cheaper than mutton.

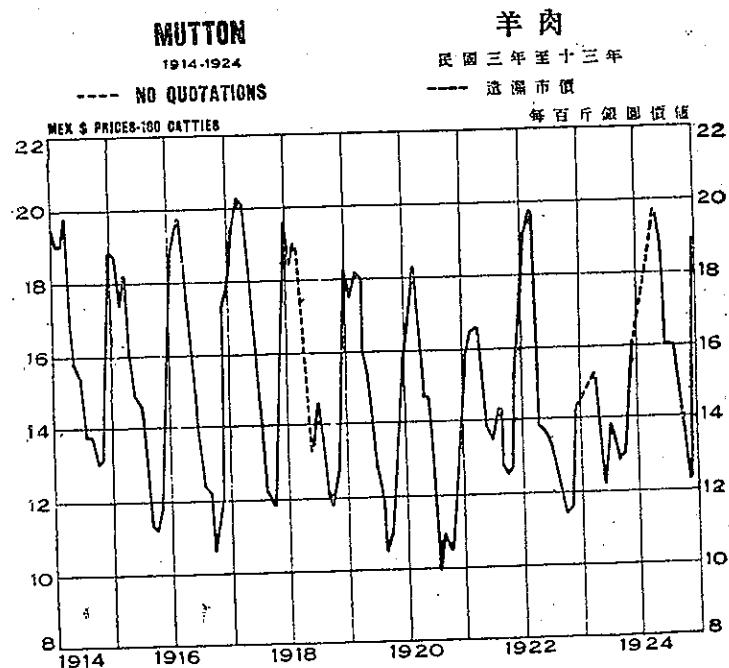


Figure No. 8.

CONDIMENTS

In their cooking and on their tables the Chinese use a great variety of oils, sauces and condiments. It is these that give the distinctive flavors to Chinese cooking. Many of them are, of course, too expensive for the workingman. The ones they ordinarily use are *hsiang yu*, or sesame oil, peanut oil, salt, *huang chiang*, a salty, yellow sauce made from yellow beans. As an extra flavoring they regularly eat salt turnip and occasionally use a little *chiang yu*, a salty sauce made from beans, which is the base of the western Worcestershire sauce. These various sauces are sold by the Yu Yen Tien, or Oil and Salt Stores. When selling to the working people most of their transactions are in terms

of a few coppers, enough *huang chiang* to put in the bottom of a small bowl, enough oil to cook one meal, a few pieces of salt vegetable.

Sufficient information is not available to make it possible to determine how much a workingman's family spends on sauces and oils, during the course of a year. Undoubtedly it is but a small percentage of the total budget. Since it is undetermined, a month by month study of the prices of the various oils and sauces has not been attempted. The annual averages have been secured instead. They eliminate the minor fluctuations but give the general trend. The figures secured from the Yu Yen Tien are for the years from 1902 to 1924. The quotations for 1900 and 1901 are missing. The prices are wholesale prices, those at which they purchased supplies from the wholesale dealers. Retail prices would be some 16 to 20 per cent higher.

SALT

The production of salt in North China is a government monopoly and is one of the chief sources of revenue for the Central Government. For Chihli Province most of the supply comes from the sea coast east of Tientsin. Sea water is pumped into evaporating beds by large wind mills and the water is evaporated by the sun. This makes government profit and transportation two of the principal items in the cost of salt. As a result there have been but few changes in the price (Figure No. 9). In only eight of the twenty-three years from 1902 to 1924 has there been any change. Six of these have been increases. The two decreases came in 1912 and 1921. The 1912 decrease came just at the time that the newly organized Salt Gabelle was taking control of the salt industry which, up to that time, had been in the hands of the provincial authorities. The next year there was a small increase, 18 cents a hundred catties, but during the next six years there was no change whatever. The other decrease

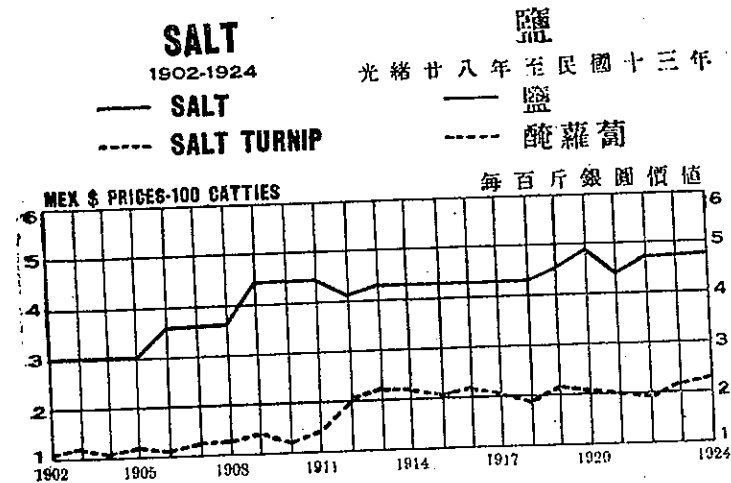


Figure No. 9.

came in 1921 and offset, within five cents, a rise in 1919 and 1920. In 1922 there was a thirty cent increase which made the price \$4.70 a picul. Since then there has been no change. The price in 1902 was \$3.00, so the increase in twenty-three years has been 56 per cent.

The buying account books of another condiment store show that they paid \$3.47 a picul in 1902 and \$4.66 in 1922. The 1902 price is considerably higher than that paid by the first store; the 1922 price is a few cents lower. The increase was only 34 per cent instead of 56 per cent. It has not been possible to secure the full set of accounts from the second store, so the prices of other years cannot be compared.

The selling account books of the second store showed that in 1902 the selling price was 50 tael cents (\$0.695) higher than the purchase price. In 1922 the difference was \$0.74. The profit was 20 and 16 per cent. This gives some idea of the amount the Chinese store keepers add to the

price of a universally used article to cover the cost of doing business and their profit.

SALT VEGETABLE

The Chinese like to have a few pieces of salt vegetable to eat with their meals, especially with rice or millet. The variety most widely used is salt turnip, made by soaking white turnips in brine. From the quantities of turnips that are seen on the streets during the harvest time, tremendous amounts must be used.

The wholesale price of salt turnip has risen from \$1.11 in 1902 to \$2.30 in 1924, an increase of 108 per cent (Figure No. 9). The largest part of this increase came in 1912. The average price for that year was 50 per cent higher than for 1911. Other than this, the average variations have been between 8 and 15 per cent and the prices have stayed close to two different levels. From 1902 to 1911 the price varied from \$1.11 to \$1.39. From 1912 to 1922 it has ranged from \$1.95 to a maximum of \$2.30.

It is difficult to determine what would cause the big jump in price in 1912. Changes in the price of salt are not directly reflected in the price of salt turnip. It undoubtedly was some fundamental change in the amount of the vegetables available, for a different kind of salt vegetable made from *chieh ts'ai ke te*, a turnip-like root, has almost exactly the same price history as salt turnip. There are only two years in which the price changes do not follow each other. In both of these the price of one has remained stationary while there has been a change in the other. The proportional changes have also been similar. From 1911 to 1912 the price of *chieh ts'ai* increased 33 per cent. From 1902 to 1924 the increase was 80 per cent.

OILS

The principal oils used by Chinese in their cooking are secured from sesamum seed and peanuts. Peanut oil is the cheaper but the sesamum, or, as the Chinese call it, sweet oil, is usually preferred because of its taste and because it is more digestible.

The prices of the two oils follow the same general trend (Figure No. 10), but there are some decided differences in the yearly variations. In 1912 the price of peanut oil went up \$1.40, while sesamum oil came down half of

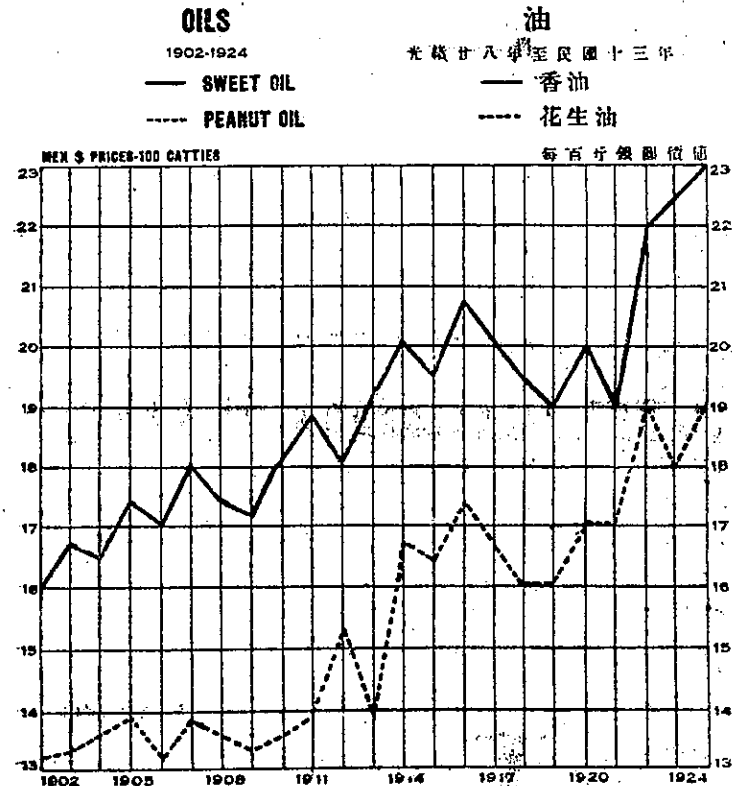


Figure No. 10.

tha' amount. The next year peanut oil came down \$1.40 and sweet oil went up an equal amount. On the average, the price of sweet oil is 23 per cent higher than that of peanut oil, though the annual differences have ranged from 12 to 40 per cent.

In 1902 the price of peanut oil was \$13.00 per hundred catties, of sesamum oil, \$16.00. The 1924 prices were \$19.00 and \$23.00, an increase of 46 and 44 per cent.

Wine, *chiang yu*, bean sauce, vinegar are the other principal items handled by the condiment stores. The price of *kaoliang* wine increased from \$16.00 a hundred catties in 1902 to \$21.00 in 1924, a rise of 31 per cent. Most of this, however, has come since 1918. The average price for that year was \$16.30, only thirty cents more than the price in 1902.

The price of *chiang yu* has increased, since 1902, from \$5.00 to \$7.00 a hundred catties, bean sauce from \$4.15 to \$5.70 or 40 and 37 per cent. It is natural that they should stay closely together as they are both made from beans.

Vinegar, which is made from yellow millet or *kaoliang*, has risen in price from \$1.40 to \$3.50 per hundred catties, 150 per cent. The largest part of this increase came from 1920 to 1922. The increases in those three years totalled \$1.40 or 80 per cent of the price in 1919. This, of course, reflects the big increases in the prices of the grains during those years. It is to be noted that the price of vinegar went up every year from 1916 to 1922 and did not react to the big decrease in the price of grain in 1918.

VEGETABLES

The prices of fresh vegetables must be omitted as the only available quotations are very scattered and incomplete.

TABLE IV

OILS, SALT, SALT VEGETABLE

Annual Average Prices-Dollars Per 100 Catties

Year	Sweet Oil	Peanut Oil	Salt	Salt Turnip
1902	16.00	13.20	2.98	1.11
1903	16.70	13.30	2.98	1.25
1904	16.40	13.60	2.98	1.11
1905	17.40	13.85	2.98	1.25
1906	16.95	13.20	3.62	1.11
1907	18.09	13.85	3.62	1.25
1908	17.50	13.60	3.62	1.25
1909	17.22	13.30	4.45	1.39
1910	18.09	13.60	4.45	1.25
1911	18.75	13.85	4.45	1.39
1912	18.09	15.25	4.17	2.08
1913	19.45	13.85	4.35	2.22
1914	20.09	16.65	4.35	2.22
1915	19.75	16.40	4.35	2.08
1916	20.80	17.35	4.35	2.22
1917	20.00	16.65	4.35	2.08
1918	19.20	15.98	4.35	1.94
1919	19.00	16.00	4.50	2.20
1920	20.00	17.00	4.90	2.10
1921	19.00	17.00	4.40	2.00
1922	22.00	19.00	4.70	1.90
1923	22.50	18.00	4.70	2.20
1924	23.00	19.00	4.70	2.30

CLOTH

The cost of clothing would ordinarily be one of the items in a study of the cost of living, but in Peking most of the clothing is made in the home and men away from home, or those who buy second hand clothing, are almost

the only ones who buy ready-made clothes. The cost of the cloth is really the cost of most of the clothing. We have therefore turned to the cloth stores for the history of cloth prices.

