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CONTENT

COST OF PRODUCING COTTON IN SIANGYANG, HUPEH[1]

This article forms another part of the cost studies made by this Department in cooperation with the Cotton Market Administration and of the Cotton Anti-Adulteration Bureau of Hupeh Province[1] in the winter of 1937. Fifty farms in Siangyang were visited. Information was collected by the use of a well prepared schedule. Because incomplete information was given on the points desired only 47 farms (occasionally 48) were included in the cost analysis. By careful analysis it was found, however, that the samples had been poorly selected in Siangyang for several reasons and the data collected were not satisfactory enough to justify a detailed analysis. The following is only a brief discussion of the most important results obtained.

Size of Farm and Land Utilization

The average size of farm in Siangyang is smaller than that in Kwanghwa, being 16 shih mow for the former and 21.3 for the latter. About 42 per cent of the Siangyang farms had areas of between 5 to 15 shih mow and over 80 per cent of them were below 25 shih mow.

Field crops, on the average, occupied 15 shih mow or 94 per cent of the total farm area, (table 1, page 2). The farmstead occupied the next largest area, about half a shih mow, or 3 per cent. The area occupied by threshing floors amounted to one-third of a shih mow or 2 per cent of the farm area. The total uncultivated or non-productive land represented a little less than one shih mow and only about 5.6 per cent of the farm area. Land was utilized more efficiently by large farms than by small ones, because the former had a smaller percentage of non-cultivated area than the latter.

Farm Layout

In Siangyang, as well as in Kwanghwa, each farm had, on the average, four fields. The number of fields per farm varied from one to nine. Twenty-seven per cent of these

1 It is suggested that this article should be read together with "Cost of Producing Cotton in Kwanghwa, Hupeh", which appeared in Economic Facts, No. 11, pages 488-520.

farms, however, had only three fields. As in Kwanghwa a significant relationship existed between the size of farm and the number of fields in the farm. Its correlation coefficient was +0.66 as compared with +0.74 for Kwanghwa.

Table 1. Average Size of Farm and Utilization of Farm Land

48 FARMS, SIANGYANG HSIEN, HUPEH, 1937

Use of farm land	Area (shih mow)	Per cent
Field crop	15.09	94.3
Vegetables	0.01	0.1
Farmstead	0.47	2.9
Threshing floor	0.33	2.1
Graves	0.03	0.2
Uncultivated	0.07	0.4
Total	16.00	100.0

The average size of a field was 3.8 shih now. Seventeen per cent of the fields were less than 1.5 shih mow in size. As in Kwanghwa, 2 and 3 shih mow represented the most usual size of field. The correlation coefficient between the size of farm and the average size of fields in the farm was +0.58, which was also lower than that between the size of farm and the number of fields and is quite comparable to the figure +0.53 for Kwanghwa. It is, therefore, appropriate to point out here that larger farms have usually more fields rather than larger fields.

The average distance between the fields and the farmsteads was 0.56 li. The farthest distance was as great as three li, indicating that a tremendous amount of labor had to be wasted in travelling.

Crops

Crops grown by Siangyang farmers were 12 in number (table 2, page 3). Wheat, as in Kwanghwa, was the most important crop. A little less than two-thirds of the crop area and a little more than one-third of the crop mow area was devoted to wheat. Each farm, on the average, grew about 10 shih mow of wheat. Sesame, instead of corn, as in Kwanghwa, came next, occupying 45 per cent of the crop area. Cotton ranked third in importance, being raised on about four shih mow per farm and accounting for 26 per cent of the crop area. Besides millet, all other crops had an area of less than

one and a half shih mow per farm and below 10 per cent of the crop area or 5 per cent of crop mow area. The total percentage of crop area occupied by these 12 kinds of crops amounted to 185.4 in Siangyang as compared with 197.8 in Kwanghwa.

Table 2. Average Area and Percentage of Area Devoted to Various Crops

48 FARMS, SIANGYANG HSIEN, HUPEH, 1937

Kind of crop	Area (shih mow)	Percentage in	
		Crop mow area	Crop area
Wheat	9.89	35.4	65.5
Sesame	6.79	24.3	45.0
Cotton	3.96	14.2	26.3
Millet	1.85	6.6	12.3
Barley	1.24	4.4	8.2
Broadbeans	1.11	4.0	7.3
Sweet potatoes	1.00	3.6	6.7
Kaoliang	0.79	2.8	5.3
Fieldpeas	0.74	2.6	4.9
Green beans	0.16	0.6	1.1
Buckwheat	0.07	0.2	0.5
Taro	0.05	0.2	0.3
Wheat and peas	0.30	1.1	2.0
Total	27.95	100.0	185.4

The crops grown in the winter are wheat, barley, broadbeans and field peas, the others are planted in summer and occasionally in the spring.

Cost of Producing Cotton in a Normal Year

Only 47 farms were included in this analysis due to the incompleteness of the information obtained. The highest net cost of producing one shih catty of cotton was 1.58 yuan among these 47 farms. The lowest, however, amounted only to 0.14 yuan. The average net cost was 0.55 yuan per shih catty as compared with 0.54 yuan for Kwanghwa. The weighted average was 0.42 yuan, showing that farms which produced more cotton bore, as a rule, less costs per unit of production. Here again the ridiculousness of the theory that costs determine price is revealed.

If costs are figured on per mow basis, the gross cost would be 7.73 yuan, and the net costs 6.86 yuan, the differ-

ence of 0.87 yuan represents the value of the by-products per shih mow. The cost per shih mow in Siangyang was much lower than in Kwanghwa, because Siangyang farmers had several advantages over the farmers of Kwanghwa: (1) the land was cheaper, (2) the cost of animal labor was less, and (3) the interest rate is lower than that paid by the Kwanghwa farmers. The yield of cotton per mow was, nevertheless, higher for Kwanghwa, hence, the average cost per shih catty of cotton in both Siangyang and Kwanghwa differed very little.

Table 3. Estimated Average Costs of Cotton Production

47 COTTON FARMS, SIANGYANG, HUPEH, IN A NORMAL YEAR

Cost	Type of average	Gross costs	Net costs (value of by-products deducted)
		Yuan	yuan
Per shih catty	Median	0.54	0.49
	Simple arithmetic	0.61	0.55
	Weighted	0.47	0.42
Per shih mow	Weighted	7.73	6.86

It is very interesting to point out at this juncture that the relative importance of land cost and labor cost in Kwanghwa is the reverse of that in Siangyang. Land cost in Siangyang accounted for only 35 per cent of the total gross cost (table 4, page 5), while that in Kwanghwa was 51 per cent. On the other hand, wages represented 54 per cent of the total cost for the former as compared with 36 per cent for the latter.

With the exception of the cost of land and labor other costs above one cent per shih catty were for the use of farm implements, ginning, and the costs of seeds, they represented 2.7%, 2.4% and 2.0% respectively of the total gross costs.

Net costs accounted for 88.6 per cent of the total gross costs, and the other 11.4 per cent was made up by the value of stalks and seeds. For producing one shih catty of cotton, farmers in Siangyang needed to dispose of only four cents in cash form. A great part of the total costs, 43 cents, was in non-cash form. Cash expenses accounted for only 9 per cent and non-cash expenses 91 per cent of the total gross costs

Table 4. Classification of Estimated Costs of Producing one Shih Catty of Cotton (Weighted Average)

47 COTTON FARMS, SIANGYANG, HUPEH, IN A NORMAL YEAR.

Kind of costs	Costs per shih catty (cents)			Per cent of each kind in total costs
	Cash	Non-cash	Total	
Land	1.5	15.0	16.5	34.9
Buildings	-	0.7	0.7	1.5
Threshing floor	-	0.4	0.4	0.9
Implements	-	1.3	1.3	2.7
Wages	1.7	23.7	25.4	53.6
Animal labor	0.1	0.8	0.9	1.9
Seeds	-	1.0	1.0	2.0
Fertilizers	-	0.1	0.1	0.1
Ginning	0.9	0.2	1.1	2.4
Gross costs	4.2	43.2	47.4	100.0
Net costs	4.2	37.9	42.1	88.6

(table 5, page 6). Chinese farmers enjoy a greater margin of safety against natural calamities and falling prices than do western farmers, not only because they have to bear fewer cash expenses, but they also have to meet still less cash expenditure for those costs which are somewhat fixed and do not vary proportionately with yield. Ginning costs represent the only item which varies directly with yield, and it is the only item which needs a great proportion of cash payment. In Siangyang more than 90 per cent of all other kinds of costs were met by non-cash payments, except ginning, while only 20 per cent of the ginning cost was met in non-cash form. This minimizes the risk of assuming fixed cash expenditure with uncertain income, caused by the variation of yields. Because cotton growers in Siangyang, do not hire much outside labor, wage expenses in cash represented only 6.7 per cent of the total labor cost.

Costs of Production in 1937—a Year of Low Cotton Yield

In Siangyang, cotton yield in 1937 was about 25 per cent of that in a normal year. Hence the unit cost was proportionately higher. The average net costs of production in Siangyang was 1.37 yuan per shih catty (table 6, page 6), which was 30 cents less than that in Kwanghwa. Cash costs were 1.26 yuan and non-cash 0.11 yuan. The gross costs per shih

Table 5. Percentage of Cash and Non-Cash Costs in Different Kinds of Production Costs of Cotton in a Normal Year

47 COTTON FARMS, SIANGYANG, HUPEH

Kind of costs	Percentage in each kind of cost		
	Cash	Non-cash	Total
	%	%	%
Land	9.3	90.7	100
Buildings	0.8	99.2	100
Threshing floor	2.8	97.2	100
Implements	0.5	99.5	100
Wages	6.7	93.3	100
Animal labor	9.7	90.3	100
Seeds	0.7	99.3	100
Fertilizers	0	100.0	100
Ginning	79.7	20.3	100
Total costs	9.0	91.0	100
Net costs	9.9	90.1	100

catty, from which the value of by-products has not been deducted, was 1.48 yuan as compared with 1.85 yuan for Kwanghwa. Growing one shih mow of cotton in Siangyang cost, on the average, 5.95 yuan if the value of seeds and stalks were not deducted. As the estimated income of by-products was 0.46 yuan, the net cost per shih mow was 5.49 yuan.

Table 6. Costs of Cotton Production

48 FARMS, SIANGYANG, HUPEH, 1937

	Type of averages	Cash	Non-cash	Total
Cost per shih catty:				
Net	Median	0.06	1.47	1.55
	Weighted	0.11	1.26	1.37
Gross	Median	0.06	1.61	1.67
	Weighted	0.11	1.37	1.48
Cost per shih mow:				
Net	Weighted	0.45	5.04	5.49
Gross	Weighted	0.46	5.49	5.95

Of the nine expenditure groups, wages and land costs were by far the most important items in 1937 as well as in a normal year. The former accounted for 49 per cent and the latter 39 per cent of the total gross costs. The use of farm implements cost 0.19 yuan per shih mow and 0.05 yuan per shih catty, or roughly 3 per cent of the total gross costs. More than 2 per cent of the total gross costs were for seeds and animal labor. Ginning costs per shih catty were the same in 1937 as in a normal year, being about one cent in each case, but its percentage in total cost was much less in 1937 than in a normal year, 0.8 per cent for the former and 2.4 per cent for the latter, due to the inflexibility of other groups of production costs and the low cotton yield in 1937.

Table 7. Amount and Percentage of Various Kinds of Production Costs of Cotton

48 COTTON FARMS, SIANGYANG, HUPEH, 1937

Kind of costs	Gross costs		Percentage in total gross costs
	per shih mow (yuan)	per shih catty (yuan)	
Land	2.34	0.58	39.3
Buildings	0.11	0.03	1.8
Threshing floor	0.06	0.02	1.1
Implements	0.19	0.05	3.2
Wages	2.91	0.72	48.9
Animal labor	0.13	0.03	2.2
Seeds	0.15	0.04	2.6
Fertilizers	0.01	-	0.1
Ginning	0.05	0.01	0.8
Gross costs	5.95	1.48	100.0
Net costs	5.50	1.37	92.4

Cash costs averaged 8 per cent of the total gross costs in 1937 and non-cash 92 per cent, which is about 11 times as great. The relative importance of cash and non-cash expenses in each of the nine cost groups in 1937 were quite similar to that in a normal year. Ginning required the greatest percentage of cash expenses, 78 per cent, and the remaining 22 per cent was in non-cash form. Cash costs accounted for 10 per cent of both animal labor and land costs, 6 per cent of human labor costs, while of other groups, they represented a very insignificant proportion.

Factors affecting the Unit Costs of Cotton Production.

The allocation of costs on the field basis, rather than on a farm basis, is one peculiarity in this study. This method has been used because "the relationship between costs and some factors pertaining to each field such as soil, topography, ownership, land value, distance to farmstead and size of field might be found, in addition to factors concerning the farm as a whole."

1. Size of farm.-It seemed that a curvilinear relationship existed between the size of farm and the net costs per shih catty in 1937 (table 8, page 8). On farms of an average size of 5.89 shih mow, the net cost of producing one shih catty of cotton was 1.63 yuan, If the size increased to 13.47 mow, net cost per shih catty decreased to 1.04 yuan. The largest group of farms incurred a unit cost of 1.48 yuan, which was higher than that for the smallest group. If, however, costs were allocated on a permow basis, the negative relationship between the size of farm and costs became apparent. As the size of farm became larger, the smaller was the gross cost per mow. The foregoing curvilinear relationship between the size of farm and the net cost of production per shih catty was brought about by a higher average cotton yield on the medium sized farms. Due to damage caused by incessant rain in 1937, the variation of yields on different farms became very erratic.

Table 8. Relationship Between Size of Farm and Costs of Cotton Production

SIANGYANG, HUPEH, 1937

Average size of farm (shih mow)		5.89	13.47	28.56
Number of fields in cotton		17	17	21
Yield of cotton unit per shih mow (shih catty)		3.92	5.99	3.36
Number of days of human labor per shih mow		8.75	8.86	6.56
Net cost per shih catty:	cash	0.13	0.07	0.13
	non-cash	1.50	0.97	1.35
	total	1.63	1.04	1.48
Gross cost per shih mow:	cash	0.53	0.43	0.46
	non-cash	6.32	6.33	4.97
	total	6.85	6.76	5.43

In a normal year, the cost of production per shih catty of cotton was decidedly lower, but the negative relationship of the size of farm of the net cost per shih catty was very consistent.

2. Cotton yields.—The paramount factor affecting the unit cost of cotton production was its yield. In Siangyang, the cost of producing one shih catty of cotton in the fields with the lowest yields was about four times as much as that in the fields with the highest yields (table 9, page 9). For the group of fields with an average cotton yield of 4.51

Table 9. Relationship Between Cotton Yield per Shih Mow and Cost of Production

SIANGYANG, HUPEH, 1937

Average yield of cotton lint per shih mow (shih catty)		1.58	4.51	8.80
Number of fields in cotton		23	17	15
Number of days of human labor per shih mow		6.67	7.52	9.00
Net costs per shih catty (yuan)	cash	0.19	0.17	0.04
	non-cash	2.67	1.31	0.65
	total	2.86	1.48	0.69
Gross costs per shih mow (yuan)	cash	0.31	0.77	0.37
	non-cash	4.58	6.36	6.30
	total	4.89	7.13	6.67

shih catties, the cost of production was about 1.48 yuan per shih catty as compared with 2.86 yuan for the group of lowest yield and 0.69 yuan for the group with the highest yield.

The amount of human labor required per shih mow was directly associated with the yields. The reason is obvious.

The same causal relationship existed in a normal year. Higher yield was always associated with lower unit of cost.

3. Type of soil.—Cotton yield, as in Kwanghwa, was the best on loam soil. Sandy soil ranked next, and the clay soil gave the lowest yield (table 10, page 10). Meanwhile, gross costs per shih mow did not have any significant relationship with the type of soil. Hence the net costs of production per shih catty were very much lower on loam and higher on clay soils than on sandy soils. The reason why the number of days of human labor required per mow was more on light soil than on heavy ones would be better understood if we consider that the cotton yield was about triple on loamy soils as on clay soils.

Table 10. Relationship Between soil Types and Costs of Production of Cotton

SIANGYANG, HUPEH, 1937

Type of soil		Loam	Sand	Clay
Number of fields in cotton		6	27	22
Yield of cotton lint per shih mow (shih catty)		7.56	4.49	2.84
Number of days of human labor per shih mow		8.60	7.30	7.40
Net cost per shih catty (yuan)	cash	0.05	0.10	0.15
	non-cash	0.73	1.03	1.94
	total	0.78	1.13	2.09
Gross cost per shih mow (yuan)	cash	0.42	0.49	0.44
	non-cash	6.09	5.10	5.90
	total	6.51	5.59	6.34

Summary

Farm land was utilized more efficiently by large farms than by small ones, because the former had a smaller percentage of non-cultivated area than the latter.

There were, on the average, four fields and 15 shih mow of crop area on each farm in Siangyang. A significant relationship existed between the size of farm and the number of fields on each farm. Larger farms had, as a rule, larger fields, but the relationship between the size of farm and the size of field was not so marked as the one between the size of farm and the number of fields.

Wheat was the most important crop in Siangyang. Each farm usually grew about 10 shih mow of wheat out of a total crop area of 15 shih mow. Sesame came next, and cotton ranked third in importance. The index of double cropping was 185.4.

The average net cost was 0.55 yuan per shih catty in a normal year, and the gross cost was 7.73 yuan per shih mow.

The cost of land in Siangyang amounted to 35 per cent of the total gross cost and wages 54 per cent as compared with 51 per cent for the land and 36 per cent for wages in Kwanghwa, because land was cheaper and the interest rate was lower in Siangyang than in Kwanghwa. All other groups of costs were below 3 per cent of the total costs.

For producing one shih catty of cotton, farmers in Siangyang needed to dispose of only four cents in cash form, the other forty-three cents were in non-cash form.

Cotton yield in 1937 was about 25 per cent of that in a normal year. The average net cost of production was 1.37 yuan per shih catty, and the gross cost per shih mow was 5.95 yuan. As the estimated income from by-products was 0.46 yuan, net cost per shih mow was 5.49 yuan.

The negative relationship between the size of farm and the cost of production per shih mow was very apparent.

The paramount factor affecting the unit cost of cotton production was its yield. The cost of producing one shih catty of cotton on those fields with the lowest yields was about four times as great as that on the fields with the highest yields.

It cost less to grow cotton on loam soil than on sandy soil and clay soil, because cotton gave a better yield on the former than on the latter.

W. Y. Yang

TYPES OF FARMING IN SZECHWAN

"Types of farming" is a term used for the combination of different enterprises, crops and animals on a farm, or in a given locality or region.* The type of farming on a farm or in an area is the result of years and even centuries of experimentation by farmers. It may be considered from various points of view, such as source of income, diversity of farming, intensity of operation, and maintenance of fertility.

The purpose of this study is to locate the different types of farming in Szechwan. Such information is useful as it not only shows the location and the extent of each type but also furnishes the basic information for any detailed studies relating to each type.

Sources of Data

The data used in determining the types of farming in Szechwan were obtained chiefly from the study of 42,500 farms, 425 localities, 134 hsien, by the Bureau of Reconstruction, Szechwan, in 1936. Some supplementary information was obtained from publications both in Szechwan and elsewhere, such as: (1) Reconstruction Weekly; (2) Crop Reports of the Bureau of Reconstruction, Szechwan; (3) Szechwan Review, issued monthly by the Bank of China, Chungking; (4) Szechwan Economics Monthly by the Szechwan Provincial Bank; (5) Crop Reports by the National Agricultural Research Bureau and (6) Land Utilization in China by the Department of Agricultural Economics, University of Nanking.

Method of Determining Types of Farming

Types of farming have been determined by considering both the crop acreage and the amount of man labor required to grow each kind of crop. For instance, wheat is considered a major crop wherever it occupies 20 per cent or more of the cultivated land, and the amount of labor required to grow a mow of wheat is taken as the basis of comparison for the other crops. Cotton required, on the average, three times as much man labor per unit of area as wheat, and, therefore, it is considered a major crop wherever it occupies seven per cent

* Buck, J. Lossing, Land Utilization in China, p. 204, 1937.

or more of the cultivated area. Similarly, rice and sweet potatoes, requiring twice as much work per unit of land as wheat, are major crops wherever they cover 10 per cent of the cultivated land or more. Similar computations have been made for all other crops.

Agricultural Areas of Szechwan

The province of Szechwan may be divided into seven agricultural areas according to distribution of crops, namely (1) the Wood-oil Rice Area, (2) Rice and Miscellaneous Crops Area, (3) Sweet Potato-Rice-Cotton Area, (4) Rice Area, (5) Rice-Wheat-Corn Area, (6) Corn Area, and (7) Pastoral Area (map 1 Page 14). This classification was first adopted through the crop reporting system of the Bureau of Reconstruction, Szechwan, in June 1938.

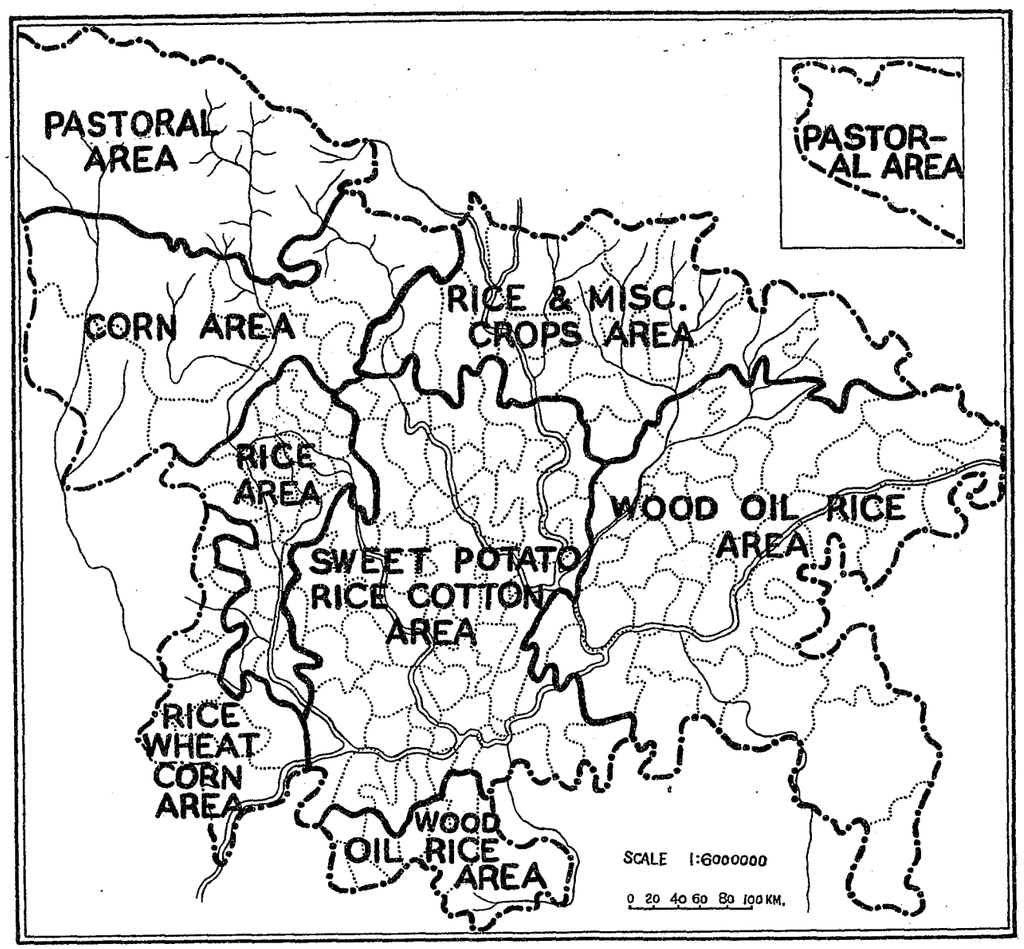
The Wood-oil Rice Area is located in the eastern part of the province. The land in this area is hilly and mountainous. In the northern part of the area, brown and gray-brown podzolic soils are commonly found, while in its southern part, podzolized old and young yellow earths are the most important soils. The two important markets, Chungking and Wanhsien, are located in this area through which the Yangtze River flows.

The Rice and Miscellaneous Crops Area is in the north. This area is as hilly and mountainous as the Wood-oil Rice Area. Its soils are partly purple-brown (forest) soils and partly podzolized old and young yellow earths. Owing to disturbances caused by bandits a large amount of land that was cultivated formerly has been idle for a number of years.

The Sweet Potato-Rice-Cotton Area with a rolling topography is located in the central part of the province. Purple-brown soils are prevalent in this area through which the Yangtze and its branches flow.

The Rice Area includes the Chengtu Plain. Its topography is level and undulating. The land is mostly made up of non-calcareous alluvium, rice paddy soils and purple-brown soils. Practically no drought has occurred in this area for centuries because of the good irrigation system.

The Rice-Wheat-Corn Area is situated in the southwestern corner of the province. It is a hilly and mountainous area with relatively high elevation. Brown and gray-brown podzolic soils are the most important. A large portion of this area has been within Sikong Province since January 1, 1939.



MAP 1: AGRICULTURAL AREAS IN SZECHWAN

The Corn Area is north of the Rice Area and the Rice-Wheat-Corn Area and west of the Rice and Miscellaneous Crops Area. It is mountainous and practically no rice can grow successfully in this area. The land is almost entirely made up of brown and gray-brown podzolic soils. More livestock is raised in this area than in the above five areas.

The Pastoral Area lies in the northwestern corner of the province and its elevation is the highest of all the areas. The soils are largely imperfectly developed chernozems. Forest and pasture are abundant in this area.

Types of Farming in Szechwan

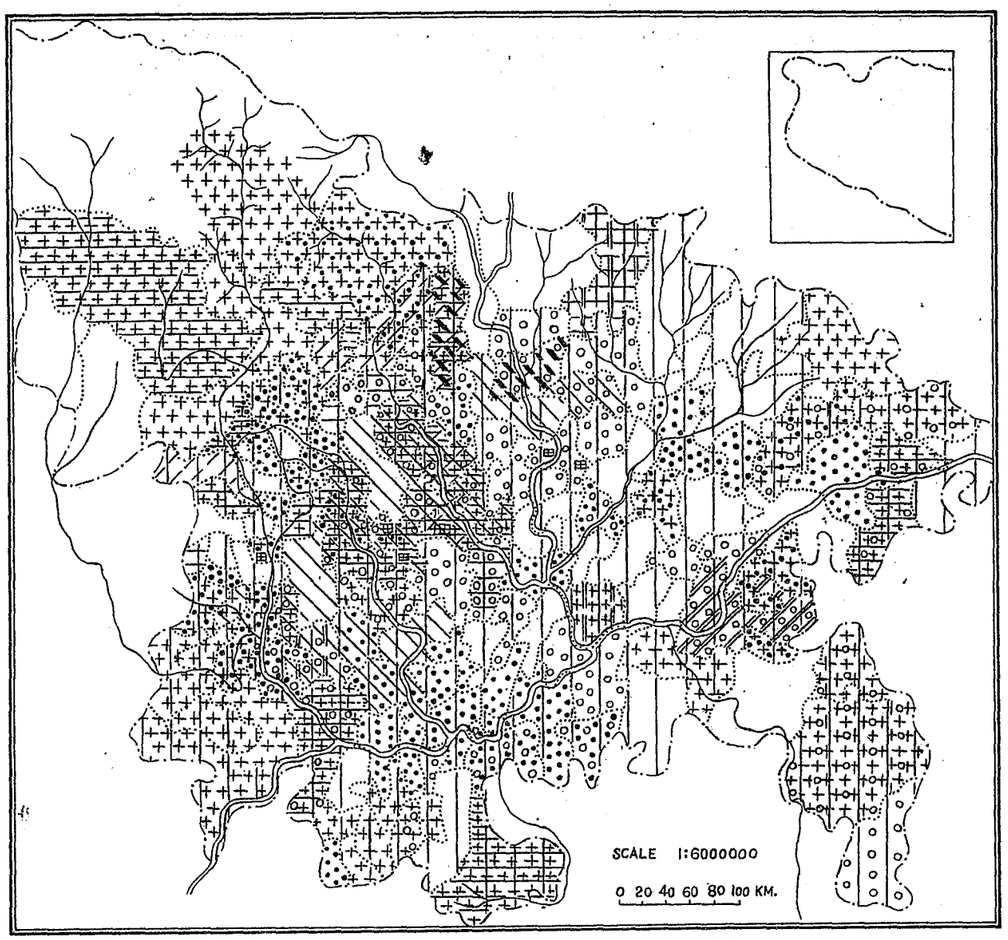
It is said that nearly all the products that are produced in the whole country can be produced in Szechwan alone. The most complex combinations of enterprises are found in the Basin (map 2 Page 16). The important combinations of crops in the seven agricultural areas in Szechwan are given below: —

Wood-oil Rice Area
- Rice, Sweet potatoes, rapeseed and corn
- Rice, corn and sweet potatoes
- Rice, corn and broad beans
- Rice
- Rapeseed

Rice and Miscellaneous Crops Area
- Rice and sweet potatoes
- Rice, barley, wheat, kaoliang and corn
- Rice, corn, barley and rapeseed
- Rice, wheat and broad beans
- Rice
- Corn

Sweet Potato-Rice-Cotton Area
- Rice and rapeseed
- Rice, cotton, wheat and sweet potatoes
- Rice, cotton and rapeseed
- Rice and cotton
- Rice
- Rapeseed
- Rice and sweet potatoes

Rice-Wheat Corn Area
- Rice and corn
- Rice, broad beans and corn
- Corn and wheat
- Rice, corn and rapeseed



Each crop is shown wherever it occupies a certain percentage of the crop area or more.

LEGEND

- Barley, 17 per cent & over.
- Broad beans, 15 per cent & over.
- Corn, 15 per cent & over.
- Cotton, 7 per cent & over.
- Field peas, 23 per cent & over.
- Kaoliang, 20 per cent & over.
- Rape seed, 13 per cent & over.
- Rice, 10 per cent & over.
- Soybeans, 18 per cent & over.
- Sweet potatoes, 10 per cent & over.
- Wheat, 20 per cent & over.

MAP 2: TYPES OF FARMING—DISTRIBUTION & COMBINATION OF MAJOR CROPS IN SZECHWAN

Rice Area
- Rice, corn and rapeseed
- Rice, wheat and corn
- Rice
- Rice, corn and cotton

Corn Area
- Corn and wheat
- Corn
- Corn and rapeseed
- Wheat

Pastoral Area
- Corn

The resulting type of farming is the combination of several factors. The fundamental factors determining the types of farming in Szechwan are not much different from those in other areas. The chief factors are climate, soil, topography, marketing costs and competition with other crops. In the province, a large variety of crops can be grown chiefly because of its favorable climate and the great variation in topography and soils.

Rice is grown all over the Basin because of its moist climate, the impervious soils and the readily available water supply. In the Chengtu Plain the soil is clayloam, well watered by the very famous Kwanhsien irrigation system for ever 2,000 years; so the area is especially suitable for rice.

Wheat is generally distributed in the province. It is adapted to porous soils of high lands and hillsides and is non-competitive with many summer crops and has little competition from other winter crops too.

Corn is a major crop in the mountainous areas with greater rainfall in summer and a loamy soil. Most of the crop is grown on the mountain sides. As corn is a relatively bulky product, it is largely consumed locally. In the Corn Area, corn is fed to livestock such as hogs and cows because of the marketing cost factor.

Cotton and sweet potatoes are found in the same area—Sweet Potato-Rice-Cotton Area—as they are both adapted to the lighter silty soils.

Rapeseed is generally found in the Basin. It is grown in low-lying land or rice fields which are better adapted to rapeseed than to wheat or barley. The farmers usually sell or exchange rapeseed for vegetable oil and salt.

Most of the wood oil trees are planted on the mountain sides. This crop does not compete with other crops.

In the northwestern corner of the province, the elevation is too high and the slopes are too steep for the growing of most farm crops. A large part of this land is in pasture and forest. It is adapted to ranch farming.

Rwen-tao Liu

FEASIBILITY OF FARMING UNCULTIVATED LAND

I. Introduction

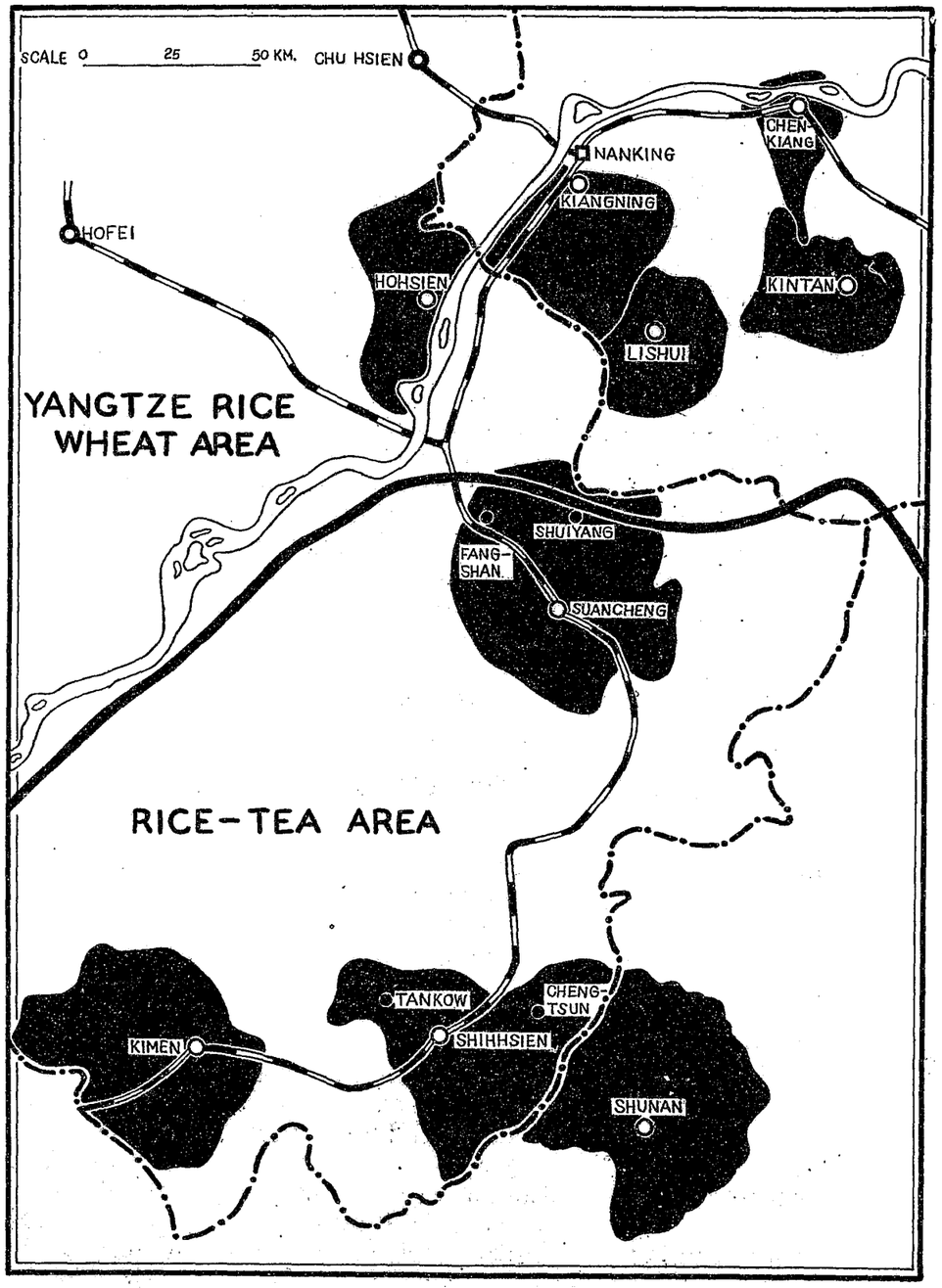
The purpose of this study was to determine the advisability of bringing into cultivation uncultivated land, which at present provides little besides grass fuel. As the government had increasingly encouraged the breaking up of such areas, and some had already been broken up by private enterprise, it seemed worthwhile to examine whether there was economic justification of such a policy.

Eleven localities in East Central China were studied. Ho Hsien, Anhwei, Chenkiang, Kiangning, Kintan and Lishui, Kiangsu, located in the Yangtze Rice-wheat Area[1] (Map 1, Page 20). Kimen, Shih Hsien 1 (Tangkow) Shih Hsien 2 (Chengtsun), Suancheng 1 (Shuiyang) Suancheng 2 (Fangshan), Anhwei, and Shunan, Chekiang, located in the rice-tea area. Data were collected during the summer of 1936, and a total of 3,661 records were obtained (table 1, Page 19).

Table 1. Name and Number of Records

Name of schedule	Type of information	Number of records
Uncultivated land	Acreage, value, purposes for which used, expenses and returns	1,061
Newly cultivated land	Acreage, value, crop grown, difficulties of husbandry, expenses & returns	1,061
Ordinary cultivated land	Nature, value, crop grown, expenses and returns	539
Farm labor	Amount spent on each crop and its distribution throughout the year	752
Farm implements	Cost of buying and using, rate of work and days used	234
Farm buildings	Initial cost, depreciation and use	234

[1]Buck, J. L., Land Utilization in China, University of Nanking, Nanking.