The figures show considerable month to month fluctuation in the wholesale prices, but very much less in the retail prices. The study of family budgets shows that, while there are usually some small expenditures for cloth and thread in every month of the year, the principal purchases are ordinarily made in the fall and in the spring. Because of this fact and the small fluctuations in the retail prices, the annual average price of cloth seems to give the best idea of the changes in the cost of clothing.

The figures are taken from two sources. We have had difficulty in securing a set of account books covering the twenty-five years from 1900 to 1924, so have used a set beginning with 1912. The figures for the years before 1912 were furnished by a storekeeper who, though unwilling to have the prices copied from his books, went over the accounts himself and found the average prices for each year.

At present there are two principal types of cloth in the market, the Chinese made and the imported. Before 1912 the foreign made cloth controlled the market, for China had not developed her cotton industry to any extent. Since then the output of Chinese made goods has gradually increased until now, especially in the cheaper grades, it occupies the larger place in the market. Cheaper costs of production and transportation give the Chinese made goods quite an advantage, but the cotton grown in China is such that it is difficult for the Chinese mills to weave the better qualities of cloth.

The account books give the price history of sixty varieties of fifteen different kinds of cloth. The varieties

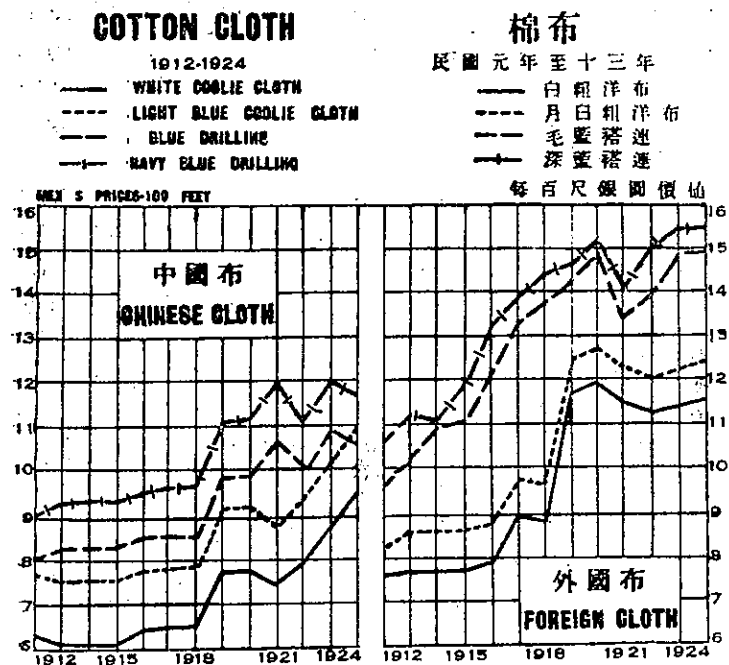


Figure No. 11.

are usually different colors, white, several shades of blue, black and gray. The different varieties of the same kind of cloth usually have the same price history. With but few exceptions, the increases and decreases come at the same time and are equal in amount. The difference in price between the different colors usually stays the same. This difference is anywhere from \$ 0.10 to \$3.40 per hundred feet. The dark blue and black varieties are always the most expensive.

The price of Chinese made white coolie cloth (*ts' u yang pu*) was \$6.30 in 1912 and \$9.50 in 1924 (Figure No. 11), an increase of \$3.20 (51 per cent) in twelve years. From 1912 to 1918 the price increased only 20 cents, but

in the next six years it went up \$3.00 per hundred feet. In only one year, 1921, was there any decline. In 1924 the prices for coolie cloth ranged from \$9.50 for white to \$12.90 for blue. The average increase for nine different varieties was 43 per cent.

Imported white coolie cloth sold for \$7.65 per hundred feet in 1912, or \$1.35 more than the domestic cloth. In 1924 the difference was \$2.10, the price of the foreign made cloth having gone up to \$11.60. Most of this increase came between 1916 and 1920 with an especially big rise in 1919. After 1920 the price declined for two years, but since then has been rising again. The 1924 price, however, was still less than the maximum of 1920. The average increase for the different colors of foreign made coolie cloth was 50 per cent in twelve years.

In 1900 the price of foreign made blue coolie cloth was \$4.88; in 1912 it was \$8.89 and in 1913 \$8.75. In 1924 it was \$12.70. From 1900 to 1913 the increase was 80 per cent; from 1900 to 1924 it was 160 per cent.

The price history of Chinese made drilling from 1912 to 1920 is very similar to that of the domestic coolie cloth. In 1921, however, drilling increased \$1.00, although the price of coolie cloth went down. In 1924 the price of drilling was lower than in 1921, while the price of coolie cloth increased every year from 1921 to 1924. For drilling the average increase from 1912 to 1924 was 43 per cent.

There seems to be no relation between the prices of foreign and Chinese drilling. The price of the imported rose rapidly year by year from 1912 to 1920. There was a drop of \$1.40 in 1921 but an equal rise in the next two years. It was in 1921 that there was an increase of \$1.00 in the price of Chinese made drilling. Gold and silver exchange, cost of production and transportation, time needed for shipment and distribution, are all involved in the

price of foreign made goods, but it is surprising that the prices of the foreign and Chinese made goods do not follow each other more closely in the local market.

The price history of most of the other kinds of cloth has been a year by year increase from 1912 to 1920, a drop in 1921, an increase in 1922 and 1923. Only three kinds, calico (*chu pu*), medium weight muslin (*shih pu*) and *hua pu* show any decrease before 1920. The price of medium weight muslin dropped \$1.80 in 1918. By 1919 it was back to the 1917 level. Four varieties increased in price every year.

Since 1921 the prices of 35 of the 60 varieties have increased beyond the 1920 level, eight have fluctuated close to that level. For seventeen varieties the highest prices came in 1920.

The average increase in price from 1912 to 1924 for the fifteen different kinds of cloth was 56 per cent. The maximum was 83 per cent, the minimum 21 per cent. From 1913 to 1924 the average increase was 54 per cent.

TABLE V
CLOTH

Annual Average Prices - Dollars Per 100 Feet					
Year	Foreign		Year	Foreign	
	Cloth	Chinese		Cloth	Chinese
1900	4.88	.....	1913	8.75	6.25
1901	5.22	.....	1914	7.70	6.20
1902	5.12	.....	1915	7.70	6.20
1903	5.53	.....	1916	7.90	6.40
1904	5.53	.....	1917	9.00	6.50
1905	6.11	.....	1918	8.90	6.50
1906	6.11	.....	1919	11.70	7.80
1907	6.52	.....	1920	12.00	7.80
1908	6.95	.....	1921	11.50	7.40
1909	7.50	.....	1922	11.20	7.90
1910	7.50	.....	1923	11.40	8.80
1911	8.20	.....	1924	11.60	9.50
1912	8.89	.....	.....	.....	.....

COAL

Coal is found in the Western Hills fifteen miles from Peking, so fuel is comparatively cheap. It was not expensive even in the days when there were no railroads and camel trains had to be depended on for transportation. With the coming of the railroads other coal fields have been made available and coal is now brought from Tangshan and other points on the Peking-Mukden Line, from Chou K'ou Tien on the Peking-Hankow road, from Shansi, and occasionally from Honan and Shantung.

In studying the price history of coal the prices of coal balls have been used rather than the price of coal itself. The prices of coal balls are more easily available, as the poorer families in Peking buy practically all of their coal in that form. Since they spend only from \$6.50 to \$10.00 a year for fuel, 5 per cent of a budget of from \$130 to \$200 a year, they must buy it in the cheapest possible form. This is coal dust made into a sort of briquet. Coal dust and a yellow earth found just outside the walls of Peking are mixed together with water, approximately two-thirds coal and one-third earth. The mixture is spread out in a layer about an inch deep and is then cut into cubes roughly an inch square. These are made into balls by rolling a number of them together in a round, flat basket, about three feet in diameter. The balls are hardened by being dried in the sun. They are usually burned in unflued stoves. As they are difficult to start and are apt to give off considerable gas, the starting process is ordinarily hurried by fitting a temporary chimney over the hole in the top of the stove. Once lighted the coal balls burn with a steady, even heat.

The supply of coal has been fairly constant, labor and transportation - the principal items in the cost of coal - have increased but slowly, so the price of coal and coal

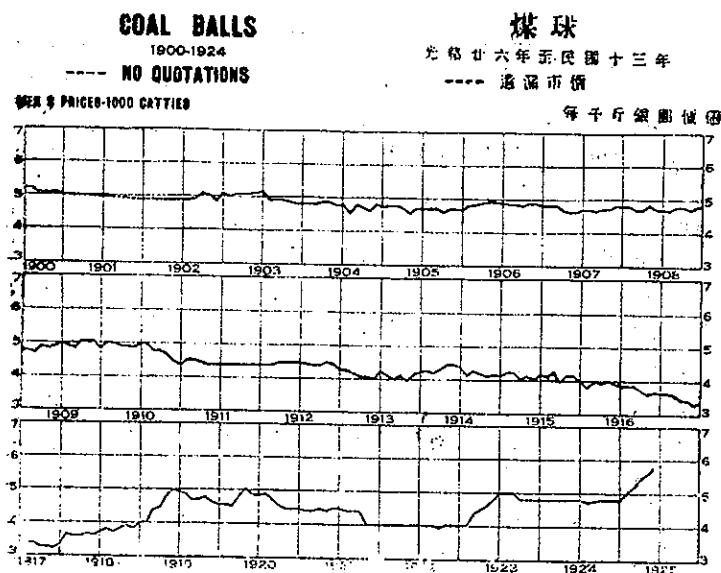


Figure No. 12

balls has been subject to but few fluctuations. In January 1900 the price of 1,000 catties was \$5.20, or \$9.60 a long ton. From January 1900 to June 1910 the price varied between \$5.20, and \$4.60, but most of that time was less than \$5.00. In March 1910 a decline started that in three years reduced coal balls \$1.00 per thousand catties, and brought the price down to \$4.00. In 1916 began another drop that took the price to \$3.25 in June of 1917. This was the lowest price in the twenty-five years.

The steadiness of this decline is particularly noticeable when the annual averages are compared. From 1909 to 1917 the average for each year is less than that of the preceding year. The biggest drop came in 1916 and 1917. In the eight years the total decline amounted to \$1.46, or 30 per cent of the average price for 1909.

From June 1917 the price rose steadily until in a year and a half it was again up to \$5.00. The annual average for 1919 was only twelve cents lower than that of 1909. In 1921 and part of 1922 the price was again down to \$4.00, following a decline from \$5.05 in November 1919. During the last half of 1922 it rose again to \$5.00, but during 1923 and the first half of 1924, it remained practically stationary at \$4.80. Coal balls like everything else rose rapidly in price during the latter part of 1924 and, by December, were selling for \$5.80 a thousand catties. This was the highest price for the twenty-five years. By the end of 1925 the price had reached \$7.00. The increase from January 1900 to December 1924 was only 16 per cent, the smallest proportional increase of any commodity studied except mutton. From 1913 to December 1924 the increase was 37 per cent.

It is not possible to secure the records that give the dates of the opening of the various mines that supply Peking with coal, but the almost constant decline from 1900 to 1917 is undoubtedly due to the gradual opening of new mines and to better and cheaper transportation. The decline is so gradual that it is impossible to trace the direct influence of any particular event, though the opening of the Peking-Suiyuan Railroad to Tatung in 1915, and the tapping of that coal field, may well account for the more rapid drop in 1916 and 1917. It is striking to notice that the Revolution of 1912 had practically no effect on the price of coal, an increase of ten cents a thousand catties when the fighting began in October 1911. The flooding and destruction of some of the mines at Mentoukou in the Western Hills, during the summer rains of 1917, is probably responsible for the big increase in the price of coal after June 1917. The output of the mines

at Mentoukou dropped from 255,430 tons in 1917 to 153,870 tons in 1918.

Transportation difficulties also developed about that time. Because of the European War, China had not been able to buy new freight cars since 1914, some of the cars were wearing out and the growing business of the railroads put added demands on the rolling stock.

The fighting in 1920 was quickly over and had no effect on the price of coal, but the civil wars of 1922 and 1924 sent the price up rapidly. In those years most of the fighting was along the Peking-Mukden railroad and greatly reduced the amount of coal that could be shipped from the Kailan and other mines along that line.

TABLE VI
COAL BALLS

Annual Average Prices—Dollars Per 1000 Catties

Year	Price	Year	Price	Year	Price
1900	5.08	1909	4.97	1918	4.13
1901	4.86	1910	4.71	1919	4.70
1902	4.95	1911	4.48	1920	4.54
1903	4.88	1912	4.31	1921	4.14
1904	4.73	1913	4.28	1922	4.15
1905	4.76	1914	4.17	1923	4.85
1906	4.80	1915	4.05	1924	4.99
1907	4.73	1916	3.65	.....	.....
1908	4.80	1917	3.43	.....	.....

1 The China Year Book 1923.

SECTION II

FAMILY BUDGETS AND INDEX NUMBERS

The prices of different commodities change at different times, different rates and in different amounts. They do not always go up and down at the same time. Only by combining the different price changes is it possible to determine whether there has been a change in the cost of living, the amount necessary to purchase all the items usually included in a family budget. This is done by averaging the price indexes of the various commodities. A price index is secured by taking the average price of a commodity during a given year, or series of years, as 100 and expressing the prices of other years as a percentage of this base price. The average of the commodity indexes is the cost of living index number. This may be a simple average, one in which all commodities are given equal weight, or a weighted average, in which each item is weighted according to its importance in the family budget. The simple average is the easiest to calculate but shows only approximately the change in the cost of living. The weighted index number is much more accurate, but is more difficult to calculate and must be based on careful studies of family budgets. Incomes of different amounts are spent in different ways.

Fortunately studies have been made of the budgets of seven different groups of families living in or near Peking. They include employees of Tsing Hua College, located

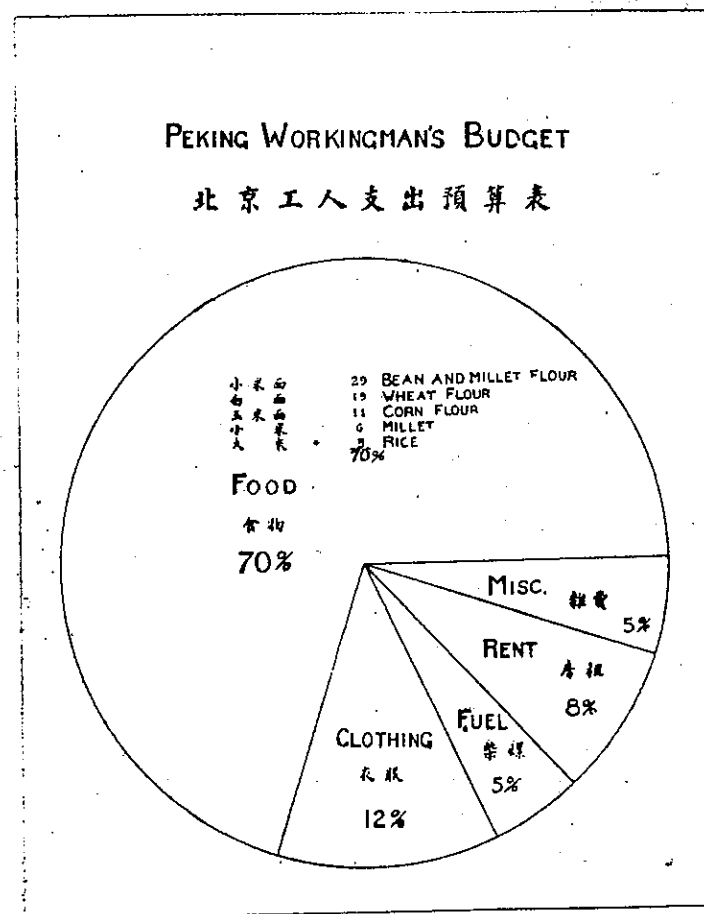


Figure No. 13.

about five miles north of Peking, suburban families living just outside the walls of Peking and women workers living in Peking. The total number of families in the seven groups is 720. The average budget for the combined groups is: food, 70 per cent; clothing, 12 per cent; rent, 8 per cent; light and fuel, 5 per cent; miscellaneous, 5 per cent. (Figure No. 13.) The figures for the different

studies made by Dr. C. G. Dittmer, Dr. Ta Ch'en and Dr. Louise Morrow were given in Table No. VII.

It will perhaps be said that the families studied are not working class families living in Peking and therefore their average budget will not be typical for the Peking workers. It may not be absolutely typical, but it is the best approximation available at the present time. Furthermore, it will be a close approximation, for the family incomes represented are quite similar. Dr. Dittmer found the incomes of the families he studied to range from \$30 to \$269 a year, with the median between \$90 and \$109 a year. That was in 1918. If a skilled worker in Peking worked every day during that year his income would be \$135.00. The income of an unskilled worker would be \$82.00. A certain amount of unemployment would reduce their wages below these maximums, but the work of other members of the family would add enough so that the total family income would be, on the average, approximately equal to the amount received by those whose family budgets have been studied. In 1924 Dr. Ch'en found the incomes of the Tsing Hua employees to range from \$72 to \$500 a year. The average wage was \$112. At that time the maximum wage for a skilled worker was \$140 and \$95 for an unskilled worker.

Before a weighted index number can be figured the 70 per cent spent for food must be subdivided. Grain, flour, vegetables, meat, salt, oil and other condiments will naturally be the chief divisions, but just how the 70 per cent spent for food should be divided between these it is impossible to say. As far as we can find no studies have been made of the kinds and amounts of food used by Chinese families.

TABLE VII
FAMILY BUDGETS

Date of No. Study	Group	Expenditure				
		Food	Cloth- ing	Light and Rent	Fuel	Misc.
1 1918	93 Tsing Hua College Employees	72.2	19.03	6.7	1	3.17
2 1918	100 Peking Suburban Chinese Families ...	76.53	6.18	7.94	2.5	2.5
3 1918	95 Peking Suburban Manchu Families ...	73.2	5.31	9.00	5.96	5.48
4 1923-4	141 Tsing Hua College Employees	61.8	16.5	13.	1	8.7
5 1924	91 Peking Suburban Families	62.22	29.63	4.44	3.7	
6 1922-3	200 Kung Ch'ang Workers	73.6	6.6	11.1	1	8.5
7 1922-3	77 Kung Ch'ang Workers	87.0	2.5	8.	1	5.
	702					
	Average	70.	12.	8.	5.	5.

1 Cost of fuel is not made a separate item, as many families use only in preparation of food.

Nos. 1, 2 and 3 Dr. C. G. Dittmer—Readings in Economics for China.

.. 4 and 5 Dr. Ch'en Ta—Chinese Economic Monthly. Vol. II, No. 1. & 5.

.. 6 and 7 Dr. Louise Morrow—Report on Kung Ch'ang Workers.

The rules of the masons' guild show that vegetables, fresh and salted, represent approximately 10 per cent of the amount the workers spend for food. The wages fixed by the guild include a money wage and an amount for food. If the employer furnishes the food, he keeps the food money. If the worker eats the grain and bread furnished by his employer, but no vegetables, the

gild rules state that he shall be paid an amount that averages approximately 10 per cent of the food allowance fixed by the gild. The complication of silver copper exchange makes it impossible to give an absolute average. According to figures secured from a farmer living near Peking, vegetables and condiments represented about 8 per cent of his food expenditure. Vegetables have, of necessity, been omitted from the index number, as it has been impossible to discover any records that give their price history.

The gild rules also state that the men shall receive special food on the second and sixteenth of each month, and that this shall include meat and wheat flour bread. If the workers do not eat the food provided by their employers, they are to receive an extra allowance for the special food on these two days. This amounts to about one-third of a day's food money. On that basis the amount spent for meat would be not more than 1.5 per cent of the amount spent for food and less than 1 per cent of the total budget. Workers who eat at home say they seldom eat meat, usually only on feast days. Consequently it has been impossible to determine the proportion of the family budget spent for meat. At the most it is very small and has therefore not been included in the calculation of the index number.

Since meat and vegetables must be omitted, flour and grain must represent food in the index number. According to estimates secured from store keepers and working men, the grain and flour eaten by the workers is now divided as follows: *hsiao mi mien*, 41.5 per cent; corn meal, 27 per cent; wheat flour, 16 per cent; rice, 7 per cent; millet 8.5 per cent, or twenty-nine, nineteen, eleven, five and six per cent of the total family budget. These figures will, of course, vary somewhat from year to year

depending upon the character of the harvests etc., but as figures are not available that give the year by year variation it has not been possible to take it into account in calculating the index number.

In 1900 *lao mi* was practically the only kind of rice eaten by the workers. Now white rice has taken its place, but the store keepers and workers tell us that white rice has never been as popular with the workers as was *lao mi*. They estimate that when *lao mi* was generally used the grains and flours were divided about as follows: *hsiao mi mien*, 38 per cent; corn flour, 26; wheat flour, 16; *lao mi* 13; millet, 7 per cent, or twenty-seven, eighteen, eleven, nine, and five per cent of the total family budget. The change from *lao mi* to white rice has been a gradual one, but in figuring the index number the change is taken as occurring in 1913, inasmuch as white rice appears in the accounts but seldom before 1913 and *lao mi* is not quoted after 1912.

The food value of the flours is roughly estimated by some of the workers who say that a workingman needs to eat one catty a day of *hsiao mi mien*; if he eats wheat flour he needs a catty and a quarter a day; if he eats corn flour he needs a catty and a half a day. They say a woman needs only three-quarters of a catty of *hsiao mi mien* a day.

The field workers of the China International Famine Relief Commission estimate that a workman needs between a catty and a half and two catties of grain a day.

The price of coal balls is taken as the cost of fuel for the Peking workers. Changes in the price of cotton cloth are considered to represent the changes in the cost of clothing.

Because of a change in market conditions it has been necessary to use the prices of two different kinds of

cloth. Foreign made cloth formerly controlled the Peking market, but, with the gradual development of the big weaving industry, in the Kao Yang district in southern Chihli the supply of Chinese made cloth has increased until now the domestic goods practically control the market for the cheaper grades of cotton cloth. The change has been a gradual one, but it has not been possible to take it into account. In figuring the index number, the change from foreign to Chinese cloth is made in 1913.

The 13 per cent represented by rent and miscellaneous has of necessity been omitted from the index number. No figures are available.

It is fully recognized that the food distributions are based on estimates, and therefore are only approximate, and that it is a large assumption to consider the entire change from *lao mi* to rice, and from imported to native cotton cloth as coming in 1913. Even so, it is felt that the figures represent a fair estimate of the way the working class people have divided their expenditure and that a weighted index number based on them will give a more accurate of the changes in the cost of living than one that shows picture only the average change in prices. More complete evidence would naturally give more accurate weightings, but probably would not greatly change the index number.

It is also realized that seven items is a very small number from which to make an index number, but because of the small number of commodities included in a working class budget and the representative character of those used, it is felt that the index number gives a reasonably accurate picture of the changes in the cost of living of the working classes.

1913 has been chosen as the base year for this study as it is the base year for studies of the cost of living in other countries. In China it was a year of a little

more than average prices. They were not down to the level in 1914 and 1915, but had recovered fairly well from the level reached disturbances and high prices that came with the founding of the Republic in 1911 and 1912. The 1913 index number is taken as equal to 100. The index numbers for in other years are expressed in terms of per cent of the 1913 index.

In figuring the monthly index number the question has arisen as how best to deal with the problem of missing quotations, as for all commodities there are some months in which there are no quotations. If the break is less than six months, the missing quotations have been interpolated. If the quotations are missing for more than six consecutive months, the commodity has been omitted entirely from the calculation of those months.

The formula $\frac{(\sum(Q_0 + Q_1)P_1)}{(\sum(Q_0 + Q_1)P_0)}$, where P_0 is the price in the base year, P_1 the price in a given year, Q_0 the quantity used in the base year and Q_1 the quantity used in a given year, combines speed of calculation with as high a degree of accuracy as is ever needed for practical purposes. It has been used, although there are only two sets of figures for Q_1 , those before and those after 1913. The latter are equal to Q_0 .

Because of the heavy weight given to *hsiao mi mien* and because the proportional changes in the prices of the grains and flours are very similar, especially before 1913, the graph showing the changes in the monthly index number (Figure No. 14) is very similar to the price curve of *hsiao mi mien*.

The peak that would be expected as a result of the Boxer uprising and the siege of the Legation Quarter is

(1) Formula 2153, Irving Fisher: *The Making of Index Numbers*.