LEGEND

Localities where uncultivated land study were — Boundary of the agricultural areas — Province boundary

MAP 1: MAP OF LOCALITIES IN UNCULTIVATED LAND STUDY

II. Uncultivated Land

1. Use of uncultivated land:- Uncultivated land was used either for growing grass or shrubs for fuel. The average size of plot for fuel growing in the Yangtze Rice-wheat Area amounted to 5.4 shih mow[2] as compared with 6.6 shih mow for the Rice-tea Area (table 2, Page 21). The yield of fuel

Table 2. Yields of Grass Fuel on Uncultivated Land
658 plots, 11 localities, East Central China, 1935

Area and localities	Number of polts	Area per plot (shih mow)	Yield in shih picul per shih mow	% of fuel used on farm
Yangtze Rice-wheat Area				
Chenkiang	15	1.3	0.64	97
Ho	124	4.1	6.34	74
Kiangning	72	3.2	4.99	31
Kintan	47	12.5	1.11	73
Lishui	99	5.9	3.53	51
Average	357	5.4	3.68	60
Rice-tea Area				
Kimen	47	10.0	7.66	93
Shih 1 (Tangkow)	57	15.2	2.89	100
Shih 2 (Chengtsun)	9	3.1	2.31	61
Suancheng 1 (Shui-yang)	79	2.9	5.34	38
Suancheng 2 (Fang-shui)	44	4.6	2.51	60
Shunan	66	3.0	0.45	100
Average	301	6.6	4.01	83

varied widely from locality to locality, being only 0.45 shih picul[3] per shih mow in Shunan, Chekiang, and 7.66 shih piculs in Kimen, Anhwei. The average yield was 3.68 shih piculs per shih mow in the Yangtze Rice-wheat Area and 4.01 in the Rice-tea Area. In the Yangtze Rice-wheat Area, about 60 per cent of the fuel was used by the farmers themselves while in the Rice-tea Area, 83 per cent was used in this way.

[2] One shih mow = 0.1644 acre

[3] One shih picul 100 shih chin = 110.23 pounds

The small percentage of fuel used on farms in Kiangning was due to the high demand for fuel in the city of Nanking.

2. Labor on grass fuel:- The labor required for harvesting grass per shih mow was 2.1 man days for the Yangtze Rice-wheat Area and 1.5 men days for the Rice-tea Area (table 3 Page). The number of man days required for marketing was also higher in the Yangtze Rice-wheat Area than in the Rice-tea Area.

Table 3. Labor Requirement for Grass Fuel on Uncultivated Land 658 plots, 11 localities, East Central China, 1935.

Area	Number of plots	Man days per shih mow			
		Cutting	Bundling	Marketing	Total
Yangtze Rice-wheat Area	357	1.5	0.6	0.5	2.6
Rice-tea Area	301	0.7	0.8	0.2	1.7

3. Prices of grass fuel:- Prices received for grass fuel in the Rice-tea Area were lower than those received in the Yangtze Rice-wheat Area. The average price of grass fuel per shih picul on the farm was 13 cents in the Rice-tea Area, but 22 cents in the Yangtze Rice-wheat Area (table 4, Page 22). The seasonal variation of prices was greater in the Yangtze Rice-wheat Area, where the market for fuel was larger and more of the total production was marketed.

Table 4. Prices of Grass Fuel
10 localities, East Central China, 1935

Area	Cents per shih picul			
	At harvest on market	Highest on market	Average on market	Average on farm
Yangtze Rice-wheat Area*	17	35	27	22
Rice-tea Area	20	29	20	13

*Chenkiang excluded.

4. Value of uncultivated land:- The value of uncultivated land was higher in the Yangtze Rice-wheat Area

than in the Rice-tea Area. The average value for level uncultivated land amounted to 4.41 yuan per shih mow in the Yangtze Rice-wheat Area and 2.27 yuan per shih mow for the Rice-tea Area (table 5 Page 23). The value of hilly, uncultivated land was lower than that of the level land and amounted to 3.67 yuan in the Yangtze Rice-wheat Area, while it was 2.10 yuan in the Rice-tea Area.

Table 5. Value of Uncultivated Land
10 localities, East Central China, 1935

Areas	Yuan per shih mow	
	Level	Hilly
Yangtze Rice-wheat Area*	4.41	3.67
Rice-tea Area	2.27	2.10

*Chenkiang excluded.

5. Returns and expenses:- The total receipts per shih mow of uncultivated land varied greatly from locality to locality and area to area. In the Yangtze Rice-wheat Area the total receipts from uncultivated land amounted to 92 cents per shih mow (table 6 Page 23). They were made up of 71 cents from grass, 19 cents from forest products and 2 cents from other products. In the Rice-tea Area, the total receipts amounted to only 72 cents, being 59 cents for grass, 9 cents for forest products, and 4 cents for other products.

Table 6. Receipts and Expenses on Uncultivated Land
658 plots, 11 localities, East Central China, 1935

Area	Number of plots	Receipts, cents per shih mow				Expenses, cents per shih mow			
		Grass fuel	Forest products	Other products	Total	Man labor	Use of land	Taxes	Total
Yangtze Rice-wheat Area	357	71	19	2	92	57	30	6	93
Rice-tea Area	301	59	9	4	72	60	16	2	78

The total expenses per shih mow amounted to 93 cents in the Yangtze Rice-wheat Area. They were made up of 57 conts for man labor, 30 cents for the use of land and 6 cents

for taxes. In the Rice-tea Area, the total expenses amounted to 78 cents per shih mow, being 60 cents for man labor, 16 cents for the use of land, and 2 cents for taxes.

The difference between receipts and expenses were the profits on uncultivated land. The net profits per shih mow were all negative both in the Yangtze Rice-wheat Area and Rice-tea Area, being -1 cent and -6 cents respectively (table 7 Page 24). The returns per day of man labor on uncultivated land amounted to 22 cents in the Yangtze Rice-wheat Area and 32 cents in Rice-tea Area, which were lower than the amounts were valued by the local farmers.

Table 7. Profits on uncultivated land
658 plots, 11 localities, East Central China, 1935

Area	Number of plots	Net profits (cent) per shih mow	Returns (cents) per day of man labor
Yangtze Rice-wheat Area	357	-1	22
Rice-tea Area	301	-6	32

Table 8. Profits on uncultivated land in different localities
658 plots, 11 localities, East Central China, 1935

Areas and localities	Number of plots	Net profits per shih mow (cents)
Yangtze Rice-wheat Area		
Chenkiang	15	-43
Ho	124	-37
Kiangning	72	49
Kintan	47	-33
Lishui	99	-44
Rice-tea Area		
Kiman	47	12
Shih 1 (Tangkow)	57	8
Shih 2 (Chengtsun)	9	8
Suancheng 1 (Shuiyang)	78	47
Suancheng 2 (Fangshan)	44	-18
Shunan	66	-59

Net profits per shih mow on uncultivated land varied greatly from locality to locality. The highest net profit was found in Kiangning, which amounted to 49 cents per shih mow while the lowest was in Shunan, being -59 cents (Table 8 Page 24).

In considering these figures, it must be remembered, however, that the harvesting and marketing of grass fuel and other operations in connection with uncultivated land provide an outlet for labor which might otherwise be idle. Grass harvesting usually occurs after the rice harvest, and it is often done by women and children who cannot help with the preparation of land for winter crops. Except for the harvesting of grass fuel, there is no outlet for surplus farm labor even though the work was not at all profitable. However, farmers are forced to do it, in the hope that the receipts would cover their unavoidable expenses, such as board.

III. The Newly Cultivated Land

1. *Method of breaking up new land*:- The most important method of breaking up new land was digging with a

Table 9. Method of BreakingNew Land
1044 plots, 10 localities, East Central China,1935

Areas and localities	Number of plots	Per cent of land broken by digging	Times soil was turned before first planting
Yangtze Rice-wheat Area			
Ho	40	100	2.3
Kiangning	187	53	3.2
Kintan	100	100	1.0
Lishui	110	67	3.1
Average	441	72	2.6
Rice-tea Area			
Kimen	101	92	1.9
Shih 1 (Tangkow)	118	100	2.0
Shih 2 (Chengtsun)	74	47	3.1
Suancheng 1 (Shuiyang)	101	100	1.0
Suancheng 2 (Fangshan)	104	100	1.6
Shunan	105	100	1.8
Average	603	92	1.8

hook. In the Yangtze Rice-wheat Area, there was 72 per cent of land newly cultivated where this method was used, while 92 per cent of the newly cultivated land for the Rice-tea Area was broken up in this same way (table 9 Page 25). There was a larger percentage of land broken up by plowing in Chengtsun of Shih Hsien. It was noted that the number of times the soil was turned before the first planting had a relationship to the method employed in breaking up new land. That is the higher the percent of land broken by digging, the fewer times the soil was turned before the first planting; on the other hand, the higher the percent of land broken by plowing, the more times the soil was turned before the first planting.

2. *Amount and Cost of Labor required for Breaking New Land*:- The average amount of labor required for breaking new land per shih mow in the Yangtze Rice-wheat Area was 8.6 days of man labor and one day of animal labor, while 11.9 man days and 0.3 animal day were required for the Rice-tea Area (table 10 Page 26). The total estimated value of labor for breaking new land per shih mow amounted to 3.28 yuan in the Yangtze Rice-wheat Area and to 4.58 yuan for the Rice-tea Area. It is indicated that land broken by digging hook is an expensive method for which a larger amount of man labor is required.

Table 10. Costs of Labor Per shih Mow for Breaking New Land

1044 plots, 10 localities, East Central China, 1935

Areas	Number of plots	Labor per shih mow		Total estimated value of labor per shih mow (yuan)
		Man days	Animal days	
Yangtze Rice-wheat Area*	441	8.6	1.0	3.28
Rice-tea Area	603	11.9	0.3	4.58

*Chengkiang excluded.

3. *Value of Newly Cultivated Land*:- In the Yangtze Rice-wheat Area, the value of good newly cultivated land per shih mow amounted to 7.12 yuan and that of poor land to 3.46 yuan, while in the Rice-tea Area good land amounts to

4.06 yuan and poor land to 3.63 yuan (table 11 Page 27). The fair value of newly cultivated land, which was calculated on the basis of uncultivated land value plus the total estimated value of labor for breaking up, amounted to 7.69 yuan, and 6.95 yuan for level and hilly land respectively in the Yangtze Rice-wheat Area, while it amounted to 6.85 yuan and 6.68 yuan for level and hilly land respectively in the Rice-tea Area. This shows that there is no profit at all in breaking up the new land, but the operation merely provides another outlet for surplus farm labor.

Table 11. Value of Newly Cultivated Land and the Fair Value

1044 plots, 10 localities, East Central China, 1935

Areas	Number of plots	Value of per shih mow for newly cultivated land (yuan)		Fair value (yuan per shih mow)	
		Good	Poor	Level land	Hilly land
Yangtze Rice-wheat Area	441	7.12	3.46	7.69	6.95
Rice-tea Area	603	4.06	3.63	6.85	6.68

IV. Comparison of Profits from Newly Broken Land and Old Broken Land

The new and old broken land were classified on the basis of the years of cultivation. Land that had been cultivated for more than six years belongs to the old broken land group, and land cultivated for six years and less belongs to the newly broken land group. It is difficult to compare the expenses and returns for identical crops grown on the different types of land. Wheat, corn, and sweet-potatoes were the only crops for which comparisons could be made.

1. *Profits of wheat*:- In both the Yangtze Rice-wheat and Rice-tea Area, wheat yielded slightly differently on both new and old land. When labor was charged at its estimated value, expenses exceeded receipts on all types of land except newly broken land in the Yangtze Rice-wheat Area (table 12

Page 28). A detailed study of the figures shows that the profits were higher on the new land than on the old land in both the Yangtze Rice-wheat Area and Rice-tea Area.

Table 12. Returns and Expenses for Wheat on Different Types of Land

161 plots, 11 localities, East Central China, 1935

Items	Yangtze Rice-wheat Area		Rice-tea Area	
	Newly broken land	Old land	Newly broken land	Old land
Number of plots	21	64	21	55
Days man labor per shih mow	4.4	4.4	6.8	8.8
Yield, shih chin per shih mow	112	106	75	79
Receipts, yuan per shih mow				
Grain	3.54	2.92	2.27	2.45
By-products	0.30	0.34	0.16	0.11
Total	3.84	3.26	2.43	2.56
Expenses, yuan per shih mow				
Man labor	1.83	1.65	2.59	3.41
Animal labor	0.14	0.19	0.31	0.10
Tools	0.03	0.04	0.06	0.07
Land	0.42	0.92	0.38	0.63
Buildings	0.14	0.09	0.03	0.07
Fertilizer	0.52	0.42	0.47	1.41
Seed	0.30	0.38	0.25	0.27
Total	3.38	3.69	4.09	5.96
Profits, yuan per shih mow	0.46	-0.43	-1.66	-3.40
Returns per day of man labor (yuan)	0.52	0.28	0.14	0

In the Yangtze Rice-wheat Area, returns per day of man labor amounted to 52 cents on new land as compared with 28 cents on old land, while in the Rice-tea Area, to 14 cents on

new land and zero on old land. Therefore, returns for labor were also higher on the newly broken land than on the old land.

2. *Profits of Corn:-* The yield of corn varied on different types of land. In the Yangtze Rice-wheat Area, the yield of corn per shih mow amounted to 93 shih chin on old land, and to 136 and 197 shih chin on newly broken land and old land respectively in the Rice-tea Area (table 13 Page 29).

Table 13. Returns and Expenses for Corn on Different Types of Land

117 plots, 11 localities, East Central China, 1935

Items	Yangtze Rice-wheat Area	Rice-tea Area	
	Old land	Newly broken land	Old land
Number of plots	31	55	24
Days man labor per shih mow	7.3	9.9	10.5
Yield, shih chin per shih mow	93	136	197
Receipts, yuan per shih mow			
Grain	2.75	3.71	4.29
By-products	0.42	0	0.07
Total	3.17	3.71	4.36
Expenses, yuan per shih mow			
Man labor	2.16	3.99	4.57
Animal labor	0.20	0	0.01
Tools	0.05	0.04	0.08
Land	1.14	0.34	0.97
Buildings	0.08	0.61	0.53
Fertilizer	0.38	0.06	2.93
Seed	0.16	0.15	0.06
Total	4.17	5.19	9.15
Profits, yuan per shih mow	-1.00	-1.48	-4.79
Returns per day of man labor (yuan)	0.16	0.25	-0.02

The expenses all exceeded the receipts on all types of land in both the Yangtze Rice-wheat Area and Rice-tea Area. The value of man labor per shih mow was the highest item of expense. In the Rice-tea Area, animal labor was used less,

so the value of man labor was very much higher than for the Yangtze Rice-wheat Area.

Returns per day of man labor were 15 cents for old land in the Yangtze Rice-wheat Area, and 25 centsand -2 cents for newly broken land and old land respectively in the Rice-tea Area. The latter shows that the newly broken land was more profitable than the old land.

3. *Profits of Sweet Potatoes:* Sweet potatoes yielded more on the new land than on the old and more in the Rice-wheat Area than in the Rice-tea (table 14 Page 30). Prices were higher in the Rice-wheat Area and more fertilizer was

Table 14. Returns and Expenses for Sweet Potatoes on Different Types of Land

191 plots, 11 localities, East Central China, 1935

Items	Yangtze Rice-wheat Area		Rice-tea Area	
	Newly broken land	Old land	Newly broken land	Old land
Number of plots	42	73	44	32
Days man labor per shih mow	7.3	6.5	7.1	6.9
Yield, shih chin per shih mow	823	780	731	658
Receipts, yuan per shih mow				
Sweet potatoes	5.95	5.33	3.62	3.23
By-products	0.10	0.16	0.06	0
Total	6.05	5.49	3.68	3.23
Expenses, yuan per shih mow				
Man labor	3.21	2.78	2.82	2.63
Animal labor	0.09	0.18	0.01	0.02
Tools	0 09	0.08	0.06	0.06
Land	0.43	0.92	0.32	0.39
Buildings	0.04	0.04	0.02	0
Fertilizer	1.20	0.67	0.66	0.36
Seed	0.91	1.08	0.78	0.71
Total	5.97	5.75	4.67	4.17
Profits, yuan per shih mow	0.80	-0.26	-0.99	-0.94
Returns per day of man labor, (yuan)	0.45	0.39	0.26	0.24

used there. Returns per day of man labor were 45 cents on new land and 39 cents on old land in this area, as compared with 26 cents on new land and 24 cents on old land in the Rice-tea Area. It was noticeable that in both the agricultural areas, the profits were higher on new land than on old land.

V. Summary and Conclusion

1. Eleven localities in East Central China were included in this study, five localities were located in the Yangtze Rice-wheat Area and six in the Rice-tea Area. The average size per plot of uncultivated land was 5.4 shih mow in the Yangtze Rice-wheat Area and 6.6 shih mow in the Rice-tea Area.

2. Most of the uncultivated land was growing grass fuel. The average yield per shih mow was 3.68 shih piculs in the Yangtze Rice-wheat Area and 4.01 shih piculs in the Rice-tea Area.

3. Growing grass fuel on uncultivated land merely provided an outlet for surplus farm labor, and the profits were negative.

4. The newly cultivated land was mostly broken by digging hook. In the majority of cases, the soil was turned an average of 2.6 times before the first planting in the Yangtze Rice-wheat Area, and 1.8 times in the Rice-tea Area.

5. The value of new cultivated land was less than the value of uncultivated land plus the value of labor for breaking, which indicated that it is unprofitable to break new land.

6. Profits for growing wheat, corn and sweet potatoes were higher on newly broken land than on old land, for much of the plant food had been consumed on the old land.

7. From an economic point of view, the breaking up of uncultivated land for cultivation was quite unprofitable. It is suggested that the uncultivated land should be adapted to forests, and the introducing of some kinds of home industry and side lines such as weaving, silkworm raising, poultry raising and other occupations might provide an outlet for surplus farm labor.

R. T. Tsui.

A COST OF LIVING INDEX FOR THE MERCHANT-STOREKEEPER CLASS AND FOR ALL THREE CLASSES[1] IN CHENGTU SZECHWAN

This article is one part of a series of studies of the cost of living in Chengtu. Two similar articles which gave the cost of living indices for the laborer-peddler class and the military-official-educational class have already been published in our 10th and 12th issues respectively. In addition to the index for the merchant-storekeeper class, a general index for all the three classes as a whole is presented in this article. These three classes form approximately 61 per cent of the total population in Chengtu[2]. It is intended that the general index, averaged from the three classes, will disclose roughly the current changes in the living cost of the Chengtu residents as a whole.

Method of Study

A. The selection of samples and the determination of weights: Investigations of 63 families in this class were carried out and the kind and amount of various commodities consumed by each family, in the year 1937, were recorded. According to the classification of the Chamber of Commerce in Chengtu, these families earned their living in 6 different occupations. The occupations and the respective percentage of the population engaged in each of them are given in table 1 (page 32).

Table 1. Number of Persons and Six Occupations of M-S Class in Chengtu, 1934

Occupation	Population (Adult-male Uuit)
Merchant-Storekeeper Class:	
Stationer	33,812
Departmental Storekeeper	14,553
Silk Goods Dealer	8,261
Drug Store and Dispensary Keeper	8,170
Book Storekeeper	6,765
Rice, Oil Dealer and Money Exchanger	6,499
Total	78,060

[1]Laborer-peddler, merchant storekeeper, and military-official-educational see Economic Facts Nos. 10 and 12.

[2]Based on the census of 1934 "Popular Consciousness" Vol. 3, pp. 21-23.

"Atwater's Scale" was used in the calculation of the adult male unit for each of the 63 families. The average amount of commodities consumed by each adult male unit for each occupation was discovered. The average quantity of each commodity consumed per adult male unit, which was used in calculating the weighted aggregative cost index for the whole class, was computed by the weighted arithmetic method, using the number of adult male units in each of the 6 occupations in the class as weights.

B. Collection of price data: Retailers' accounts were the source of the prices of various commodities prior to March 1938. Since April, 1938, price data have been collected each week from the retailers by our own investigators. The index for the house rent here is based on the information given by 120 families in these classes, i.e. 20 families for each occupation.

C. The making of index numbers: The weighted aggregative method was used in calculating the index numbers. The monthly average of the aggregates from February to June 1937 is considered as 100.

The same method is used in calculating the index for the 3 classes as a whole, only the weights are determined by averaging the weights of respective commodities for all 3 classes, using the percentages of total adult male units in the 3 classes as the weights. (table 2, page 33).

Table 2. Number and percentage of A.M.U. in the 3 classes in Chengtu, Szechwan, 1934

	A.M.U.	Percent
L-P	87,241	41.47
M-S	78,060	37.10
M-O-E-	45,079	21.43
3 classes	210,380	100.00

The index for M-S class includes prices of 66 commodities and that for the 3 classes as a whole 76. (table 3 pages 34 and 35)

Table 3. Commodities Included In The Cost of Living Index For The Merchant-Storekeeper And The Three Classes In Chengtu

KIND AND AVERAGE AMOUNT OF COMMODITIES CONSUMED BY EACH A.M.U. IN 1937

Commodities	Units	Weights	
		M-S	The three classes
Food:			
Rice	Double shih tan (1)	11.53	12.63
Broad beans	,, ,, ,,	.30	.16
Wheat flour	Shih catty	3.01	2.09
Noodles	,, ,,	6.11	5.71
Pork	,, ,,	19.37	17.46
Beef	,, ,,	1.44	2.60
Mutton	,, ,,	.74	.82
Lard	,, ,,	5.93	4.62
Chicken	,, ,,	4.76	3.68
Eggs	Each	56.26	44.07
Rapeseed oil	Shih catty	10.67	9.07
Sauce	,, ,,	8.73	6.16
Salt, powdered	,, ,,	11.57	9.89
Sugar, white	,, ,,	2.03	2.07
Wine, Neikiang	,, ,,	-	1.70
Wine, Mienchu Tachu	,, ,,	2.57	1.88
Leeks	,, ,,	37.45	30.21
Cabbage, rolled	,, ,,	70.06	56.53
Lettuce stems	Per stem	116.36	93.88
Soybean sprouts	Shih catty	40.22	32.45
Onions	,, ,,	28.58	23.06
Bean curd	Piece	90.50	73.02
Mustard root	Shih liang	57.16	46.12
Mung beans	Shih catty	6.43	5.19
Pepper	,, ,,	5.72	4.61
Pepper, red salted	,, ,,	4.68	3.78
Tea	,, ,,	1.09	.98
Peanut candy	Piece	450.89	366.47
Clothing:			
Shirtings, white	Shih foot	28.72	14.60
Shirtings, white	,, ,,	8.97	5.92
,, yin-tan-shih-lin	,, ,,	8.32	4.88
Flowered crepe	Shih foot	4.21	2.46
Gabardine	,, ,,	-	.43
Woolen serge	,, ,,	-	.73
Cotton	Shih catty	1.26	1.08
Hats	Each	.79	.43
Shoes, Chinese style	Pair	-	.24
"Sneakers", cloth soles	,,	1.47	.93
Venetian shoes	,,	.17	.06
Leather shoes	,,	.23	.17
Socks	,,	3.19	2.53

Commodities	Units	Weights	
		M-S	The three classes
Rent:			
Rent	Standard room (2)	1	1
Deposit	,, ,, (3)	1	1
Fuel and light.			
Coal	T'iao (4)	.21	.10
Charcoal	Shih picul	.07	.13
Firewood, pine Taho	Big bundle (5)	7.39	10.36
Firewood, pine Nanho	Small ,, (6)	7.39	10.36
Firewood, Tsinghang	Tan (7)	2.61	1.67
Sticks, dried	,, (8)	2.61	1.67
Red candles	Pair	777.11	448.53
Electricity	Kilowatt hour	3.59	3.76
Electric bulb	Each	.12	.10
Electric wire	Coil (9)	.01	.01
Rapeseed oil	Shih catty	10.99	6.86
Kerosene oil	,, ,,	-	.28
Miscellaneous:			
Face cream, Butterfly	Jar	-	.02
Toothpaste, Size No. 1	Box	.65	.47
Laundry soap, fine	Cake	3.00	3.62
Towels	Each	1.91	1.47
Ink	Bottle	-	1.05
Letter paper	100 sheets	13.79	7.58
Straight cut	Pack of 10's	.82	7.13
Tobacco, loose	Shih liang	16.58	15.75
Cooking pan	Each	.09	.07
Vegetable bowl, Penghsien	Each	-	.49
Vegetable bowl, Kiangtsien	Each	3.03	1.64
Adhesive tape	12 sq. inch	-	1.29
Alcohol	Pint	-	.72
Aspirin	Pill	79.37	46.46
Chinese drugs	Dose (10)	1.19	.97
Tuition	Student	.32	.21
Textbook	Book (11)	1.07	.76
Boiling water	Bottle	60.00	40.75
Movie	Time	13.90	11.59
Wages	Maidservant	.11	.14
Rickshaw fare	Kilometer	65.71	107.89

(1) 1 double shih tan = 2 shih tan

(2) 1 standard room
.85 sq. chang for M-O-E class
.56 sq. ,, ,, M-S ,,
.26 sq. ,, ,, L-P ,,

(3) Interest rate - 2% of the deposit monthly.

(4) 1 t'iao = 160 shih catties

(5) 1 big bundle = 22 shih catties

(6) 1 small bundle = 18 shih catties

(7) 1 tan = 85 shih catties

(8) 1 tan = 100 shih catties

(9) 1 coil = 80 yards

(10) 1 dose = A combination of 20 kinds of of drugs each weighing 1 liang.

(11) A set - A combination of 3 books (1 English reading, 1 Chinese reading and 1 arithmetic.)

Changes in the Cost of Living since January, 1937.

The index numbers of the cost of living of the merchant-stroekeeper class are shown in table 4 (page 37) and in Figure 1 (page 36). Likewise, the index for the 3 classes as a whole is shown in table 5 (page 38) and in figure 2 (page 39). The general index of the M-S and that of all the 3 classes are almost identical.

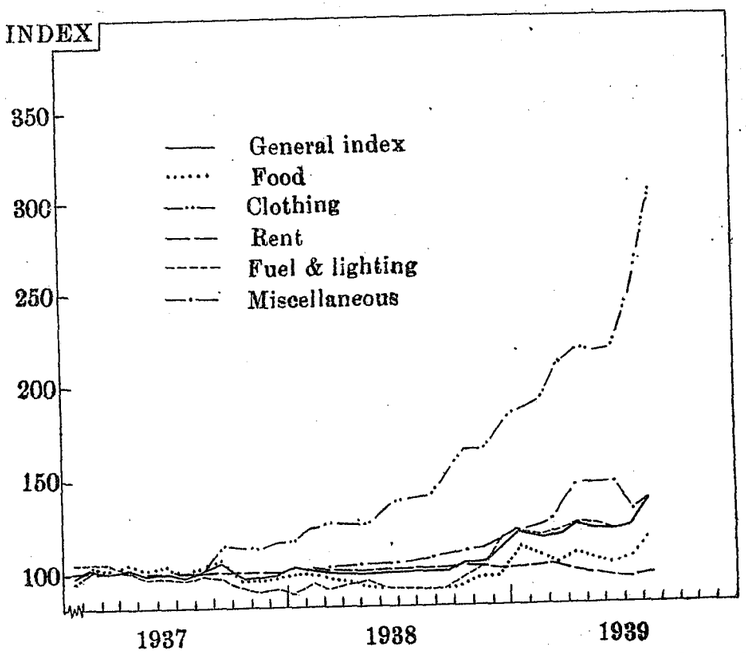


FIGURE 1. INDEX NUMBERS OF COST OF LIVING FOR MERCHANT-STOREKEEPER CLASS IN CHENGTU. Average of February to June 1937= 100

The general index for the M-S class was comparatively stable from January to July 1937. From July to September the index rose from 98.1 to 103.5 owing to the rapid rise in prices of clothing materials. It fell back to 97.1 in the next month and 96.7 in November. Then it rose gradually to 100.5 in February 1938. For almost seven months until September the index had been fairly stable. After September, 1938, the index rose by leaps and bounds on account of the advance in the prices of imported goods and the currency situation.

Table 4 Index Number of Cost of Living for Merchant-Storekeeper Class in Chengtu (Weighted Aggregative)

Average of Feb. to June 1937 = 100

	Food	Clothing	Rent	Fuel & lighting	Misc.	General	Purchasing power of yuan
No. of Commodities	27	10	2	11	16	66	
1937							
Jan.	96.8	93.7	100.0	104.3	99.6	98.3	101.7
Feb.	100.7	97.5	100.0	104.4	100.2	100.6	99.4
Mar.	98.8	98.0	100.0	104.5	99.3	96.7	100.3
Apr.	101.9	101.3	100.0	99.0	99.9	100.9	99.1
May	99.4	101.3	100.0	96.4	100.1	99.4	100.6
June	99.2	101.9	100.0	95.7	100.6	99.4	100.6
July	97.7	97.5	100.0	95.1	100.0	98.1	101.9
Aug.	99.6	101.1	100.6	97.0	99.8	99.6	100.4
Sept.	105.5	113.7	100.6	96.6	99.4	103.5	96.5
Oct.	94.2	113.4	100.6	90.7	97.9	97.1	103.0
Nov.	94.0	112.3	100.6	88.4	98.2	96.7	103.4
Dec.	94.7	115.0	100.6	88.8	99.7	97.6	102.5
1938							
Jan.	99.1	116.8	100.6	87.0	100.0	99.7	100.3
Feb.	97.5	123.0	101 2	92.6	101.4	100.5	99 5
Mar.	94.4	126.5	101.2	90.0	102.3	99.2	100.8
Apr.	94.8	124.9	101.2	92.6	103.4	99.7	100.3
May	89.6	125.5	101.2	95.0	104.0	97.7	102.4
June	89.7	134.9	101.2	89.7	103.7	97.9	102.1
July	89.4	137.7	101.9	89.6	104.4	98.2	101.8
Aug.	90.0	139.9	101.9	89.7	107.4	99.2	100.8
Sept.	87.9	150.3	102.5	89.8	107.8	99.3	100.7
Oct.	90.1	165.0	102.5	96.0	110.2	102.9	97.2
Nov.	93.8	164.1	102.5	100.5	111.4	105.3	95.0
Dec.	97.4	177.0	102.5	117.5	118.4	111.4	89.8
1939							
Jan.	111.6	185.9	102.5	122.1	119.9	119.8	83.5
Feb.	107.1	189.6	103.1	118.8	121.8	118.0	84.7
Mar.	101 3	207.8	103.1	121.4	128.9	118.4	84.5
Apr.	107.5	217.2	98.1	122 6	145.0	124.2	80.5
May	104.4	216.3	98.1	126.1	145.8	123.2	81.2
June	102.3	217.7	96.2	120.7	147.3	121.7	82.2
July	104.9	250.9	96.2	122.5	130.2	123.4	81.0
Aug.	116.7	301.2	96.9	136.6	137.9	136.7	73.2
Sept.							
Oct.							
Nov.							
Dec.							

Table 5 Index Number of Cost of Living for the theree classes in Chengtu

(Weighted Aggregative)

Average of Feb. to June 1937 = 100

	Food	Clothing	Rent	Fuel & lighting	Misc.	General Index	Purchasing power of yuan
No. of Commodities	28	13	2	12	21	76	
1937							
Jan.	96.3	95.6	99.5	105.6	99.2	98.2	101.8
Feb.	100.6	98.2	99.5	105.0	99.9	100.6	99.4
Mar.	99.2	98.1	99.5	104.7	99.6	99.8	100.2
Apr.	101.8	101.1	100.3	98.8	100.2	101.0	99.0
May	99.7	100.9	100.3	96.1	100.0	99.5	100.5
June	98.7	101.6	100.3	95.4	100.3	99.1	100.9
July	96.4	98.7	100.3	95.0	100.2	97.6	102.5
Aug.	98.0	101.5	100.3	97.4	99.7	98.8	101.2
Sept.	103.8	113.2	101.1	97.5	99.9	102.8	97.3
Oct.	92.6	113.0	101.1	92.4	98.2	96.2	104.0
Nov.	92.8	112.9	101.1	90.3	98.7	96.2	104.0
Dec.	93.7	115.4	101.1	90.6	99.6	97.0	103.1
1938							
Jan.	98.9	117.4	101.1	89.2	101.0	99.9	100.1
Feb.	97.5	122.2	102.6	96.1	102.3	100.7	99.3
Mar.	93.8	125.3	102.6	94.7	104.0	99.2	100.8
Apr.	93.7	125.6	102.6	98.2	104.9	99.7	100.3
May	89.3	127.4	103.4	98.6	105.6	97.8	102.2
June	90.3	135.7	102.6	94.0	105.5	98.3	101.7
July	90.2	138.9	103.4	93.8	105.8	98.7	101.3
Aug.	89.2	141.3	103.4	93.4	110.8	99.2	100.8
Sept.	86.1	149.6	103.4	93.9	111.8	98.6	101.4
Oct.	88.6	164.5	104.9	101.3	114.6	102.3	97.8
Nov.	92.6	163.4	105.7	106.7	116.5	105.2	95.1
Dec.	96.0	175.3	105.7	119.9	122.6	110.3	90.7
1939							
Jan.	109.4	184.0	105.7	125.2	124.6	118.8	84.2
Feb.	105.4	187.8	105.7	121.7	127.7	117.2	85.3
Mar.	98.8	207.2	105.7	125.2	134.2	116.7	85.7
Apr.	104.6	216.8	98.8	126.9	146.4	121.8	82.1
May	101.9	214.9	98.8	131.2	148.1	121.0	82.6
June	99.8	216.5	97.2	126 2	149.7	119.6	83.6
July	101.6	248.2	97.2	126.8	138.1	121.0	82.6
Aug.	112.7	297.7	97.2	140.2	152.2	134.3	74.5
Sept.							
Oct.							
Nov.							
Dec.							

The expenditure on food for the M-S class amounted to 63.7% of the total consumption. Therefore, a considerable advance in the expenditures of other groups has been counterbalanced in the general index by the declining prices of foodstuffs. Owing to the wide divergence of the price movement of different groups of commodities after the outbreak of the war, the general index has been forced to leave the course of the food group, while in normal times they follow each other very closely.

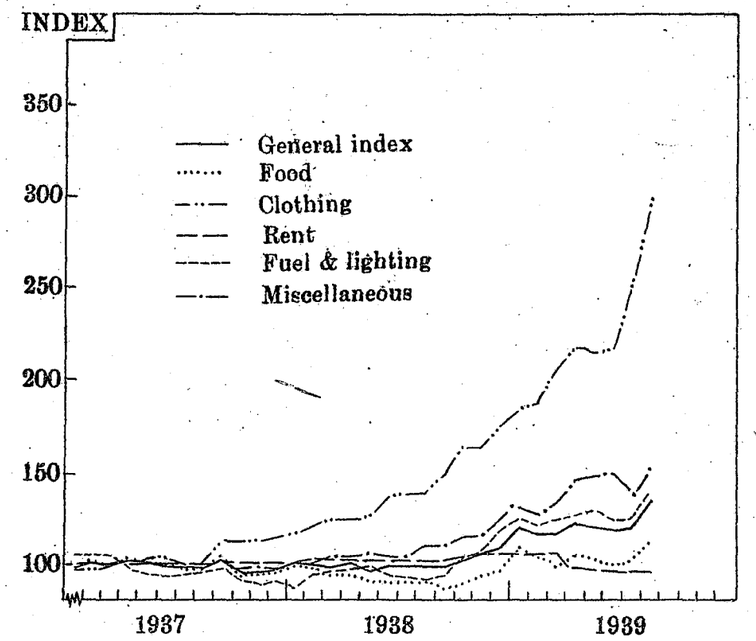


FIGURE 2. INDEX NUMBERS OF COST OF LIVING FOR THREE CLASSES IN CHENGTU Average of February to June 1937 = 100

In the group of foodstuffs rice accounts for 40% of the total expenditures and consequently it has a considerable amount of influence on the changes of the group index. The harvest of rice in 1936 was poor, therefore the price of rice in the base period was comparatively high. This accounts for the low level of the index of this group until September 1938. From September 1938 the index rose rapidly from 87.9 to 111.6 in January 1939 due to the seasonal rise of food-

stuffs and the sudden shrinkage of the copper exchange of yuan.

The cost index of clothing material includes 10 commodities. The index was rising slightly during the base period. After the outbreak of the war, the index shot skywards. From July 1937 to August 1939 it rose from 97.5 to 301.2, an average rise of 8.15% per month. The cause is obvious as the normal source of supply has been cut off.

The index for the rent group has increased very slowly during the whole period. From July 1937 to March 1938 it rose only by 3.1 points. To begin in April 1939, it decreased slowly owing to a surplus of vacant houses. People of this class often have a more stable means of living than the other two classes. They have more immovable property and many of them live in the same buildings as their firms or offices. For all these reasons, they do not move as frequently as people in other classes. Therefore, the chances for a change in rent, which often takes place at the beginning of a new tenure, are comparatively less than in other classes.

The fuel and lighting group consists of 11 commodities. The heating materials amount to 65.95% in value of this group. They are chiefly firewood and charcoal. Owing to their bulkiness the supply and hence the price of these commodities are mainly controlled by the transportation situation. From March to July, the river becomes increasingly navigable, so the index in 1937 dropped from 104.5 to 95.1 during this period. In August it slightly reflated to 96.3 owing to the engaging of the freight junks to carry military supplies. After the release of the freight junks the index fell by 8.1 points from September 1937 to January 1938. It rose to 92.6 in February 1938 and fell back again to 90.0 in March. From March to May the index increased by 5 points because most labor was absorbed in planting rice. In June 1938 the index dropped to 89.7 and remained stable for 3 months. From September 1938 to August 1939 the index rose from 89.8 to 136.6 due to the copper shortage and the increasing cost of freight.

The miscellaneous group consists of 16 commodities. The index for the first half of 1937 was quite stable. It fell from 100 in July to 97.9 in October. From October the index rose steadily to 104 in May, 1938. From June 1938, the index increased steadily again until in June 1939 it was as high as 147.3, i.e. more than 40 per cent higher than the base period. The chief reason for this continuous rise is the decreasing

supply of imported goods and the fall of the yuan exchange in relation to coppers.

The purchasing power of the yuan of any class indicates the real wage of the people of that class only when their incomes remain constant. The incomes of members of the M-S class vary usually with the prosperity of the business and the general level of prices. When prices rise the incomes of merchants and storekeepers rise correspondingly and that of the wholesale merchants rise even faster. On the other hand, when prices fall the incomes of merchants and storekeepers will probably decline quickly and those for the wholesale merchants will decrease even faster. Therefore, a rise in the cost of living, leading to a decrease in the purchasing power of the yuan, does not necessarily lower the standard of living of the M-S class. It may even improve a little. During the falling of prices, the M-S class suffers in spite of the decreasing cost of living. For this class it is the income that matters. In other classes that have more or less fixed incomes, the higher the index of the purchasing power of the yuan the easier it is to live comfortably, while in this class, in all probability, the higher the index of the purchasing power of the yuan, the more difficult it is to live.

In conclusion, the merchant-storekeeper class is the class that has fared best of the three classes since the beginning of the war. Because of the rising price level, the profits of merchants and store-keepers often rose faster than their cost of living. Even their employees have been able to benefit under these conditions, for in China a very considerable part of their earnings is paid in the form of bonuses, directly proportional to the net gain of the firm for which they work. However, the bombing of Chungking in May, 1939, has reduced the population of Chengtu very markedly, and thus the prosperity of this class may be adversely affected to a certain extent.

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ECONOMIC FACTS

DEPARTMENT OF AGRICULTURAL ECONOMICS
COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU, CHINA

No. 16 January, 1943

INDICATORS OF MAJOR PRICE RELATIONS

January to June 1937=100

Items	Index numbers	Date	Place
1. Wholesale prices of domestic commodities	5,848	Oct. 1942	Chengtu
2. Prices received by farmers (4 *hsien*)	4,384	Oct. 1942	Szechwan
3. Cost of living	4,718	Oct. 1942	Chengtu
4. City wages (1937=100)	2,286	June '41-May '42	Chengtu
5. Farm wages:			
(a) June '41-42	2,243	June '41-May '42	Szechwan
(b) Oct. 1942	3,794	Oct. 1942	Szechwan
6. Salaries	657	June '41-May '42	Chengtu
7. Soldiers' cash allowances	368	Oct. 1942	Chengtu
8. Land taxes	1,327	Oct. 1942	Szechwan
9. Wholesale prices of domestic commodities in terms of gold	110	Oct. 1942	Chengtu
10. Wholesale prices of domestic commodities in terms of silver	123	Oct. 1942	Chengtu
11. Wholesale prices of domestic commodities in terms of US$ at official exchange rate	869	Oct. 1942	Chengtu
12. Wholesale prices in U. S. A. (Statist index)	114	Aug. 1942	U. S. A.
13. Wholesale prices in England (Statist index)	150	May 1942	England
14. Purchasing power of farmers (4 *hsien*)	93	Oct. 1942	Szechwan
15. Purchasing power of rice	72	Oct. 1942	Chengtu

CONTENTS

WEIGHTS AND MEASURES

One *li* is equivalent to one-third of an English mile.
One *shih tan* is equivalent to 100 liters or 2.8378 American bushels.
One *shih tou* is one-tenth of a *shih tan*.
One *shih shen* is one tenth of a *shih tou*.
One *shih picul* is equivalent to 110.23 pounds avoirdupois.
One *shih chin* (catty) is equivalent to 1.1 pounds avoirdupois.
The *yuan* is the Chinese unit of currency. The exchange rate is pegged at 20 *yuan* to one U.S. dollar and 80 *yuan* to one pound sterling. It has no relation to the price level in China.

THE BEHAVIOR OF PRICES

July 1937-November 1942

Prices, like people, behave abnormally under abnormal conditions. During a war, rising prices are usually inevitable in any country. After a war, prices usually fall precipitously. It is these rapid changes in prices which bring maladjustment and social injustices among different classes of people, since prices of different types of commodities and services change at unequal rates. Thus, all kinds of inequalities develop. Some occupational groups are benefited, others are injured. Certain types of investors become rich while other groups become bankrupt, the former through no wisdom and the latter through no fault of their own making.

It is in such times, and now is one of those periods, that the injured people look around for the causes of their injury. True to human nature they begin blaming someone, neighbors, landlords, merchants, militarists, speculators, officials and the very government itself. Many causes are given. Speculation by merchants is a commonly reported cause. Hoarding by consumers is seldom mentioned because it is the consumer who makes the complaints. There is, however, hoarding by consumers, by individuals and by organizations, who fear prices will rise further. Hoarding itself causes prices to rise to successively higher levels. Thus, the consumer defeats his own purpose, since nearly every consumer is hoarding.

When all commodities begin to rise or fall, the cause is usually connected with a change in the value of the unit of currency in which prices are measured. Such a change has taken place chiefly in the currency rather than in all commodities themselves, although partial blockade conditions affecting the supply of some commodities, decreased production for certain commodities and increased legitimate demand for certain commodities are less important factors. The fact that a unit of a given commodity (with certain exceptions) will purchase as many units of another commodity as before the war is evidence that the change in prices is primarily due to a change in the value of the currency in which prices are measured.

The government was able to maintain the value of the Chinese currency in terms of foreign exchange until eight months after the present hostilities began. Then, the quantity of *yuan* offered for foreign exchange was so great that the government could no longer give such exchange. Immediately the open market value of the *yuan* fell. People lost confidence and began selling more Chinese currency and buying less Chinese currency than was actually justified by conditions. They became panicky and their very lack of confidence in the currency depressed its value. It became "a run on the nation" known as "flight of capital" similar to "a run on a bank". Since there were more sellers than buyers of Chinese currency the supply was greater than the demand. Consequently, more *yuan* were required to buy one United States dollar, or other unit of foreign exchange, as well as more *yuan* to purchase domestic commodities. The demand for goods as a stable store of value increased and the use of *yuan* as a store of value decreased.

There was no way by which the Chinese Government could have prevented the depreciation of the *yuan* after deciding to follow public opinion and resist aggression. No matter what the form of government, or the persons in power, the *yuan* would have depreciated for the simple reason that the fact of war placed the business of the nation in a weak position. Foreign trade diminished, imports were greater than exports, revenues decreased, government expenses increased, the government budget could only be balanced by borrowing and increased taxation. Even though revenues could have been increased at the same pace as expenditures it is probable that the *yuan* would have depreciated, because of fear that it would depreciate and of the large supply of *yuan* on the foreign exchange market resulting from this fear and from unfavorable foreign trade conditions. It appears questionable, therefore, to place so much emphasis on the increased note issues as a primary factor in advancing prices. Such note issues appear to be a necessary manifestation of the malady rather than the cause. On the other hand, the more nearly a nation can finance its wars, by taxation and public domestic loans, the easier it will be to maintain the value of the currency.

Undue fear of depreciation of currency is a psychological attitude which should be dispelled by every means possible. Rumours in particular should be counteracted

with factual information, since the currency is actually worth more than most people realize. The downward trend caused people to expect it to continue declining and as usual the pendulum has swung too far.

The price behavior of various types of prices is shown by the *Indicators of Price Changes* given elsewhere in this issue of Economic Facts.

The unfortunate aspect of these rapidly rising prices is the different rate at which prices of various classes of commodities, or services, and of prices in the different marketing stages, such as, farm prices, wholesale prices and retail prices advance. Usually farm prices advance first, wholesale prices second and retail prices third. As a rule, farm labor wages, farm land values and land taxes lag behind farm prices. Salaries of teachers, professors and government emyloyees are the slowest to rise because they are fixed by institutions whose management is such that no quick adjustment is ever made to changing economic conditions. Moreover, their fixed incomes make it difficult or impossible to adjust salaries to rising costs of living. These are economic facts which apply not only to China, but to other countries as well.

If all prices advanced at the same rate, or fell at the same rate, a change in the price level would not be harmful. During a war, in spite of some of the injustices, a moderately rising price level is considered by many economists to have certain advantages. Production is encouraged because profits are greater than during a stable price level. Consumption is discouraged because purchasing power of non-producers is decreased. Thus, more goods are released for government use to fight the war. More food, and clothing are available for purchase by the government for s ldiers. More war materials are released for war equipment and supplies. A rising price level, or inflation, may be considered as the easiest form of taxation if it does not become too great—a taxation which is essential if a war is to be won.

However, that may be, still some attention must be given to preventing one class bearing too large a burden in comparison with other classes. At present, it appears that the salaried classes are sharing more than their portion of the burden, since their incomes in many instances are on a starvation basis. During a war it would be a doubtful policy to attempt to increase wages and salaries to the

extent that cost of living advances. On the other hand a living wage, or salary, is necessary if the morale of the salaried classes and soldiers is to be maintained.

The aim of any country at war is to prevent in every possible way a too great decline in the value of its currency (a too high price level). The only fundamental remedies which will check rising prices appear to be the following: to increase government revenues, to increase domestic loans, to confine government expenditures to essential services only, to confiscate goods held by large speculators and to pursue a currency policy which will give the maximum public confidence.

When the general price level is rising or falling, any attempt to prevent a change in the price of any single commodity is doomed to failure. To control the price of any single commodity the prices of all commodities must be controlled. The most effective way of exerting such control is by a restoration of confidence in the currency unit, whether it be the old unit or a new one.

J. Lossing Buck
Kwoh-hwa Hu

THE ECONOMIC POSITION OF THE SZECHWAN FARMER IN 1941-42

Contradictory statements are often heard about the present economic position of the Szechwan farmer. Some say he is much better off than before the war, others that he is in no better an economic position than before the war and a few think he is suffering from the rapidly rising prices.

A study of the farmer's economic position in 1940-41 has been published by *The Farmer's Bank of China*[1]. This present discussion revises and brings up-to-date, for the year May 1941-April 1942, the data for 160 farms in four *hsien* of Szechwan, namely, Wenkiang, Loshan, Iping and Hochwan. The former study was for 10 representative *hsien*.

Basic information on the farm expenses and receipts for the crop year 1940-41 and price data for items of receipts and expenses makes it possible to calculate the farmer's economic position for previous years and for 1941-42. A complete picture is best obtained by showing (1) changes in farm prices by calendar years; (2) changes in farm cash receipts, cash expenses, cash profits and prices by crop years; (3) changes in both cash and non-cash receipts, expenses, profits and prices by crop years; (4) changes in the financial position of the farmer by crop years and (5) changes in farm prices received at time of sale and all costs of production at time of expenditures.

CHANGES IN FARM PRICES BY CALENDAR YEARS (1937=100)

From 1937 to the first eight months of 1942, prices received by farmers were consistently lower than prices paid by farmers for producers' and consumers' commodities (table 1). For the first eight months of 1942, the index for prices received by farmers was 3195 and for prices paid 3475. In 1938 and 1939 producers' goods had a slightly higher index than consumers' goods. Beginning with 1940, consumers' goods maintained a higher index than producers' goods and for the first eight months of 1942 producers'

[1] Buck, John Lossing, An Agricultural Survey of Szechwan Provinces. The Farmer's Bank of China, June 1942.

goods stood at an index of 3328 and consumers' goods at 3830. Other price data from numerous sources confirm this situation.

TABLE 1. INDEX NUMBERS OF FARM PRICES RECEIVED AND PRICES PAID BY FARMERS FOR PRODUCERS' AND CONSUMERS' GOODS AND OTHER COSTS OF PRODUCTION, COST OF LIVING AND WHOLESALE PRICES

4 *hsien*, Szechwan, 1937-1942 (1937=100)

	1937	1938	1939	1940	1941	1942(a)
1. Prices received by farmers	100	103	146	474	1698	3195
2. Prices paid by farmers for commodities purchased	100	119	170	586	1768	3475
(1) for producers' goods	100	123	173	584	1672	3328
(2) for consumers' goods	100	115	166	591	1876	3830
3. Farm and family cash expenses(b)	100	116	168	499	1599	3229
(1) Farm cash expenses(c)	100	116	169	454	1463	2936
Farm labor (d)	100	128	205	359	1098	2468
Farm land						
Owners' taxes (e)	100	100	100	100	546	1327
Tenants' crop rent	100	103	146	474	1698	3195
Producers' goods	100	123	173	584	1672	3328
(2) Family cash expenses (consumers' goods)	100	115	166	591	1876	3830
4. Value of farm land (f)	100	117	155	442	1294	2023
5. Cost of living (Chengtu)	100	101	143	449	1549	2954
6. Wholesale price of domestic commodities (Chengtu)	100	110	200	636	1666	3593

(a) First eight months.
(b) Farm and family cash expenses are weighted: 67.2 percent for farm cash expenses and 32.8 percent for family cash expenses.
(c) Farm cash expenses are weighted: 30.3 percent for farm labor, 4.0 percent for owners' taxes, 39.0 percent for tenant's crop rent and 26.7 percent for producers' goods.
(d) Eight *hsien*.
(e) Land taxes for the crop year 1941-42 have increased with the collection of the New Land Tax. The tax and compulsory rice sales per *shih mow* are about one-tenth of the rice crop or about three *tou* of unhulled rice per *shih mow*. For October 1941 the farm price of three *tou* of unhulled rice was about 123 *yuan*. The amount of taxes are unknown for the years 1938 and 1939 but it is believed there was little if any increase over 1937.
(f) Three *hsien*: Wenkiang, Loshan and Iping.

During the first eight months of 1941, farm and family expenditures (including labor, taxes and rent) were at an index of 3229, whereas farm prices received were 3195, showing a slight disadvantage for the farmer.

During the first eight months of 1942, farm family cash expenses were at an index of 3830 whereas the cost of living in Chengtu was only 2954. Even farm prices received at an index of 3195 were less than wholesale prices of domestic commodities in Chengtu, 3593.

CHANGES IN CASH FARM RECEIPTS, EXPENSES, PROFITS AND PRICES BY CROP YEARS (May 1940-April 1941=100)

For the crop year 1941-42, prices of cash farm receipt items increased by an index of 309 (1940-41=100), whereas prices of cash farm expense items were at an index of 271. The cash farm income of the farm averaged 515 *yuan*. In terms of the 1937-38 crop year purchasing power of *yuan* the cash farm income for 1941-42 was 25 *yuan* or 9 *yuan* greater than for the crop year 1937-38 (table 2).

TABLE 2. CALCULATED AMOUNTS OF CASH FARM EXPENSES, RECEIPTS, AND FARM INCOME (PROFITS) FROM ACTUAL AMOUNTS FOR THE CROP YEAR, MAY 1940-APRIL 1941, AND INDEX NUMBERS OF PRICES FOR THE SAME YEARS.

4 *hsien*, Szechwan, 1937-38 to 1941-42(1940-41=100)

Items	1937-38	1938-39	1939-40	1940-41	1941-42
Cash receipts	137	150	259	1015	3140
Cash expenses	128	157	265	969	2625
Farm cash income (profits)	9	- 7	- 6	46	515
Real farm cash income(a)	9	- 6	- 3	6	25
	Index numbers (1940-41=100) (b)				
Cash receipts	13.5	14.8	25.5	100	309.4
Cash expenses	13.2	16.2	27.3	100	270.9

(a) Based on purchasing power of *yuan* (1937-38=100) in terms of farm cash expenses.
(b) These calculations are from prices of cash receipts and expense items.

CHANGE IN BOTH CASH AND NON-CASH FARM RECEIPTS, EXPENSES, PROFITS AND PRICES BY CROP YEARS (1940-41=100)

For the crop year 1941-42, prices of both cash and non-cash receipt items advanced to an index of 309 (1940-41=100) or less than the advance in both cash and non-cash expense items, 273. The cash and non-cash farm income (profits) for the year 1941-42 was 5027 *yuan* or 285 *yuan* in terms of the 1937-38 crop year purchasing power of the *yuan*. This 285 *yuan* is 139 *yuan* greater than the farm income of 146 *yuan* for the crop year 1937-38 (table 3).

TABLE 3. CALCULATED AMOUNTS OF CASH AND NON-CASH FARM RECEIPTS, EXPENSES AND INCOME FOR CROP YEARS MAY TO APRIL FROM ACTUAL AMOUNTS FOR THE CROP YEAR 1940-41 AND INDEX NUMBERS OF PRICES FOR THE SAME YEARS.

4 *hsien*, Szechwan, 1937-38 to 1941-42 (1940-41=100)

Items	1937-38	1938-39	1939-40	1940-41	1941-42
	Amounts per farm				
Farm receipts (cash and non-cash)	464	509	877	3438	10637
Farm expenses (a) (cash and non-cash)	318	404	663	2052	5610
Farm income (profits)	146	105	214	1386	5027
Real farm income (b)	146	83	103	215	285
	Index numbers of prices (1940-41=100) (c)				
Farm receipts (cash and non-cash)	13.5	14.8	25.5	100	309.4
Farm expenses (cash and non-cash)	15.5	19.7	32.3	100	273.4

(a) The four *hsien* are Wenkiang, Loshan, Iping and Hochwan. The weights used are: 47.7 for labor, 30 for taxes, 29.0 for crop rent and 20.3 for producers' goods.
(b) Based on purchasing power of *yuan* (1937-38=100) in terms of farm cash and non-cash expenses.
(c) These calculations are from prices of receipt and expense items.

CHANGES IN FINANCIAL POSITION OF THE FARMER (1940-41=100)

Cash farm and family receipts and expenses are used to compute the financial position of the farmer. For the

crop year 1941-42, prices of farm and family receipts items increased to an index of 309 (1940-41=100) and prices of farm and family cash expense items increased more slowly, 273. The financial position of the farmer (farm and family cash receipts minus farm and family cash expenses) was minus 381 *yuan*, or minus 20 *yuan* in terms of purchasing power of the 1937-38 crop *year*. This loss of 20 *yuan* is less by 42 *yuan* than the loss of 62 *yuan* in 1937-38 (table 4).

TABLE 4. CALCULATED CHANGES IN THE FARMERS' FINANCIAL POSITION FROM ACTUAL AMOUNTS FOR THE CROP YEAR MAY 1940-APRIL 1942, AND INDEX NUMBERS OF PRICES FOR THE SAME YEARS

4 *hsien*, Szechwan, 1937-38 to 1941-42 (1940-41=100)

Items	1937-38	1938-39	1939-40	1940-41	1941-42
	Farm and family				
Cash receipts	196	215	371	1454	4499
Cash expenses	258	319	521	1791	4880
Financial position	-62	-104	-150	-337	-381
Real financial position(a)	-62	-84	-75	-48	-20
	Index number of prices (1940-41=100) (b)				
Cash receipts	14.0	15.0	26.0	100	309.0
Cash expenses	14.4	17.8	29.1	100	272.5

(a) Based on purchasing power of *yuan* (1937-38=100) in terms of farm and family cash expenses.
(b) These calculations are from prices of farm and family receipt and expense items, exclusive of income items other than farm income.

CHANGES IN RELATION TO FARM PRICES RECEIVED AND IN ALL COSTS OF PRODUCTION

The previous discussion of prices, receipts, expenses and income is based on calendar and crop years. Actually the dates of farmers' expenses and receipts on all farm enterprises never coincide with either calendar or crop year dates. Therefore, to ascertain the real profitableness of farming during this period of rising prices, computations should be on the basis of prices on the dates at which receipt and expense items occurred. If the receipt items for the crop year (May to April) are considered to have occurred from October 1st of one year to July 31st of the

following year and expense items all through the crop year, the farm business is actually in an advantageous position. For the crop years 1939-40, 1940-41 and 1941-42, prices received were higher than costs of production. In 1941-42 prices received were at an index of 2885 which is significantly higher than costs of production at an index of 2056. The reasons for this advantage to the farm business are two: (1) some costs of production like labor, taxes and land values lag in relation to other costs and to prices received; (2) during rising prices expense items are incurred before receipt items and at a lower price level than when receipts occur (table 5).

TABLE 5. INDEX NUMBERS OF PRICES RECEIVED BY FARMERS AND CASH FARM COSTS OF PRODUCTION BY CROP YEARS

4 *hsien*, Szechwan, 1937-38 to 1941-42 (1937-38=100)

	1937-38	1938-39	1939-40	1940-41	1941-42
Prices received (a)	100	119	282	1158	2885
Cash farm costs of production (b)	100	123	207	759	2056

(a) Prices are for October 1st of one year to July 31st of following year.
(b) Costs are for the crop year.

In all these computations of receipts, expenses and profits actual data on receipts and expenses collected from 160 farms for the crop year 1940-41 were used. Computations for other years are based on price changes in items of receipts and expenses. There may have been some changes in quantities of products sold or in items purchased but no information from the 160 farms is available regarding such changes. Some farmers may be profiting more than in normal times by home industries where raw materials are purchased at one price level and sold in the form of finished products at a higher price level. Changes in prices of home industry articles were not available for this study and were computed at the same rate of increase as farm prices.

In conclusion, the farmer's economic position in 1942 is better than in the prewar period as shown by (1) an index, for the first eight months of the calendar year 1942, of prices for farm and family expense items for commodities

only 260 points higher than for farm prices received; (2) a real farm cash income in terms of the 1937-38 *yuan* of 16 *yuan* more than in 1937-38; (3) a real farm cash and non-cash income in terms of the 1937-38 *yuan* of 139 *yuan* more than in 1937-38; (4) a real financial position in terms of 1937-38 *yuan* of 42 *yuan* smaller loss than in 1937-38. The costs of production for all farm enterprises in 1941-42 for the dates they occur are less by 829 points than for prices received from those same enterprises on the dates of sale. This advantage from the point of view of the farm business is partially offset by the family living costs. Consumers' goods for family use had to be purchased at a calendar year price level 635 points higher than the calendar year level of prices received.

Other studies and observations indicate that the farmers are purchasing less cloth, meat, hiring a little less labor and using more exchange labor with neighbors than in 1937-38. The farmer's financial position is somewhat better in terms of 1937-38 *yuan* than in 1937-38 but it is doubtful if his standard of living has substantially increased.

J. Lossing Buck
Kwoh-hwa Hu

COSTS AND PROFITS OF PRODUCING RAPESEED AND OTHER WINTER CROPS IN SZECHWAN[1]

Rapeseed is one of the important winter crops in Szechwan. Any plan to increase its area of production will decrease the area of other winter crops. Therefore, a study of rapeseed is necessary to ascertain costs and profits of producing it and its competing crops in order to determine the wisdom of extending its area. Moreover, the determination of price relationship between rapeseed and its competing crops is also essential, to show its trend in purchasing power and to provide data for any attempts to control the price of rapeseed.

A survey of 169 farms in the seven *hsien* of Wenkiang, Hwayang, Kwanghsien, Penghsien, Kintang, Jenshow and Anhsien, was made in the summer of 1942 for the above purposes.

RAPESEED PRODUCTION IN SZECHWAN

Szechwan ranks first among all provinces in China in the production of rapeseed. In 1938, the area of production was 7,477,000 *shih mow* with a total yield of 9,600,000 *shih piculs*.[2] It was 10.5 percent of the total cultivated area in Szechwan. Owing to the increasing demand for rapeseed, the area was gradually increased and reached 15 percent of the total cultivated area in 1940. Thereafter, the prices of food crops, such as wheat, advanced rapidly and, therefore, the production of rapeseed declined (fig. 1). The competition between rapeseed and wheat is evident. Areas in broad beans and barley appear to have little relationship with the area in rapeseed.

1 Data for this study were collected in September 1942 by the Department of Agricultural Economics, College of Agriculture and Forestry. University of Nanking, in cooperation with the Commodity Bureau, Ministry of Economic Affairs.

2 "Crop Reports". The Agricultural Bureau of Szechwan Province 1938-1942.

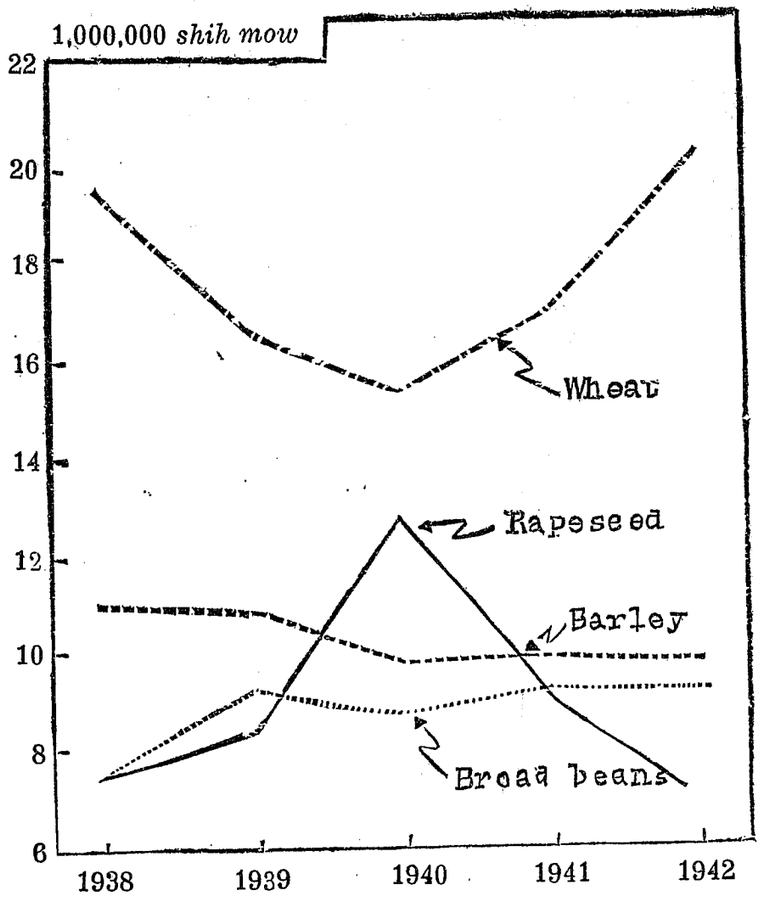


FIG. 1. AREA OF RAPESEED AND OTHER WINTER CROPS IN SZECHWAN 1938-1942

PURCHASING POWER OF RAPESEED

The purchasing power of a certain crop in terms of its competing crop usually has a great effect on the future production of that crop. Whenever the purchasing power of one crop is higher than another competing crop, farmers usually increase the production of that crop. The amount of wheat which could be purchased by one *shih tan* of rapeseed was calculated by considering the price paid for one *shih tan* of rapeseed and the price for one *shih tan* of wheat

(fig. 2). Beginning with 1937, owing to the poor harvest of wheat, the amount of wheat which could be purchased by one *shih tan* of rapeseed became less and less, from 1.52 *shih tan* of wheat in January 1937 to 1.25 *shih tan* in December 1937. The new demand for rapeseed in industrial uses, beginning in the spring of 1938, caused the purchasing power of rapeseed to rise gradually and the peak was reached in February 1939. At that time, one *shih tan* of rapeseed purchased 3.09 *shih tan* of wheat. Thereafter, the demand for food crops like wheat became more important than that for rapeseed, so the amount of wheat, in December 1941, which could be purchased by one *shih tan* of rapeseed declined gradually to its lowest point, 0.58 *shih tan*. Beginning with 1942, the purchasing power of rapeseed rose again and reached the prewar relationship of 1.5 *shih tan* of wheat to one *shih tan* of rapeseed by September 1942. This may lead to an increase in the production of rapeseed in 1943.

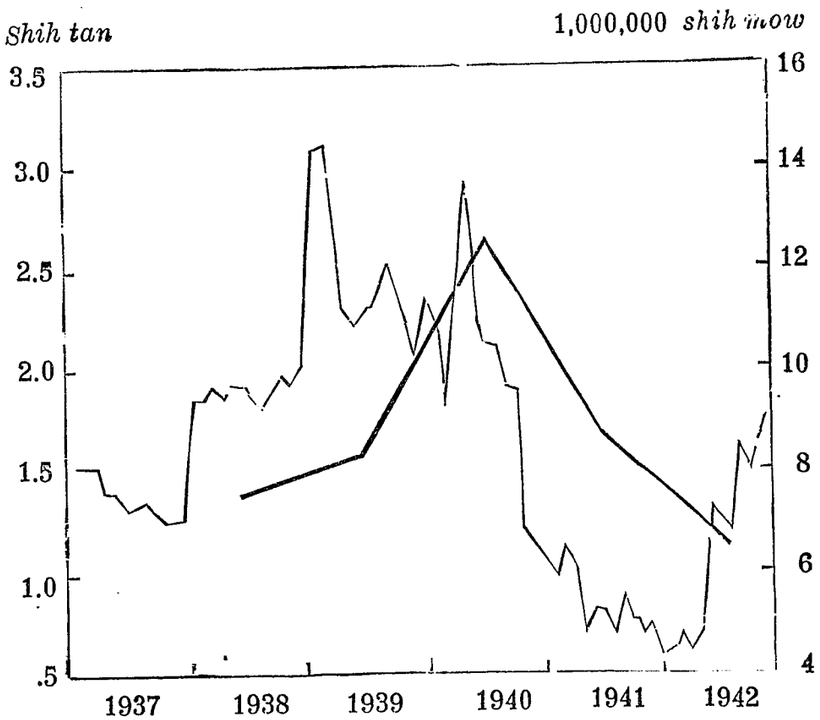


FIG. 2. NUMBER OF *SHIH TAN* OF WHEAT WHICH COULD BE PURCHASED BY ONE *SHIH TAN* OF RAPESEED IN CHENGTU, SZECHWAN(——) AND AREA OF RAPESEED IN SZECHWAN(——) 1937-1942

COST AND PROFIT OF PRODUCING RAPESEED IN 1942

Due to the high prices of fertilizers, land rent and farm labor, costs of producing rapeseed were high in 1942. The average total costs in seven *hsien* of Szechwan was 487 *yuan* per *shih mow*. After the value of the by-products of rapeseed straw was deducted, the average net cost per *shih mow* was 454 *yuan* and the average net cost per *shih tan* was 588 *yuan*. The cost of fertilizers amounted to 29 percent of the total cost, the use of land 26 percent, and the cost of labor (both paid and unpaid) 23 percent. All other costs, such as buildings, implements, animal labor and seeds represented 22 percent of the total costs.

The average total income of rapeseed was 378 *yuan* per *shih mow* (345 *yuan* from main products and 33 *yuan* from by-products) while the total cost of production was 487 *yuan* per *shih mow* and 588 *yuan* per *shih tan*. The price received per *shih tan* of rapeseed was 402 *yuan*. The net loss per *shih mow* was 109 *yuan* and the net loss per *shih tan* amounted to 186 *yuan*.

RAPESEED COMPARED WITH OTHER WINTER CROPS.

A comparison of total costs of producing one *shih mow* of various crops is as follows: rapeseed, 487 *yuan;* wheat, 399 *yuan;* broad beans, 340 *yuan;* and barley, 308 *yuan*. Great differences were found in the items of seeds, fertilizers and labor costs. Labor and fertilizer costs were relatively higher for rapeseed than for the other crops.

TABLE 1. COSTS AND PROFITS OF PRODUCING RAPESEED AND OTHER WINTER CROPS

169 farms, 7 *hsien*, Szechwan, 1942

Items	Rapeseed	Wheat	Broad beans	Barley
Per *shih mow:*	*yuan*	*yuan*	*yuan*	*yuan*
Total income per *shih mow*	378	470	381	287
Cost of production per *shih mow*	487	399	340	308
Profit or loss per *shih mow*	-109	71	41	-21
Per *shih tan:*	*yuan*	*yuan*	*yuan*	*yuan*
Price received per *shih tan*	402	300	324	182
Cost of production per *shih tan*	588	249	284	168
Profit or loss per *shih tan*	-186	51	40	-14

The main factors affecting the profitableness of crop production are costs of production, yields and prices received for the products. The cost of production of rapeseed was the highest among the four crops, but its yields were relatively low in 1942, only 67 percent of the normal year. Furthermore, the price of rapeseed was also unfavorable at harvesting time, therefore the loss was high, being 109 *yuan* per *shih mow*. Barley gave a good yield but due to the lower value per unit, a loss of 21 *yuan* per *shih mow* was incurred. Wheat yields were good, 76 percent of a normal year and with favorable prices, wheat gave a profit of 71 *yuan* per *shih mow*. Although the yield of broad beans was comparatively low, about 61 percent of a normal year, the price was high and there was a gain of 41 *yuan* per *shih mow*.

TABLE 2. YIELDS AND PRICES OF RAPESEED AND OTHER CROPS IN 1942

Crop	Yield in *shih tou* per *shih mow* in 1942 (1)	Percent of normal yield (2)	Prices per *shih tan* in June, 1942 (3)	Price indices in June, 1942 (Jan. —June 1937=100) (4)
Rapeseed	8.66	67	352.50	2,701
Wheat	13.98	76	281.25	3,125
Barley	15.10	77	155.00	3,470
Broad beans	10.50	61	650.00	3,931

(1) Data collected from 169 farms.
(2) "Crop Reports". The Agricultural Bureau of Szechwan Province, 1942.
(3) and (4) From prices in Chengtu, Szechwan, compiled by Department of Agricultural Economics, College of Agriculture and Forestry; University of Nanking.

CONCLUSION.

Rapeseed is one of the important winter crops in Szechwan. Among the important winter crops in 1942, the production of wheat, the chief competing crop of rapeseed, was much more profitable than the production of rapeseed. The chief reason for this is the maladjustment of the price relationship between rapeseed and wheat. Any plan to extend the area of production of rapeseed will not be

effective unless the price of rapeseed is relatively higher than the price of wheat.

Many government organizations are concerned with the pricing of commodities. Although economists generally believe that market price usually tends to be near the marginal costs, yet the average costs of production of any commodity is a good guide for determining price policies. During the present violently rising price level, any attempt to control or fix prices of any commodity must consider four factors: (1) cost of production, (2) cost of distribution, (3) reasonable profits and (4) depreciation of currency in order to maintain a reasonable price for the producer. A wise price policy in combination with good agricultural programs is the best way to increase or maintain rapeseed or any other agricultural production.

Fuh-ting Ko
Rih-hwa Ho

INDICATORS OF PRICE CHANGES[1]

(January to June 1937 = 100)

Items	Date	Place	Index numbers
Wholesale prices and cost of living:			
1. Wholesale prices of all commodities	Nov. 1942	Chengtu	6,501
2. Wholesale prices of domestic products (excluding exported goods)	Nov. 1942	Chengtu	6,226
3. Wholesale prices of imported goods	Nov. 1942	Chengtu	15,561
4. Wholesale prices of exported goods	Nov. 1942	Chengtu	3,556
5. Wholesale prices of raw materials	Nov. 1942	Chengtu	5,234
6. Wholesale prices of manufactured producers' goods	Nov. 1942	Chengtu	5,438
7. Wholesale prices of manufactured consumers' goods	Nov. 1942	Chengtu	6,356
8. Wholesale prices in important cities, Free China			
(a) Highest: Kunming, Yunnan	Aug. 1942		9,843
(b) Lowest: Kweilin, Kwangsi	Aug. 1942		3,652
(1) Kunming, Yunnan (Aug. 1937=100)(a)	Aug. 1942		9,843
(2) Sian, Shensi (June 1937=100)(b)	Aug. 1942		6,602
(3) Chungking, Szechwan c)	Aug. 1942		5,706
(4) Chengtu, Szechwan	Aug. 1942		4,882
(5) Kweilin, Kwangsi(d)	Aug. 1942		3,652
9. Cost of living	Nov. 1942	Chengtu	4,731
10. Retail prices of seven commodities, commonly used	Nov. 1942	Chengtu	5,250
11. Retail prices for 14 cities in Free China (e)			
(a) Highest: Kunming, Yunnan	Oct. 1942		13,099

(continued)

(continued from page 20)

Items	Date	Place	Index numbers
(b) Lowest: Sining, Chinghai	Oct. 1942		3,423
(1) Kunming, Yunnan	Oct. 1942		13,099
(2) Sian, Shensi	Oct. 1942		7,315
(3) Yaan, Sikong	Oct. 1942		7,256
(4) Loyang, Honan	Oct. 1942		6,994
(5) Chungking, Szechwan	Oct. 1942		6,542
(6) Chengtu, Szechwan	Oct. 1942		6,467
(7) Hengyang, Hunan	Oct. 1942		6,247
(8) Kweiyang, Kweichow	Oct. 1942		5,747
(9) Kweilin, Kwangsi	Oct. 1942		5,205
(10) Chukiang, Kwangtung	Oct. 1942		5,069
(11) Yunyang, Hupeh	Oct. 1942		4,800
(12) Lanchow, Kansu	Oct. 1942		4,299
(13) Sining, Chinghai	Oct. 1942		3,423
(14) Kanchow, Kiangsi	Sept. 1942		3,605
12. Rent, city residences	Nov. 1942	Chengtu	775
13. School tuition			
(1) Primary school	Sept. 1942	Chengtu	2,042
(2) Middle school	Sept. 1942	Chengtu	450
(3) University	Sept. 1942	Chengtu	200
City wages:			
1. Carpenters	Nov. 1942	Chengtu	4,800
2. Maid-servants (excluding board)	Nov. 1942	Chengtu	3,694
Salaries:			
1. Military-government officials and teachers(1937=100)	June'41-May 1942	Chengtu	657
2. Clerks (in one research organization)	Oct. 1942	Chengtu	1,552
3. Soldiers' cash allowances	Nov. 1942	Chengtu	368
Currency:			
A. Chinese currency:			
1. Purchasing power of *yuan* in terms of cost of living	Nov. 1942	Chengtu	2.1

(continued)

(continued from page 21)

Items	Date	Place	Index numbers
2. Purchasing power of *yuan* in terms of wholesale prices of domestic commodities	Nov. 1942	Chengtu	1.6
B. U.S.A. currency:			
1. Number of *yuan* to one US.$ at buying official exchange rate of 20 *yuan* to one US. dollar	Nov. 1942	Chengtu	594
2. Calculated expected rate of *yuan*/US.$ exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and statist index of wholesale prices in U.S.A.	Aug. 1942	Chengtu	US$0.0077
3. Purchasing power of U.S.$			
(a) at official exchange rate in China	Nov. 1942	Chengtu	10.8
(b) actual in U.S.A.	Aug. 1942	U.S.A.	88
4. Wholesale prices of domestic commodities in terms of U.S.$ at official exchange rate	Nov. 1942	Chengtu	926
C. Sterling currency:			
1. Number of *yuan* to one pound sterling	Nov. 1942		483
2. Calculated expected *yuan*/pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and statist index of wholesale prices in England	May 1942	Chengtu	0.65d
3. Purchasing power of pound sterling			
(a) at official buying rate in China	Nov. 1942	Chengtu	7.8
(b) actual in England	May 1942	England	66

(continued)

(continued)

Items	Date	Place	Index numbers
4. Wholesale prices of domestic commodities in terms of pound sterling at the official exchange rate	Nov. 1942	Chengtu	1,289
Gold and silver:			
1. Price of gold (open market)	Nov. 1942	Chengtu	6,107
2. Price of silver (open market)	Nov. 1942	Chengtu	5,413
3. Wholesale prices in terms of gold	Nov. 1942	Chengtu	106
4. Wholesale prices in terms of silver	Nov. 1942	Chengtu	120
Farm prices (4 *hsien*):			
1. Prices received by farmers (1937=100)	Oct. 1942	Szechwan	4,384
2. Farmers' cost of production	Oct. 1942	Szechwan	4,725
3. Prices paid by farmers for producers' and consumers' goods (1937=100)	Oct. 1942	Szechwan	5,326
4. Prices paid by farmers for producers' goods	Oct. 1942	Szechwan	4,944
5. Prices paid by farmers for consumers' goods	Oct. 1942	Szechwan	5,737
6. Purchasing power of farmers (ratio of prices received by farmers to prices paid by farmers including all costs of production and prices paid for consumers' goods)	Oct. 1942	Szechwan	93
7. Crop rent	Oct. 1942	Szechwan	4,384
8. Land taxes	Oct. 1942	Szechwan	1,327
9. Farm land value (8 *hsien*)	Oct. 1942	Szechwan	3,192
10. Farm year labor (8 *hsien*)	Oct 1942	Szechwan	3,424
11. Farm day labor (8 *hsien*)	Oct. 1942	Szechwan	4,822

1 Compiled by Department of Agricultural Economics, College of Agriculture and Forestry, University of Nanking, unless otherwise indicated.