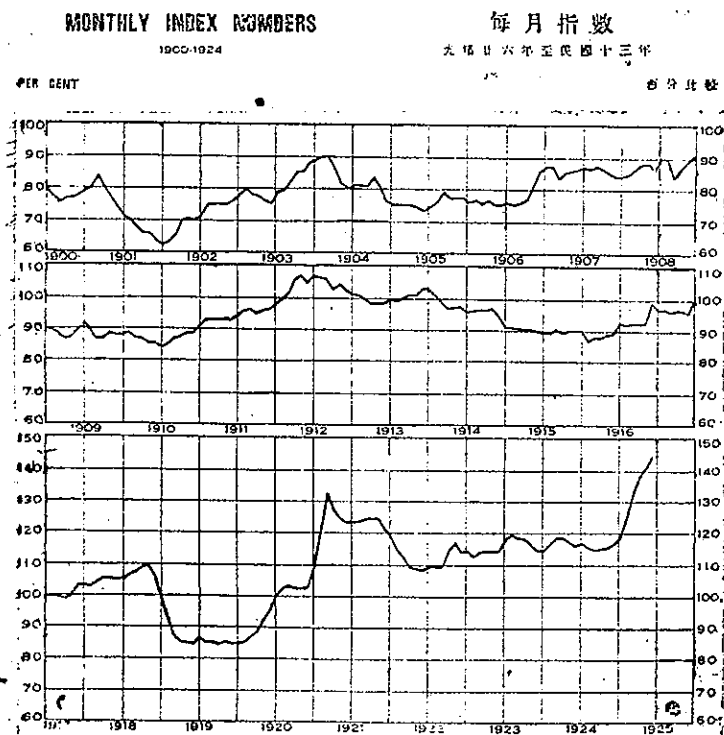


Figure No. 14.

almost entirely missing because, during those months, there are no quotations for several commodities.

In July 1901 the index number was 62.3. This was the lowest for the twenty-five years. By September 1903 it had risen 28 per cent to 90.3. It was 72.4 in January 1905 and 90.8 in July 1908. In January 1910 it was 84.6, but rose steadily during the next two years, reaching 107.7 in January 1912. The decline that followed was even more gradual. The low point, 87.7, was not reached until August 1915.

In May 1918 the index number was 110, the highest it had been up to that time. During the next fourteen months, however, it dropped 25 per cent and reached 84.6

in July 1919. This was the lowest it had been since 1906. Famine and civil war came in 1920 and the index number rose rapidly. The peak of the famine came in September of 1920 and the index number reached 132.5. The increase from July 1919 to September 1920 was larger than that from July 1901 to January 1912. Prices came down after the famine and by February 1922 the index number had dropped to 109.5. In June 1924 it was 116.8, but because of the civil war and lack of transportation, it jumped 28 per cent in the next six months and in December was 144.3. This was the highest point reached during the twenty-five years and was 12 per cent more than the peak of the famine prices in 1920.

From the monthly index numbers it seems evident that there is a tendency for the prices of the grains to move in cycles with four years the average time between the high points.

The annual index numbers (Figure No. 15, Table No. IX) show very clearly that there has been a gradual upward trend in prices ever since 1901. This increase has averaged between 2 and 3 per cent a year. In 1901 the annual index number was 68.4. In 1903 it was 83.7. From 1910 to 1912 it increased from 89.9 to 102.3. In 1917 it was 102.3, but, because of the decline in prices in 1918 and 1919, it was only 87.5 in 1919. Famine prices in 1920 raised it to 114.1. The average for 1924 was 126.4.

Perhaps the most striking and surprising fact shown by this study is brought out by the comparison of the index number for the cost of living in Peking with the index number for the retail prices of food in the United States. (Figure No. 15) For the years from 1901 to 1914 the two index numbers are nearly equal and their trend is almost identical. Except for the disturbances connected with the establishment of the Republic in 1911 and 1912, these were years of peace in both countries. In

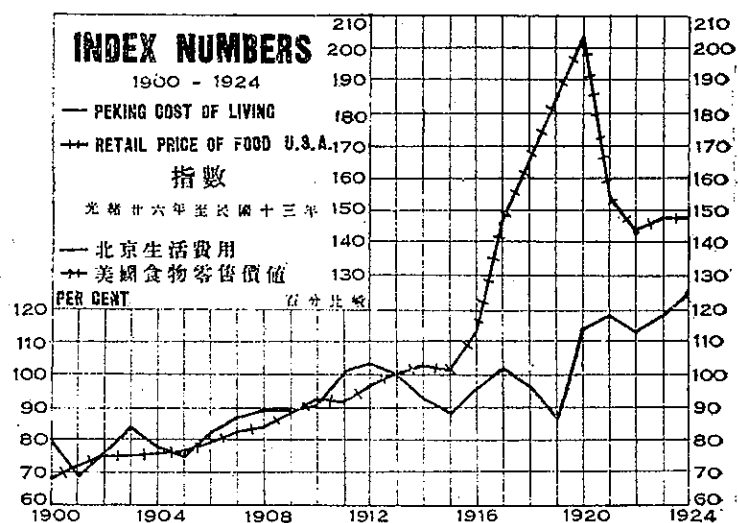


Figure No 15.

spite of differences in currencies, weather conditions, and standards of living, there seems to be a tendency, when conditions are peaceful, for the price of food in Peking and the United States to change at about the same rate. No comparisons can be made after 1914, as the war in Europe greatly changed conditions. The index number in Peking was under 100 most of the time from 1913 to 1920 and only reached 126 in 1924, but the American index number reached 203 in 1920 and was 146 in 1924.

In spite of the fighting in North China, the difficulties of transportation and the rapid rise in prices during the last half of 1924, the cost of living in Peking have not risen as much as it has in Canton. In December 1924 the Peking index number was 144. In October 1925 it was 132. The index number for Canton, as figured by the Department of Agriculture and Commerce with 1913 the base year, was 178.4 in January 1925 and 195.7 in June.

TABLE VIII
PERCENTAGE INCREASES

	1900—1924	1913—1924
Wheat Flour	42	49
Bean and Millet Flour	87	11
Corn Flour	102	59
Rice	14	53
Millet	58	17
Black Beans (2)	150	47
Green Beans (2)	122	44
Bean Flour (1)	40	17
Pork	101	62
Mutton	14	3
Sweet Oil (3)	44	18
Peanut Oil (3)	44	37
Salt (3)	56	7
Salt Turnip (3)	109	4
Wine (3)	31	31
Chiang Yu (3)	40	44
Bean Sauce (3)	37	24
Vinegar (3)	150	118
Cloth	160	51
Coal	16	37
Index Number	80	44
Copper Exchange	264	106
Copper Wages (1)		
Skilled	258	80
Unskilled	232	100
Silver Wages		
Skilled	61	48
Unskilled	27	34
Real Wages		
Skilled	-2	12
Unskilled	-17	8

(1) 1900 to middle of 1924

(2) 1901—1924

(3) 1902—1924

— Decrease

TABLE IX
ANNUAL INDEX NUMBERS

	U. S. Retail Price of Food ¹	Peking Cost of Living
1900	69	81
1901	72	68
1902	75	76
1903	75	84
1904	76	78
1905	76	75
1906	79	83
1907	82	87
1908	84	89
1909	89	89
1910	93	90
1911	92	100
1912	98	102
1913	100	100
1914	102	93
1915	101	88
1916	114	96
1917	146	102
1918	168	97
1919	186	88
1920	203	114
1921	153	117
1922	142	113
1923	146	118
1924	146	126

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SECTION III

COPPER EXCHANGE

The study of the wages of the workers would ordinarily be the next step, but because of the complications of exchange and the fact that in Peking a dollar is almost never equal to exactly one hundred coppers, or one thousand cash, it has been necessary to make a study of the history of the silver and copper exchange rate.

In the study of commodity prices 100 catties, 100 feet, 1 *tan* (145-155 catties) have been the units used and the prices have been in silver, taels or dollars. If the units had been catties and feet, the prices would have been quoted in cash or coppers. It is with copper coins that a large proportion of the people in Peking carry on their daily business. Their wages are paid in coppers, so many coppers for each day's work and they do most of their buying in terms of coppers. "Cash" used to be the unit but they have been supplanted by the single and double coppers, which are stamped as equal to ten and twenty cash.

Copper wages and prices cannot be directly quoted in terms of silver, for silver and copper coins are not exchanged at a fixed ratio, but according to a constantly fluctuating rate of exchange. The changing of money is a profitable business. In every transaction there is a

margin of profit and there are many stores and men who depend on it for their entire livelihood. The principal rate of exchange is fixed at the daily meeting of the money market in Chu Pao Shih outside of Ch'ien Men. The money shops scattered throughout the city quote rates that are fairly close to this, but they vary somewhat from store to store. Now, in 1925, with exchange over three hundred coppers to the dollar, it is not unusual to find this difference amounting to two or even three coppers on the dollar. When exchange was in the neighborhood of 130, the difference was usually one half copper, or at most one copper.

As silver is the medium of exchange in all the larger business transactions and copper is the subsidiary coinage, silver has been used as the standard throughout this study. Consequently, it has been necessary to convert into silver the wages paid in coppers. The daily exchange rates fixed in the money market would be the best figures to use in making this conversion, but these are not available. The official exchange rates are published in the daily papers, but the back files are not available for more than seven or eight years. Most of our figures have been secured from actual exchange transactions as recorded in the account books of different stores and families. The figures have been taken from different sources, but before changing sources we have made sure that there is reasonable agreement between the records by comparing the monthly averages for at least a year. Since 1913 the records agree very well. Dollars and coppers were the coins used. Sometimes there is a difference of a copper in the daily rates, but that difference is no more than is often found in the quotations of the different exchange shops. Furthermore, the difference is not always in the same direction and the monthly averages are practically equal.

Before 1913, when taels or rather silver bullion and "cash" were the mediums of exchange, the agreement is not as good. There were some very surprising differences in the rates recorded by the various stores. This was due to the fact that there were several different kinds of taels used in Peking, the *shih p'ing*, *ching p'ing*, *kung fa p'ing*, *hang p'ing*, *k'u p'ing*. The problem was further complicated by the fact that the quality of the silver was not the same. *Sung chiang yin*, *ma t'i pao*, *kao yin*, *shih tsu yin*, *ti ch'u yin* and others were all used. The different weight taels and different qualities of silver naturally all had different exchange rates. The tael and the quality of silver were not usually entered in the accounts. As a result it has been necessary to choose between the records of the different stores. On the advice of some of the older merchants, the accounts of a hat store and a jewelry store have been chosen as the ones most apt to give a true picture of the variations in the exchange rate. They exchanged large amounts at one time and would be apt to use the same tael and quality of silver. Many times "shih yin" is written in the accounts. This means the *shih ping* tael of a good quality of silver. The older men in the stores say that, as far as they can remember, that was the standard habitually used.

The figures for the years 1900 to 1907 are from the records of the hat store, those for 1908 to 1910 from the accounts of the jewelry store. The account books of a wood store that sells old railroad ties furnished the 1911 to 1917 quotations; the *Shun T'ien Shih Pao*, a Japanese daily paper, those for 1918 and 1919. A family account book covered the six years from 1919 to 1924. The figures for 1924 and 1925 were published in the *Ch'en Pao* or "Morning Post." In this connection it is suggestive to note that the quotations printed in the English papers are often considerably lower than those in the Chinese papers.

As in the study of commodity prices, all exchange quotations are given in terms of coppers per dollar, even though coppers and dollars did not come into general use until after the establishment of the Republic. Dollars were first struck in Kwangtung in 1891. They were also issued by the mints in Hupeh and south of the Yangtze in 1897 and 1898, but the Tientsin mint was not completed until 1905. In 1910 a law was promulgated making seven mace and two candareens (0.72 ounces) the standard dollar.¹

Coppers were first minted in 1900, but came into use only gradually. Now they have entirely displaced the cash. The post office is almost the only place where the latter are seen. There they are necessary in making exact change in purchasing stamps. The single copper or ten-cash piece is now gradually disappearing and its place is being taken by the double copper, or twenty-cash piece. In 1919 there were very few double coppers in circulation. Now there are but few single coppers. Many of the single coppers have been shipped out of Peking to other parts of China where the double copper is not as yet in general use and is either refused entirely or taken only at a heavy discount. It is the case of bad money driving out good. Very few twenty-cash pieces are twice as heavy as the ten-cash pieces. In a chance collection of over four hundred coppers the ten-cash pieces varied in weight from 97 to 112 grains, while the twenty-cash pieces ranged from 155 to 229 grains. The majority of the single coppers weighed between 100 and 105 grains, the majority of the double coppers between 170 and 176 grains. In only one case was the weight of a double copper twice that of a single copper. Most of them weighed from sixty to seventy per cent more than the single coppers. The lightest double copper weighed only twenty per cent more

¹ China Year Book.

than the heaviest single copper. In all the coppers examined, those stamped from dies made since the establishment of the Republic are smaller and lighter than those made with the Tai Ching Ti Kuo or Ch'ing Empire dies. In China, where the value of a coin depends so much on its bullion content, it is not surprising to see the heavier coins disappear.