(a) Statistical Department of Municipal Government of Kunming.

(b) Economic Research Department of Provincial Bank of Shensi.

(c) Central Bureau of Survey and Statistics, Commission of Military Affairs, Chungking, Szechwan.

(d) Department of Economic Survey of Sin-chung Corporation, Kweilin, Kwangsi.

(e) Data from Farmers' Bank of China.

APPENDIX I

TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES IN CHENGTU, 1937-NOVEMBER 1942

Jan. to June 1937=100 (Simple geometric average)

Period	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of *yuan*
Number of commodities	57	15	9	4	9	5	15	
Years:								
1937	99	99	102	98	106	100	94	101.1
1938	116	95	139	104	173	106	106	86.5
1939	219	147	298	232	398	208	193	49.0
1940	653	533	841	847	1282	454	491	15.3
1941	1616	1830	1637	2119	3059	1223	999	6.2
1942								
Jan.	2910	2728	3042	3372	7062	1937	1954	3.4
Feb.	3148	3088	3293	3704	7647	2014	2039	3.2
Mar.	3621	3618	3786	4287	8295	2318	2380	2.8
Apr.	3777	3734	3702	4494	8533	2624	2557	2.6
May	3710	3415	3489	4650	8697	2871	2572	2.7
June	4001	3734	3733	5029	9599	2935	2758	2.5
July	4538	3917	4730	6337	10147	3036	3311	2.2
Aug.	4882	4022	4878	6369	10367	3489	3813	2.0
Sept.	5396	4586	5404	7530	11140	3864	4199	1.9
Oct.	6130	5474	6442	8558	12344	4525	4432	1.6
Nov,	6500	5302	6729	8465	14472	5480	4762	1.5

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-NOVEMBER 1942

Jan. to June 1937=100 (Simple geometric average)

Period	General index	Domestic commodities	Import commodities	Export commodities
Number of commodities	57	38	9	10
1937	99	100	110	90
1938	116	109	212	87
1939	219	199	486	163
1930	653	633	1396	397
1941	1616	1658	3658	721
1942				
Jan.	2910	2730	9832	1251
Feb.	3148	2970	10730	1303
Mar.	3621	3431	11750	1541
Apr.	3777	3587	11660	1667
May	3710	3500	11110	1724
June	4001	3847	11268	1829
July	4538	4230	12100	2452
Aug.	4882	4448	12847	2912
Sept.	5396	4993	14080	3056
Oct.	6130	5855	14590	3344
Nov.	6500	6218	15551	3556

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-NOVEMBER 1942

Jan. to June 1937=100 (Simple geometric average)

Period	Raw materials			Manufactured goods		
	Producers' goods	Consumers' goods	All	Producers' goods	Consumers' goods	All
Number of commodities	18	12	30	11	9	20
1937	97	96	96	102	98	100
1938	97	95	96	184	114	125
1939	188	160	176	244	206	226
1940	628	447	548	637	648	642
1941	1498	1216	1377	1360	1623	1473
1942						
Jan.	1809	2154	1940	2268	2902	2534
Feb.	2522	2235	2403	2481	3252	2802
Mar.	2484	2681	2542	2924	3910	3333
Apr.	2925	2886	2909	2995	4028	3422
May	2893	2933	2909	2979	3719	3292
June	3308	3091	3219	3042	4063	3465
July	3719	3505	3632	3503	4728	4009
Aug.	3977	3815	3912	3900	4803	4283
Sept.	4207	4354	4265	4454	5440	4873
Oct.	4970	4814	4907	5034	6409	5512
Nov.	5427	4956	5234	5433	6356	5334

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-NOVEMRER 1942

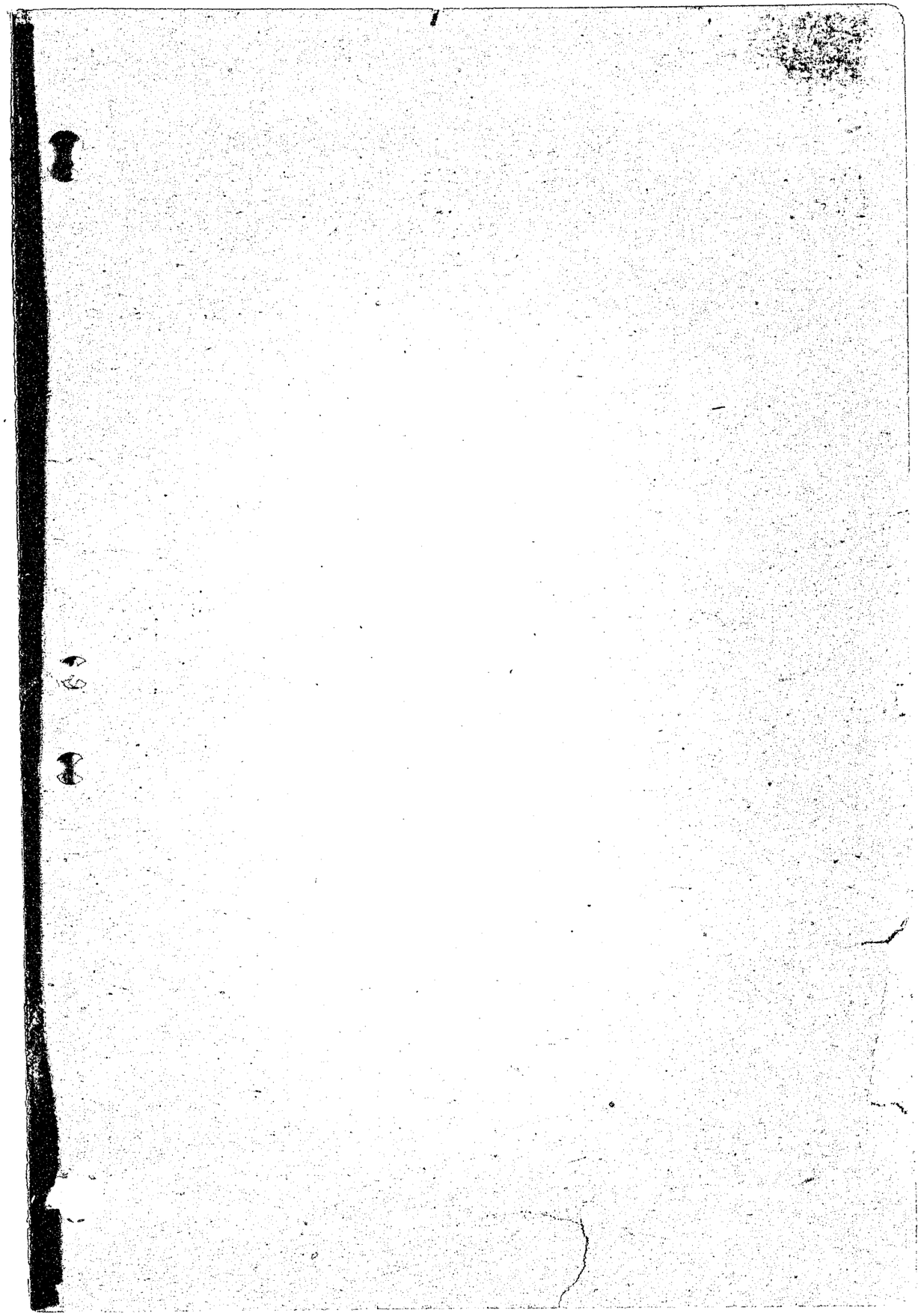
Feb. to June 1937=100 (Weighted aggregative)

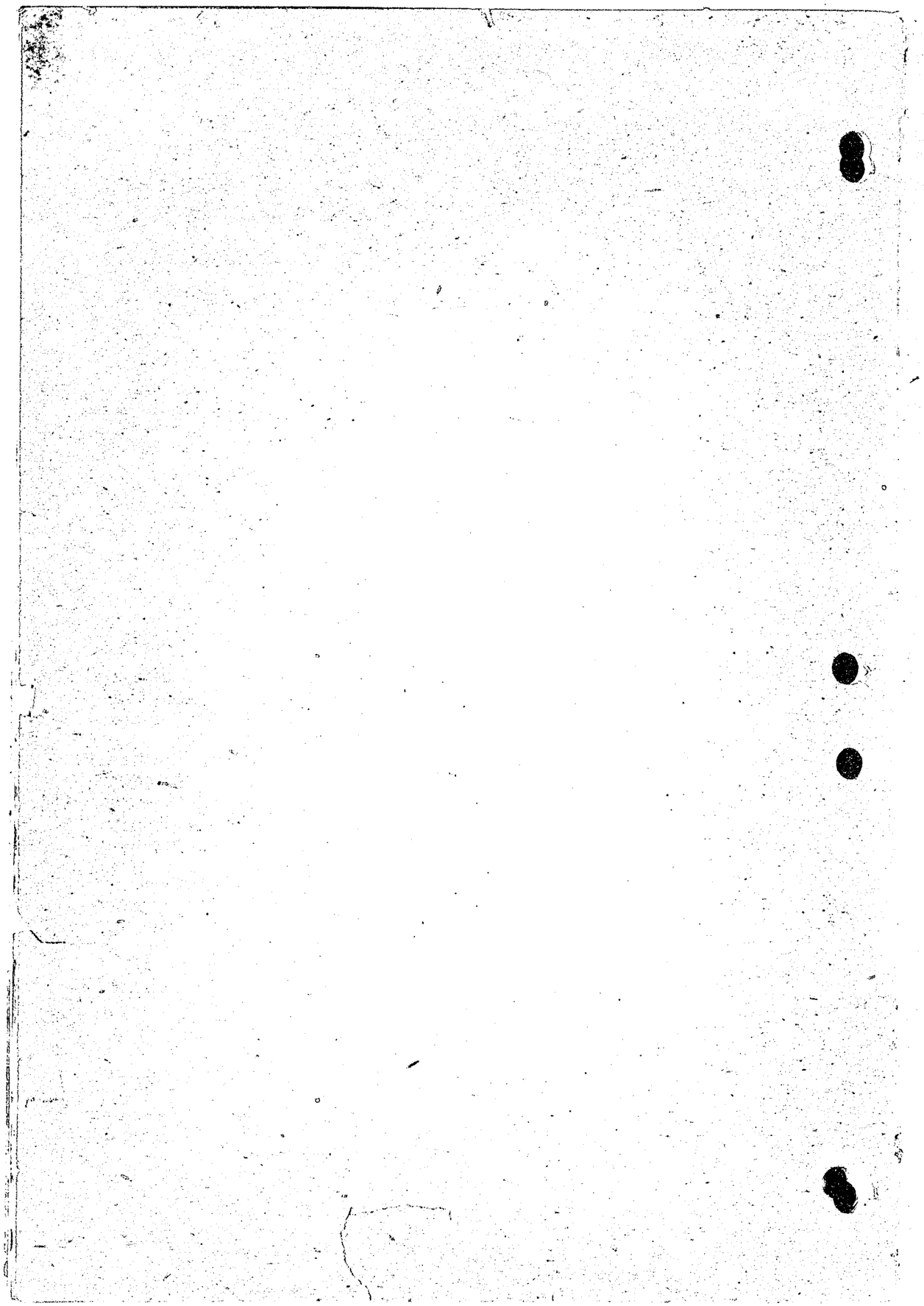
Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	102	105	100
1939	126	148	157	140
1940	435	448	444	442
1941	1661	1464	1391	1524
1942				
Jan.	1979	2097	2132	2055
Feb.	2149	2331	2357	2259
Mar.	2427	2662	2718	2573
Apr.	2771	2927	2989	2874
May	2835	3024	3098	2959
June	3173	3145	3230	3175
July	3476	3595	3766	3581
Aug.	3538	3853	4150	3779
Sept.	3818	4253	4489	4114
Oct.	4493	4921	5094	4774
Nov.	4311	4942	5252	4732

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-NOVEMBER 1942

Feb. to June 1937=100 (Weighted geometric average)

Period	General index	Food	Clothing	Rent	Fuel & lighting	Miscellaneous	Purchasing power of *yuan*
Number of commodities	76	28	13	2	12	21	
1937	98	98	104	100	97	100	101.6
1938	100	92	142	103	97	115	100.4
1939	140	120	267	109	163	182	71.3
1940	442	441	852	117	604	387	22.7
1941	1524	1786	1787	185	1670	1171	6.6
1942							
Jan.	2055	2140	2954	218	2667	2088	4.9
Feb.	2259	2278	3526	258	2973	2383	4.4
Mar.	2573	2550	4190	298	3328	2777	3.9
Apr.	2874	2924	4122	320	3536	3166	3.5
May	2959	2974	4300	338	3693	3313	3.4
June	3175	3309	4814	385	3969	3093	3.1
July	3581	3591	6427	404	5027	3317	2.8
Aug.	3779	3596	7255	457	5558	3933	2.7
Sept.	4114	3884	8313	485	6144	4404	2.4
Oct.	4774	4529	10202	745	6993	4655	2.1
Nov.	4731	4401	10259	775	6976	4941	2.1





ECONOMIC FACTS

DEPARTMENT OF AGRICULTURAL ECONOMICS
COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU, CHINA

No. 17 February, 1943

INDICATORS OF MAJOR PRICE RELATIONS
January to June 1937 = 100

Items	Number of items	Index numbers	Date	Place
1. Wholesale prices of domestic commodities	38	6,704	Jan. 1943	Chengtu
2. Prices received by farmers (4 hsien)	9-13	5,127	Dec. 1942	Szechwan
3. Cost of living	76	4,932	Jan. 1943	Chengtu
4. City wages	12	3,758	Dec. 1942	Chengtu
5. Farm wages	8	4122	Dec. 1942	Szechwan
6. Salaries, professors	10	840	Jan. 1943	Chengtu
7. Soldiers' cash allowances	6	368	Dec. 1942	Chengtu
8. Land taxes		3,689	Oct. 1942	Szechwan
9. Wholesale prices of domestic commodities in terms of silver	38	116	Jan. 1943	Chengtu
10. Wholesale prices of domestic commodities in terms of gold	38	106	Jan. 1943	Chengtu
11. Wholesale prices of domestic commodities in terms of US$ at official exchange rate	38	1,129	Jan. 1943	Chengtu
12. Wholesale prices in U. S. A. (Statist Index)	-	114	Aug. 1942	U.S.A.
13. Wholesale prices in England (Statist Index)	-	150	May 1942	England
14. Purchasing power of farmers (4 hsien)	-	96	Dec. 1942	Szechwan
15. Purchasing power of rice (a)	-	57	Jan. 1943	Chengtu

(a) Calculated in terms of wholesale prices of 57 commodities.

CONTENTS

WEIGHTS AND MEASURES

One *li* is equivalent to one-third of an English mile.

One *shih tan* is equivalent to 100 liters or 2.8378 American bushels.

One *shih tou* is one-tenth of a *shih tan*

One *shih shen* is one-tenth of a *shih tou.*

One *shih picul* is equivalent to 110.23 pounds avoirdupois.

One *shih chin* (catty) is equivalent to 1.1 pounds avoirdupois.

The *yuan* is the Chinese unit of currency. The exchange rate is pegged at 20 *yuan* to one U.S. dollar and 30 *yuan* to one pound sterling. It has no relation to the price level in China.

LAND CLASSIFICATION AND TAXATION IN HWAYANG HSIEN, SZECHWAN PROVINCE

Land classification in Hwayang *hsien* illustrates the method of land classification studies in sixty-six *hsien* during the last four years with the financial help of the Szechwan Provincial Land Registration Bureau. This work was done under the supervision of the Department of Agricultural Economics, College of Agriculture and Forestry, University of Nanking, while Land Registration was carried on by the Bureau itself. The chief aim of these studies was to provide data for a more equitable appraisal of farm land for taxation purposes. Land classification is essential to the successful administration of any land policy.

SCOPE AND METHOD OF STUDY

Land classes were determined by four major factors of topography, soil, land values and crop yields. Investigators travelled through representative sections of each *hsien* observing topography and soils, taking soil samples and obtaining economic data pertaining to land values and crop yields by random sampling for 30 to 50 localities in each *hsien*. The base maps used were those of the Land Survey Bureau of Szechwan. These maps had contour lines and a scale of 1:100,000. The data were plotted on outline maps and for each factor boundaries were drawn where significant differences occurred. These boundaries for each factor were compared and land class boundaries drawn wherever the differences in values of one or more factors justified such distinction.

DESCRIPTION OF LAND CLASSES

Land Class I is the best agricultural land with level, deep alluvial soil, no apparent erosion, an excellent irrigation system, high land values, and with high yields per unit of land. It constitutes 37 percent of all land in the Hsien.

Land Class II is inferior to Land Class I, has slightly less favorable soils and irrigation water must be pumped from streams or canals. It is 7 percent of the area of the Hsien.

Land Class III is less favorable for farming than Land

Class II, with undulating topography, deep alluvial to residual soils, and sheet erosion. About one-fourth of the rice is irrigated by holding water on the fields during the winter and by ponds which catch water from higher slopes. This class occupies the largest portion, 40 percent, of the Hsien.

Land Class IV has a rolling topography with residual soils, rather severe soil erosion, poorly irrigated and drained. Land values and crop yields are lower than in Class III. It is fair to poor farm land and comprises 11 percent of the Hsien.

Land Class V has a rolling topography, purplish and yellow residual soils and low productivity. It is moderately eroded, poorly irrigated and drained. It is poor farm land and occupies only 5 percent of the Hsien.

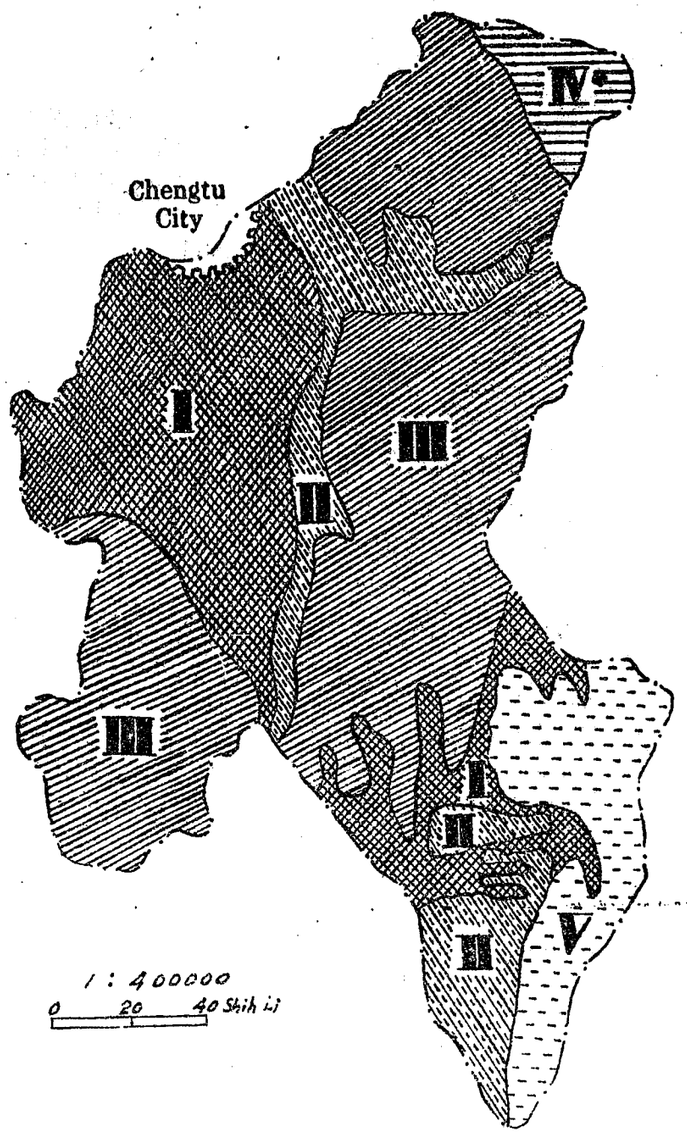
Several sub-types of soil may be found in a given land class. Type of farming is directly related with water supply and rice is the dominant crop where irrigation is possible. Farm land in Land Classes I and II is all irrigated and devoted to rice growing in the summer. Winter crops in Land Class I are chiefly wheat, rapeseed, broad beans and vetch or *astragalus sinensis* as a green manure crop. Land Classes III, IV and V are devoted to rice in the summer and chiefly to wheat in the winter. Winter-flooded-land grows only one crop, rice. All factors show that Land Class I is the best farm land. Topography, soils, and water supply are the chief causes of its high productivity and its high land value. The non-irrigated land grows wheat in the winter and corn intertilled with soybeans, sweet potatoes and a small amount of peppers.

CORRELATION OF LAND CLASSES WITH MAJOR FACTORS

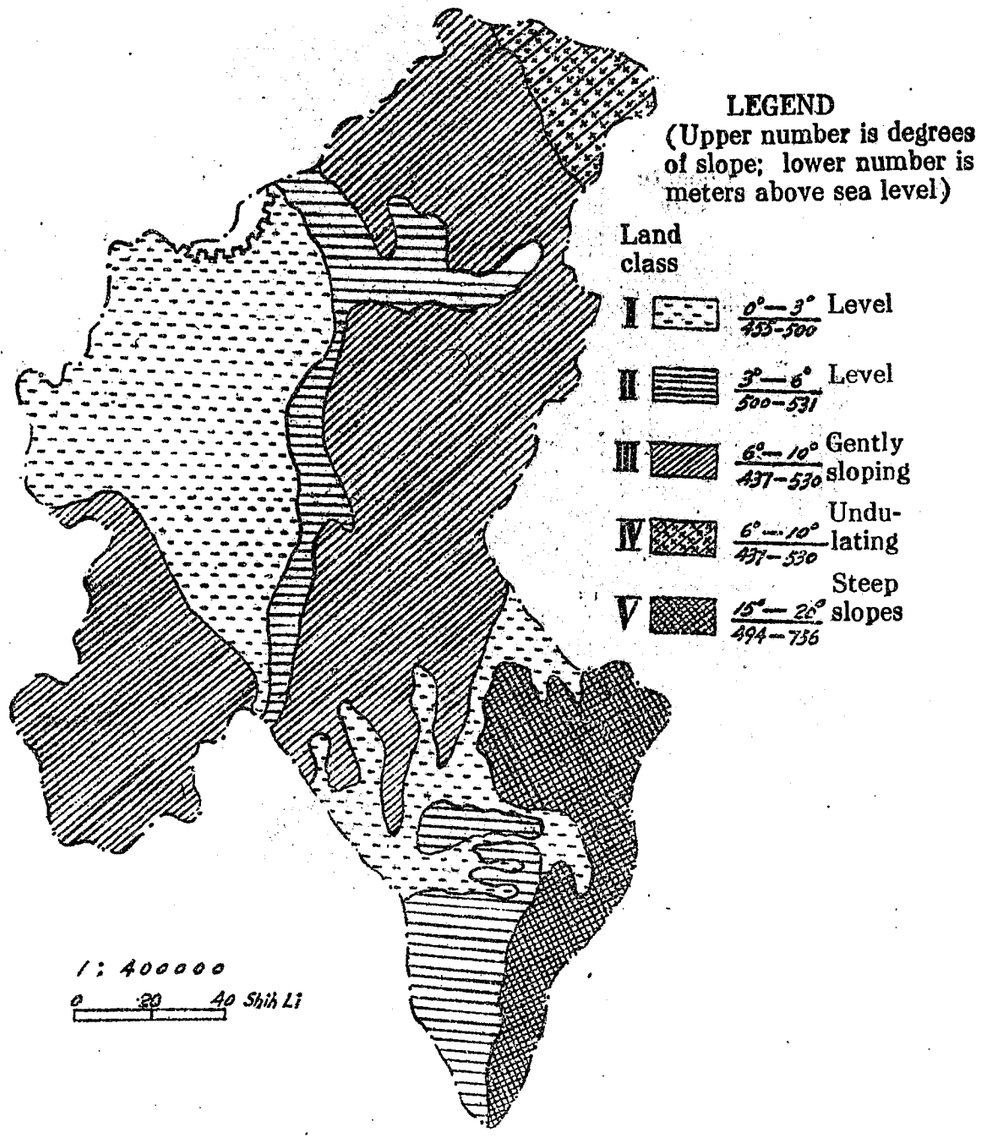
Land classes are closely correlated with the various factors studied (maps 1-5).

Topography: In a rice culture area like Szechwan, topography plays an important role in determining the type of farming. It affects water supply, soil erosion, and fertility maintenance.

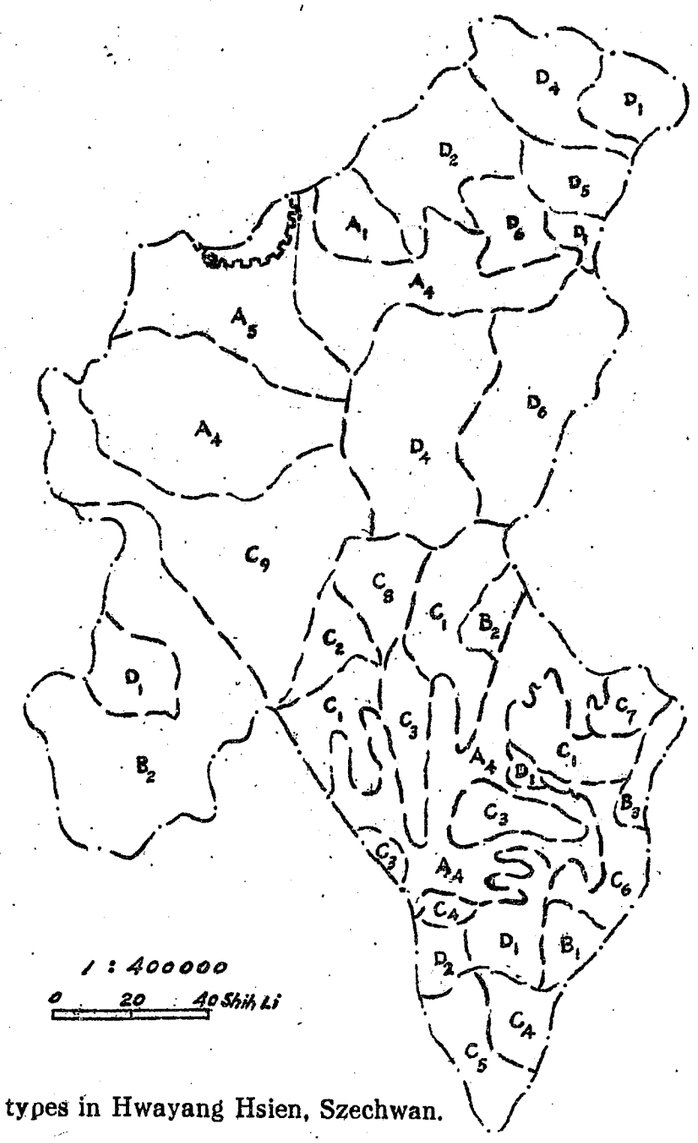
The physical features of Hwayang hsien are responsible for several land classes. When one travels either along the country road leading from the North Gate of Chengtu to Lungtanszu or along the highway from the East Gate to



Map 1. Land classes in Hwayang Hsien, Szechwan.



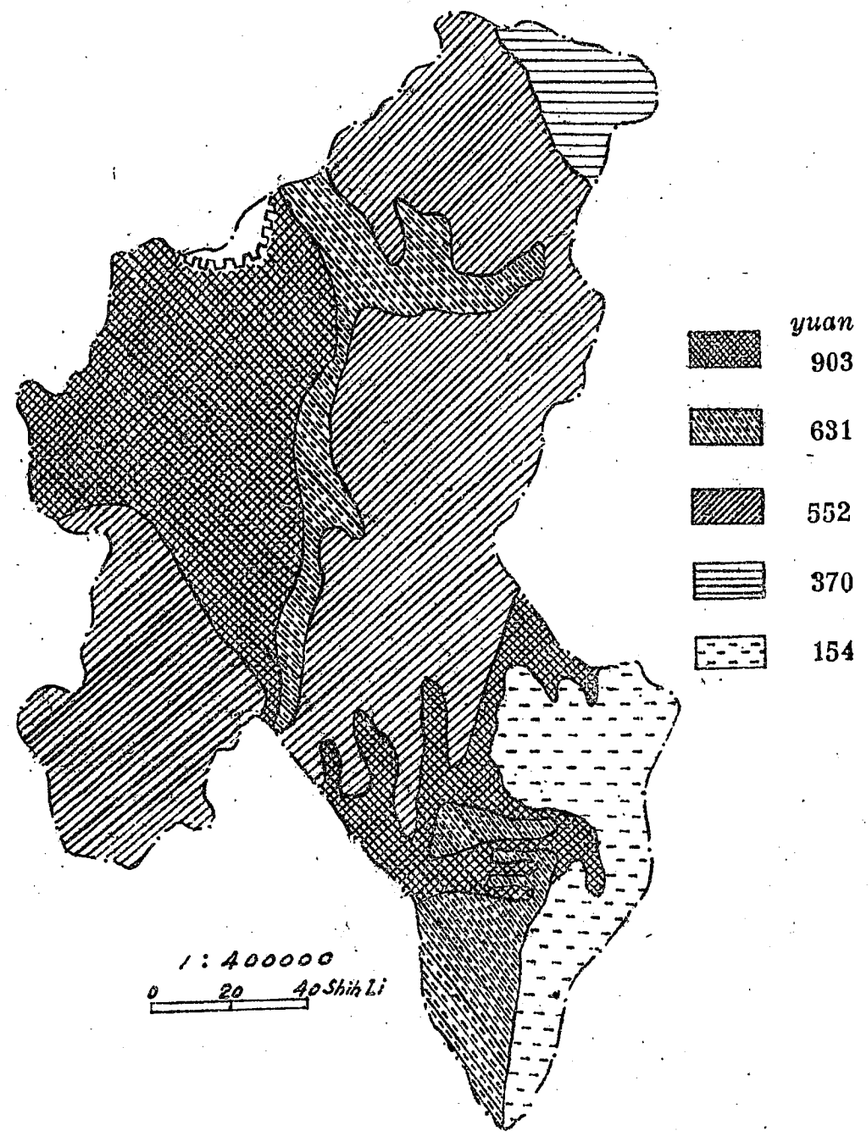
Map 2. Topography in Hwayang Hsien, Szechwan.



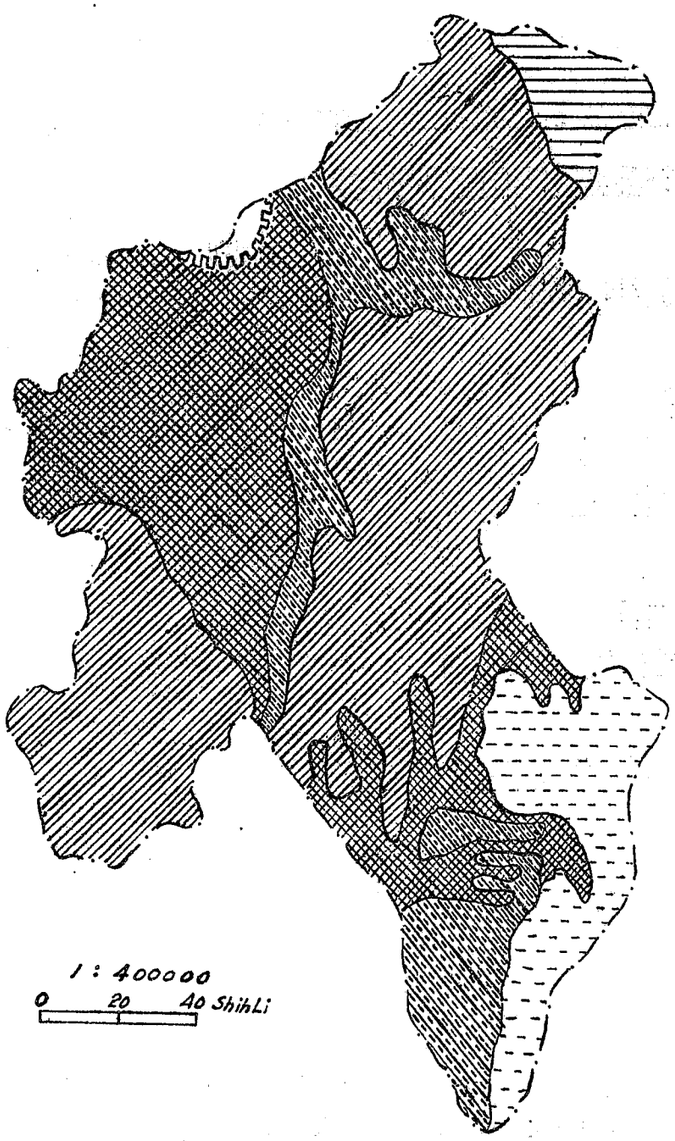
ap 3. Soil types in Hwayang Hsien, Szechwan.

A1	Grey-yellow clay	C5	Dark brown loam
A2	Light grey loamy clay	C6	Brown sandy loam
A3	Grey clay	C7	Brown silty loam
A4	Grey clay loam	C8	Brown clay
A5	Grey loam	C9	Brownish grey loam

(*Legend continued bottom of page 36*)



Map 4. Average land value in each land class, Hwayang Hsien, Szechwan, 1940.



Rice	528	438	400	357	304
Wheat	270	220	180	151	120
Rapeseed	160	132	108	-	68

Unit: *shih* catties per *shih mow*

Map 5. Yields of important crops in each land class, Hwayang Hsien, Szechwan, 1942.

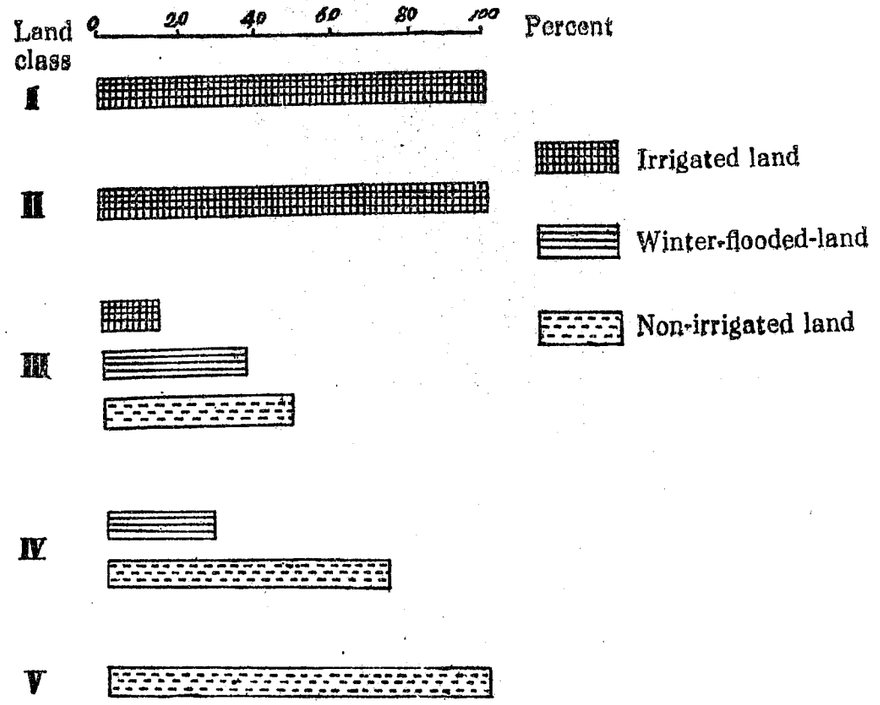


Chart 1. Percentage of types of cultivated land in each class, Hwayang Hsien, Szechwan.

(Legend for map 3 continued from page 33)

B1	Purple-brown clay loam	D1	Yellow clay
B2	Purple-brown silty loam	D2	Light yellow clay
B3	Purple-brown clay loam	D3	Yellow grey clay loam
C1	Brown clay loam	D4	Yellow clay loam
C2	Brownish grey clay loam	D5	Yellow loam clay
C3	Brown silty loam	D6	Yellow loam
C4	Brownish loam		

Lungchuanyi, the elevation becomes gradually higher and higher. The differences in elevation between the high upland and the lower paddy fields also becomes greater and greater.

Land Class I of Hwayang Hsien is a part of the Chengtu Plain, about 455 meters above sea level and with a slope of 0° - 3° degrees. All of Land Class I is irrigated by gravity from the Kwanghsien irrigation system.

Land Class II is a strip of land between Land Class I and Land Class III, level or gently sloping with a slope of 3° - 6° degrees predominating. The elevation is 5 - 9 meters higher than Land Class I. The profile feature of the soils discloses its inherited nature from that of Land Class III.

Irrigation is also from the Kwanghsien irrigation system but due to a slightly higher elevation water must be pumped from the canals and the supply is not as dependable as in Land Class I.