In converting tael cash to dollar copper quotations we have considered ten cash as equal to one copper and one dollar as equal to seventy-two hundredths of a tael or ounce of silver. In actual practice there is a fluctuating rate of exchange between dollars and taels, and between coppers and cash. At the present time, the post office quotes eight cash as equal to one copper. There is a difference of about 2 per cent in the rate for single and double coppers. The former are scarce and, if they are demanded, there is a discount of six to seven coppers to the dollar. During the last five years the Shanghai tael dollar rate has varied 4.5 per cent from 0.714375 to 0.746.¹ The figures for Peking are not available, but, while the rates would not be the same, the fluctuation would be similar.

It has been impossible to obtain any history of the varying exchange rates between coppers and cash, or single and double coppers, but they have not greatly affected the people. Business has been done on the basis of the prevailing medium of exchange. Exchange rates of other monetary units therefore can be disregarded.

The nominal rate and the actual number of cash received often varied. Some stores quoted exchange on the basis of a full count. Some counted ninety-eight coins as equal to a quoted one hundred, and some ninety-six. This might make a possible difference of 4 per cent in our figures, but it would be a constant difference, would not affect the changes in exchange, and of necessity has not been considered.

¹ Bureau of Markets: Shanghai Market Prices Report.

No attempt has been made to study and account for the day to day fluctuations of exchange. Monthly and yearly averages have been the figures used.

The use of the Chinese lunar calendar and the foreign solar calendar has presented something of a problem. The store accounts have all been kept according to the Chinese calendar. The newspapers and household accounts have used the foreign calendar. In the study of exchange the change from the Chinese to foreign calendars has not been made. It would involve considerable difficulty and the change in the monthly averages would be very small. In the annual average the difference in the calendars has been allowed for by assuming that the foreign year begins with the twelfth Chinese month. The actual average difference between the two systems is one month and six days. As exchange has been rising almost constantly, this makes the average rate according to the foreign calendar slightly lower than that figured on the basis of the Chinese calendar.

In 1900 copper exchange averaged 76.4 coppers to the dollar, or 1060 cash to the tael. (Figure No. 16) During the year there was practically no fluctuation. For one month the average rate was 77.3; for another 73.5. During the rest of the year the rate stayed between 76.3 and 76.8. Several old men have remarked on the fact that there used to be very little fluctuation in exchange and that many of the stores would change their money only two or three times a month. This has been borne out by the records of the stores, for it is not until the latter half of 1902 that we find more than five quotations in any one month. It is surprising that Peking should go through the fighting and excitement of the Boxer days and the foreign occupation and not have the exchange rate show violent fluctuations. The disturbances of 1912 and the civil wars since 1920 have all been

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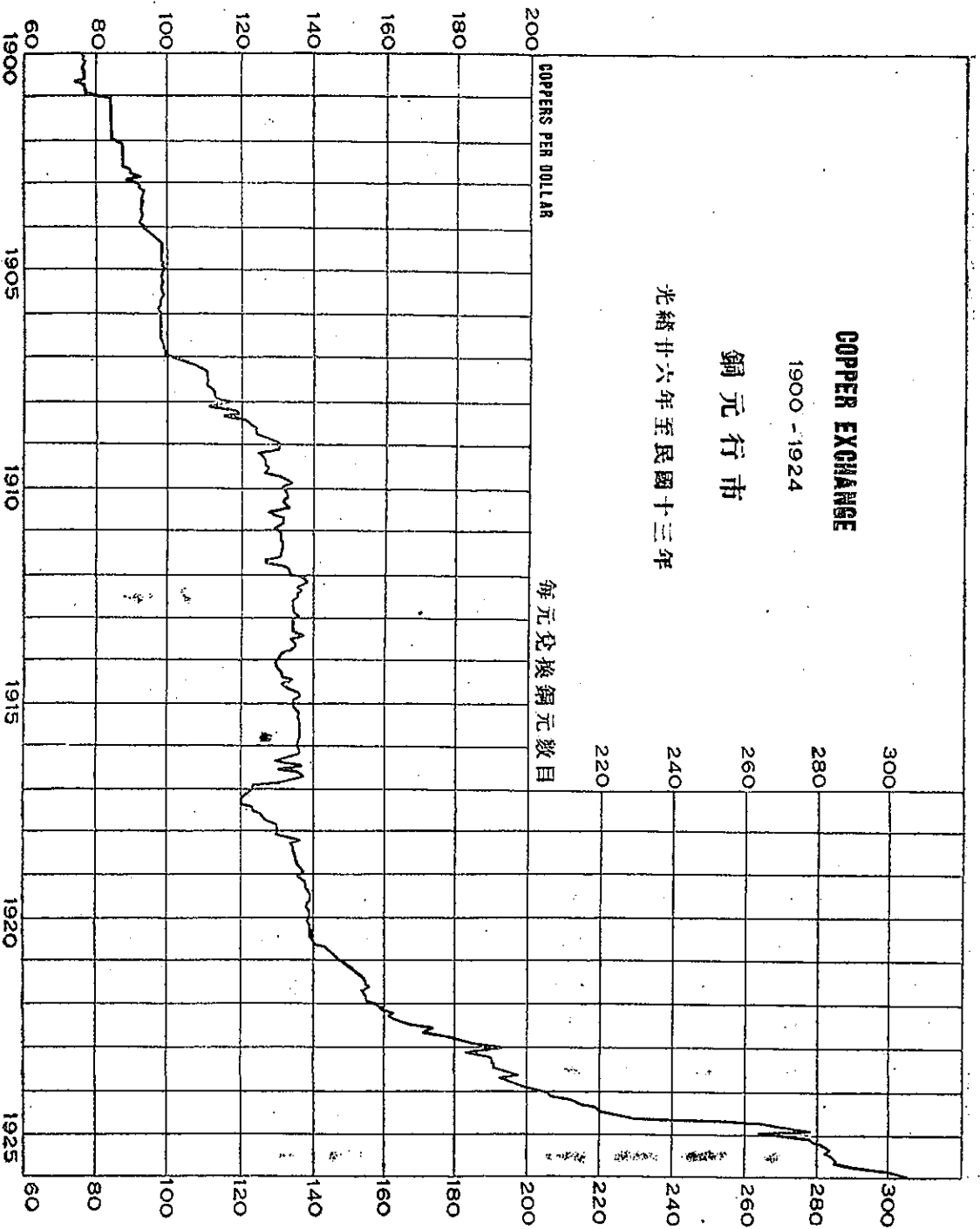


Figure No. 16.

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reflected in the exchange rate, but in 1900 the larger stores apparently were able to change their money at practically constant rates in spite of local disturbances. One can only wonder if this were true of the rates given the smaller stores and the general public. The history of more recent years makes it seem evident that, while disturbed conditions bring sharp fluctuations in exchange, the rate tends to return to normal very quickly when peace is restored.

After the Chinese New Year of 1901 the rate jumped from 76.8 to 82 coppers to the dollar. The next month it went to 84.3. The rest of the year there was practically no fluctuation. The monthly averages are all within nine cash of each other. The average for the year was 83.2, an increase of 10 per cent over 1900.

In 1902 there were again increases in the first and second months, but for seven months the average rate varied only one cash. The maximum for the year was 92, the average 87.6. During 1903 there was but little fluctuation, the difference between the maximum and minimum monthly rates being only thirteen cash, 1.3 coppers. The average for the year was 92.3, 5 per cent more than the 1902 average.

In 1904 the rate rose steadily from 92 in the first month to 98.6 in the sixth month, but during the next two and a half years there were only minor fluctuations, and it was not until the first month of 1907 that the rate was more than 100 coppers to the dollar.

During these seven years most of the changes in the exchange rate came just after Chinese New Year, in the first and second months of the year. Apparently there was some factor influencing exchange at that time of year. Ordinarily there is a tendency for exchange to go down during the twelfth month. According to the Chinese custom everybody is supposed to settle their accounts

before New Year's Day and there is consequently an increased demand for money. The same thing is true, though to a less extent, of the fifth of the fifth month and the fifteenth of the eighth month. As soon as the extra demand is withdrawn the rate tends to return to normal, but this fluctuation would not account for a permanent increase in the exchange rate. There are no records available to show when "cash" was imported into Peking, but it seems probable that the rise in the exchange rate was due to an increase in the number of coins in circulation. It may be that the amount in the market was increased by the Emperor issuing considerable amounts of "cash" at New Year's time in order to settle his accounts. Once the market was adjusted to the new supply, there were only minor fluctuations in the exchange rates.

Beginning with the first month of 1907, there was a steady and fairly rapid rise in exchange for two years. With the exception of the second and fifth months of 1908 the rate rose month by month until in the twelfth month of 1908, it reached 130, an increase of 32 per cent in two years. For 1907 the average was 11 per cent higher than in 1906, and the 1908 average represented an increase of 10.5 per cent over that of 1907. In nine years, from 1900 to the end of 1908, exchange increased 70 per cent.

The distribution of free grain to the Manchus was discontinued in August 1907, and in November 1908 came the death of the Empress Dowager and the Emperor Kuang Hsü. These events, however, would not account for a continuous rise in exchange for two years. Apparently the only explanation is the debasement of the coinage or an added supply.

During the three years of the reign of Hsüan T'ung (1909-1911) there was considerable month to month fluctuation, but it was an up and down movement

rather than a continuation of the rise of the last two years of Kuang Hsü. In fact, the tendency from the latter part of 1909 to the middle of 1911 was distinctly downward. In the eighth month of 1911 there was a decline of 3.5 coppers which brought the rate down to 126.4. It was at this time (October 10th) that the Revolution started in Wuchang. Nanking was captured on December 2nd. By that time the exchange rate had risen again to 131. Yuan Shih-k'ai was elected president of the Republic on March 10th, the 22nd of the first month of the Chinese calendar. Exchange was then 136. It went 138 in the third month, an increase of 9 per cent in six months.

The monthly average did not again reach 138 until the middle of 1919. It varied from 134 to 135 during the rest of 1912 and during the first nine months 1913, except that in the fifth month (July) just before the beginning of the second revolution, the average was 137.5. The average for the next month was 134. Between the tenth month of 1913 and the tenth month of 1914 the rate went from 134 to 129 and back to 136. During 1915 there was but little fluctuation. The monthly averages were all within two coppers of each other. In the tenth month of 1916 a decline started that continued until the fourth month of 1917. The rate fell from 136 to 119.8, a decline of 16.2 coppers or 12 per cent. in six months.

In the fifth month of 1917 Chang Hsün attempted the restoration of the Emperor Hsüan T'ung. There was fighting in the streets of Peking, but it ended in a few days when Chang Hsün fled to the Dutch Legation. There was no increase in the monthly average, but there was quite a flurry during the month. This is shown by the fact that the maximum and minimum rates were ten coppers apart. In the fourth and sixth months, the difference between the maximum and minimum quotations was only two coppers.

In the sixth month of 1917 exchange started an upward movement that has continued almost without interruption. In the next eight and one half years there are only fourteen months in which the average is not higher than that of the previous month. By the end of 1917 the rate had gone up to 130 and by March 1918 it had reached 136.5. From April 1918 to July 1920 the monthly averages varied from 133.1 to 139.1 a gradual but almost continuous increase.

In July 1920 there was fighting around Peking between the Anfu and Chihli parties. The fighting itself lasted only a few days, but it had a tremendous political effect throughout the country. It meant many changes among the provincial officials and gave an added impetus to the development of large regional and provincial armies. This meant a need for more revenue and, with the gradual weakening of the power of the Central Government, the governors of the provinces were able to run their mints without restraint and to debase the coinage. The famine of 1920 added a big burden to the treasuries of the national and provincial governments. We have heard of one governor who used the profits derived from the minting of coppers to pay for the purchase of a large amount of grain that he distributed among the starving of his province. The gradual rise in exchange that started in 1917 naturally became more rapid.

It has also been suggested that the number of coppers in circulation has been increased by the fact that, since 1920, the military have levied and collected many special taxes. Many of the people have been forced to use their savings to pay these taxes. Banks are not available in the country, so saving usually means the hoarding of money. Dollars are scarce and most of the saving is done in coppers. As these have been forced out they have helped increase the exchange rate.

When there is fighting and armies are moved from place to place, extra money must be given to the troops. This undoubtedly helps to bring more coppers into circulation and to depreciate them in terms of silver.

There was fighting around Peking again in April and May of 1922, when Chang Tso-lin was defeated by Wu Pei-fu and driven outside the Great Wall. Exchange continued to rise even more rapidly after this. By December the monthly average was 191 or 34 coppers more than in January, an increase of 21 per cent during the year. The average for the year was 170 or 12 per cent higher than in 1921. During 1923, the average went up another 23 coppers. In December of that year the monthly average went over 200.

The war between Chang Tso-lin and Wu Pei-fu in September and October of 1924 had an even greater influence on exchange. In December 1924 the rate was 278 coppers to the dollar, 75 coppers, or 37 per cent. higher than in the previous December. The annual average was 20 per cent higher than that of 1923. The upward movement kept on during 1925. At the end of that year a silver dollar exchanged for 310 coppers and the average rate for December was 305. The average for the year was 285.5 coppers, 53 coppers or 22 per cent more than the 1924 average.

From January 1900 to December 1925 copper exchange rose from 76.4 to 310, a total of 233.6 coppers, or an increase of 306 per cent. From 1900 to 1912, the first year of the Republic, the annual average increased 59 coppers, 77 per cent (Table No. X). From 1912 to 1920 it rose only 5.8 coppers, 4 per cent, but from 1920 to 1925 it increased 144.5 coppers, 102 per cent. In the last two years, from December 1923 to December 1925, exchange increased 50 per cent, or 102 coppers to the dollar. It was 1908 before the rate was 50 per cent higher than it was

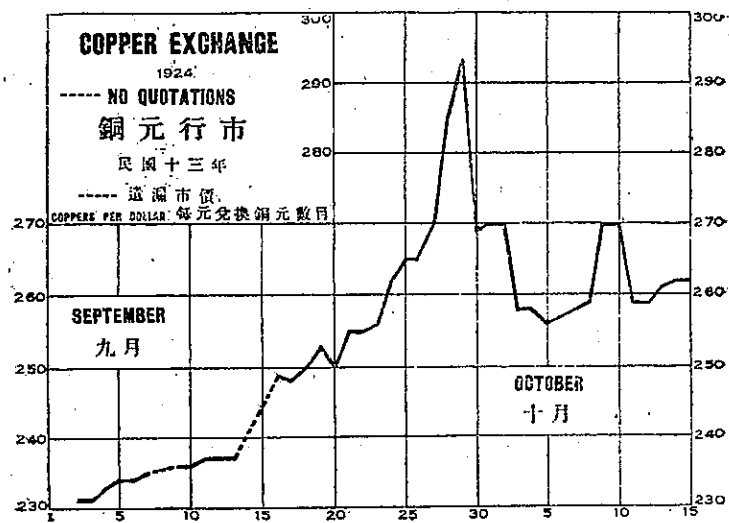


Figure No. 17.

in 1900. It was not until 1921 that the annual average was twice that of 1900, but the rate increased 100 per cent from 1920 to 1925.

There is always a chance that a monthly average may hide some large fluctuations. This is true in September 1923, September 1924 and January 1925. For these months the difference between the maximum and minimum quotations was forty-six, sixty-three and forty-one coppers respectively. In September 1923 the rate dropped from 210 to 164 during the first four days of the week preceding the 15th of the 8th moon. In January 1925, during the two weeks before the Chinese New Year, exchange fell from 278 to 237 coppers in eight days. Figure No. 18 shows how quickly it reacted. Civil war was brewing early in September 1924, so there was a steady rise in exchange rather than a decline just before the 15th of the 8th month. When war actually began,

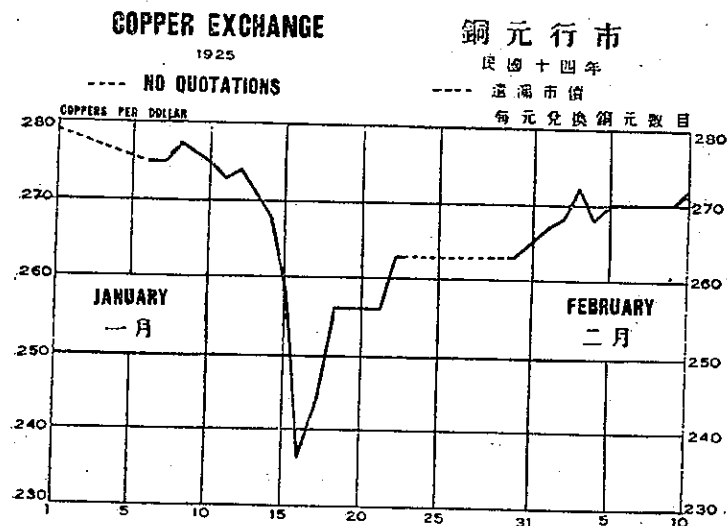


Figure No. 18.

there was a great demand for silver. Exchange jumped from 237 to 293 in six days. A week later it was down to 256 (Figure No. 17).

These are the extremes of fluctuation. Ordinarily the difference between the maximum and minimum quotations for any month is small, from one to four or five coppers. From 1900 to 1912 there are only five months in which the difference is more than 5 coppers and two of these came at the beginning of the revolution. In 1905 the range was never more than one half a copper. From 1912 through 1917 there are seven months with a difference of ten or more coppers between the maximum and minimum quotations. Three of these were in 1916 and two in 1917. Three are in the fifth and twelfth months and apparently are connected with the Chinese festivals. From 1918 to 1921 inclusive, the maximum range for any month was 4.5 coppers. For twenty-eight months

during these four years, the range was less than two coppers. From 1922 through 1925 there are seven months with a difference of ten or more coppers, while for twenty-three of the forty-eight months the spread is more than five. From 1912 to 1925 the average fluctuation per month rose from 2.1 to 11 coppers, or from 1.2 to 3.5 per cent of the average rate.

The Peking police have attempted to stabilize exchange by prohibiting the importation of coppers into the city, but have not been able to keep the exchange rate from rising. Whether it is due to their efforts or not is not certain, but the rate in Peking and its suburbs is lower than in the surrounding country and lower than in Tientsin.

With conditions as they are in China, with semi-independent war lords maintaining big armies in the different provinces and making war occasionally, it is probable that the depreciation of the copper coins and the corresponding rise in exchange will continue. The debasement of the coinage is a source of profit to those who control the mints, every bit of income is needed to meet the rapidly rising expenses of the various armies, and there is no authority that can force the maintenance of coinage standards.

A constantly depreciating currency, or rising rate of exchange, is bound to be a burden on the working classes. Their wages are fixed, for a period at least, and even if they are able to secure an increase, it is seldom that they can do much more than regain their old position. At once the increase begins to disappear with a rise in the exchange rate. The extent to which the Peking workers have been affected is shown when their copper wages are converted into silver (Figures Nos. 19 and 20).

TABLE X
COPPER EXCHANGE

Annual Averages—Foreign Calendar Coppers Per Dollar					
Year	Average	Year	Average	Year	Average
1900	76.4	1909	128.5	1918	134.2
1901	83.2	1910	131.3	1919	138.
1902	87.6	1911	130.	1920	141.
1903	91.9	1912	135.2	1921	152.8
1904	96.1	1913	134.7	1922	170.7
1905	97.5	1914	132.0	1923	193.2
1906	97.9	1915	135.4	1924	232.9
1907	108.2	1916	133.9	1925	285.5
1908	119.6	1917	123.5	.....	.....

SECTION IV

WAGES

Changes in prices and the index number are important. They tend to show changes in the standard of living, but it is only when they are related to the income of the people that their full effect can be determined. An attempt has been made to do this for both the skilled and unskilled workers of Peking. The masons, carpenters and sawyers have been chosen as being a large and fairly representative group of skilled workers, and the wages of the coolies or unskilled men working with them have been taken as representative of the wages of the unskilled workers of Peking.

The wage history of these groups has been found in the records of the carpenters' and masons' guilds and in the account books of various stores. Apparently all the men connected with these trades belong to the guilds, store owners and managers, contractors, workers. Wages are determined by the guild. When it is felt that wages need to be raised, a meeting of the guild is called and the amount of the increase decided upon. The masons' guild has a rule that all of its members must attend the meeting. It enforces this rule by giving everybody who attends the meeting an announcement setting forth the new wage scale. Besides giving the new rate of wages the announcement says that all those who do not have a copy are to be paid at the old rate.

In the main it has been the guild record that has been used to determine the wage history of the workers though, in some cases, it has been necessary to use figures secured from the store accounts. The guild records for 1920 speak of a wage increase but do not give the amount. In one instance the account books show that the guild was not able to secure as large an increase as had been decided upon at the meeting. Some stores have paid higher wages than others. Apparently the guild rate is the minimum, and guild members are not allowed to work for less than this amount. Better workmen are sometimes paid more than the guild rate, but most of the men receive the amount fixed by the guild.

The records of the carpenters' and masons' guilds show that, with one exception, the wages of these two groups have been the same. Although the two guilds hold their meetings at different times, their work is closely connected, Lu P'an is their common ancestor, or patron saint, and the guilds work together. Apparently there is conference between the head men of the guilds before there is any change in wages. In the fall of 1924 there was some disagreement. The carpenters held their meeting on the 25th of the 8th moon and raised their wages from 105 coppers to 62 cents silver. The masons met on the 9th of the 9th moon and set their wages at 65 cents. In the third and fourth months of 1925 they both increased their wages to 70 cents silver. Both guilds fixed the wages of the coolies at 40 cents in 1924 and 45 cents in 1925.

In the spring of 1900 the daily wage of the masons and carpenters was 30 coppers. For the coolies it was 22 coppers. (Table No. 11). In the 8th month, after the Boxer fighting, there was an increase of 5 coppers a day for both the skilled and the unskilled workers. In 1908 there was an increase of 8 and 3 coppers and one of 13 and 7 coppers in 1911.

For the next nine years the wages remained the same, 57 coppers a day for skilled workers and 37 for the unskilled. In 1920 there was a 13 copper increase for both the artisans and the coolies, and one of 4 coppers in 1922. The increase in copper exchange that began in 1920 was so rapid and continuous that the workers found it difficult to raise their wages as fast as the coppers depreciated. They increased them in 1922, again in 1923, and twice in 1924. The spring meeting in that year set the wages at 105 and 72 coppers. The value of the copper fell so rapidly during the autumn of 1924 that the guilds decided that the time had come to put their wages on a silver basis and so avoid the constant loss caused by the increasing exchange. Now if the men are paid in coppers the number they receive depends upon the exchange rate. They still have to face the problem of rising prices, but not the combination of rising prices and depreciating money.

In terms of silver the wages of the skilled men were 39.3 cents a day in 1900, 43.7 cents in 1911, 42.5 cents in 1913, 65 cents in 1924 and 70 cents in 1925. The coolie's wages were 28.8 cents a day in 1900, 28.4 cents in 1911, 27.6 cents in 1913, 40 cents in 1924 and 45 cents in 1925. From 1900 to 1924 the skilled worker's wages increased 65 per cent and the coolies' 39 per cent. From 1913 to 1924 the increase was skilled workers' 53 per cent and coolies 45 per cent.

At first glance it may seem strange that there are no reductions in wages during the twenty-five years, but prices have been gradually rising and the earliest available records show that wages have not been reduced in the past 67 years. There have been 11 increases since 1859. Once the guild has increased wages it is well nigh impossible for them to be lowered. However, the rise in copper exchange has so decreased the value of the copper wages

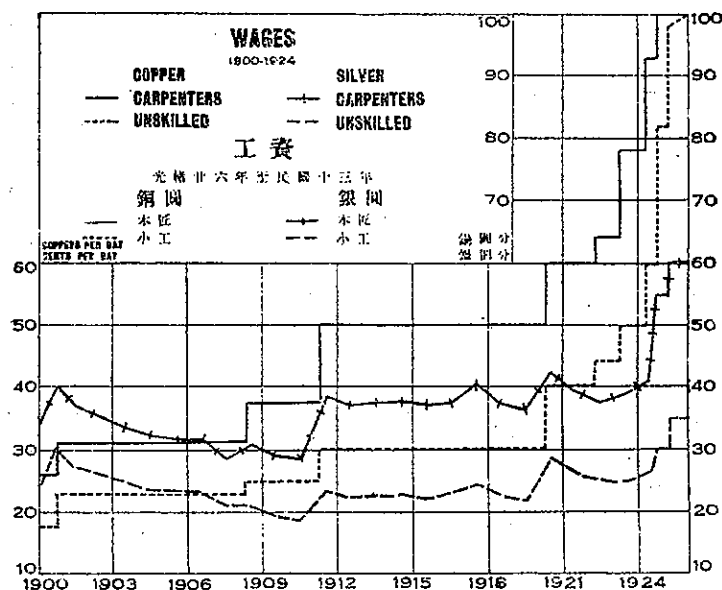


Figure No. 19.

that there is often a real reduction, even though the number of coppers remains the same. (Figure No. 19 & 20).