Land Class III is typically undulating with a slope of 5° - 10° predominating, with winter-flooded-land in the foothills and in the valleys, with irrigation ponds scattered on slopes and with non-irrigated land on the upper portion of the hills. Winter-flooded-land is 35 percent and upland, 65 percent of this class. The upland is not as well terraced as the winter-flooded-land. Moderate slopes induce accelerated erosion under clean cultivation but effective control is practical.

Land Class IV is exactly the same in its relief as Land Class III but with still less favorable soils and water supply for irrigation.

Land Class V has a greater elevation difference, 494 - 756 meters, than the other land classes. Slopes of 10°-20° degrees predominate. Fortunately, quite a large percentage of the land, upland and the winter flooded fields, are terraced. More terracing would prove an effective means for practical erosion control even under the present system of clean cultivation. On some of the steepest hillsides the land is only suitable for permanent cover. Very little irrigation is possible.

Soils: In Land Class I, the typical grey, alluvial soils of the Chengtu Plain are found. These soils are characterized by a deep clay loam or clay surface soil, 7-10 inches in depth. Silty clay loams are found along the banks of water channels. The reaction is slightly acid or neutral; no lime

reaction is observed. A dense subsoil layer with a yellow medium-texture prevents much leaching. These soils are fertile for three reasons: (a) deep surface soils, rich in organic matter and with a dense subsoil, (b) good irrigation and (c) heavy manure applications. These soils constitute 37 percent of the gross area of the Hsien and 100 percent of Land Class I soils.

Soils in Land Class II are different from those in Land Class I. They are on a higher elevation (5 - 9 meters above the nearby plain of Land Class I), but fairly level. Irrigation is possible by pumping the water from canals 5 - 10 feet lower than the fields. They are mostly of the "Chengtu Clay" type, characterized by a shallow grey-yellow surface soil 5 - 8 inches in depth, below which is a layer of prismitic structure coated with grey-yellow clay materials leached from the surface. A layer of "lime concretions," 50 - 100 cm. thick, is usually found 50 cm. below the surface. The texture is clayey throughout the whole profile. The reaction is acidic (pH5-6 in the surface layer; and 4.5-5.5 in the subsoil). Its accessibility for irrigation and its level relief, makes these soils only slightly inferior to the fertile soils of the Chengtu Plain Proper. This is reflected in the rice and wheat yields and in land values.

Soils of Land Class III are chiefly of the "Chengtu Clay" type with the same profile characteristics as soils in Land Class II. There are, however, three sub-types of land in this class, the winter-flooded-land, the land irrigated from ponds and the higher non-irrigated land.

The soil in the winter-flooded fields is the best. The surface soil is 6 - 9 inches deep with a subsoil of clayey texture of the same depth. Below this subsoil is a layer of dense consistency with grey or blue tint, about 10 inches to two feet thick. This layer holds water throughout the whole winter for the rice crop planted in late spring. From the soil standpoint this "pan" layer is of utmost importance in rice culture but is a disadvantage on the non-irrigated land. Only one crop a year is grown in winter-flooded-land. Farmers consider that a rice crop once a year will give almost the same amount of grain as two crops each year. Therefore, they think there is no advantage in changing to a two-crop system.

The surface soil of the non-irrigated land on the hilltops and hillsides is about 4 - 6 inches thick, below which a layer

of heavy clay with "lime concretions" is to be found. In some gently sloping fields along the roadsides one is impressed by the lime pebbles at the surface caused by sheet erosion. The soil is very acid (pH 4.5-6.5). The surface soil is sticky when wet and cloddy when dry. This is a sign of unstable and poor structure and insufficient organic matter to balance the inorganic colloids. Sheet erosion occurs in the unterraced non-irrigated fields which grow corn, wheat, soybeans, and peppers.

The soils of the land irrigated from ponds are similar to those of the winter-flooded-land.

Drought occurs two or three times in every 10 years on all the land in Land Class III except for the low lying winter-flooded-land. Pond digging projects would probably give a direct solution to the difficulties of rice farming in this land class. Of the two types of land the irrigated and winter-flooded-land is much better in soil conditions and deserves a much higher land value per unit area than the non-irrigated land.

Land Class IV is similar to Land Class III in most respects except that the surface soil is shallower and sheet erosion is distinct everywhere.

A different group of soils is found in Land Class V, namely, the purplish-brown soils with some brownish-grey soils on gently sloping hillsides, all at an elevation of 474-756 meters above sea level. These soils are easily eroded in seasons of heavy rainfall. The whole soil slum scarcely exceeds 50 cm. down to the parent material (sandstones or shales). The water holding capacity is low and the nitrogen content is insufficient. These soils, however, are fairly rich in phosphorous and potash minerals.

Land values: Land value is an important factor to indicate, not only the productive capacity of land, but also its value as related to location. Data for 1940 show that farm land in Land Class I was worth 903 *yuan* per *shih mow;* in Land Class II, 631 *yuan*; in Land Class III, 552 *yuan*; in Land Class IV, 370 *yuan*; and in Land Class V, 154 *yuan.*

Crop yields: Crop yields are the best indication of land productivity. Yield figures indicate that the best yields of the important crops in Hwayang Hsien were in Land Class I. Crop yields of each crop in all land classes successively decreased from Land Class I to Land Class V. Yields

and land values are closely correlated in the various land classes, the higher the land value the greater the yield.

CLASSIFICATION OF FARM LAND FOR TAX ADMINISTRATION PURPOSES

Land tax is now the chief income of the government. In 1941 the Central Government enforced a regulation upon landowners to pay taxes in kind (chiefly rice) instead of cash and an equal amount for compulsory sale (70 percent in grain certificates and 30 percent in cash). Tax assessment is still on the old "liang" basis, in spite of the fact that the government has made some effort to improve this unfair apportionment. In the "liang" system each farmer is assessed a certain number of liang (ounces of silver), a system in use for centuries. Originally the "liang" assessment gave some consideration to different economic values of farm land within a *hsien*, and between *hsien*. Such assessment, however, was not adjusted fairly to the capacity of farm land in different parts of a province or even of a *hsien* to pay the tax assessed. The system of converting one "liang" to the amount of rice payments required, also varies between *hsien*. Land taxation assessment in Szechwan has not yet given sufficient consideration to a differentiation of tax rates for various kinds of land in relation to their economic productivity.

The classification of Hwayang Hsien land into five classes gives a base for adjustment of tax rates for different kinds of land. Land values are the best single measure of the economic value of farm land. They are not an exact measure because usually the best land is under-valued and the poorest land is over-valued. A comparison of yields of various crops grown on the different land classes is a check on farm land values equally accessible to markets.

The method of adjusting tax rates to land classes may be illustrated. In Hwayang Hsien, for 1942, the total amount of rice assessment to be collected for land tax and by requisitioning is 255,154 *shih tan*. This amount should be distributed among the five land classes in proportion to the economic value of each class. Table 1 gives the essential data for determining such a distribution. The percentage of land value per *shih mow* of each land class to that of Land Class I is the basis for determining this distribution.

By this method the tax rate per *shih mow* in *shih tou* of unhulled rice is as follows: Land Class I, 2.479; Land Class II, 1.736; Land Class III, 1.512; Land Class IV, 1.017; and for Land Class V, 0.422 *shih tan*.

TABLE 1. CLASSIFICATION OF FARM LAND IN HWAYANG HSIEN SZECHWAN, FOR TAX ADMINISTRATION PURPOSES[1]

Land class	Cultivated land per *shih mow*	Percent of total *mow*	Value per *shih mow*	Percent of value to Land Class I	Estimated tax rate in number of *shih tou* of rice per *shih mow*	Estimated total tax of rice in *shih tan*
I	531,340	37	903	100	2.479	131,743
II	100,523	7	631	70	1.736	17,447
III	574,422	40	552	61	1.512	86,879
IV	154,807	11	370	41	1.017	16,058
V	70,363	5	154	17	0.422	3,027
Total	1,431,455				1.782	255,154

[1] The computations are as follows: Multiply the percent of cultivated area in each land class by the percent of land value of each class to Land Class I to obtain factors for each land class; add these factors which give the sum of 7166; divide the total rice to be collected (255,154 *shih tan*) by 7166 which gives the factor of 35.6062; multiply the factors for each land class by 35.6062 to obtain the amount of *shih tan* of rice payment for all land in each land class; divide total *shih tan* of rice payments for each land class by the number of *shih mow* in each land class; then multiply by 10 to obtain *shih tou* of tax per *shih mow*.

If land classification is adopted for tax administration purposes, taxation will be more equitable, collections easier, and increases in total tax receipts by increasing tax rates on good lands relative to poor lands may be possible.

This illustration for Hwayang Hsien applies equally to a province or the country as a whole. If the land is classified by provinces and for the country as a whole, the land tax burden can be equitably determined and justly apportioned according to the amount of land in each land class within a province and for the country.

The accepted principle of taxation is ability to pay taxes. Not only should attention be given to the economic value of land but also to the size of farms on such land. Various studies have demonstrated that large-family farms give a per capita family income two to three times that on smaller and less economic-sized units. For this reason tax

rates should vary with the size of the farm, and larger and more economic-sized farm units should pay higher rates per unit of land. There is no justice in compelling the farmer with a small amount of land to pay the same rate of tax as do farmers with enough land to make their farms an efficient farm unit.

Land classification is not only useful for taxation purposes but also for determining the best use of land and the extent to which economic and social services, such as, roads, telephones and schools, each land class can support.

Lien-ken Yin.
Chao-ling Feng.

INDICATORS OF PRICE CHANGES[1]

(January to June 1937=100)

Items	Number of items or observations	Index numbers	Date	Place
Wholesale prices and cost of living:				
1. Wholesale prices of all commodities	57	6,950	Jan. 1943	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	6,704	Jan. 1943	Chengtu
3. Wholesale prices of imported goods	9	16,130	Jan. 1943	Chengtu
4. Wholesale prices of exported goods	10	3,734	Jan. 1943	Chengtu
5. Wholesale prices of raw materials	30	5,591	Jan. 1943	Chengtu
6. Wholesale prices of manufactured producers' goods	11	5,814	Jan. 1943	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	7,064	Jan. 1943	Chengtu
8. Wholesale prices in important cities, Free China				
(a)Highest: Kunming, Yunnan		12,184	Oct. 1942	
(b)Lowest: Kweilin, Kwangsi		4,012	Oct. 1942	
(1) Kunming, Yunnan (Aug. 1937=100)(a)	141	12,184	Oct. 1942	
(2) Sian, Shensi (June 1937=100)(b)	~~94~~	6,602	Aug. 1942	
(3) Chungking, Szechwan(c)	94	6,909	Oct. 1942	
(4) Chengtu, Szechwan	57	6,130	Oct. 1942	
(5) Kweilin, Kwangsi(d)	48	4,012	Oct. 1942	
9. Cost of living	76	4,932	Jan. 1943	
10. Retail prices of seven commodities commonly used	7	5,371	Jan. 1943	
11. Retail prices for 14 cities in Free China(e)				
(a)Highest: Kunming, Yunnan	25	14,039	Nov. 1942	
(b)Lowest: Sining, Chinghai	25	3,520	Nov. 1942	
(1) Kunming, Yunnan	25	14,039	Nov. 1942	
(2) Yaan, Sikong	25	7,970	Nov. 1942	
(3) Loyang, Honan	25	7,385	Nov. 1942	

[1] Compiled by Department of Agricultural Economics, College of Agriculture and Forestry, University of Nanking, unless otherwise indicated.

Items	Number of items or observations	Index numbers	Date	Place
(4) Sian, Shensi	25	7,282	Nov. 1942	
(5) Hengyang, Hunan	25	7,179	Nov. 1942	
(6) Chengtu, Szechwan	25	6,814	Nov. 1942	
(7) Chungking, Szechwan	25	6,760	Nov. 1942	
(8) Kweiyang, Kweichow	25	5,915	Nov. 1942	
(9) Chukiang, Kwangtung	25	5,675	Nov. 1942	
(10) Kweilin, Kwangsi	25	5,580	Nov. 1942	
(11) Kanchow, Kiangsi	25	5,138	Nov. 1942	
(12) Yunyang, Hupeh	25	5,081	Nov. 1942	
(13) Lanchow, Kansu	25	4,559	Nov. 1942	
(14) Sining, Chinghai	25	3,520	Nov. 1942	
12. Rent, city residences	100	856	Dec. 1942	Chengtu
13. School tuition				
(1) Primary school	1	2,042	Sept. 1942	Chengtu
(2) Middle school	1	450	Sept. 1942	Chengtu
(3) University	1	200	Sept. 1942	Chengtu
City wages (f)	12	3,758	Dec. 1942	Chengtu
1. Carpenters	1	4,000	Dec. 1942	Chengtu
2. Masons	1	4,000	Dec. 1942	Chengtu
3. Cotton weavers	1	5,000	Dec. 1942	Chengtu
4. Silk weavers	1	1,500	Dec. 1942	Chengtu
5. Tailors	1	4,000	Dec. 1942	Chengtu
6. Barbers	1	4,500	Dec. 1942	Chengtu
7. Blacksmiths	3	5,767	Dec. 1942	Chengtu
8. Coppersmiths	3	3,652	Dec. 1942	Chengtu
9. Maidservants	8	4,896	Jan. 1943	Chengtu
Salaries:				
1. Professors' salaries (g)	10	840	Jan. 1943	Chengtu
2. Clerks (g)	10	2,104	Jan. 1943	Chengtu
3. Soldiers' cash allowances	6	368	Dec. 1942	Chengtu
Chinese currency:				
1. Purchasing power of *yuan* in terms of cost of living	-	2.0	Jan. 1943	Chengtu
2. Purchasing power of *yuan* in terms of wholesale prices of domestic commodities	-	1.5	Jan. 1943	Chengtu
U.S.A. currency:				
1. Increase in number of *yuan* for one US$ at buying official exchange rate of 20 *yuan* to one US dollar	-	594	Jan. 1943	Chengtu

Items	Number of items or observations	Index numbers	Date	Place
2. Calculated expected rate of *yuan*/US$ exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in U.S.A.	-	US$ 0.0077	Aug. 1942	Chengtu
3. Purchasing power of US$				
(a) at official exchange rate in China		8.9	Jan. 1943	Chengtu
(b) actual in U.S.A.	-	88	Aug. 1942	U.S.A.
4. Wholesale prices of domestic commodities in terms of US$ at official exchange rate		1,129	Jan. 1943	Chengtu
Sterling currency:				
1. Increase in number of *yuan* for one pound sterling	-	483	Jan. 1943	
2. Calculated expected *yuan*/pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in England	-	0.65d	May 1942	Chengtu
3. Purchasing power of pound sterling				
(a) at official buying rate in China	-	7.2	Jan. 1943	Chengtu
(b) actual in England	-	66	May 1942	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the official exchange rate	-	1,386	Jan. 1943	Chengtu
Gold and silver:				
1. Price of gold (open market)	1	5,780	Jan. 1943	Chengtu
2. Price of silver (open market)	1	6,296	Jan. 1943	Chengtu
3. Wholesale prices in terms of gold	-	120	Jan. 1943	Chengtu
4. Wholesale prices in terms of silver	-	110	Jan. 1943	Chengtu
Farm prices (4 *hsien*):				
1. Prices received by farmers				

	Items	Number of items or observations	Index numbers	Date	Place
	(1937=100)	16-22	5,127	Dec. 1942	Szechwan
2.	Farmers' cost of production	-	4,539	Dec. 1942	Szechwan
3.	Prices paid by farmers for producers' and consumers' goods (1937=100)	17-51	6,145	Dec. 1942	Szechwan
4.	Prices paid by farmers for producers' goods	16-22	5,364	Dec. 1942	Szechwan
5.	Prices paid by farmers for consumers' goods	17-29	7,040	Dec. 1942	Szechwan
6.	Purchasing power of farmers (ratio of prices received by farmers to prices paid by farmers including all costs of production and prices paid for consumers' goods)	-	96	Dec. 1942	Szechwan
7.	Crop rent	-	4,384	Oct. 1942	Szechwan
8.	Land taxes (h)	-	3,689	Oct. 1942	Szechwan
9.	Farm land value(8 *hsien*)	-	3,474	Dec. 1942	Szechwan
10.	Farm year labor (8 *hsien*)	-	3,852	Dec. 1942	Szechwan
11.	Farm day labor (8 *hsien*)	-	4,829	Dec. 1942	Szechwan

(a) Statistical Department of Municipal Government of Kunming.
(b) Economic Research Department of Provincial Bank of Shensi.
(c) Central Bureau of Survey and Statistics, Commission of Military Affairs, Chungking, Szechwan.
(d) Department of Economic Survey of Sin-chung Corporation, Kweilin, Kwangsi.
(e) Data from Farmers' Bank of China.
(f) The general index of city wages is the weighted geometric average of all groups, excluding maid-servants. The weights used are as follows: carpenters 22.2, masons 15.8, cotton weavers 11.0, silk weavers 12.2, tailors 11.9, barbers 21.9, blacksmiths 2.5, coppersmiths 2.5. The data on wages were supplied by the union or by individuals.
(g) From one organization.
(h) The index for increase in land tax rates in the previous issue of Economic Facts has been found to be incorrect because of insufficient data on land taxes paid in the base period.
The present index is based on land taxes (surtaxes included) paid by owner farms in Wenkiang. Official data on taxes paid to the Penghsien government show a similar trend. The data for Wenkiang are as follows:

Years	Rice, unhulled (*shih tan*)	Land tax per *shih mow*		
		Value of one *shih tan* of unhulled rice at time of payment	*Yuan* or value of rice in *yuan*	Index
1937 (a)	-	-	2.10	100
1938 (b)	-	-	3.13	149
1939 (c)	-	-	2.39	109
1940 (d)	-	-	17.90	852
1941 (e)	0.25	108.81	27.20	1295
1942 (f)	0.35	221.31	77.46	3689

(a) A survey of 80 owner farms by the Department of Agricultural Economics, University of Nanking.
(b) A survey of 47 owner farms made by the Department of Agricultural Economics, University of Nanking.
(c) An estimate based on the previous year. In 1937 and 1938, the land tax proper was collected twice a year. Beginning with 1939 it was collected once a year and the land tax was reduced 50 per cent in this year, but the surtaxes remained the same. The surtaxes in 1938 were 53 percent of the total taxes.
(d) A survey of 20 farmers made by the Department of Agricultural Economics in cooperation with the Farmers' Bank of China.
(e) The information was supplied by the local *hsien* government. The land tax per *mow* is averaged at 2.2 per cent of one *liang* of land tax. In 1941 one *liang* of land tax in rice was 11.15 *shih tan* of unhulled rice.
(f) The source of information is the same as above. The rate of one *liang* of land tax in rice in this year was fixed at 15.91 *shih tan* of unhulled rice.

APPENDIX I

TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES IN CHENGTU, 1937-JANUARY 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of *yuan*
Number of commodities	57	15	9	4	9	5	15	
Years:								
1937	99	99	102	98	106	100	94	101.1
1938	116	95	139	104	173	106	106	86.5
1939	219	147	298	232	398	208	193	45.7
1940	653	533	841	847	1282	454	491	15.3
1941	1616	1830	1637	2119	3059	1223	999	6.2
1942	4610	4086	4683	5974	10224	3408	3315	2.2
1942								
Nov.	6501	5302	6729	8463	14472	5480	4764	1.5
Dec.	6710	5411	6964	8883	14390	5803	5005	1.5
1943								
Jan.	6950	5678	7470	9602	14279	5758	5165	1.4

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-JANUARY 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Domestic commodities	Import commodities	Export commodities
Number of commodities	57	38	9	10
1937	99	100	110	90
1938	116	109	212	87
1939	219	199	486	163
1940	653	633	1396	397
1941	1616	1658	3658	721
1942	4610	4358	12606	2349
Nov.	6501	6226	15561	3556
Dec.	6710	6483	15739	3550
1943				
Jan.	6950	6704	16130	3734

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-JANUARY 1943

Jan. to June 1937=100 (Simple geometric average)

Period	Raw materials			Manufactured goods		
	Producers' goods	Consumers' goods	All	Producers' goods	Consumers' goods	All
Number of commodities	18	12	30	11	9	20
1937	97	96	96	102	98	100
1938	97	95	96	134	114	125
1939	188	160	176	244	206	226
1940	628	447	548	637	648	642
1941	1498	1216	1377	1360	1623	1473
1942	3660	3538	3607	3721	4681	4124
Nov.	5427	4956	5234	5438	6356	5833
Dec.	5684	5031	5413	5629	6567	6033
1943						
Jan.	5865	5204	5591	5814	7064	6347

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-JANUARY 1943

Feb. to June 1937=100 (weighted aggregative)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	102	105	100
1939	126	148	157	140
1940	435	448	444	442
1941	1661	1464	1391	1524
1942	3274	3560	3738	3473
1942				
Nov.	4312	4942	5252	4731
Dec.	4313	4974	5585	4806
1943				
Jan.	4437	5091	5731	4932

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-JANUARY 1943

Feb. to June 1937=100 (weighted geometric average)

Period	General index	Food	Clothing	Rent	Fuel and lighting	Miscellaneous	Purchasing power of *yuan*
Number of commodities	76	28	13	2	12	21	
1937	98	98	104	100	97	100	101.6
1938	100	92	142	103	97	115	100.4
1939	140	120	267	109	163	182	71.3
1940	442	441	852	117	604	387	22.7
1941	1524	1786	1787	185	1670	1171	6.6
1942	3473	3376	6409	462	4829	3621	2.9
1942							
Nov.	4731	4491	10259	775	6977	4941	2.1
Dec.	4860	4335	10546	856	7085	5380	2.1
1943							
Jan.	4932	4413	10835	856	7451	5599	2.0

APPENDIX II

TABLE 1. MONTHLY INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES NI CHENGTU, 1937—1942

January-June 1937=100 (simple geometric average)

Period	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneons	General index	Purchasing power of *yuan*
No. of commodities	15	9	4	9	5	15	57	
1937	99	102	98	106	100	94	99	101.1
Jan.	101	99	108	102	100	95	99	100.7
Feb.	101	101	106	102	96	97	100	100.2
Mar.	99	104	107	100	101	98	100	99.6
Apr.	100	101	100	100	95	103	100	99.7
May	100	97	90	98	102	103	99	100.6
June	99	97	89	98	106	102	99	100.8
July	98	99	87	101	100	102	99	101.3
Aug.	96	103	94	109	96	90	96	103.7
Sept.	98	103	98	115	90	88	98	102.6
Oct.	98	105	98	124	101	87	97	103.0
Nov.	97	103	96	127	106	84	99	100.7
Dec.	96	107	98				100	100.4

Table 1. (con't)

1938	95	139	104	173	106	106	116	86.5
Jan.	98	108	98	134	96	90	102	97.9
Feb.	99	112	100	137	101	96	106	94.7
Mar.	98	116	100	140	103	100	108	92.9
Apr.	96	119	103	138	105	99	107	93.1
May	91	123	104	148	104	96	107	93.8
June	89	127	96	158	106	97	108	92.9
July	89	132	93	164	106	101	110	90.5
Aug.	90	136	96	175	105	110	114	87.5
Sept.	92	151	97	190	109	112	120	83.5
Oct.	96	173	113	212	111	117	129	77.6
Nov.	98	179	119	221	111	120	132	75.6
Dec.	105	192	126	261	112	134	145	69.1
1939	147	298	232	398	208	193	219	45.7
Jan.	120	214	134	295	128	142	160	62.3
Feb.	119	223	134	304	135	142	163	61.3
Mar.	115	232	138	315	140	145	165	60.6
Apr.	114	240	140	315	158	146	167	59.7
May	112	254	138	328	165	144	169	59.2
June	118	272	134	338	281	146	183	54.6
July	132	290	180	368	269	163	202	49.5
Aug.	142	332	226	411	261	196	228	43.8
Sept.	163	348	334	471	246	232	260	38.5
Oct.	179	354	378	525	229	257	280	35.8
Nov.	214	385	416	542	234	291	312	32.1
Dec.	232	433	431	565	250	306	333	30.0

Table 1. (con't)

1940	533	841	847	1282	454	491	653	15.3
Jan.	282	472	434	638	282	319	366	27.3
Feb.	284	492	480	763	284	340	394	25.4
Mar.	340	614	517	885	306	401	462	21 6
Apr.	377	732	682	1028	353	435	528	18,9
May	410	752	700	1066	368	441	550	18.2
June	430	780	772	1152	381	444	575	17.4
July	481	874	848	1376	392	511	649	15.4
Aug,	532	948	903	1411	440	527	692	14.5
Sept.	602	1000	942	1566	401	549	737	13.6
Oct.	813	1137	1184	1700	526	588	874	11.4
Nov.	928	1105	1390	1826	787	632	973	10.3
Dec.	936	1187	1312	1946	916	701	1033	9.7
1941	1830	1637	2119	3059	1223	999	1616	6.2
Jan.	1032	1272	1383	2014	871	707	1080	9.3
Feb.	1240	1318	1653	2226	963	760	1205	8.3
Mar.	1290	1339	1783	2341	1041	794	1260	7.9
Apr.	1379	1337	1738	2355	1098	775	1279	7.8
May	1611	1308	1676	2368	1048	800	1331	7.5
June	1710	1310	1728	2356	1083	843	1376	7.3
July	1970	1398	1876	2345	1181	873	1475	6.8
Aug.	1866	1486	1821	2394	1244	915	1496	6.7
Sept.	1954	1553	1878	2593	1291	911	1551	6.4
Oct.	2254	1724	2573	3987	1439	1122	1910	5,2
Nov.	2865	2568	3528	5397	1633	1607	2582	3.9
Dec.	2791	3033	3791	6327	1777	1880	2848	3.5

Table 1. (con't)

					2.2
	10224	3408	3315	4610	3.4
	7062	1937	1954	2910	3.2
	7647	2014	2039	3148	2.8
	8295	2318	2380	3621	2.6
	8533	2624	2557	3777	2.7
	9697	2871	2572	3710	2.5
	9599	2935	2758	4001	2.2
	10147	3036	3311	4538	2.0
	10367	3489	3813	4882	1.9
	11140	3864	4199	5396	1.6
	12344	4525	4432	6130	1.5
	14472	5480	4764	6501	1.5
	14390	5803	5005	6710	
	5974	4683			
	3372	3042			
	3704	3293			
	4287	3786			
	4494	3702			
	4650	3489			
	5029	3733			
	6337	4730			
	6369	4878			
	7530	5404			
	8558	6442			
	8465	6729			
	8888	6964			
1942	4086				
Jan.	2728				
Feb.	3086				
Mar.	3618				
Apr.	3734				
May	3415				
June	3734				
July	3917				
Aug.	4022				
Sept.	4586				
Oct.	5474				
Nov.	5302				
Dec.	5411				

TABLE 2. MONTHLY INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES

January-June 1937 = 100 (simple geometric average)

Period	Domestic commodities	Import commodities	Export commodities	General index
No. of commodities	38	9	10	57
1937	100	110	90	99
Jan.	101	97	94	99
Feb.	101	100	96	100
Mar.	100	100	101	100
Apr.	99	104	101	100
May	98	100	101	99
June	99	99	101	99
July	97	100	104	99
Aug.	98	103	84	96
Sept.	100	118	76	98
Oct.	99	125	74	97
Nov.	100	131	74	99
Dec.	101	143	67	100
1938	109	212	87	116
Jan.	101	157	72	102
Feb.	110	164	77	106
Mar.	102	169	82	103
Apr.	104	167	82	107
May	106	183	77	107
June	102	198	75	108
July	103	216	80	110
Aug.	104	220	88	114
Sept.	108	246	91	120
Oct.	117	267	96	129
Nov.	121	268	99	132
Dec.	129	289	122	145
1939	199	486	163	219
Jan.	144	306	139	160
Feb.	147	313	136	163
Mar.	155	335	140	165
Apr.	156	354	140	167
May	167	364	140	169
June	175	385	140	183
July	181	404	154	202
Aug	201	541	167	228
Sept.	231	652	177	260
Oct.	249	717	187	280
Nov.	234	714	212	312
Dec.	303	752	229	333

Table 2. (con't)

1940	633	1396	397	653
Jan.	344	776	235	366
Feb.	349	825	254	394
Mar.	430	943	320	462
Apr.	497	1053	361	528
May	517	1065	384	550
June	546	1158	383	575
July	636	1408	440	649
Aug.	641	1538	449	692
Sept.	753	1706	451	737
Oct.	850	2031	455	874
Nov.	1013	2026	496	973
Dec.	1022	2222	539	1033
1941	1658	3658	721	1616
Jan.	1078	3254	539	1080
Feb.	1230	2536	571	1205
Mar.	1337	2465	606	1260
Apr.	1346	2454	587	1279
May	1420	2468	591	1331
June	1563	2603	589	1376
July	1608	2752	600	1475
Aug.	1503	3019	614	1496
Sept.	1650	3320	621	1551
Oct.	1962	4803	759	1910
Nov.	2511	6546	1242	2582
Dec.	2676	8578	1337	2848
1942	4358	12606	2349	4610
Jan.	2730	9832	1251	2910
Feb.	2970	10730	1303	3148
Mar.	3431	11750	1541	3621
Apr.	3587	11660	1667	3777
May	3500	11110	1724	3710
June	3847	11268	1829	4001
July	4230	12100	2452	4538
Aug.	4448	12847	2912	4882
Sept.	4993	14080	3056	5396
Oct.	5855	14590	3344	6130
Nov.	6226	15561	3556	6501
Dec.	6483	15739	3550	6710

TABLE 3. MONTHLY INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES IN CHENGTU CLASSIFIED BY STAGES OF PRODUCTION, 1937-1942

January-June 1937 = 100 (simple geometric average)

Period	Raw materials			Manufactured goods		
	Producers' goods	Consumers' goods	All	Producers' goods	Consumers' goods	All
No. of commodities	18	12	30	11	9	20
1937	97	96	96	102	98	100
Jan.	101	99	100	97	99	98
Feb.	101	97	99	108	101	105
Mar.	100	100	100	102	100	101
Apr.	99	102	100	101	101	101
May	99	101	99	98	101	99
June	99	99	99	100	98	99
July	97	99	97	100	96	98
Aug.	95	89	93	99	95	98
Sept.	93	90	91	101	99	100
Oct.	91	104	96	102	99	101
Nov.	93	87	90	103	98	101
Dec.	94	85	90	107	94	101
1938	97	95	96	134	114	125
Jan.	89	89	89	108	99	104
Feb.	92	95	93	111	101	106
Mar.	90	100	94	117	102	110
Apr.	91	96	93	120	130	125
May	92	87	90	121	102	112
June	94	83	90	144	102	123
July	92	86	90	158	109	134
Aug.	94	91	92	132	113	123
Sept.	97	93	95	143	117	131
Oct.	106	100	103	149	127	138
Nov.	108	103	106	150	135	143
Dec.	121	118	120	160	134	149
1939	188	160	176	244	206	226
Jan.	135	130	133	183	149	167
Feb.	137	130	134	187	158	173
Mar.	133	128	131	204	157	181
Apr.	130	128	129	222	160	192
May	130	128	130	229	162	196
June	157	124	143	242	175	209
July	176	139	160	242	195	220
Aug.	200	158	182	259	214	238
Sept.	233	187	213	260	241	252
Oct.	252	193	226	276	252	265
Nov.	279	231	259	296	288	292
Dec.	289	248	272	325	316	321

Table 3. (con't)

1940	628	447	548	637	648	642
Jan.	362	265	319	340	333	337
Feb.	404	287	352	363	347	356
Mar.	452	336	402	458	428	444
Apr.	509	371	449	567	639	599
May	538	346	451	614	529	574
June	566	360	472	609	568	590
July	580	424	512	660	669	664
Aug.	637	455	557	678	703	689
Sept.	763	497	643	704	727	714
Oct.	786	620	715	824	893	855
Nov.	935	699	832	894	946	917
Dec.	1005	706	872	937	998	964
1941	1498	1216	1377	1360	1623	1473
Jan.	1030	754	909	1001	1040	1018
Feb.	1176	860	1038	1054	1174	1106
Mar.	1247	915	1102	1103	1239	1162
Apr.	1237	916	1097	1157	1305	1222
May	1300	1036	1187	1141	1366	1237
June	1313	1048	1200	1180	1415	1280
July	1406	1159	1302	1242	1557	1375
Aug.	1367	1136	1270	1322	1567	1427
Sept.	1408	1151	1299	1360	1646	1482
Oct.	1742	1429	1610	1484	1877	1650
Nov.	2301	2011	2180	2030	2471	2230
Dec.	2446	2173	2333	2246	2819	2488
1942	3660	3538	3607	3721	4681	4124
Jan.	1809	2154	1940	2268	2902	2534
Feb.	2522	2235	2403	2481	3252	2802
Mar.	2484	2681	2542	2924	3910	3333
Apr.	2925	2886	2909	2995	4028	3422
May	2893	2933	2909	2979	3719	3292
June	3308	3091	3219	3042	4063	3465
July	3719	3505	3632	3503	4728	4009
Aug.	3977	3815	3912	3900	4803	4283
Sept.	4207	4354	4265	4454	5440	4873
Oct.	4970	4814	4907	5034	6409	5612
Nov.	5427	4956	5234	5438	6356	5833
Dec.	5684	5031	5413	5629	6567	6033

TABLE 4. MONTHLY INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-1942

February-June 1937=100 (weighted aggregative)

Period	Laborer pedlar	Merchant storekeeper	Military official-educational	Three classes
No. of commodities	53	66	70	76
1937	97	99	100	98
Jan.	96	98	99	98
Feb.	101	101	101	101
Mar.	100	100	100	100
Apr.	101	101	101	101
May	100	99	99	100
June	98	99	100	99
July	95	98	99	97
Aug.	96	100	100	98
Sept.	101	104	104	102
Oct.	92	97	98	95
Nov.	92	96	98	95
Dec.	93	98	100	96
1938	95	102	105	100
Jan.	99	100	102	100
Feb.	99	101	102	100
Mar.	96	100	102	98
Apr.	95	100	103	99
May	93	98	102	97
June	95	99	102	98
July	96	99	102	98
Aug.	93	100	104	98
Sept.	89	100	105	96
Oct.	93	104	109	100
Nov.	97	106	111	103
Dec.	101	113	117	109
1939	126	148	157	140
Jan.	110	122	126	118
Feb.	108	121	127	116
Mar.	103	121	128	115
Apr.	108	128	133	120
May	107	127	133	119
June	105	125	132	118
July	107	130	138	122
Aug.	119	144	153	135
Sept.	141	169	181	159
Oct.	152	179	193	170
Nov.	165	197	208	185
Dec.	185	218	230	206

Table 4. (con't)

1940	435	448	444	442
Jan.	198	228	238	217
Feb.	212	241	250	230
Mar.	258	281	288	273
Apr.	284	317	331	306
May	316	343	349	333
June	322	351	357	340
July	388	413	401	400
Aug.	396	447	439	423
Sept.	497	529	522	514
Oct.	728	699	669	704
Nov.	821	762	734	780
Dec.	800	769	755	779
1941	1661	1464	1391	1524
Jan.	901	836	821	859
Feb.	1029	961	945	985
Mar.	1122	1044	1027	1072
Apr.	1322	1163	1111	1215
May	1732	1362	1249	1477
June	2076	1561	1415	1720
July	2135	1679	1517	1815
Aug.	1800	1569	1453	1634
Sept.	1597	1501	1419	1522
Oct.	1894	1775	1704	1807
Nov.	2233	2056	1993	2114
Dec.	2094	2062	2035	2069
1942	3274	3560	3738	3473
Jan.	1979	2097	2132	2055
Feb.	2149	2331	2357	2259
Mar.	2427	2662	2718	2573
Apr.	2771	2927	2989	2874
May	2835	3024	3098	2959
June	3173	3145	3230	3175
July	3476	3595	3766	3581
Aug.	3538	3853	4150	3779
Sept.	3818	4253	4490	4114
Oct.	4493	4921	5094	4774
Nov.	4912	4942	5252	4731
Dec.	4313	4947	5585	4806

TABLE 5. MONTHLY INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-1942

February to June 1937 = 100 (weighted geometric average)

Period	Food	Clothing	Rent	Fuel & lighting	Miscellaneous	General index	Purchasing power of *yuan*
No. of commodities	76	28	13	2	12	21	
1937	98	104	100	97	100	98	101.6
Jan.	96	95	100	106	100	98	102.3
Feb.	100	98	100	105	100	101	99.3
Mar.	99	98	100	105	99	100	100.1
Apr.	102	102	100	99	100	101	99.0
May	100	102	100	96	100	100	100.4
June	98	101	100	95	101	99	101.3
July	96	97	100	95	101	97	103.3
Aug.	98	101	100	97	101	98	102.0
Sep.	103	114	100	97	100	102	97.8
Oct.	92	114	100	92	99	95	105.3
Nov.	92	113	100	90	100	95	105.2
Dec.	93	116	101	90	102	96	103.8
1938	92	142	103	97	115	100	100.4
Jan.	99	117	101	89	104	100	100.1
Feb.	98	122	101	96	107	100	99.5
Mar.	94	126	101	94	109	98	101.6
Apr.	93	125	102	97	111	99	101.3
May	89	127	103	98	112	97	103.4
June	90	136	103	93	112	98	102.2
July	90	140	104	93	113	98	101.7
Aug.	89	143	104	93	116	98	102.5
Sep.	85	152	104	93	117	96	104.1
Oct.	88	168	104	100	120	100	100.0
Nov.	92	168	104	105	123	103	97.0
Dec.	95	182	105	119	133	109	92.0
1939	120	267	109	163	182	140	71.3
Jan.	108	191	105	124	137	118	84.7
Feb.	104	194	108	120	140	116	86.0
Mar.	98	212	108	124	148	115	87.3
Apr.	103	224	108	125	160	120	83.1
May	101	222	108	128	162	119	83.8
June	99	224	107	124	165	118	84.9
July	100	253	107	125	172	122	82.2
Aug.	111	306	109	138	185	135	74.2
Sep.	134	332	110	177	216	159	62.8
Oct.	145	336	111	198	226	170	58.8
Nov.	161	334	111	252	229	185	54.0
Dec.	178	373	111	318	245	206	48.5