Three items are included in the wages as fixed by the guild—wages, food allowance, and a commission (Table No. 11). The wages are paid direct to the workers. For the masons the rate was 15 coppers a day in 1900, 58 coppers in the first part of 1924 and forty cents silver during the latter part of that year. In terms of silver the wages were 19.6 cents, 25.6 cents, 40 cents, an increase of 104 per cent. The money wage remained at 40 cents when the total wage was increased in the spring of 1925.

From 1913 to the spring of 1924 wages increased only 14 per cent, but from 1913 to the end of 1924 the increase was 78 per cent. The rapid increase in prices and copper exchange in the fall of 1924 brought a quick response from the guild.

For the carpenters the figures are a little lower, since their wages at the end of 1924 were 37 instead of 40 cents. For them the increase from 1900 to 1924 was 88 per cent. From 1913 to 1924 it was 65 per cent.

For the skilled workers, both carpenters and masons, the money wage has averaged 52 per cent of the total wage fixed by the gild.

Seven coppers a day was the money wage received by the unskilled worker in 1900. In the first part of 1924 it was 25 coppers and fifteen cents in the latter part of the year. In terms of silver the wage was 9.2 cents, 11 and 15 cents. For the twenty-five years the increase amounted to 64 per cent. Due to the increase in copper exchange the coolies silver wages in 1913 were only 7.4 cents a day, 19 per cent lower than in 1900. As a result the increase from 1913 to the end of 1924 was 109 per cent. More than half of this came with the second increase in 1924.

The money wage of the coolies has been on the average only 32 per cent of a total wage and 41 per cent of the amount paid a skilled worker.

Changes in the amount of food allowance, as fixed by the gild, ought to be indicative of changes in the cost of food, for the food money usually is fixed so that it is sufficient to buy the ordinary food of the workers. It is the same for the coolie as for the skilled men. If the worker provides his own food the food money is paid to him, but if, as is the custom with some of the larger shops, the employer provides the food, he keeps the food allowance. Sometimes he takes even more than the food money, if the workers want to eat better food than corn meal cakes, *wo t'ou*, and salt vegetable. In 1900 the food allowance was 11 coppers a day, but by 1923 it had increased to 30 coppers. In 1924 it was raised to 35 coppers and then to

fifteen cents. In 1925 it was increased to twenty cents. In 1900 the food allowance amounted to 14.4 cents. In 1923 it was 15.5 cents, and the same in the spring of 1924. There was a slight decrease in the fall of 1924 when it was put on a silver basis and set at 15 cents, but it went up five cents, 33 per cent, in the spring of 1925. The increase from 1900 to 1924 was only seven per cent. By 1925 it was 39 per cent. From 1913 to 1924 the increase was only two per cent. During the same time the annual index number increased 26 per cent. Apparently the workers' food allowance was not keeping up with the increase in the cost of food. The story is not quite so bad, if we compare the 1925 food allowance with the index number for December 1924. The index number had risen to 144, while the food allowance had increased 35 per cent.

Commission is the third item included in the workers' wages. This goes to the man in charge of the workmen, the contractor himself, or one of his head men. By some people it is considered to be a sort of "squeeze" or commission paid to the head man by the workers for the privilege of keeping the job. Others speak of it as an amount paid to the head man for the use of tools, etc. As nearly as we can discover, it represents an amount that is collected from those employing the workers by those who secure and are responsible for the workmen. Tools also must be provided. Apparently the workers do not look on it as belonging to them unless they act as their own head man.

The amount of the commission sometimes varies a little from store to store, but the amount set by the gild is the maximum. This was four coppers per day in 1900, seven coppers in 1913, twelve coppers in 1923 and 10 cents in the fall of 1924. The silver value was 5.2 cents, in 1900, the same in 1913, 5.3 cents in the first part of 1924. There was practically no increase until the

fall of 1924, though in 1920 it had been as high as 7.1 cents. In that year it was raised from 7 to 10 coppers a day, but the rising copper exchange soon brought it down to less than 6 cents a day.

If wages and food allowance are taken as representing the wages of a workman, the skilled men received twenty-six coppers (34.1 cents) per day in 1900, fifty coppers (37.2 cents) in 1913, ninety-three coppers (41 cents) in the spring of 1924, and 55 cents in the fall (Figure No. 19). This was an increase of 61 per cent in twenty-five years. From 1913 to 1924 the increase amounted to 48 per cent. The coolies' wages have risen from 23.6 cents in 1900 to 30 cents in 1924, a 27 per cent increase. In 1913 their silver wages were 5 per cent lower than in 1900, so in the fall of 1924 their wages were 34 per cent higher than they were in 1913. In 1925 the coolies' wages 56 per cent and the skilled workers' 61 per cent higher than in 1913. In December 1924 the index number was 144. Prices were 44 per cent higher than in 1913.

Figure No. 19 shows that there have been some nine increases in the copper wages but only two big increases in the silver wages. In 1911 the skilled workers recovered at one jump what they had gradually lost, because of the increasing copper exchange, from 1900 to 1910. In the fall of 1924 they secured an increase of 15 cents, 35 per cent of what they had been receiving. For the coolies the increase in the fall of 1924 was only 15 per cent. From 1920 to 1924 there were three increases in the copper wages, but these were offset by a continually rising copper exchange and the average silver wage remained practically the same. It is suggestive to note that it was not until 1917 that the silver wages of the skilled workers were equal to what they had been in 1901 and it was 1924 before the coolies' wages reached the 1901 level.

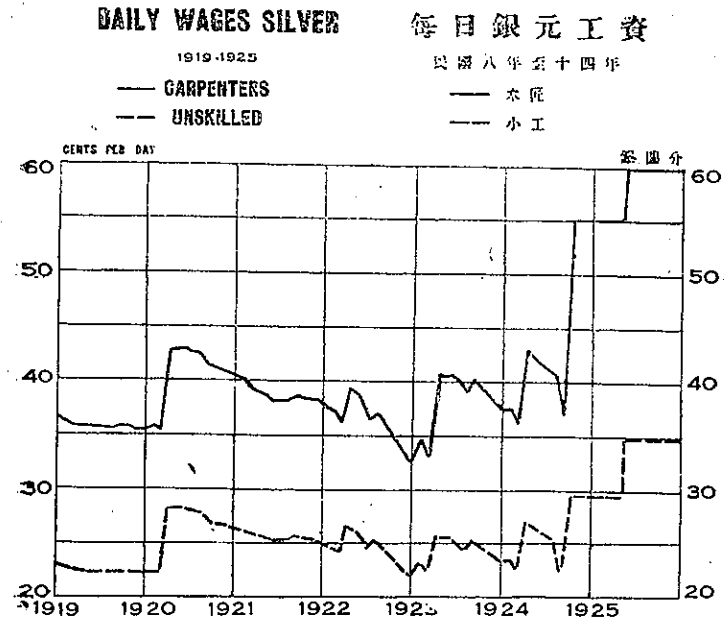


Figure No. 20.

The above discussion is all in terms of annual averages. Figure No. 20 shows how the wages of the workers have been affected from month to month by the rising copper exchange and how from 1920 to 1924 the increases in copper wages did not increase the silver wages, but merely offset the rise in copper exchange.

If food for a worker costs six dollars a month, it is difficult to understand how the money wages received by a coolie, four dollars and a half a month if he is employed every day, is sufficient to meet the rest of his needs and all those of his family. It simply means that many of the coolies must provide their own food and try to increase their wages a little by spending less for food than the food allowance.

Other members of the family must add what they can to the family income. Apparently the gild wage for the coolies is very close to the minimum. A survey of 1000 ricksha pullers gives 47 cents as their average daily income. This is two cents more than the combined money wage and food allowance of the gild, but there is reason to believe that the average for the ricksha men is, if anything, a high average. We can only imagine what a period of unemployment means to an unskilled worker and his family, and those connected with the building trades have a great deal because of the seasonal nature of the work. For the worker it means peddling, pulling a ricksha, odd jobs of all sorts. For the family it means less to eat, securing help from relatives if possible, pawning articles with interest at 3 per cent a month, borrowing money at rates that sometimes reach 40 per cent a month.

Wages have been increased to meet the rapid rise in prices that began in the fall of 1924. Owing to the disturbed conditions and greatly restricted transportation, prices have gone still higher in 1925. Probably there will soon be further increases in wages and a gradual adjustment of the economic life of Peking and the surrounding country to a higher level of prices. There has probably already been a permanent increase in the price level. If peace is restored and transportation reestablished, prices will undoubtedly come down to some extent. If the drop is small, it probably will not influence wages except to postpone future increases. If the decline is a large one, it will be interesting to see how it will affect wages and the gilds. The gilds will undoubtedly follow their custom and try to maintain wages at the highest level, but there will be repeated attempts to get men to take work at less than the gild wage. Such a situation will be a severe test of the strength of the gilds and their ability to force their members to abide by the gild rules and not work for less than the gild wage.

TABLE XI
COPPER WAGES
Skilled

Year	Wages	Food Allowance	Total Wage	Comm- ission	Total
1900	15	11	26	4	30
8th Month	20	11	31	4	35
1902	19	12	31	5	36
1908	22	15	37	7	44
1911	30	20	50	7	57
1920	34	26	60	10	70
1922	38	26	64	10	74
1923	48	30	78	12	90
1924 - 3rd Mon.	58	35	93	12	105
8th Month ¹	.40	.15	.55	.10	.65
1925 ¹	.40	.20	.60	.10	.70
Unskilled					
1900	7	11	18	4	22
8th Month	12	11	23	4	27
1902	10	12	23	4	27
1908	10	15	25	5	30
1911	10	20	30	7	37
1920	14	26	40	10	50
1922	18	26	44	10	54
1923	20	30	50	12	62
1924 - 3rd Mon.	25	35	60	12	72
8th Month ¹	.15	.15	.30	.10	.40
1925 ¹	.15	.20	.35	.10	.45

¹ Silver.

TABLE XII
SILVER WAGES¹

Year	CENTS PER DAY		INDEX NUMBER	
	Skilled	Unskilled	Skilled	Unskilled
1900	34.1	23.6	92	105
	40.6	30.3	109	135
1901	36.8	27.2	99	121
1902	35.2	26.2	95	117
1903	33.6	25.0	90	112
1904	32.1	23.8	86	106
1905	31.8	23.6	85.5	105
1906	31.6	23.4	85	104
1907	28.3	21.0	76	94
1908	30.6	20.6	82	92
1909	28.8	19.4	77.5	87
1910	28.2	19.1	76	85
1911	38.4	23.0	103	103
1912	36.9	22.1	99	99
1913	37.2	22.4	100	100
1914	37.9	22.7	102	101.5
1915	36.9	22.1	99	99
1916	37.6	22.6	101	101
1917	40.3	24.2	108	108
1918	37.3	22.4	100	100
1919	36.2	21.8	97	97
1920	42.5	28.4	114	127
1921	39.4	26.2	106	117
1922	37.6	25.4	101	113
1923	38.6	25.0	104	112
1924	41.2	26.1	111	116.5
	55.0	30.0	147	134
1925	60.0	35.0	161	156

¹ Commission not included

REAL WAGES

The welfare of the workers depends on what they can buy with their wages rather than on the amount of money they receive. Real wages, or the comparative amount of goods they are able to buy with what they receive for their labor, are the important figures in a study of the cost of living. Real wages are figured by dividing the index number for silver wages (Table No. 12) by the cost of living index number. Figure No. 21 shows how real wages have varied during the last twenty-five years. In 1913, the base year, they were of course 100. In 1900 they were 114 for the skilled workers and 130 for the coolies, but in 1901 they were 145 and 177. The increase of wages in the fall of 1900 and the low prices of 1901 gave the workers a most unusual time of prosperity. It did not last long, however. Prices went up again in 1902 and 1903, the copper exchange rate rose, and in 1903 the real wages were 108 for the skilled workers and 126 for the unskilled, a drop of 37 and 53 points. It must be remembered that, although the real wages for the coolies are higher than for the skilled workers, it does not mean that the unskilled workers could buy more than the skilled men. It simply means that, in terms of their 1913 wages, their purchasing power was a little larger than that of the skilled workers. The difference is due to the fact that the wage increase given the coolies in 1911 was not proportionately as large as that secured by the skilled workers.