Table 5. (con't)

1940	441	852	117	604	387	442	22.7
Jan.	193	397	111	310	253	217	46.1
Feb.	209	420	113	326	257	230	43 4
Mar.	249	521	114	412	277	273	36.7
Apr.	269	622	114	516	311	306	32.7
May	306	667	115	519	324	333	30.0
June	314	673	117	503	344	340	29.4
July	382	809	118	605	348	400	25.0
Aug.	401	924	118	618	391	423	23.6
Sep.	525	1037	118	670	426	514	19.5
Oct.	758	1382	118	870	485	704	14 2
Nov.	858	1352	120	976	533	780	12.8
Dec.	826	1424	124	917	698	779	12.8
1941	1786	1787	185	1670	1171	1524	6.6
Jan.	926	1464	141	953	781	859	11.6
Feb.	1072	1697	166	1116	842	985	10.2
Mar.	1156	1762	168	1266	950	1072	9.3
Apr.	1390	1664	174	1316	956	1215	8.2
May	1832	1527	181	1380	972	1477	6.8
June	2188	1449	185	1557	1078	1720	5.8
July	2311	1519	186	1655	1167	1815	5.5
Aug.	1998	1600	197	1589	1216	1634	6.1
Sep.	1784	1667	201	1608	1258	1522	6.6
Oct.	2113	1870	202	2140	1420	1807	5.5
Nov.	2415	2465	204	2714	1596	2114	4.7
Dec.	2248	2756	216	2751	1817	2069	4.8
1942	3376	6409	462	4829	3621	3473	2.9
Jan.	2140	2954	218	2667	2088	2055	4.9
Feb.	2278	3526	258	2973	2383	2259	4.4
Mar.	2550	4190	298	3328	2777	2573	3 9
Apr.	2924	4122	320	3536	3166	2874	3.5
May	2974	4300	338	3693	3313	2959	3.4
June	3309	4814	385	3969	3093	3175	3.1
July	3591	6427	404	5027	3317	3581	2.8
Aug.	3596	7255	457	5559	3933	3779	2.7
Sept.	3884	8313	485	6146	4404	4114	2.4
Oct.	4529	10202	745	6994	4655	4774	2.1
Nov.	4401	10259	775	6977	4941	4731	2.1
Dec.	4335	10546	856	7085	5380	4806	2.1

TABLE 6. A LIST OF COMMODITIES INCLUDED IN THE STUDY OF WHOLESALE PRICES IN CHENGTU

Item	By usage							By destination of goods			By stages of production			
											Raw Materials		Manufactured goods	
	Food	Clothing	Fuel	Metals and electric materials	Building materials	Miscellaneous		Domestic commodities	Import commodities	Export commodities	Producer' goods	Consumers' goods	Producers' goods	Consumers' goods
Number of commodities	15	9	4	9	5	15		38	9	10	18	12	11	9
Rice	x							x				x		
Wheat	x							x			x			
Barley	x							x			x			
Soybeans	x							x			x	x		
Broad beans	x							x						
Rapeseed	x							x			x			
Wheat flour	x							x						x
Pork	x							x				x		
Beef	x							x				x		
Rapeseed oil	x							x						x
Salt	x							x						x
White sugar	x							x						x
Wine	x							x						x
Eggs	x							x				x		
Sesame	x							x			x			
Cotton		x						x			x			
Cotton yarn (32'5)	x								x				x	
Cotton yarn (20'5)	x								x				x	
Silk raw, coarse	x									x			x	
" " fine	x									x			x	
Ramie	x							x				x		
Sheeting, white	x							x						x
Satin	x							x						x
Hessian cloth	x							x						x
Fire Wood, pine, Taho			x					x				x		
Fire Wood, pine, Pukiang			x					x				x		
Fire Wood, Tsingkang			x					x				x		
Coal			x					x				x		
Copper				x				x				x		
Brass				x				x				x		
Pig iron				x				x				x		
Tin				x				x				x		

Table 6. (con't)

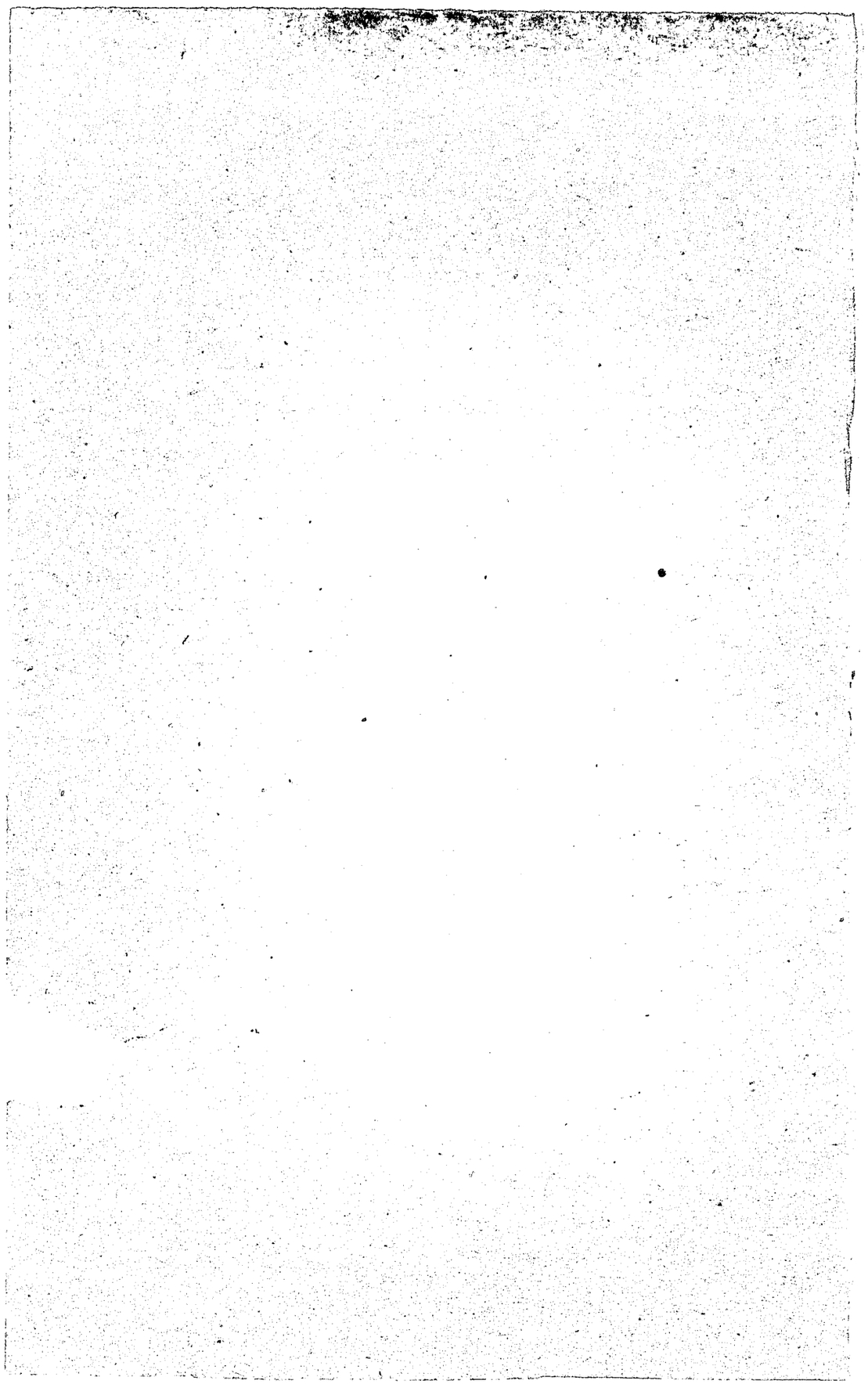
Iron nails	x			x							
Galvanized iron, plain sheets	x			x							
Wire, galvanized	x			x							
Electric wire	x			x							
Electric bulbs	x			x							
Softwood, pingtsang		x		x			x				
" Siaopenpen		x		x			x				
Brick		x		x					x		
Tiles		x		x					x		
Lime		x		x					x		
Leather, cow			x			x					
Hides, cow, dried			x			x	x				
Sheep skin			x			x	x				
Conroselium univitatum turez			x			x		x			
Chinese drug, Pei-mu			x			x		x			
Alisma plantage			x			x		x			
Tobacco leaves			x	x				x			
Cigarettes			x		x						
Alcohol			x	x					x		
Fast indigo, blue			x		x						
Wood oil			x			x	x				
Varnish, crude			x	x			x				
White wax			x			x			x		
Chinese paper, Chiakiang			x	x						x	
Rapeseed cake			x	x					x		

TABLE 7. COMMODITIES INCLUDED IN THE COST OF LIVING INDEX FOR DIFFERENT SOCIAL CLASSES IN CHENGTU

Commodities	Units	Average amount consumed by each Adult-male unit in 1937		
		Laborer-Peddlar	Merchant-Storekeeper	Military-Official-Educational
Food:				
Rice	Double *shih tou*(1)	13.81	11.53	12.27
Broad beans	" " "	.05	.30	.13
Wheat flour	*Shih catty*	1.22	3.01	2.20
Spaghetti	" "	2.81	6.11	10.65
Pork	" "	9.45	19.37	29.64
Beef	" "	.48	1.44	8.71
Mutton	" "	.17	.74	2.24
Lard	" "	.79	5.93	9.76
Chickens	" "	.47	4.76	8.04
Eggs	Piece	2.10	56.26	104.13
Rapeseed oil	*Shih catty*	6.12	10.67	11.99
Sauce, soybean	" "	2.43	8.73	8.91
Salt, powdered	" "	7.89	11.57	10.86
Sugar, white	" "	.18	2.03	5.78
Wine, Ho	" "	4.11	-	-
Wine, Tachu	" "	-	2.57	4.34
Leeks	" "	16.69	37.45	43.86
Cabbage, rolled	" "	31.23	70.06	82.06
Lettuce stems	Piece	51.86	116.36	136.29
Soybean sprouts	*Shih catty*	17.93	40.22	47.11
Onions	" "	12.74	28.58	33.47
Bean curd	Piece	40.33	90.50	106.00
Mustard root	*Shih liang*	25.47	57.16	66.95
Mung beans	*Shih catty*	2.86	6.43	7.53
Pepper	" "	2.55	5.72	6.69
Pepper, red salted	" "	2.09	4.68	5.48
Tea	" "	.83	1.09	1.10
Candy, peanut(2)	Piece	139.89	450.89	658.78
Clothing:				
Shirtings, white	*Shih foot*	5.47	28.72	7.84
Shirtings, white	" "	.49	8.97	11.16
Shirtings, blue	" "	1.75	8.32	4.99
Flowered crepe	" "	-	4.21	4.20
Gabardine	" "	-	-	1.99
Woolen serge	" "	-	-	3.41
Cotton	*Shih catty*	.36	1.26	2.17
Hats, Chinese	Each	.32	.79	-
Shoes, gabardine	Pair	-	-	1.14
Shoes, cloth	"	.93	1.47	-
Shoes, Venetian	Pair	-	.17	-
Shoes, leather	"	-	.23	.40
Socks	"	.76	3.19	4.83

Table 7. (con't)

(1) 1 double *shih tou* = 2 *shih tou*
(2) Representing all confectionary expenses.
(3) Interest rate = 2% of the deposit per month.
(4) 1 tiao = 160 *shih catties*
(5) Bundle of 22 *shih catties*
(6) Bundle of 18 *shih catties*
(7) Load of 85 *shih catties*
(8) 1 coil = 100 yards
(9) 1 dose = A combination of 20 kinds of drugs each weighing one *liang*.
(10) A set = A combination of 3 books (English reader, Chinese reader and arithmetic book)



CONTENTS

WEIGHTS AND MEASURES

One *li* is equivalent to one-third of an English mile

One *shih tan* is equivalent to 100 liters or 2.8378 American bushels.

One *shih tou* is one-tenth of a *shih tan*.

One *shih shen* is one-tenth of a *shih tou*.

One *shih picul* is equivalent to 110.23 pounds avoirdupois.

One *shih chin* (catty) is equivalent to 1.1 pounds avoirdupois.

The *yuan* is the Chinese unit of currency. The exchange rate is pegged at 20 *yuan* to one U.S. dollar and 80 *yuan* to one pound sterling. It has no relation to the price level in China.

THE PRODUCTION AND PRICES OF COTTON IN SHENSI

In August 1942. a survey of 153 farms in the three *hsien* of Tsingyang, Weinan and Shienyang in Shensi was made to ascertain the costs and profits of producing cotton and its competing crop, wheat, and also to study the relationship between cotton production and cotton prices. The survey was made by the Farm Economic Service Institute of the Department of Agricultural Economics, College of Agriculture and Forestry, University of Nanking, in cooperation with the Commodity Bureau, Ministry of Economic Affairs.

Before the outbreak of Sino-Japanese hostilities (1931-37), Shensi produced 5.3 percent of China's total cotton, with an average cotton area of 4,005,000 *shih mow*, and a production of 856,000 *shih piculs* of lint cotton, of which about one-half million were shipped out of the province annually. After the loss of the Northern and Central cotton regions of China, Shensi was the largest producer of cotton in the country, and the only province producing surplus cotton. After the occupation of the important cotton markets by the Japanese, markets were lost and prices fell, leading to a decrease in the Shensi cotton area. This was intensified in 1941 by the rapid rise in price of wheat partly due to government collection of land taxes and food requisition in terms of wheat. For the 153 farms studied, the area of cotton in 1942 was 19 percent less than that in 1941.

TRENDS IN COTTON PRODUCTION AND PRICES

The upward trend of Shensi cotton production before the war was due to improvement in quality of the cotton (caused by introduction of American seed) and in transportation. For 1938-42, the average area decreased to 3,514,000 *shih mow* (a decrease of 12 percent of the prewar average), but there was a reduction of only 1 percent in the average production as the yield was 14 percent higher than previously (table 1).

In Weinan, one of the most important cotton production and marketing centers in Shensi, the average farm price of lint cotton from January to June 1937 was 44 *yuan* per *shih picul*, falling to 18 *yuan* in December of the same year

TABLE 1. THE PLANTED AREA AND PRODUCTION OF COTTON IN SHENSI, 1931-1942 [1]

Years	Planted area		Production	
	Shih mow (000)	Index (1937=100)	*Shih piculs* (000)	Index
1931	2,941	63	647	78
1932	2,977	64	476	57
1933	3,502	75	840	101
1934	4,365	94	1,004	121
1935	4,718	102	1,133	136
1936	4,883	105	1,063	128
1937	4,646	100	832	100
1938	3,895	84	997	120
1939	3,187	69	862	104
1940	3,671	79	670	81
1941	3,590	77	945	114
1942	3,229	70	769	92

[1]The data on planted area and production of cotton in Shensi are directly supplied by the Central Agricultural Research Bureau. The figures for 1942 are the preliminary estimates.

(fig. 1). In 1938, the price rose gradually but lagged behind the general increase in price level. The opening of the Northwestern highway in 1939 led to new markets in Szechwan and Kansu, and this together with an increase in the price level resulted in a rapid increase in prices, and a still further increase took place in September 1940 owing to a poor harvest, 20 percent less than that of 1937. The promotion of Szechwan cotton production and high transportation costs decreased the demand for Shensi cotton and thus prices of Weinan cotton from 1940-41 did not change significantly. Cotton prices since then have gradually increased, but still show a big lag behind other prices. In a word, from 1937-1942, cotton prices in Shensi were unfavorable.

COSTS AND PROFITS OF PRODUCING COTTON IN 1942 AS COMPARED WITH 1941

On account of the increases in land taxes, farm wages, fertiliser and other costs due chiefly to the rising price level, the total cost of producing one *shih mow* of cotton in 1942 was about twice as great as in 1941 (table 2). Furthermore, the yield of cotton lint in 1942 was much poorer than in 1941, 29 *shih catties* per *shih mow* compared with

TABLE 2. COSTS AND PROFITS OF PRODUCING COTTON IN 1941 AND 1942

153 farms, 3 localities, Shensi, 1941-1942

Item	1941	1942
Seed	3.56	4.86
Fertilizer	29.18	71.19
Implements	11.83	15.87
Man labor	79.04	130.14
Animal labor	13.61	38.00
Buildings	13.19	16.48
Land	67.76	153.91
Ginning	11.59	31.22
Total cost per *shih mow*	229.76	461.67
Total income per *shih mow*	187.31	430.54
Net loss per *shih mow*	-42.45	-31.13
Total cost per *shih picul* of lint cotton	361.70	1,264.42
Prices received per *shih picul* of lint cotton	277.61	1,150.00
Net loss per *shih picul* of lint cotton	-84.09	-114.42

51 *shih catties* per *shih mow*. The cost of producing one *shih picul* of lint cotton in 1942 was about 3.5 times the 1941 cost. Since the government fixed the price of lint cotton at 1,150 *yuan* per *shih picul* for the 1942 crop, the prices received in that year by the farmer were about 4.1 times those of 1941. Although prices rose higher than did the cost of production, yet the net loss of cotton production in 1942 was even greater than in 1941, chiefly due to the poor harvest of 1942.

However, farmers are not interested in the price of cotton alone, but in its relation with other prices, and in the quantity available for sale. In a year of low crop yield, prosperity is less, and in a year of good yields, greater, than prices indicate.

THE COMPETING CROPS OF COTTON

Owing to the soil and climatic conditions in Shensi, the cotton land and most of the wheat land (93 percent in 1941-42 , only produces one crop a year. Some of the wheat land grows corn and millet in summer depending on the food requirement and labor distribution of the farmer. Therefore, wheat, or wheat in combination with corn and

millet, is usually considered the major competing crop of cotton.

COMPARISON OF PURCHASING POWER OF WHEAT AND COTTON

The comparison of purchasing power per *shih mow* of cotton and its chief competing crop is shown in table 3. The purchasing power of wheat in 1938 was 159 and in 1939 it was 146 (1937=100), whereas that of cotton was 97 in 1938 and 111 in 1939, thus showing that wheat was the more profitable crop for this period.

In 1940, the purchasing power of both crops was almost the same; in 1941, that of cotton rose abruptly to 131 and wheat was at 110; and in 1942, the purchasing power of cotton was only 96 while that of wheat was 119. The average purchasing power of cotton for the period 1937-42 was 108, 16 points lower than that of wheat which was 124. These variations are mainly determined by the yields and prices of the two crops.

COSTS AND PROFITS OF PRODUCING COTTON AND ITS COMPETING CROPS, 1941-42

In 1941 and 1942, prices of farm products received by farmers lagged behind the advance in prices paid by farmers. In addition, cotton and its competing crops were all grown at a loss, the harvest of cotton being 64 percent of that in a normal year, corn 71 percent, millet 62 percent, and wheat only 52 percent. The total income from cotton lint and its byproducts (such as straw and seed) was 187.31 *yuan* per *shih mow*, while the total cost of production was 229.76 *yuan* per *shih mow* in 1942, giving a net loss of 42.45 *yuan* per *shih mow* (table 4). The net loss per *shih mow* of corn was 3.75 *yuan*; millet, 40.02 *yuan*; and wheat, 10.06 *yuan*. On the whole, cotton production is unfavorable under present conditions whatever the harvest is like.

TABLE 4. COSTS AND PROFITS OF PRODUCING ONE *SHIH MOW* OF COTTON, CORN, MILLET AND WHEAT

153 farms, 3 localities, Shensi, 1941-1942

Item	Cotton	Corn	Millet	Wheat
Total income per *shih mow*	187.31	145.34	119.44	161.36
Total cost per *shih mow*	229.76	149.09	159.46	171.42
Loss per *shih mow*	-42.45	-3.75	-40.02	-10.06

TABLE 3. FARM PRICES, YIELDS, AND PURCHASING POWER OF COTTON AND WHEAT AND INDEX NUMBERS OF PRICES PAID BY FARMERS IN SHENSI [1]

Year	Cotton					Wheat					Index numbers of prices paid by farmers for all commodities (1937=100)
	Farm price per *shih picul* (*yuan*)	Yield of lint per *shih mow* (*shih picul*)	Per *shih mow* harvested: Farm value per *shih mow* harvested	Per *shih mow* harvested: Index number of value per *shih mow* (1937=100)	Per *shih mow* harvested: Purchasing power (1937=100) per *shih mow*	Farm price per *shih tan* (*yuan*)	Yield per *shih mow* (*shih tan*)	Per *shih mow* harvested: Farm value per *shih mow* harvested	Per *shih mow* harvested: Index number of value per *shih mow* (1937=100)	Per *shih mow* harvested: Purchasing power (1937=100) per *shih mow*	
1937	36	0.18	6.48	100	100	11.9	0.46	5.47	100	100	100
1938	32	0.26	8.32	128.4	96.5	9.2	1.26	11.59	211.9	159.3	133
1939	50.7	0.27	13.69	211.3	111.2	15.0	1.01	15.15	277.0	145.8	190
1940	150.2	0.18	27.04	417.3	112.5	25.2	0.89	22.43	410.1	110.5	371
1941	274.3	0.26	71.32	1100.6	130.6	77.1	0.66	50.89	930.3	110.4	843
1942	503.6	0.24	120.86	1865.1	96.1	203.3	0.62	126.65	2304.4	118.7	1941

[1]The yield of cotton and wheat from 1937 to 1941 is obtained from the area and production as directly reported by the Central Agricultural Research Bureau, those of 1942 are preliminary estimates. The price of wheat is the average of Ningshen, Kishan, Weinan and Hwenshan. The price of cotton is the average of Weinan and Kishan. The index of prices paid for commodities is the average of Ningshen, Kishan, Weinan, Hwenshan and Chungpu. Purchasing power is calculated by dividing the index number of value per *shih mow* by the index number of prices paid for all commodities by farmers. The average prices from January to July are used for the year 1942.

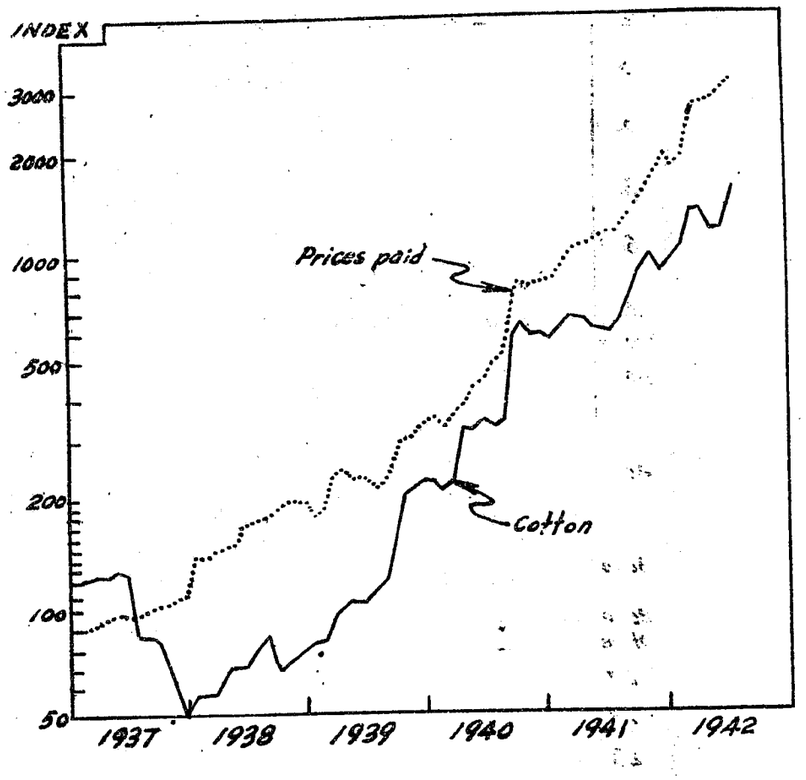


Fig. 1—Index numbers of cotton farm prices and prices paid by farmers for all commodities in Weinan, Shensi, January 1937-July 1942, (1937=100). (Semi-logarithmic scale)

*Consumers' goods are wheat flour, pork, sesame oil, salt, red sugar, tea, blue native cloth, white shirtings, kerosene and matches. Producers' goods are cows, horses, mules, donkeys, plows, hoes, sickles, and iron. The price data are quoted from the 'Farm Price Bulletin," issued by Central Agricultural Research Bureau.

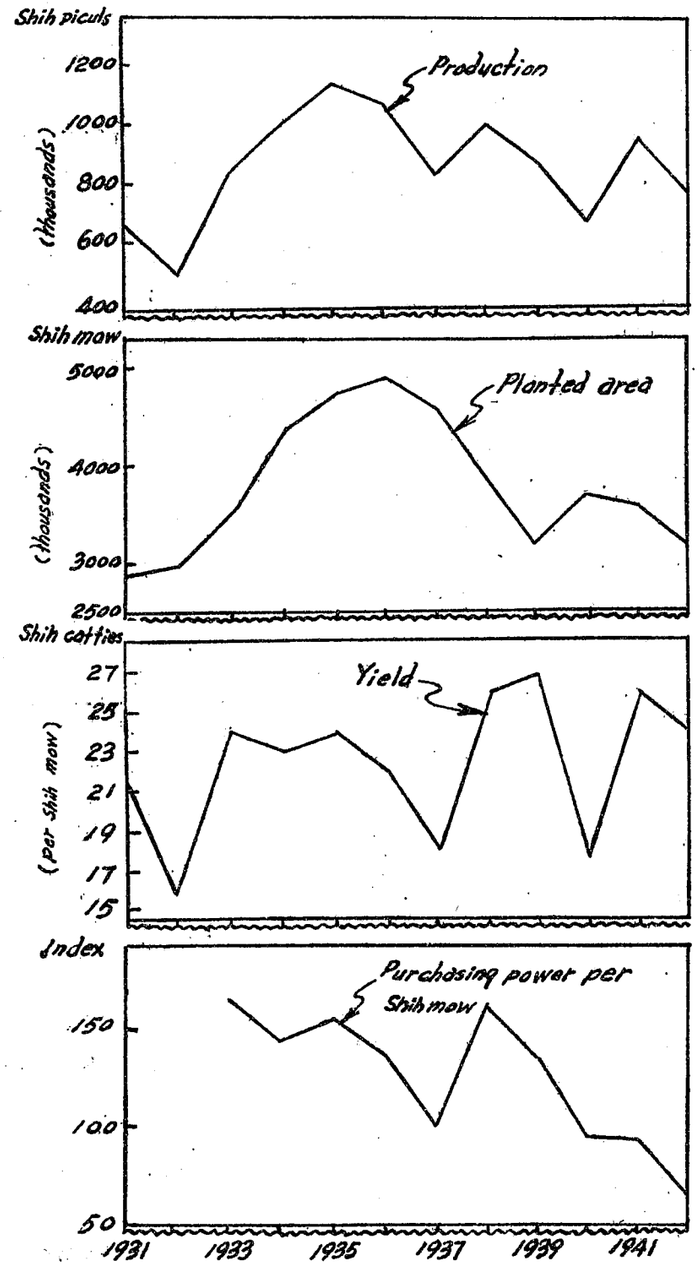


Fig. 2—Cotton production, planted area, yield and purchasing power per *shih mow* in Shensi, 1931-42.

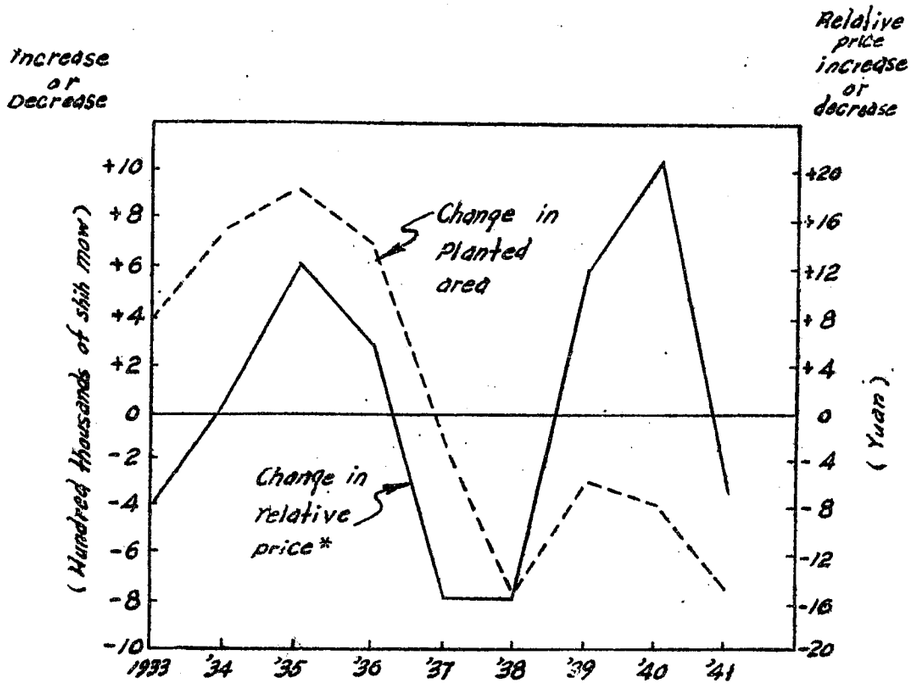


Fig. 3—Effect of changes in price of cotton on planted area of cotton in subsequent year.

*Relative price is for Weinan lint cotton in *yuan* per *shih picul*. The average adjusted price of cotton between 1933 to 1941 is 42.6 *yuan* per *shih picul*. The average planted area of cotton is 3,969,000 *shih mow*. The price is adjusted to prewar level by use of index of prices of farm products.

FACTORS INFLUENCING ANNUAL CHANGES IN THE PRODUCTION OF COTTON

The annual production of Shensi cotton is a composite of two elements: the planted area and the yield (fig. 2). The yield fluctuates more than the planted area, yet changes in the planted area are material factors in year-to-year changes of production. The yield of cotton is largely beyond human control because of the influences of the weather and insect pests.

The planted area of cotton in Shensi is influenced primarily by three main factors:—(1) the opening up of new markets, (2) the prices received for cotton harvested in the preceding year (fig. 3), and (3) the comparative profitableness of cotton and wheat.

Table 5 represents the farmers' willingness to grow different amounts of cotton under different price conditions (relative to prices of competing crops), in-so-far as the area which they plant can determine the quantity produced.

TABLE 5. PRICE RECEIVED BY FARMERS FOR COTTON IN WEINAN, SHENSI, ADJUSTED BY INDEX OF PRICES OF FARM PRODUCTS, AND NUMBER OF *SHIH MOW* HARVESTED IN EACH FOLLOWING YEAR, 1933-1941

Year	Adjusted price [1] *yuan* per *shih picul*	*Shih mow* in the following year (thousands)
1933	34.7	4,365
1934	43.7	4,718
1935	54.3	4,883
1936	48.0	4,646
1937	27.1	3,895
1938	27.2	3,187
1939	54.0	3,671
1940	63.4	3,590
1941	35.7	3,229
Average	42 6	3.96)

[1] The adjusted price is given to eliminate the monetary factor of price changes. This price is computed by dividing the currency price of cotton by the index of prices of all farm products.

CONCLUSION

Cotton and wheat are important competing crops in Shensi, whose area is influenced by respective price changes and comparative profitableness. Recently cotton production

in Shensi has tended to decrease chiefly due to unfavorable price conditions. The raising of the price for 1942 cotton by the Government has not been enough to promote increased production.

Effective ways to promote cotton production in Shensi may be as follows:—(1) raising of the price of cotton relatively higher than that of wheat or other farm products; (2) permitting farmers in cotton regions to pay land taxes in terms of cotton; (3) increasing facilities for, and efficiency of, cotton transportation and marketing in order to raise the place utility of cotton.

Fuh-ting Ko
Yin-yuan Wang

METHODS OF INCREASING AGRICULTURAL PRODUCTION

The possible increase in agricultural production in China is very much greater than the increase which is economically profitable. The increase which is nationally desirable may be also greater than its immediate economic value. A conservative estimate of the increase which would be economic for the farmer and for the nation is 50 percent above present production. Of this 50 percent increase, it is estimated that 30 percent is practical by increasing yields of crops and production per animal, 10 percent by changing present types of production and consumption to other types and another 10 percent by extending production to uncultivated lands (exclusive of forestry).

The extent of possible increase is conditioned by the extent of future development of transportation and industry; the availability and cost of factors of production, such as, seeds, animals, fertilizers and farm equipment; the market demand for agricultural products and the prices paid for such products.

Success in attaining the estimated increase depends also upon (1) increasing the size of the farm business to a more efficient and economic-sized family farm; (2) more adequate financing of agriculture; (3) increasing the efficiency of marketing; (4) adequate organisation of agricultural education, research and extension; (5) enactment and enforcement of laws pertaining to agriculture; (6) adjustment of land problems and (7) removal of special political and other hindrances.

It would be helpful if an appraisal were made of the costs of each method, the increased value of resulting production and the net gain. Such estimates could be made approximately, at first, and more accurately after certain field studies.

The methods of increasing agricultural production may be classified as follows:

A. *Technical*
   1. Increasing yields of crops per *mow* on present farm lands
   2. Increasing production per animal on farm lands and in grazing regions
   3. Changing the present type of production

4. Extending production to uncultivated lands capable of a permanent and economic system of farming
5. Changing types of consumption of agricultural products

B. *Economic*

6. Increasing size of farm business to an economic family-sized farm
7. Financing agricultural production
8. Increasing efficiency of marketing agricultural products
9. Collection and publication of agricultural statistics and economic information

C. *Legislative and Executive*

10. Enactment and enforcement of Agricultural Laws
11. Adjustment of land problems
12. Removal of special political and other hindrances
13. Organization of an Agricultural Extension System
14. Organization of Agricultural Research
15. Organization of Agricultural Education

ELABORATION OF EACH IMPORTANT METHOD OF INCREASING PRODUCTION

A. *Technical* (The methods are arranged approximately in order of importance and methods one and two are really one method for two types of production, namely, increasing rates of production.)

1. Increasing yield of crops per *mow* on present farm lands
   (1) Better varieties of crops obtained from best existing varieties and by plant breeding (especially wheat, rice, corn, soybeans, kaoliang, millet, rapeseed, Irish potatoes, sweet potatoes, peanuts, cotton, flax, hemp, tobacco, citrus, peaches, pears, persimmons, apples, grapes, small fruits, tea, mulberry, wood oil trees, nut trees, vegetables, bamboo and pasture grasses)
   (2) More fertilizers and organic matter
      (a) Chemical fertilizers (by manufacture)
      (b) More farm manures by fuel substitutes for farm by-products such as straw, stalks and roots. (Agriculture now supplies most of the fuel of China. Some of these by-products should be used as organic matter for the soil, or as feed for animals which would increase supply of manures)
      (c) Green manuring crops
      (d) Bone meal
      (e) Better care of farm manures

   (3) Controlling crop insects (such as, rice stem borer, locusts, aphis, boll worms, cut worms, weevils, scales, leaf beetles and tree borers, leaf rollers, and nematodes)
   (4) Controlling crop diseases (such as smuts, rusts, mildews, anthracnose, leaf spots, rots, cyrtosis and blights)
   (5) More irrigation
      (a) From present water supply available to farmers
      (b) From new large-scale irrigation projects
   (6) More drainage
      (a) By the farmer
      (b) By new large-scale flood control projects
   (7) Improving farm tools and equipment and their use
      (a) Improve efficiency of present tools in quality of work, in rate of work, in ease of work and in wearing quality of the tools themselves (such as, larger plows with better design, harrows, hoes and animal pumps)
      (b) Production of new tools, machinery, and labor saving devices (such as, cultivators, drills, cradles, simple reapers, corn shellers, simple threshing machines and engines for irrigation. Large scale machinery may possibly be needed on a very limited scale for extensive farming in the Northeast and Northwest)
      (c) Use of larger implements per man and per animal, better and more labor animals per man and in instances, mechanical power)
   (8) Conservation of soil, soil moisture and fertility
      (a) Contour farming
      (b) Strip farming
      (c) Special constructions
   (9) Improving crop cultural methods
      (a) Timeliness in preparation of soil, planting, cultivating, harvesting and other operations
      (b) Better spacing of plants and trees
      (c) Better cultivation
      (d) Better pruning of fruit trees

2. Increasing production per animal (including silkworms and fish) on farms and in grazing regions
   (1) Controlling animal diseases (losses are very great from diseases such as rinderpest, anthrax, red water fever, hog cholera and fowl cholera)
   (2) Better strains of animals obtained by selection from existing animals and by animal breeding (including stronger and better labor animals)
   (3) Controlling animal pests and parasites (such as worms, ticks and lice)
   (4) Better care and feeding of animals (for instance, feeding hogs for shorter periods to reduce cost of feed per pound of pork)

3. Changing the present type of production

(1) Growing the most profitable crops and animals in relation to:
  (a) Capability of land: Forests on land not suited for agriculture; pasture on land not suited for crops; the most productive crops on farm land (for instance, upland crops on hill rice lands subject to drought).
  (b) Supplying a large amount of profitable work, (such crops usually fall in the class of cash crops such as cotton, flax, hemp, ramie, tobacco, tea, sericulture, potatoes, peanuts, vegetables, fruits, sugar cane, water crops, and animals such as dairy-cows, dual purpose cows for labor and milk, goats, poultry, rabbits, and fish.
  (c) Distribution of labor and income throughout the year (extending production of animals, fruits, vegetables and cash crops as enumerated under previous item (b). At present, there is too much work at certain times of the year and too little work at other times).

(2) Extending area of multiple cropping (growing more than one crop on the same land each year)
  (a) More winter crops
  (b) More fall crops

(3) Increasing animal husbandry and poultry
  (a) By grazing hill lands now cultivated or not cultivated, but primarily suited for pasture
  (b) By feeding more crop by-products now used for fuel (This requires substituting coal, wood, special fuel crops and possibly eventually electricity, for the straw and stalks now supplied by farms for fuel)
  (c) By feeding oil cakes now used for fertilizer (This will increase food production directly and indirectly by the production of more manure to fertilize crops)
  (d) By feeding low-grade products to animals rather than use them for human food (This will be possible with an increase in total production, which will give a greater supply of more nutritious products for food)

(4) Larger and better farm vegetable gardens (for purpose of providing proper nutrition, especially calcium, other minerals and vitamins as well as to increase production)

(5) Increasing area in special products (nuts, fruits, medicinal herbs, fuel crops, insecticide plants such as pyrethum)
  (a) On farm land
  (b) On hills, the farmstead, field boundaries, sides of ditches, grave lands and other odd pieces of land, and in ponds
  (c) Growing water crops and raising fish in existing ponds and raising fish in streams

4. Extending production to uncultivated lands capable of a permanent and economic system of farming

(1) Cultivation of any large tracts of *economically* arable uncultivated land
  (a) By irrigating dry fertile lands
  (b) By draining marsh lands
(2) Pasturing lands suitable for grazing to fullest capacity
(3) Forest management on hills and mountains not suited to crops or grazing
(4) Increasing area in special crops on hills and mountains or other special types of land (nuts, fruits, medicinal herbs, fuel crops)

Note: The amount of economically arable uncultivated land in China is often greatly exaggerated. Most of the good lands have been settled. Moreover, cultivation has extended to marginal areas which later had to be abandoned or where farmers are eking out a most miserable existence Most uncultivated hill lands in South China and Southwest China are badly eroded and a large portion cannot be brought under profitable cultivation. Some can be cultivated profitably when cheap fertilizer becomes available and with proper soil erosion control.

In Manchuria the usually quoted 30,000,000 acres of unsettled land may not be entirely suited to farming. In general, soil scientists consider this land of doubtful value for permanent agriculture. There is evidence already of worn out soils in the northerly portions already settled. The topsoil is thin and easily eroded and may be better adopted to grass or forests.

In Suiyuan, Ningshia and Sinkiang there are some tracts of land which can be irrigated but their extent is probably limited either by available water supply or by the alkali condition of the soil. In many countries farmers have turned perfectly good pasture land into very poor farm land and eventually have had to abandon the land. Many countries have wasted time and money on such lands. Therefore, very careful investigation by experts is essential for the success of any land reclamation project.

Moreover, land use studies in China show that, although in Northwest China the farm population density of 900 persons per square mile of cultivated area is only slightly over one-half of the density of 1700 farm persons to the square mile of cultivated area in Central-East-South China, the production of 1500 kilograms of grain-equivalent per capita of farm population in Central-East-South China is nearly twice as great as that of 800 kilograms of grain-equivalent per capita of farm population in the Northwest. The more favorable soils and climate of Central-East-South China support twice the population and reward that population with twice the production per capita.

A fundamental farm management principle is to expend more labor, fertilizer and other factors of production on good land rather than on poor land because the return for each dollar expended is greater. The same principle of giving most attention to the better farm lands of the country applies to a nation's expenditure of funds for agricultural improvement.

5. Changing the type of consumption of agricultural products

(1) Food (consumption of less highly milled products and of more leafy vegetables, carrots, fruits, eggs and milk for children)
(2) Fibers (use of more wool and flax for clothing in place of cotton and more fibers for paper manufacture)
(3) Feed (use of oil cakes and more crop by-products for feed)
(4) Industry (growing more cash crops for industrial uses, including plastics)
(5) Fuel (relieving agriculture of the whole burden of providing fuel from crop by-products by substituting other fuels)

B. *Economic*

6. Increasing size of farm business to an economic family-sized farm (at least 80 percent of the family farms in China are too small to be an efficient unit for the families living on these farms. A large farm population in relation to available farm land is the cause of these small inefficient farm businesses)
   (1) By providing other occupation in industry, transportation and the professions
   (2) By more intensive production
   (3) By more efficient use of factors of production
   (4) By improving the balance between crop and animal production

7. Financing agricultural production
   (1) Financing farmers with adequate capital at reasonable rates of interest for land, production and commodity credit
   (2) Financing irrigation, flood control, drainage and reclamation projects
   (3) Financing production of improved seeds, improved nursery stock, improved implements, improved animals, insecticides, fungicides and serums for distribution to farmers at a reasonable cost
   (4) Organization of farmers' cooperative production and credit societies

8. Increasing efficiency of marketing agricultural products
   (1) Improving transportation (to make recommended changes in agricultural production possible, as well as to increase efficiency of marketing products)
   (2) Grading and standardization of products (This will also encourage farmers to grow more and better products because of higher prices for the better products)
   (3) Better storing of agricultural products (on farms, by merchants and by governments)
      (a) Better storage facilities
      (b) Control of insects, diseases, moisture and rodents (such as rats and mice)

(c) Warehousing and warehouse receipts
(4) Better packaging
(5) Regulation of marketing agencies
(6) Organization of farmers' marketing cooperatives
(7) Enforcement of standard weights and measures
(8) Marketing statistics

9. Collection and publication of adequate agricultural statistics
   (1) Current reports on crop and animal production, prices and stokes of products on farms and in markets
   (2) Farm census (by sampling every two years)
   (3) Meterological records

C. *Legislative and Executive*

10. Enactment and enforcement of Agricultural Laws (such as, pertaining to land, farm lease contracts, water rights, marketing and taxation of farm lands according to productivity)

11. Adjustment of land problems
   (1) A cadastral survey (Accurate land measurement by aerial and ground surveys is fundamental)
   (2) Registration of land by owners on penalty of confiscation if not registered (This should be done as a preliminary step until a cadastral survey can be completed)
   (3) Classification of land use by major types
      (a) For crops (with sub-types according to economic value for farming)
      (b) For pasture
      (c) For fuel and forests
   (4) Readjustment of tax rates according to economic value of farm land and size of farm
   (5) Encouragement of farmers to become owners by enforcement of the land law
   (6) Consolidation of holdings
      (a) To eliminate unnecessary land in boundaries
      (b) To improve the farm layout (increase size of fields, improve shape of fields, and shorten distance to fields)
      (c) To make management of farm easier
   (7) Improve farm leases to assure justice to both the landlord and tenant and to provide for better use of land (In Szechwan the landlord's requirement of rent payment in rice forces the tenant to raise rice on hill lands better adapted to other crops)

12. Removal of special political and other hindrances
   (1) Regulate landlord-tenant rights
   (2) Maintenance of law and order
   (3) Decrease large absentee landlords by progressive taxation

(4) Removal of the many other political, economic and social hindrances

13. Organization of an Agricultural Extension system

(1) Establish an Agricultural Extension Service under the Central Government and in each province and *hsien*. (The Central Bureau should subsidize approved extension work in the provinces and in the *hsien*. It should assist in providing extension materials, information and personnel for the provinces and *hsiens*. It should encourage the provinces and *hsiens* to develop their own programs, and it should offer advice and suggestions as to what programs might give the best results. The local unit should be the farmers' own organization, a local Nung Hwei (農會) or some other desirable type of farmers' organization for the community, the Hsiang (鄉) the Chu (區) and the Hsien (縣). The farmers should be permitted to make the final decision on programs of agricultural improvement in their community. Exceptions can be made where compulsory control of diseases and insects is advisable. Other programs not having the farmers approval are in danger of being impracticable. Farmers do not like to be managed by people outside their community any more than one nation wishes to be controlled by another nation)

14. Organization of Agricultural Research

(1) Establish first-class Agricultural Experiment Stations in each of the eight Agricultural Regions (one by one as qualified personnel permits)

15. Organization of Agricultural Education

(1) Establish and strengthen Agricultural Colleges (in each of the eight Agricultural Regions, at first, one first-class College for the Rice Region and one for the Wheat Region)

(2) Establish agricultural junior and senior middle schools, one in each province as rapidly as personnel permits (These should be practical in nature with considerable field work)

Note: The three phases of agricultural work, research, education and extension can be done more efficiently and with better use of personnel if they are coordinated under the direction of one person in each political or regional division (such as, a province or an agricultural region). For instance, in a province, or in an agricultural region, the Dean of a College of Agriculture, the Director of the Agricultural Experiment Station, and the Director of Agricultural Extension should be the same person. This co-ordination is essential, otherwise, the educationalists may direct their efforts in one direction, the research people in another and the extension group in a third direction, and the farmer gain little benefit.

In all units of administration,-*hsien*, province, region or the nation, where there is more than one organization doing work related to the welfare of farmers, Planning Committees should be established to decide

on programs and co-ordination of work. In the *hsien* these programs should be made only after consultation with farmers whose experience is important in making the programs practical. Each *Hsien* Planning Committee should send its program to the Provincial Planning Committee. Each Provincial Planning Committee should send its program to the National Planning Committee. With these programs in hand the *Hsien*, Provincial and National Planning Committee can decide upon what problems require the most attention in the *hsien*, the province and in the nation. Then, each organization doing work related to the welfare of the farmers can decide on the most important programs of work for itself in co-ordination with other organizations.

John Lossing Buck

INDICATORS OF PRICE CHANGES[1]

(January to June 1937=100)

Items	Number of items or observations	Index numbers	Date	Place
Wholesale prices and cost of living:				
1. Wholesale prices of all commodities	57	7886	Feb. 1943	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	7587	Feb. 1943	Chengtu
3. Wholesale prices of imported goods	9	17851	Feb. 1943	Chengtu
4. Wholesale prices of exported goods	10	3902	Feb. 1943	Chengtu
5. Wholesale prices of raw materials	30	6215	Feb. 1943	Chengtu
6. Wholesale prices of manufactured producers' goods	11	6283	Feb. 1943	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	8272	Feb. 1943	Chengtu
8. Wholesale prices in important cities, Free China				
(a) Highest: Kunming, Yunnan		14270	Dec. 1942	
(b) Lowest: Kweilin, Kwangsi		4519	Dec. 1942	
(1) Kunming, Yunnan (Aug. 1937=100)(a)	141	14270	Dec. 1942	
(2) Sian, Shensi (June 1937=100)(b)		6,602	Aug. 1942	
(3) Chungking, Szechwan(c)	94	7488	Dec. 1942	
(4) Chengtu, Szechwan	57	6710	Dec. 1942	
(5) Kweilin, Kwangsi(d)	48	4519	Dec. 1942	
9. Cost of living	76	5723	Feb. 1943	
10. Retail prices of seven commodities commonly used	7	6280	Feb. 1943	
11. Retail prices for 14 cities in Free China(e)				
(a) Highest: Kunming, Yunnan	25	13885	Dec. 1942	
(b) Lowest: Sining, Chinghai	25	3677	Dec. 1942	
(1) Kunming, Yunnan	25	13885	Dec. 1942	
(2) Yaan, Sikong	25	8935	Dec. 1942	
(3) Hengyang, Hunan	25	8214	Dec. 1942	
(4) Loyang, Honan	25	7941	Dec. 1942	
(5) Sian, Shensi	25	7183	Dec. 1942	
(6) Chungking, Szechwan	25	6951	Dec. 1942	
(7) Chengtu, Szechwan	25	6840	Dec. 1942	
(8) Chukiang, Kwangtung	25	6482	Dec. 1942	
(9) Kweiyang, Kweichow	25	6177	Dec. 1942	
(10) Kweilin, Kwangsi	25	6098	Dec. 1942	
(11) Kanchow, Kiangsi	25	5540	Dec. 1942	
(12) Yunyang, Hupeh	25	5411	Dec. 1942	
(13) Lanchow, Kansu	25	4058	Dec. 1942	
(14) Sining, Chinghai	25	3677	Dec. 1942	
12. Rent, city residences	100	1006	Feb. 1943	Chengtu
13. School tuition				
(1) Primary school	1	2,042	Sept. 1942	Chengtu
(2) Middle school	1	450	Sept. 1942	Chengtu
(3) University	1	200	Sept. 1942	Chengtu
City wages (f)	12	4160	Feb. 1943	Chengtu
1. Carpenters	1	4000	Feb. 1943	Chengtu
2. Masons	1	4000	Feb. 1943	Chengtu
3. Cotton weavers	1	6000	Feb. 1943	Chengtu
4. Silk weavers	1	2375	Feb. 1943	Chengtu
5. Tailors	1	4000	Feb. 1943	Chengtu
6. Barbers	1	5000	Feb. 1943	Chengtu
7. Blacksmiths	3	5767	Feb. 1943	Chengtu
8. Coppersmiths	3	4037	Feb. 1943	Chengtu
9. Maidservants	8	6565	Feb. 1943	Chengtu
Salaries:				
1. Professors' salaries (g)	10	936	Feb. 1943	Chengtu
2. Clerks (g)	10	2271	Feb. 1943	Chengtu
3. Soldiers' cash allowances	6	368	Feb. 1943	Chengtu
Chinese currency:				
1. Purchasing power of *yuan* in terms of cost of living	-	1.7	Feb. 1943	Chengtu
2. Purchasing power of *yuan* in terms of wholesale prices of domestic commodities	-	1.3	Feb. 1943	Chengtu
U.S.A. currency:				
1. Increase in number of *yuan* for one US$ at buying official exchange rate of 20 *yuan* to one US dollar	-	594	Feb. 1943	Chengtu

[1]Compiled by Department of Agricultural Economics, College of Agriculture and Forestry, University of Nanking, unless otherwise indicated.

Items	Number of items or observations	Index numbers	Date	Place
2. Calculated expected rate of *yuan*/US$ exchange purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in U.S.A.	--US$	0.0077	Aug. 1942	Chengtu
3. Purchasing power of US$				
(a) at official exchange rate in China		7.8	Feb. 1943	Chengtu
(b) actual in U.S.A.		88	Aug. 1942	U.S.A.
4. Wholesale prices of domestic commodities in terms of US$ at official exchange rate		1277	Feb. 1943	Chengtu
Sterling currency:				
1. Increase in number of *yuan* for one pound sterling		483	Feb. 1943	
2. Calculated expected *yuan*/pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in England	-	0.65d	May 1942	Chengtu
3. Purchasing power of pound sterling				
(a) at official buying rate in China	-	6.4	Feb. 1943	Chengtu
(b) actual in England	-	66	May 1942	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the offlcial exchange rate	-	1571	Feb. 1943	Chengtu
Gold and silver:				
1. Price of gold (open market)	1	6098	Feb. 1943	Chengtu
2. Price of silver (open market)	1	5876	Feb. 1943	Chengtu
3. Wholesale prices in terms of gold	-	129	Feb. 1943	Chengtu
4. Wholesale prices in terms of silver	-	134	Feb. 1943	Chengtu

Items	Number of items or observations	Index numbers	Date	Place
Farm prices (4 hsien):				
1. Prices received by farmers (1937=100)	16-22	5117	Jan. 1943	Szechwan
2. Farmers' cost of production	-	4772	Jan. 1943	Szechwan
3. Prices paid by farmers for producers' and consumers' goods (1937=100)	17-51	6399	Jan. 1943	Szechwan
4. Prices paid by farmers for producers' goods	16-22	5647	Jan. 1943	Szechwan
5. Prices paid by farmers for consumers' goods	17-29	7250	Jan. 1943	Szechwan
6. Purchasing power of farmers (ratio of prices received by farmers to priced paid by farmers including all costs of production and prices paid for consumers' goods)	-	92	Jan. 1943	Szechwan
7. Crop rent	-	4,384	Oct. 1942	Szechwan
8. Land taxes	-	3,689	Oct. 1942	Szechwan
9. Farm land value (8 *hsien*)	-	3536	Jan. 1943	Szechwan
10. Farm year labor (8 *hsien*)	-	4328	Jan. 1943	Szechwan
11. Farm day labor (8 *hsien*)	-	5468	Jan. 1943	Szechwan

(a) Statistical Department of Municipal Government of Kunming.
(b) Economic Research Department of Provincial Bank of Shensi.
(c) Central Bureau of Survey and Statistics, Commission of Military Affairs, Chungking, Szechwan.
(d) Department of Economic Survey of Sin-chung Corporation, Kweilin, Kwangsi.
(e) Data from Farmers' Bank of China.
(f) The general index of city wages is the weighted geometric average of all groups, excluding maid-servants. The weights used are as follows: carpenters 22.2, masons 15.8, cotton weavers 11.0, silk weavers 12.2, tailors 11.9, barbers 21.9, blacksmiths 2.5, coppersmiths 2.5. The data on wages were supplied by the union or by individuals.
(g) From one organization.

APPENDIX I

TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES IN CHENGTU, 1937-FEBRUARY 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of *yuan*
Number of commodities	57	15	9	4	9	5	15	
Years:								
1937	99	99	102	93	106	100	94	101.1
1938	116	95	139	104	173	108	106	86.5
1939	219	149	293	232	398	208	193	45.7
1940	653	533	841	847	1282	454	491	15.3
1941	1616	1630	1637	2119	3059	1223	999	6.2
1942	4610	4086	4633	5974	10224	3408	3315	2.2
1943								
Jan.	6950	5678	7470	9502	14279	5758	5165	1.4
Feb.	7886	6772	8232	10469	15444	5986	5629	1.3

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-FEBRUARY 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Domestic commodities	Import commodities	Export commodities
Number of commodities	57	33	9	10
1937	99	100	110	90
1938	116	109	212	87
1939	219	199	486	163
1940	653	633	1396	397
1941	1616	1658	3658	721
1942	4610	4338	12606	2349
1943				
Jan.	6950	6704	16130	3734
Feb.	7886	7587	17851	3902

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-FEBRUARY 1943

Jan. to June 1937=100 (Simple geometric average)

Period	Raw materials			Manufactured goods		
	Producers' goods	Consumers' goods	All	Producers' goods	Consumers' goods	All
Number of commodities	18	12	30	11	9	20
1937	97	96	96	102	98	100
1938	97	95	96	134	114	125
1939	188	160	176	244	206	226
1940	628	447	548	637	648	642
1941	1498	1216	1377	1360	1623	1473
1942	3660	3538	3607	3721	4681	4124
1943						
Jan	5865	5204	5591	5814	7064	6347
Feb.	6383	5970	6215	6283	8272	7111

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-FEBRUARY 1943

Feb. to June 1937=100 (weighted aggregative)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	102	105	100
1939	126	148	157	140
1940	435	448	444	442
1941	1661	1464	1391	1524
1942	3274	3560	3738	3473
1943				
Jan.	4450*	5111*	5744*	4948*
Feb.	5301	5804	6476	5723

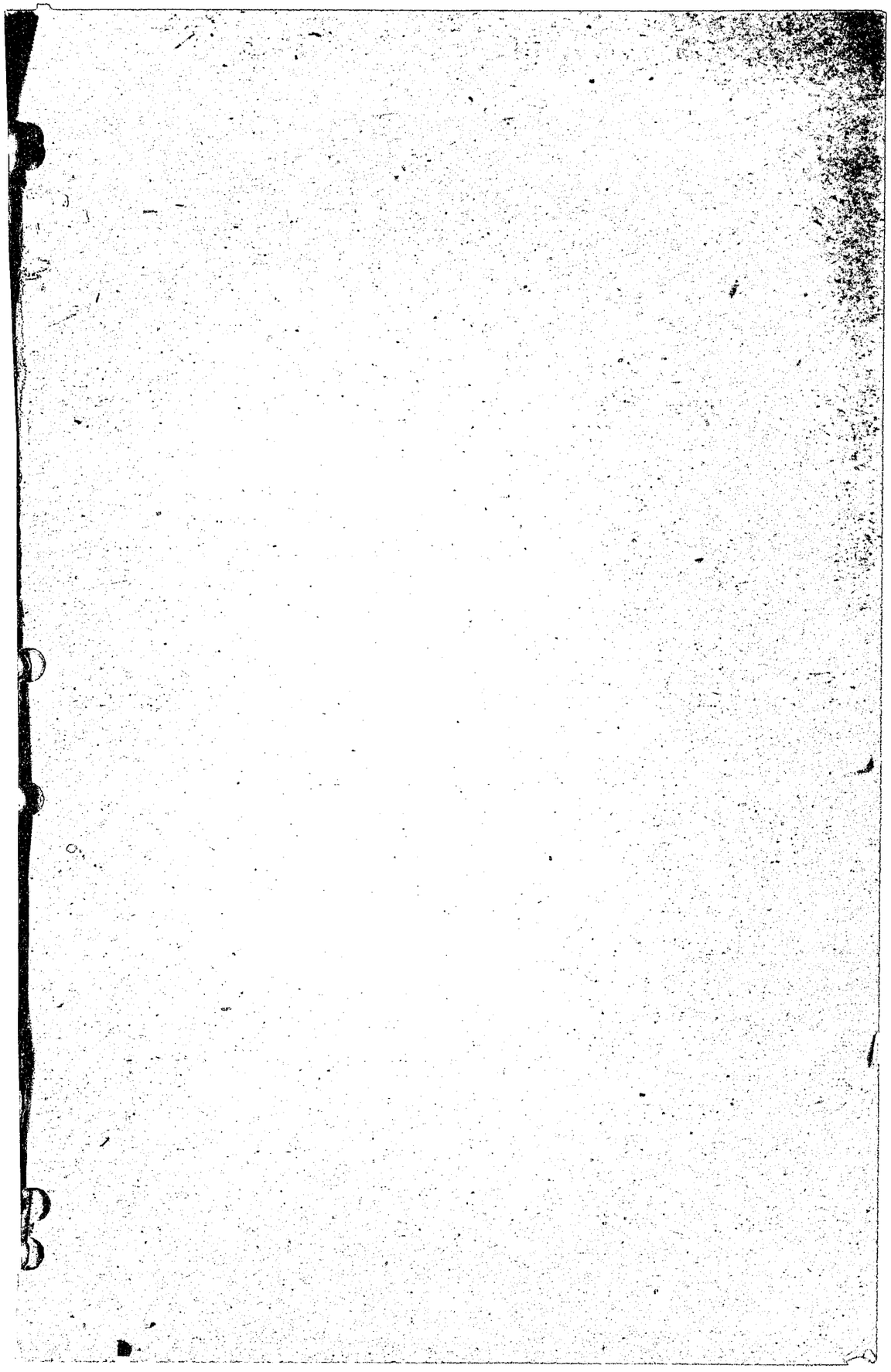
*Revised

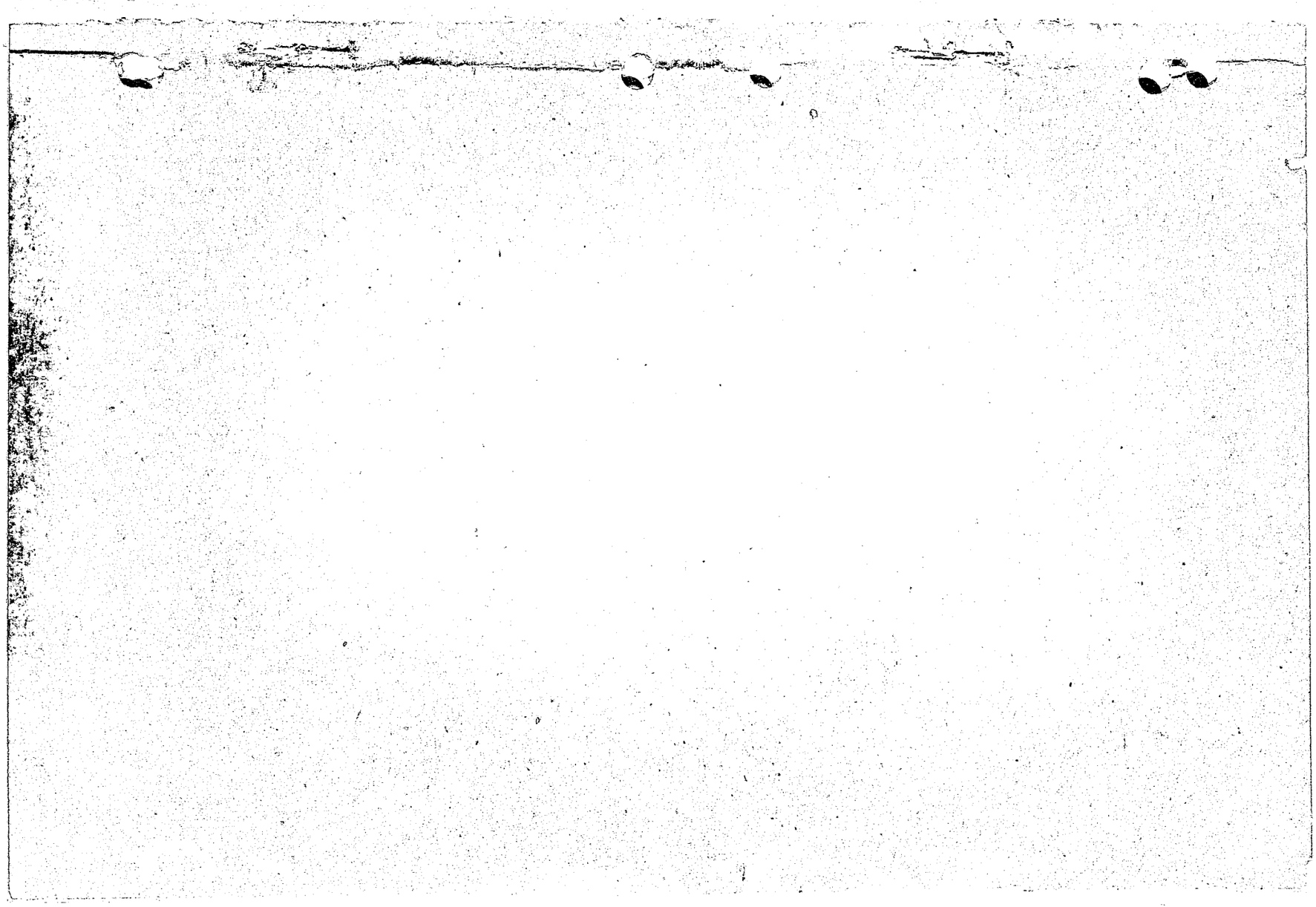
TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS. 1937-FEBRUARY 1943

Feb. to June 1937=100 (weighted geometric average)

Period	General index	Food	Clothing	Rent	Fuel and lighting	Miscellaneous	Purchasing power of *yuan*
Number of commodities	76	28	13	2	12	21	
1937	98	98	104	100	97	100	101.6
1938	100	92	142	103	97	115	100.4
1939	140	120	267	109	163	182	71.3
1940	442	441	852	117	604	387	22.7
1941	1524	1786	1787	185	1670	1171	6.6
1942	3473	3376	6409	462	4829	3621	2.9
1943							
Jan.	4948*	4413	10835	1006*	7451	5599	1.8*
Feb.	5723	5398	11739	1006	7999	6099	1.7

*Revised





ECONOMIC FACTS

DEPARTMENT OF AGRICULTURAL ECONOMICS

COLLEGE OF AGRICULTURE AND FORESTRY

UNIVERSITY OF NANKING

CHENGTU, CHINA

No. 19 April, 1943

MAJOR PRICE RELATIONS

(January to June 1937=100)

	Items	Number of items	Index numbers	Date	Place
1.	Wholesale prices of domestic commodities	38	8354	Mar. 1943	Chengtu
2.	Prices received by farmers (4 hsien)	9-13	5704	Feb. 1943	Szechwan
3.	Cost of living	76	6289	Mar. 1943	Chengtu
4.	City wages	12	4556	Mar. 1943	Chengtu
5.	Farm wages	8	5352	Feb. 1943	Szechwan
6.	Salaries, professors	10	974	Mar. 1943	Chengtu
7.	Soldiers' cash allowances	6	368	Mar. 1943	Chengtu
8.	Land taxes		3689	Oct. 1942	Szechwan
9.	Wholesale prices of domestic commodities in terms of silver	38	150	Mar. 1943	Chengtu
10.	Wholesale prices of domestic commodities in terms of gold	38	139	Mar. 1943	Chengtu
11.	Wholesale prices of domestic commodities in terms of US$ at official exchange rate	38	1406	Mar. 1943	Chengtu
12.	Wholesale prices in U. S. A. (Statist index)	-	118	Jan. 1943	U.S.A.
13.	Wholesale prices in England (Statist index)	-	147	Jan. 1943	England
14.	Purchasing power of farmers (4 hsien)	-	85	Feb. 1943	Szechwan
15.	Purchasing power of rice (a)	-	60	Mar. 1943	Chengtu

(a) Calculated in terms of wholesale prices of 57 commodities.

CONTENTS

WEIGHTS AND MEASURES

One *li* is equivalent to one-third of an English mile

One *shih tan* is equivalent to 100 liters or 2.8378 American bushels.

One *shih tou* is one-tenth of a *shih tan.*

One *shih shen* is one-tenth of a *shih tou.*

One *shih picul* is equivalent to 110.23 pounds avoirdupois.

One *shih chin* (catty) is equivalent to 1.1 pounds avoirdupois.

The *yuan* is the Chinese unit of currency. The exchange rate is pegged at 20 *yuan* to one U.S. dollar and 80 *yuan* to one pound sterling. The rate has no relation to the price level in China.

ECONOMICS OF TOBACCO PRODUCTION AND MARKETING AT PIHSIEN, SZECHWAN

Szechwan is suitable for tobacco growing and its production is one-fifth of China's total. But on account of low yielding local varieties and unimproved methods of growing and processing, production has decreased. In 1940 the area was 1,002,000 *shih mow* while in 1941 it decreased to 903,000 *shih mow*.

In 1939, Pihsien was chosen as a representative tobacco area for study. Data were obtained by the survey method for the crop year 1938 from 50 farm families, 6 manufacturers, 9 local dealers and outside purchasers. Other marketing data of a more general nature and price data were also obtained.

The average land area in tobacco per farm was 6.6 *shih mow*, or 26.7 percent of the crop area. The average production of tobacco leaf per farm was 51 *shih piculs*. The yield per *shih mow* averaged 78 *shih chin*. Based on the prices received in 1939, the total value received per *shih mow* was 38.04 *yuan*. The receipts per unit of area are higher than for any other crop in the locality except vegetables.

The average total cost of producing tobacco was 27.25 *yuan* per *shih mow*, and 15.28 *yuan* per *shih picul*. The items of cost in order of importance were land, labor, fertilizer, animal labor, implements and buildings.

TABLE 1. RELATION OF AREA OF TOBACCO PER FARM TO COST OF PRODUCTION AND PROFIT

50 tobacco farms, Pihsien, Szechwan, 1939

Items	Area of tobacco		
	Less than 5	5-7.49	Above 7.5
	shih mow	*shih mow*	*shih mow*
Number of farms	17	18	15
Area of tobacco per farm (*shih mow*)	2.7	6.1	11.5
Average yield per *shih mow* (*shih chin*)	175.00	177.00	180.00
Land value per *shih mow* (*yuan*)	117.60	113.80	117.54
Selling price of tobacco per *shih picul* (*yuan*)	21.54	20.22	21.43
Value of tobacco per *shih mow*	37.63	35.87	38.57
Net cost per *shih mow* (*yuan*)[1]	28.12	27.39	26.92
Profit per *shih mow* (*yuan*)	9.51	8.48	11.65

[1]All costs minus value of by-products.

TABLE 2. RELATION OF THE YIELD OF TOBACCO PER *SHIH MOW* TO THE COST OF PRODUCTION AND PROFITS

50 tobacco farms, Pihsien, Szechwan, 1939

Items	Yield per *shih mow* (*shih chin*)		
	Less than 165	165-184.9	Above 185.0
Number of farms	17	15	18
Average yield per *shih mow* (*shih chin*)	151.00	175.00	199.00
Area of tobacco per farm (*shih mow*)	5.31	6.81	7.53
Land value per *shih mow* (*yuan*)	114.52	115.32	124.68
Selling price of tobacco per *shih picul* (*yuan*)	20.40	21.62	21.07
Value of tobacco per *shih mow* (*yuan*)	30.84	37.92	41.91
Net cost per *shih mow* (*yuan*)	27.23	27.61	27.02
Profit per *shih mow* (*yuan*)	3.61	10.31	14.89

TABLE 3. THE RELATION OF TYPE OF SOIL TO THE COST OF PRODUCTION AND PROFITS OF TOBACCO

50 tobacco farms, Pihsien, Szechwan, 1939

Items	Type of soil		
	Silt loam	Clay soil	Loam
Number of farms	24	23	3
Area of tobacco per farm (*shih mow*)	6.04	7.36	4.53
Average yield per *shih mow* (*shih chin*)	164.60	192.80	144.90
Land value per *shih mow* (*yuan*)	108.50	124.52	117.60
Selling price of tobacco per *shih picul* (*yuan*)	20.78	21.14	22.89
Value to tobacco per *shih mow* (*yuan*)	34.26	40.56	33.26
Net cost per *shih mow* (*yuan*)	27.28	27.08	27.09
Profit per *shih mow* (*yuan*)	6.98	13.48	6.19

The average net profit per *shih mow* from various crops was highest for vegetables, and second highest for tobacco. For tobacco it was 10.79 *yuan* per *shih mow* (including the non-cash costs). The average labor return per day of 0.61 *yuan* for tobacco was lower than for vegetables, rice and hemp, but still it was more profitable to grow tobacco because tobacco gave the farmer a large amount of work.

There were four important factors which affected the cost and profit of producing tobacco; the area in tobacco per farm; yield of tobacco per *shih mow*; type of soil, and land value. It was found that the larger the tobacco area per farm the greater the profit, but larger areas in tobacco were associated with the higher yield; the higher the yield the greater the profit; the better the soil the larger the profit

(clay soil being better than silt loam or loam); and the higher the land value the greater the profit. Ownership of land was also related to costs. Part-owners had a lower cost than owners and tenants, because of better land and higher yields.

In most cases higher profits were associated with these lower costs. Profits were greatly affected by the selling prices of tobacco, since some farmers obtained better prices than others (table 1-5).

TABLE 4. LAND VALUES RELATED TO THE COST OF PRODUCTION AND PROFITS OF TOBACCO

50 tobacco farms, Pihsien, Szechwan, 1939

Items	Land value per *shih mow* (*yuan*)		
	Less than 110 *yuan*	110-129.99 *yuan*	Above 130 *yuan*
Number of farms.	16	24	10
Land value per *shih mow* (*yuan*)	95.53	122.80	134.55
Yield per *shih mow* (*shih chin*)	170.00	178.00	192.00
Area of tobacco per farm (*shih mow*)	6.30	6.70	6.60
Selling price of tobacco per *shih picul* (*ynan*)	19.72	22.12	20.44
Value of tobacco per *shih mow* (*yuan*)	33.41	39.27	29.27
Net cost per *shih mow* (*yuan*)	26.61	26.97	28.48
Profit per *shih mow* (*yuan*)	6.80	12.30	10.79

TABLE 5. THE OWNERSHIP OF LAND RELATED TO THE COST OF PRODUCTION AND PROFIT OF TOBACCO

50 tobacco farms, Pihsien, Szechwan, 1939

Items	Ownership of Land		
	Owners	Part-owners	Tenants
Number of farms	16	4	30
Area in tobacco per farm (*shih mow*)	5.50	9.20	6.80
Average yield per *shih mow* (*shih chin*)	174.00	190.00	178.00
Land value per *shih mow* (*yuan*)	114.06	119.71	117.25
Selling price of tobacco per *shih picul* (*yuan*)	22.70	20.55	20.46
Value of tobacco per *shih mow* (*yuan*)	39.49	39.10	36.50
Net cost per *shih mow* (*ynan*)	28.70	23.56	27.33
Profit per *shih mow* (*yuan*)	10.79	15.54	9.17

The marketing of tobacco from Pihsien farms was concentrated in the *hsien* city. Most of the marketing is

during July to October of each year. From Pihsien, tobacco is marketed chiefly in other parts of the province. The method of transportation is by wheelbarrow, cart or junk.

Tobacco markets may be divided into two kinds, the large and small markets. The small market has a small volume of business and has transactions only during the period from July to October each year. There are transactions in the large markets on every market day and there is usually a large volume of business. The transactions in the large markets are by brokers. After the transactions are completed, the goods are delivered by the broker to a place designated by the purchaser within the city. The package units of tobacco are larger, medium and small bundles but without an exact standard.

The purchasers may be classified as local manufacturers, outside purchasers and local dealers. The tobacco collected by the local manufacturers is processed locally and sold to the dealers and consumers. Outside purchasers transport the tobacco and sell it in other places; and that collected by the local dealers was partly transported and partly sold locally for higher prices.

The grading is done by experienced persons but without definit standards.

There were six small tobacco warehouses in Pihsien city for storage and packaging with simple buildings and equipment.

TABLE 6. RELATION OF VOLUME OF BUSINESS TO THE COST OF MARKETING AND NET PROFIT

8 outside purchasers, Pihsien, Szechwan, 1939

Items	Quantity purchased per outside purchaser		
	Less than 001 *shih piculs*	100-199.9 *shih piculs*	Above 200 *shih piculs*
Number of outside purchasers	2	4	2
Average quantity purchased per outside purchaser (*shih picul*)	23.85	149.23	704.20
Average purchase price per *shih picul* (*yuan*)	159.50	182.81	171.59
Other costs	50.45	32.95	23.97
Total costs per *shih picul* (*yuan*)	209.95	215.76	196.56
Average selling price per *shih picul* (*yuan*)	268.93	318.49	257.07
Average net profit per *shih picul* (*yuan*)	58.98	102.73	61.51

The average marketing costs per *shih picul* were 27.20 *yuan* or nearly the same as costs of production. The distribution of marketing costs for 13 items in order of importance are as follows: Warehouse charges, commissions, packing, repacking, transportation, loading, unloading, business tax, certificates, travelling expenses, social expenses, remittance fee and exporting tax. The cost of transportation was the highest, 55.4 percent of total cost; shipping taxes were second, 13.7 percent. The other items individually were small in amount.

The warehouse charge of 0.78 *yuan* per *shih picul* was for a period of 6 months. The amount of storage is highest during July to September of each year.

The cost of packing per bundle at the beginning of the year was 1.29 *yuan* and at the end of the year, 2.61 *yuan*.