Lower prices in 1904 and 1905 increased real wages in those two years, but from 1906 to 1910 real wages declined steadily, except in 1908 when an increase in wages gave the skilled workers a 3 per cent increase in real wages. The increase given the coolies was not large enough to offset increased prices and the rising exchange rate. By 1910 the real wages of the skilled workers reached 85 and

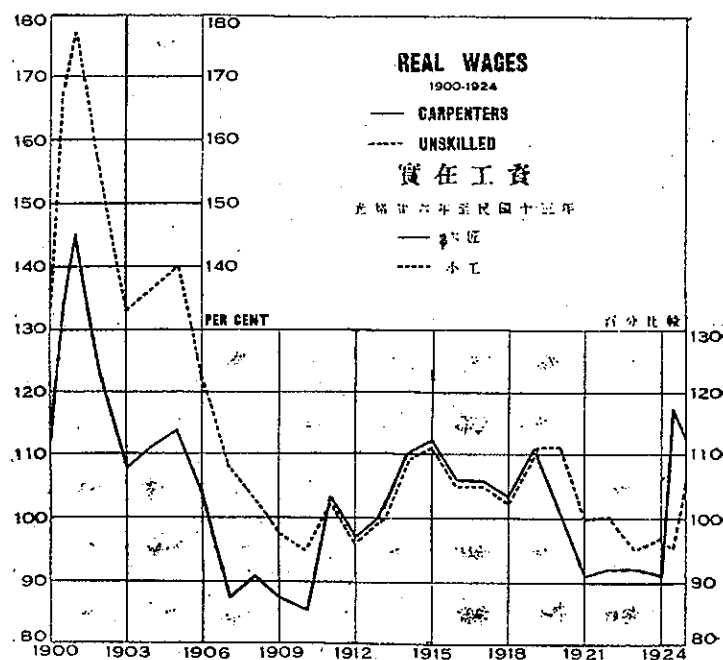


Figure No. 21.

the unskilled 95. This was the minimum for the twenty-five years.

At first glance it would seem strange that any group of workers would let their real wages be reduced by more than 40 per cent without making a very strenuous effort to raise their money wages. From figures for the years before 1900 it seems evident that, in all probability, the workers were enjoying unusual prosperity from 1900 to 1906 and that they did not attempt to secure an increase in wages until their real wages were down to about their customary standard. We know that exchange was decreasing during the years before 1900. From the figures now available, it seems evident that prices, especially those of

the grains and flours, had been coming down before 1900. Prior to 1900 the guilds had not raised wages since 1887. The action of the guilds since 1920 certainly shows that, if the decline in real wages from 1901 to 1910 represented a decrease in the customary standard of living, it would not have been accepted without an attempt to raise wages.

From 1911 to 1919 the real wages of the skilled and unskilled workers were the same. They fluctuated between 97 and 112, and were 100 or over except in 1912, the Revolution year. During this time there was no increase in copper wages, so the fluctuations were due entirely to changes in copper exchange and commodity prices.

The low prices of 1919 raised real wages 8 per cent, but famine prices, and the beginning of the rapid increase in the copper exchange rate in 1920, reduced the real wages of the skilled workers 10 per cent even though they secured an increase in copper wages. The next year real wages went down another 10 per cent, to 90.5. The wage increases in 1922, 1923, and the spring of 1924 kept the real wage of the skilled workers at approximately the same level, 89 to 91, even though copper exchange went from 157 to 264 during that time.

The 1920 increase in the wages of the unskilled workers was sufficient to offset the famine prices and the increases in copper exchange. The real wages were 111, the same as in 1919. From 1920 to 1923 their real wages dropped from 111 to 95, the increases in their wages being proportionately a little larger than those secured by the skilled workers.

When, in the fall of 1924, the guilds fixed the wage rates in terms of silver rather than copper, the skilled workers secured a 15 per cent increase in their real wages. The unskilled did not secure any increase until the spring

of 1925. At the end of 1924 real wages were 106 for the skilled and 95 for the unskilled workers. If we use the 1925 wages and the latest available prices, those of December 1924, real wages in 1925 were 112 for the skilled workers and 108 for the unskilled. They would probably be several per cent higher if we had the figures for 1925. Prices declined somewhat during the first part of the year, though they rose rapidly in November and December due to the fighting around Peking.

From the changes in real wages it seems evident that the Peking laborers, both skilled and unskilled, have a standard of living that they feel is customary for them. If prices, wages and exchange are such that they can maintain this standard, no attempt is made to increase wages. Since the gild includes all those connected with the trade, both employers and employees, there is no group that is in a position to reduce wages if a decrease in prices gives the workers some increase in their real wages. If increasing prices bring real wages down to the point where the customary standard of living is threatened, the gild is not slow to call a meeting and raise wages. The close personal relationship that exists between the employers and the employees makes it possible for the former to recognize the needs of their men.

It has not been possible to determine what changes there have been in the number of hours a day that the men work, but now, what with stops for tea and meals, a day for the carpenters and masons amounts to between six and seven hours. Considering the low standard of living of the workers, one would naturally think that the men would work longer hours and increase their earnings. Those who are in close touch with the workers say, however, that as long as they can maintain their customary standard of living, the men would rather decrease their hours of

work than increase their wages. It is at least significant that, although the Peking men work only six or seven hours a day, carpenters from Tung Hsien, fifteen miles east of Peking, work from nine to ten hours a day and men from Shantung work twelve hours a day. The wages for all three groups are the same. Furthermore, the Peking workers have had but eleven increases in wages since 1859, and six of these have come in the last six years when copper exchange was rising very rapidly.

TABLE XIII
REAL WAGES

Year	Skilled	Unskilled
1900	114	130
	135	167
1901	145	177
1902	124	154
1903	108	133
1904	111	136
1905	114	140
1906	103	122
1907	88	108
1908	92	103
1909	88	98
1910	85	95
1911	103	103
1912	97	95
1913	100	100
1914	110	109
1915	112	111
1916	106	105
1917	106	105
1918	103	103
1919	111	111
1920	100	111
1921	91	100
1922	89	100
1923	88	95
1924	91	95
	106	96
1925	112	108

SECTION V

CONCLUSIONS

This study of the changes in prices, wages, copper exchange, and the standard of living in Peking seems to justify the following conclusions, though without further study they can be considered as only tentative.

There is very close relationship between the prices of the various grains and flours, and, except for wheat and wheat flour, they tend to follow each other very closely. The average increases or decreases during a year are proportionately very similar. The harvests come at about the same time and the crops are subject to similar weather conditions. Either the harvests of the staple crops are usually fairly similar or else the shift in demand is such that the prices rise and fall together. Wheat, being a spring crop, is subject to different weather conditions, and the yield and changes in price are often quite different from those of the other crops. The price of *lao mi* followed the prices of *hsiao mi mien*, corn flour, etc., even though the rice was imported from the South. It came to Peking, however, as government grain that had been collected as taxes. It had to meet the competition of the local grains and consequently sold at prices that corresponded to those of the grains grown around Peking.

The prices of the grains and flours have fluctuated up and down, but their general price level has been gradually rising since 1900.

Because of the small increase in the price of mutton it seems evident that the supply has increased enough to offset the general rise in the price level, or else there has been a falling off in demand. The latter does not seem likely, though the rise in the prices of other commodities may have reduced somewhat the amount of meat eaten by the poorer classes. It seems more probable that, with the development of the country to the northwest of Peking, new territory has been opened to sheep raising.

The price of pork has increased rapidly, especially since 1916. Further investigation will probably show some special factor, such as disease, that has tended to limit the supply of pigs. There is no apparent connection between the price of grain and the price of pork. For some undetermined reason pork does not have the seasonal fluctuations found in the price of mutton.

Periodic fluctuations similar to those in the price of mutton will probably be found in the prices of the other perishable foods.

The profit of the stores selling grain, salt, etc. is approximately 20 per cent of the selling price.

In December 1924 all prices were higher than they had been in 1913. The unweighted average increase was 36 per cent, but, in terms of a worker's budget, the increase was 44 per cent. From January 1900 to December 1924 the index number rose from 79 to 144, an increase of 65 points. Prices at the end of 1924 were higher than they were in 1920, famine year, largely because of the civil war and the lack of transportation. If conditions could return to normal, the cost of living for the workers would probably be from 30 to 35 per cent higher than in 1913.

Since 1901 the general price level has been increasing at an average rate of between 2 and 3 per cent a year,



Figure No. 22.

Peking's Cost of Living Dragon

His Backbone is the Annual Index Number. The Pearl is the Cost of Living December 1924.

though there is a tendency for prices to fluctuate in period with four years between successive high points.

Prices in Peking have not risen as rapidly as they have in Canton. In Peking the index number was 144 in December 1924. In Canton it was 178 in January 1925 and 195.7 in June.

In times of peace there is a very striking and surprising tendency for the retail price of food in the United States of America and in Peking to increase at approximately the same rate.

Copper exchange has been steadily increasing, owing to the issuing of additional and debased coins. The rate of issue has been very rapid since 1920, and is largely due to the fact that the Central Government cannot control the mints which are in the hands of the provincial governors.

The rise in copper exchange will probably continue. Because of the depreciation and instability of the copper currency, retail prices, wages, etc. will more and more be quoted in terms of silver. Copper will gradually cease to be a money of account. When used as a medium of exchange, its value will depend entirely on its silver value.

Much of the recent rise in prices quoted in coppers has been due to the rapid increase in copper exchange since 1920. The depreciation of the copper has also been one of the principal causes of the nine increases in wages since January 1900.

There is a tendency to fix the wages of the unskilled workers, even though they are controlled by the gild, at about the subsistence minimum. The wages of the skilled workers, such as the masons and carpenters, are about 70 per cent more than those of the unskilled. They still have a difficult economic problem, as there are at least four months of unemployment because of weather conditions.

The wages of the unskilled are so low that a large proportion of the men are not married. The family income of most of those who are married must be supplemented by other members of the family, or by charity.

The gilds have a minimum standard of living which they attempt to maintain. If conditions give the workers a temporary increase in their standard of living the gild does not attempt to help them maintain the increase. It will not try to raise wages until prices are such that real wages have reached the customary minimum.

Partly because of their position and partly because their standard is so close to the subsistence minimum, the

gilds are usually able to secure an increase in wages when rising commodity prices threaten their customary standard of living.

Many of the workers would rather decrease their hours of work than increase their standard of living.

The gild policy of maintaining wages will be severely tested if transportation can be restored and prices drop from their present war levels. However, the amount of damage done to the railroads will make it difficult to reestablish an adequate transportation service.

If present conditions continue for some time, wages and the general economic life will gradually become adjusted to the new level of prices, and there will be a tendency for the present high level to be fairly permanent.

The various political events, revolution, civil war, attempted restoration of the Emperor, have had but little effect on prices unless they have been accompanied by disturbances sufficiently severe to affect the harvest by destroying crops in the field, or make transportation difficult to by commandeering rolling stock and cutting communications.

TABLE XIV

DATES OF IMPORTANT EVENTS

1900 - 1924

1900	End of May	Beginning of Boxer uprising.
	July 20-Aug. 15	Siege of Legations.
1903		Russia occupied Manchuria.
1904	February 8	The Russo-Japanese War began.
	August	Typhoon off Kiangsu sea coast, 10,000 people killed, more than 10,000,000 taels worth of property destroyed.
1906	October	Peking-Hankow Railway opened.
	December	470,000 people (refugees) were sent back to the flooded cities of Kiangsu.
1907	August	Distribution of grain among Manchus abolished.
1908	November 21	Death of Emperor Kuang Hsü.
	" 22	Death of the Empress Dowager.
1909	August	Peking-Kalgan Railway opened.
1911	October 10	Revolution began in Wu-chang.
1912	February 5	Tientsin-Pukow Railway opened.
	March 10	Yuan Shih-k'ai appointed acting-president.
1913	July 12	Second Revolution began in Kiangsi.

	November 6	Yuan Shih-k'ai elected president.
1915	December 11	Yuan Shih-k'ai became emperor.
	" 23	Third Revolution began.
1916	June 1	Death of Yuan Shih-k'ai.
	September 25	Yung Ting Ho flood. Relief given by Government.
1917	July 1	Chang Hsün attempted restoration of Emperor Hsüan T'ung.
	August	Tientsin flood.
1918	September 1	Hsü Shih-ch'ang elected president.
1919	May-June	Student movement.
1920	July 14	Anfu-Feng-Chihli war began.
	" 17	Anfu party defeated.
1922	April 29	Mukden-Chihli war began.
	May 5	Chang Tso-lin defeated.
	June 21	Peking-Shanghai train service restored.
	August 1	Peking-Mukden train service restored.
1923	October 5	Tsao K'un elected president.
1924	September	Chang Tso-lin - Wu P'ei-fu began hostilities.
	October 23	Feng Yu-hsiang captured Peking by <i>coup d'état</i> .