TABLE 7. RELATION OF COST OF RAW MATERIAL TO THE COST OF MANUFACTURING WATER-PIPE TOBACCO

9 manufacturers, Pihsien, Szechwan, 1940

Items	Price of raw material		
	Less than 60 *yuan*	60-69.9 *yuan*	Above 70 *yuan*
Number of manufacturers	2	5	3
Average price of raw material per *shih picul* (*yuan*)	51.99	64.44	73.75
Amount of finished product per manufacturer (*shih picul*)	18.92	27.38	23.31
Other costs	92.20	110.10	121.38
Total cost per *shih picul* of water-pipe tobacco	144.19	174.54	195.13
Receipts of by-products	7.53	6.67	7.15
Net cost per *shih picul* (*yuan*)	136.66	167.87	187.98
Selling price per *shih picul* of finished products (*yuan*)	166.87	166.41	173.86
Net profit per *shih picul* (*yuan*)	30.21	-1.46	-14.12

The amount of marketing cost per unit varies with the quantity purchased. The greater the amount purchased the smaller was the marketing cost and the greater the profit. The average net profit of eight outside purchasers studied was 73.43 *yuan* per *shih picul* (table 6).

For the 9 manufacturers of water-pipe tobacco studied, the cost of processing was 175.88 *yuan* per *shih picul* of

finished product. The percentage distribution of costs for the 9 items entering cost were as follows: raw material (57.0 percent of all costs), labor, interest on investment, taxes, and buying costs. Each of the remaining items were of minor importance.

TABLE 8. RELATION OF CAPITAL INVESTMENT TO THE COST OF PROCESSING AND NET PROFIT

9 manufacturers, Pihsien, Szechwan, 1940

Items	Amount of capital invested		
	Less than 500 *yuan*	500-999.9 *yuan*	Above 1,000 *yuan*
Number of manufacturers	3	4	2
Average capital invested per manufacturer (*yuan*)	403.33	605.00	1,550.00
Buying price per *shih picul* of tobacco (*yuan*)	65.88	67.94	62.02
Total quantity of finished product (*shih picul*)	13.57	24.79	38.68
Total cost per *shih picul* of finished product (*yuan*)	195.36	183.00	156.52
Value of by-product per *shih picul* (*yuan*)	6.26	7.36	6.85
Net cost per *shih picul* (*yuan*)	189.10	175 64	140.67
Selling price per *shih picul* (*yuan*)	172.19	173.62	161.08
Net profit per *shih picul* (*yuan*)	-16.91	-2.02	11.41

Two important factors affecting the cost of manufacturing were cost of raw material per *shih picul* and volume of business. Although the number of samples are small, the usual relationship of lower costs and greater profits occurred for businesses large enough to approach the best economic-sized unit than for smaller businesses. The cost of raw material was also an important factor because some manufacturers purchased at a much cheaper price than others (tables 7-8).

On account of the blockade, which has decreased imports, the Pihsien farm price increased rapidly beginning with October, 1940. In December, 1940, the price index was 14 times the prewar price, (Jan.-June 1937=100). The price advanced more rapidly than any of the local main crops, such as rice, wheat and rapeseed.

SOME RECOMMENDATIONS FOR THE IMPROVEMENT OF TOBACCO PRODUCTION AND MARKETING

A. *For production*
- (1) Planting good varieties of tobacco especially American varieties to increase yield and quality for the making of cigarettes.
- (2) Better cultural methods for tobacco.
- (3) More attention to the control of diseases and insects.

B. *For marketing*
- (1) The establishment of a grading and inspection organization.
- (2) The improvement of the method of transactions.
- (3) The establishment of packing houses in producing centers to facilitate transportation and to reduce costs.
- (4) Government control of the market to stop adulteration and unlawful transactions and weights.
- (5) The establishment of public auctions to facilitate the marketing of tobacco.
- (6) The organization of cooperative marketing of tobacco to increase efficiency of marketing and to improve quality of tobacco.
- (7) The establishment of warehouses to facilitate storage and loans on stored tobacco through warehouse receipts.
- (8) The improvement of communications and transportation in order to reduce costs.

C. *The manufacturers should pay attention to:*
- (1) Introduction of improved drying houses and equipment.
- (2) Improvement in the methods of processing and manufacturing.
- (3) Increasing the manufacturing of cigarettes to meet the present demand.
- (4) Establishment of economic-sized factory units.
- (5) Better training for the workers engaged in manufacturing.

Hong-Shen Pan
Cheng Sie

THE ECONOMIC EFFECT OF WAR UPON FARMERS IN PENGHSIEN, SZECHWAN

The economic effect of the Sino-Japanese war upon the Chinese farmer is a question often discussed, but upon which there is little data. In the summer of 1942, the junior author, Chong-chan Yien, a senior student in the College of Agriculture and Forestry, majoring in Agricultural Economics, made a field study in Penghsien of this question. Funds were made available for this and other studies by the Penghsien Government.[1] Ninety farms were studied: 30 owner farms, 30 part-owner farms and 30 tenant farms, and pre-war conditions in the year June 30, 1936 to July 1, 1937 were compared with conditions between June 30, 1941 and July 1, 1942.

The area per farm has decreased slightly from 18.1 to 18.0 *shih mow*. Substantial increases in crop area per farm have occurred for wheat (5.1 *shih mow*), barley (1.4 *shih mow*) and corn (0.5 *shih mow*); and decreases for rapeseed (4.8 *shih mow*), and vetch (2 *shih mow*). These changes have been caused largely by changes in price relationships of these crops.

The amount of farm labor on these 90 farms has increased slightly, probably because the farmer and his family members work harder in order to benefit from the rising prices received for products. Four farmers stated that year labor was more easy to procure and 12 that it was more difficult to obtain. Personal treatment by employers was reported by 12 laborers to be about the same as in 1937. In 1942 two-fifths of the day laborers were paid in cash and three-fifths in crops, whereas cash payments were the custom in 1937. Wages increased greatly, but not as much as prices received by farmers (Index of prices received by farmers was 3077 for Jan. to Aug. 1942 (1937=100) as calculated by Kwang-seng Wang, another student participating in the Penghsien surveys).

The amount of rice paid as rent for land has not changed. Nor have rent deposits made by tenants on good and medium lands though on poor land an increase was

1 The director of the surveys was J. Lossing Buck, and the assistant-director was Hong-sheng Pan.

reported from 8.73 *yuan* to 10.51 *yuan* per *shih mow*. Interest paid by landlords on rent deposits of tenants decreased because of the rapid increase in price of rice.

THE ECONOMIC EFFECT OF WAR UPON FARMERS

A comparison of conditions in 1942 with 1937 on 90 farms, Lungfeng, Penghsien, Szechwan

Items	Number of farms	1937	1942
Farm and crop area:			
Changes in farm area per farm (*shih mow*)	90	18.1	18.0
Changes in percent of crop area in each crop having a change	90		
Wheat		10.6	15.7
Rapeseed		38.8	34.0
Vetch		43.0	41.0
Barley		1.5	2.9
Corn		7.0	7.5
Farm labor:			
Total days work per farm	90	1523	1655
Family labor	-	1088	1239
Hired labor	-	435	316
Ease of obtaining day labor (number of farms)	16		
More easy	-	-	4
More difficult	-	-	12
Same	-	-	0
Treatment of farm labor by employers (number of farms)	12		
Kind	-	3	4
Cruel	-	1	1
Good	-	8	7
Method of paying wages (number of farms)			
Year labor:	20		
Cash		20	1
Crops		20	19
Month labor:	5		
Cash		5	3
Crops		5	2
Day labor:	64		
Cash		64	27
Crops		0	37

The Economic Effect of War Upon Farmers—continued

Items	Number of farms	1937	1942
Wages (yuan)	90		
Year labor	16	26.44	779.29
Month labor	5	3.77	75.75
Day labor	64	0.19	4.95
Farm tenancy:			
Rent of land (*shih tan* of unhulled rice)			
Rice land	60		
Best		4.06	4.06
Medium land		4.00	4.00
Poor land		3.27	3.27
Dry land	60		
Best		2.08	2.08
Medium		1.67	1.67
Rent deposit (*yuan* per *shih mow*)	60		
Best land		11.87	11.87
Medium land		9.27	9.27
Poor land		8.73	10.51
Dry land (medium)		5.00	5.00
Crops given tenant by landlord as interest on rent deposit (*shih tou* of unhulled rice per *shih mow*)	60		
Best land		0.53	0.17
Medium land		0.44	0.23
Poor land		0.52	0.26
Dry land (medium)		0.36	0.06
Average		0.49	0.22
Landlords' treatment of tenants (number of tenants)	57		
Kindly		*	7
Same		-	12
Impolite		*	32
Neither kind or impolite		*	6
Farm credit:			
Farmers in debt	90		
Number		17	34
Percent of all farmers		19	38
Total debts (*yuan*) per farm	90		
Owner		11.33	679
Part-owner		18.90	681
Tenant		25.33	1054
Average		15.19	805

The Economic Effect of War Upon Farmers—continued

Items	Number of farms	1937	1942
Creditors (percent)	36		
Landlords		27	34
Rich farmers		47	31
Merchants		13	19
Merchants and farmers		13	13
Cooperatives		0	3
Interest on loans per month	36		
Cash loans		4.1	7.43
Crop loans		2.78	24.11
Average		3.44	15.77
Crops sold before harvest (%)	90		
Owner		-	7
Part-owner		-	10
Tenant		-	20
Average for all farmers		-	12
Land value per *shih mow* (yuan)	90		
Irrigated land (1942 value is for July 1942)		96	3106
Taxes for 1941 per *shih mow* (yuan)	90		
Land		1.00	20.65
Recruiting fees		-	11.68
Local police		-	2.20
Irrigation fees		-	3.44
Miscellaneous		-	8.18
Total		-	46.15
Standard of living:			
Rice purchased for consumption (*shih tan*)	90		
Owners		2.1	2.4
Part-owners		6.8	6.4
Tenants		10.2	10.0
Average		6.4	6.3
Farmer's standard of living (consumption items for which significant changes occurred)	90		
Food:			
Rice per family per year (%)		83.4	79.5
Wheat " " " " (%)		9.1	11.0
Corn " " " " (%)		6.8	7.6
Barley (hulless) per family per year (%)		0.7	1.9
Oil per month per person (shih ounces)		9.4	8.2
Meat per month per person (" ")		8.0	-

The Economic Effect of War Upon Farmers—continued

Items	Number of farms	1937	142
Same (%)		8.0	35
More (%)		-	0
Less (%)		-	65
Clothing:	90		
Adults			
Same (%)		-	41
More (%)		-	0
Less (%)		-	59
Children:	90		
Same (%)		-	36
More (%)		-	0
Less (%)		-	64
Amount of amusement:	90		
Same (%)		-	17
More (%)		-	0
Less (%)		-	83
Land transfers:			
Transfers of land in Lungfeng Hsiang (Number of transfers by size-group of holdings)[1]			
0- 4.9 *shih mow*		-	22
5- 9.9 " "		-	11
10-14.9 " "		-	3
15-19.9		-	-
Total		-	36
Percentage of all land		-	0.7
Amouut of land owned by purchasers of transferred land in Lungfeng Hsiang (number of purchases in each size-group)			
0- 19.9		-	4
20- 39.9		-	2
40- 59.9		-	5
60- 79.9		-	0
150-169.9		-	2
200 and over		-	4
Total		-	17
Transfers of land in Penghsien (number of transfers by size group of holdings)[2]			
0- 4.9		-	1101
5- 9.9		-	82
10-14.9		-	13

The Economic Effect of War Upon Farmers—continued

Items	Number of farms	1937	1942
15-19.9		8.0	8
20-24.9		-	5
25-29.9		-	25
30-34.9		-	13
35-39.9		-	37
Total		-	1284
Percent of all land in Penghsien		-	0.4

*No information for 1937.

1. Data from Lungfeng Hsiang Office.
2. Data from Penghsien Government.

Personal treatment received from landlords was reported by 12 tenants to be the same as in 1937. In 1942 harsh treatment was reported by 32 tenants and kind treatment by 7. No comparison was given with 1937.

The percentage of farmers in debt has increased from 19 to 38 percent. The amount of debts have increased from 15 *yuan* to 805 *yuan*, though in terms of 1937 *yuan* this represents little, if any, actual change. Part-owners' and tenants' debts have decreased while owner debts have remained about the same.

There has been some change in the tenants' creditors, with a marked decrease in rich farmers and an increase in landlord and merchant creditors. In 1937 there was no credit obtained from cooperatives, but in 1943, three percent of the creditors were cooperatives.

Interest on cash loans has not quite doubled (to 7.43 percent per month); on crop loans it has increased nine times (to 24.11 percent per month).

In 1942, tenants sold 20 percent of their crops before harvest; part-owners, 10 percent; and owners only 7 percent.

The farmers' standard of living has decreased slightly. Two-thirds of the farmers are eating less meat, 59 percent purchasing less clothing, 83 percent having less amusement. A little less vegetable oil is used for cooking. A small proportion of farmers are eating more wheat, corn and barley in place of rice.

Land values increased greatly but the average value for July 1, 1941 to June 30, 1942 probably had not increased as much as prices received.

All taxes paid for the year 1941 were 46.15 per *shih mow*. In this study only land tax data could be obtained for 1937. Land taxes increased 20 times.

Transfers of land are a small proportion of all land. In Lung Feng Hsiang, (1937-1942), 0.7 percent of the land was transferred, largely from small holders to large holders, and mostly to landlords. In the whole of Penghsien, only 0.4 percent of the land was transferred in the five-year period (1937-1942).

In conclusion, it is evident that farmers have not been very adversely affected.

John Lossing Buck
Chong-chan Yien

INDICATORS OF PRICE CHANGES[1]

(January to June 1937 = 100)

Items	Number of items or observations	Index numbers	Date	Place
Wholesale prices and cost of living:				
1. Wholesale prices of all commodities	57	9232	Mar. 1943	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	8354	Mar. 1943	Chengtu
3. Wholesale prices of imported goods	9	29967	Mar. 1943	Chengtu
4. Wholesale prices of exported goods	10	4676	Mar. 1943	Chengtu
5. Wholesale prices of raw materials	30	6901	Mar. 1943	Chengtu
6. Wholesale prices of manufactured producers' goods	11	9992	Mar. 1943	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	8924	Mar. 1943	Chengtu
8. Wholesale prices in important cities, Free China				
(a) Highest: Kunming, Yunnan		14270	Dec. 1942	
(b) Lowest: Kwellin, Kwangsi		4846	Jan. 1943	
(1) Kunming, Yunnan (Aug. 1937=100)(a)	141	14270	Dec. 1942	
(2) Sian, Shensi (June 1937=100)(b)		8337	Dec. 1942	
(3) Chungking, Szechwan(c)	94	7947	Jan. 1943	
(4) Chengtu, Szechwan	57	7458	Jan. 1943	
(5) Kweilin, Kwangsi(d)	48	4846	Jan. 1943	
9. Cost of living	76	6289	Mar. 1943	
10. Retail prices of seven commodities commonly used	7	6794	Mar. 1943	
11. Retail prices for 14 cities in Free China(e)				
(a) Highest: Kunming, Yunnan	25	13885	Dec. 1942	
(b) Lowest: Sining, Chinghai	25	3677	Dec. 1942	
(1) Kunming, Yunnan	25	13885	Dec. 1942	
(2) Yaan, Sikong	25	8935	Dec. 1942	
(3) Hengyang, Hunan	25	8214	Dec. 1942	

[1]Compiled by Department of Agricultural Economics, College of Agriculture and Forestry, University of Nanking, unless otherwise indicated.

Items	Number of items or observations	Index numbers	Date	Place
(4) Loyang, Honan	25	7941	Dec. 1942	
(5) Sian, Shensi	25	7183	Dec. 1942	
(6) Chungking, Szechwan	25	6951	Dec. 1942	
(7) Chengtu, Szechwan	25	6840	Dec. 1942	
(8) Chukiang, Kwangtung	25	6482	Dec. 1942	
(9) Kweiyang, Kweichow	25	6177	Dec. 1942	
(10) Kweilin, Kwangsi	25	6098	Dec. 1942	
(11) Kanchow, Kiangsi	25	5540	Dec. 1942	
(12) Yunyang, Hupeh	25	5411	Dec. 1942	
(13) Lanchow, Kansu	25	4058	Dec. 1942	
(14) Sining, Chinghai	25	3677	Dec. 1942	
12. Rent, city residences	100	1222	Mar. 1943	Chengtu
13. School tuition				
(1) Primary school	1	2500	Mar. 1943	Chengtu
(2) Middle school	1	450	Mar. 1943	Chengtu
(3) University	1	200	Mar. 1943	Chengtu
City wages (f)	12	4556	Mar. 1943	Chengtu
1. Carpenters	1	4000	Mar. 1943	Chengtu
2. Masons	1	4000	Mar. 1943	Chengtu
3. Cotton weavers	1	6000	Mar. 1943	Chengtu
4. Silk weavers	1	2375	Mar. 1943	Chengtu
5. Tailors	1	4000	Mar. 1943	Chengtu
6. Barbers	1	7500	Mar. 1943	Chengtu
7. Blacksmiths	3	5767	Mar. 1943	Chengtu
8. Coppersmiths	3	4383	Mar. 1943	Chengtu
9. Maidservants	8	6750	Mar. 1943	Chengtu
Salaries:				
1. Professors' salaries (g)	10	974	Mar. 1943	Chengtu
2. Clerks (g)	10	2390	Mar. 1943	Chengtu
3. Soldiers' cash allowances	6	368	Mar. 1943	Chengtu
Chinese currency:				
1. Purchasing power of *yuan* in terms of cost of living	-	1.6	Mar. 1943	Chengtu
2. Purchasing power of *yuan* in terms of wholesale prices of domestic commodities	-	1.2	Mar. 1943	Chengtu
U.S.A. currency:				
1. Increase in number of *yuan* for one US$ at buying official exchange rate of 20 *yuan* to one US dollar	-	594	Mar. 1943	Chengtu

Items	Number of items or observations	Index numbers	Date	Place
2. Calculated expected rate of *yuan*/US$ exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in U.S.A.	-	US$ 0.0054	Jan. 1943	Chengtu
3. Purchasing power of US$				
(a) at official exchange rate in China		7.1	Mar. 1943	Chengtu
(b) actual in U.S.A.	-	85	Jan. 1943	U.S.A.
4. Wholesale prices of domestic commodities in terms of US$ at official exchange rate		1406	Mar. 1943	Chengtu
Sterling currency:				
1. Increase in number of *yuan* for one pound sterling	-	483	Mar. 1943	
2. Calculated expected *yuan*/pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in England	-	0.32d	Jan. 1943	Chengtu
3. Purchasing power of pound sterling				
(a) at official buying rate in China	-	5.8	Mar. 1943	Chengtu
(b) actual in England	-	68	Jan. 1943	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the official exchange rate	-	1730	Mar. 1943	Chengtu
Gold and silver:				
1. Price of gold (open market)	1	6000	Mar. 1943	Chengtu
2. Price of silver (open market)	1	5574	Mar. 1943	Chengtu
3. Wholesale prices in terms of gold	-	154	Mar. 1943	Chengtu
4. Wholesale prices in terms of silver	-	166	Mar. 1943	Chengtu

Items	Number of items or observations	Index numbers	Date	Place
Farm prices (4 hsien):				
1. Prices received by farmers (1937=100)	16-22	5704	Feb. 1943	Szechwan
2. Farmers' cost of production	-	6131	Feb. 1943	Szechwan
3. Prices paid by farmers for producers' and consumers' goods (1937=100)	17-51	6842	Feb. 1943	Szechwan
4. Prices paid by farmers for producers' goods	16-22	5911	Feb. 1943	Szechwan
5. Prices paid by farmers for consumers' goods	17-29	7920	Feb. 1943	Szechwan
6. Purchasing power of farmers (ratio of prices received by farmers to prices paid by farmers including all costs of production and prices paid for consumers' goods)	-	85	Feb. 1943	Szechwan
7. Crop rent	-	4384	Oct. 1942	Szechwan
8. Land taxes	-	3689	Oct. 1942	Szechwan
9. Farm land value (8 *hsien*)	-	4333	Feb. 1943	Szechwan
10. Farm year labor (8 *hsien*)	-	5031	Feb. 1943	Szechwan
11. Farm day labor (8 *hsien*)	-	6181	Feb. 1943	Szechwan

(a) Statistical Department of Municipal Government of Kunming.
(b) Economic Research Department of Provincial Bank of Shensi.
(c) Central Bureau of Survey and Statistics, Commission of Military Affairs, Chungking, Szechwan.
(d) Department of Economic Survey of Sin-chung Corporation, Kweilin, Kwangsi.
(e) Data from Farmers' Bank of China.
(f) The general index of city wages is the weighted geometric average of all groups, excluding maid-servants. The weights used are as follows: carpenters 22.2, masons 15.8, cotton weavers 11.0, silk weavers 12.2, tailors 11.9, barbers 21.9, blacksmiths 2.5, coppersmiths 2.5. The data on wages were supplied by the union or by individuals.
(g) From one organization.

APPENDIX I*

TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES IN CHENGTU, 1937-MARCH 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of *yuan*
Number of commodities	57	15	9	4	9	5	15	
Years:								
1937	99	99	102	98	106	100	94	101.1
1938	116	95	139	104	173	106	106	86.5
1939	219	147	298	232	398	208	193	45.7
1940	653	533	841	847	1282	454	491	15.3
1941	1616	1830	1637	2119	3059	1223	999	6.2
1942	4771	4084	5862	5974	10254	3408	3315	2.1
1943								
Jan.	7458	5666	10915	9602	15332	5758	5165	1.3
Feb.	8321	6757	11983	10469	17002	5986	5629	1.2
Mar.	9232	7204	14273	11580	18703	6449	6324	1.1

*Some of the indices for 1942, and for January and February 1943, have been revised after obtaining data considered to be more accurate than data used in first compilations.

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-MARCH 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Domestic commodities	Import commodities	Export commodities
Number of commodities	57	38	9	10
1937	99	100	110	90
1938	116	108	212	87
1939	219	199	486	163
1940	653	633	1396	397
1941	1616	1658	3658	721
1942	4771	4358	15528	2349
1943				
Jan.	7458	6698	25308	3734
Feb.	8321	7581	28392	3928
Mar.	9232	8354	29967	4676

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-MARCH 1943

Jan. to June 1937=100 (Simple geometric average)

Period	Raw materials			Manufactured goods		
	Producers' goods	Consumers' goods	All	Producers' goods	Consumers' goods	All
Number of commodities	18	12	30	11	9	20
1937	97	96	96	102	98	100
1938	97	95	96	134	114	125
1939	188	160	176	244	206	226
1940	628	447	548	637	648	642
1941	1498	1216	1377	1360	1623	1473
1942	3660	3538	3607	4469	4678	4548
1943						
Jan.	5865	5204	5391	7930	7037	7515
Feb.	6383	5970	6215	8490	8242	8377
Mar.	7068	6657	6901	9992	8924	9496

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-MARCH 1943

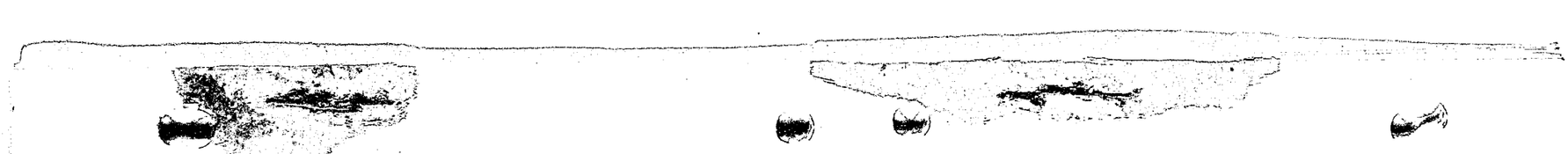
Feb. to June 1937=100 (weighted aggregative)

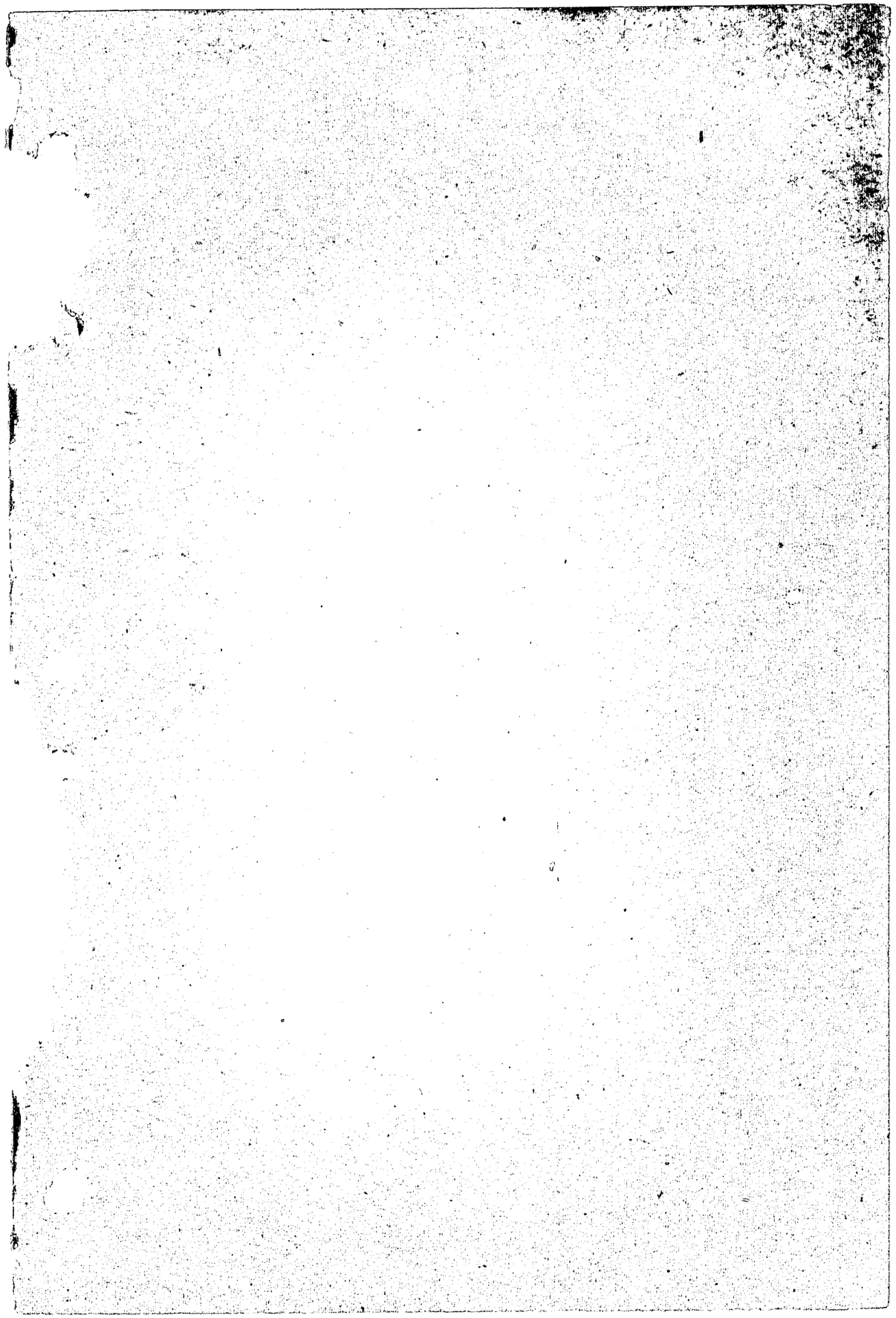
Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	102	105	100
1939	126	148	157	140
1940	435	448	444	442
1941	1661	1464	1391	1524
1942	3274	3560	3738	3473
1943				
Jan.	4450	5111	5744	4948
Feb.	5301	5804	6476	5723
Mar.	5742	6422	7230	6289

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-MARCH 1943

Feb. to June 1937=100 (weighted geometric average)

Period	General index	Food	Clothing	Rent	Fuel and lighting	Miscellaneous	Purchasing power of *yuan*
Number of commodities	76	28	13	2	12	21	
1937	98	98	104	100	97	100	101.6
1938	100	92	142	103	97	115	100.4
1939	140	120	267	109	163	182	71.3
1940	442	441	852	117	604	387	22.7
1941	1524	1786	1787	185	1670	1171	6.6
1942	3473	3376	6409	462	4829	3621	2.9
1943							
Jan.	4948	4413	10835	1006	7451	5599	2.0
Feb.	5723	5398	11739	1006	7999	6099	1.7
Mar.	6289	5834	13810	1222	8524	6854	1.6





ECONOMIC FACTS

DEPARTMENT OF AGRICULTURAL ECONOMICS

COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU, CHINA

No. 20 May 1943

MAJOR PRICE RELATIONS

(January to June 1937=100)

Items	Number of items	Index numbers	Date	Place
1. Wholesale prices of domestic commodities	38	9650	Apr. 1943	Chengtu
2. Prices received by farmers (4 hsien)	9-13	6611	Mar 1943	Szechwan
3. Cost of living	76	7389	Apr. 1943	Chengtu
4. City wages	12	5532	Apr. 1943	Chengtu
5. Farm wages	8	5415	Mar. 1943	Szechwan
6. Salaries, professors	10	1090	Apr. 1943	Chengtu
7. Soldiers' cash allowances	6	550	Apr. 1943	Chengtu
8. Land taxes		3689	Oct. 1942	Szechwan
9. Wholesale prices of domestic commodities in terms of silver	38	171	Apr. 1943	Chengtu
10. Wholesale prices of domestic commodities in terms of gold	38	138	Apr. 1943	Chengtu
11. Wholesale prices of domestic commodities in terms of US$ at official exchange rate	38	1625	Apr. 1943	Chengtu
12. Wholesale prices in U. S. A. (Statist index)	-	118	Jan. 1943	U.S.A.
13. Wholesale prices in England (Statist index)	-	147	Jan. 1943	England
14. Purchasing power of farmers (4 hsien)	-	95	Mar. 1943	Szechwan
15. Purchasing power of rice (a)	-	70	Apr. 1943	Chengtu
16. Freight rates (Truck)	1	3600	Apr. 1943	Szechwan
17. Monthly interest rate per $1000	1	308	Apr. 1943	Chengtu

(a) Calculated in terms of wholesale prices of 57 commodities.

CONTENTS

WEIGHTS AND MEASURES

One *li* is equivalent to one-third of an English mile

One *shih tan* is equivalent to 100 liters or 2.8378 American bushels.

One *shih tou* is one-tenth of a *shih tan*.

One *shih shen* is one-tenth of a *shih tou*.

One *shih picul* is equivalent to 110.23 pounds avoirdupois.

One *shih chin* (catty) is equivalent to 1.1 pounds avoirdupois.

The *yuan* is the Chinese unit of currency. The exchange rate is pegged at 20 *yuan* to one U.S. dollar and 80 *yuan* to one pound sterling. The rate has no relation to the price level in China.

A STUDY OF PROFITABLE TYPES OF FARMING IN WESTERN SZECHWAN

This study of profitable types of farming in Western Szechwan during 1938 to 1940 includes 400 farms from four *hsien*, namely Wenkiang, Jensheo, Chingtang and Kwanghsien. In these four localities, farmers differ widely in their judgement as to the kind and amount of crops to plant. By considering both the crop area and the amount of man labor required to grow each kind of crop, thirteen distinct types of farming have been distinguished, eight on the Chengtu Plain and five in the hill and valley regions. The data have been grouped by (1) types of farming on the plain and (2) types of farming in the hill and valley regions, and for comparison between (1) types of farming with three *shih mow* or over in cash crops such as tobacco, hemp, sugar-cane, cotton and citrus fruits and (2) types of farming without or with less than three *shih mow* in cash crops (tables 1 and 2).

Farm area and crop area. Differences in farm area per farm between farms on the plain and farms in the hill and valley regions, or farms with more cash crops and farms with less cash crops are not significant. Therefore, the size of farm is not a factor affecting the profitableness between these groups of farms. The proportion of crop area or productive area to gross area on the Chengtu Plain is greater, 95.3 percent, than in the hill and valley regions, 88.5 percent; for farms without or with less than 3 *shih mow* per farm in cash crops, the percent of gross area in crops is greater, 94.4 percent, than that of farms with 3 *shih mow* and over per farm in cash crops, 90.9 percent.

Effect of type of land. The type of farming of different farms depends very much upon the kinds of land. Farms with irrigated land usually produce rice, rapeseed, winter legumes (broad beans and field peas) and some cash crops such as hemp, tobacco, and chwan-shung (a drug) as their major enterprises. Those farms with non-irrigated land included in this study produced corn, cotton, sweet potatoes, sugar-cane and citrus fruits. On the average, farms in the hill and valley regions and farms with 3 *shih mow* or over in cash crops had a larger percentage of non-irrigated land than those on the plain and those without or with less than 3 *shih mow* in cash crops.

TABLE 1. EFFICIENCY FACTORS AND PROFITABLENESS OF DIFFERENT TYPES OF FARMING BY TYPES OF LAND

371 farms, 4 localities, Western Szechwan, China, 1938-1940

Types of farming by types of land	Number of farms	Farm area (*shih mow*)	Crop area (*shih mow*)	Percent of productive area to gross area	Percent of irrigated land to the total area for important crops
Plain	213	19.1	18.2	95.3	99.4
Rice, rapeseed	21	28.8	27.7	96.2	100.0
Rice, rapeseed, hemp, tobacco	10	27.2	25.6	94.1	100.0
Rice, rapeseed, hemp	33	21.8	20.9	95.9	99.5
Rice, rapeseed and others	40	20.0	19.3	95.5	98.9
Rice, rapeseed, chwan-shung	22	15.5	14.5	93.5	100.0
Rice, rapeseed, tobacco	47	15.2	14.3	94.1	96.3
Rice, rapeseed, broad bean, tobacco	15	12.5	12.0	96.0	100.0
Rice, rapeseed, broad bean	25	11.4	10.9	95.6	99.1
Hill and valley regions	158	19.2	17.0	88.5	29.3
Sugar-cane, rice, cotton, sweet potatoes	23	28.3	25.4	89.8	13.3
Rice, winter legumes	81	20.2	18.3	90.6	62.0
Cotton, corn and sweet potatoes, rice, winter legumes	7	18.7	17.3	92.5	22.9
Cotton, rice, sweet potatoes, wheat, winter legumes	21	16.0	13.8	86.2	26.7
Citrus fruits, cotton, corn, winter legumes	26	13.0	10.2	78.5	19.5
Average	371	19.1	17.7	92.2	72.2

Amount of livestock. Livestock enterprises are underdeveloped in Western Szechwan. No type of farming possesses as much as an average of two animal units per farm. Water buffaloes and oxen are usually kept for farm work whereas hogs and chickens are the most common productive livestock.

Variation in capital investment. For the types of farming on the plain, the average combined capital investment of landlords and tenants per *shih mow* is twice as great, 285 *yuan*, as in the hill and valley regions, 140 *yuan*. Farms with 3 *shih mow* and over in cash crops have an average

capital investment per *shih mow* of 191 *yuan* which is nearly one-half of 287 *yuan* for farms without or with less than 3 *shih mow* in cash crops. Within each of these groups considerable variations in investment existed. These variations are caused chiefly by differences in land, although an important factor may also be variations in the valuation of land due to other reasons than its intrinsic farm value.

Table 1. (continued)

Types of farming by types of land	Crop index	Man-work units per man-equivalent	Actual food production per *shih mow* (1,000 calories)	Food equivalent per *shih mow* (1,000 calories)
Plain	101.97	169.8	629	719
Rice, rapeseed	111.17	205.1	665	692
Rice, rapeseed, hemp, tobacco	99.47	176.7	561	839
Rice, rapeseed, hemp	98.24	182.1	580	812
Rice, rapeseed and others	104.36	170.2	610	668
Rice, rapeseed, chwan-shung	90.06	118.6	546	662
Rice, rapeseed, tobacco	92.10	141.2	530	615
Rice, rapeseed, broad bean, tobacco	108.44	214.3	726	834
Rice, rapeseed, broad bean	111.92	139.2	814	828
Hill and valley regions	98.02	149.2	333	402
Sugar-cane, rice, cotton, sweet potatoes	145.50	183.8	607	671
Rice, winter legumes	82.48	155.3	156	255
Cotton, corn and sweet potatoes, rice, winter legumes	67.01	177.0	238	794
Cotton, rice, sweet potatoes, wheat, winter legumes	99.77	97.2	352	501
Citrus fruits, cotton, corn, winter legumes	95.34	107.5	311	344
Average	100.00	159.1	515	655

Crop intensity. Farms on the plain tend to have a higher crop index (higher yields) than farms in the hill and valley regions. Farms with 3 *shih mow* in cash crops and farms without or with less than 3 *shih mow* in cash crops have no significant difference in crop index.

Rice-rapeseed-broad bean farms have the highest rate of production on the plain, with a crop index of 112, while

sugarcane farms have the highest crop index in the hill and valley farms, 146 (average of all yields on the 400 farms studied equals 100).

Citrus fruit farms have their orchards intertilled with other crops both in summer and in winter, so they have a multiple cropping index of 207. Sugar-cane farms have the lowest multiple cropping index, 126, due to the long growing season for sugar-cane.

Rice farms on the plain tend to have a higher multiple cropping index than do those in the hill and valley regions. This is due to the winter flooding of rice fields on hill and valley land.

Food production. The average food production in calories per *shih mow* on the plain (629,000 calories) is nearly twice as great as in the hill and valley regions

Table. 1. (continued)

Types of farming by types of land	Capital investment per *shih mow* (*yuan*)	Operator's labor earnings (*yuan*)	Labor returns per man-equivalent (*yuan*)	Net return per *shih mow* (*yuan*)
Plain	284.57	138.49	153.68	1.27
Rice, rapeseed	253.88	159.04	136.23	2.96
Rice, rapeseed, hemp, tobacco	203.80	296.76	157.64	8.20
Rice, rapseed, hemp	178.23	127.51	110.58	2.08
Rice, rapeseed and others	276.76	90.89	100.13	0.85
Rice, rapeseed, chwan-shung	354.78	16.11	193.42	-13.32
Rice, rapeseed, tobacco	450.21	263.23	292.19	7.40
Rice, rapeseed, broad bean, tobacco	365.86	71.94	132.58	-3.68
Rice, rapeseed, broad bean	193.06	82.46	121.43	-3.19
Hill and valley regions	139.88	454.86	242.84	19.51
Sugar-cane, rice, cotton, sweet potatoes	178.45	1255.62	435.08	41.48
Rice, winter legumes	113.68	307.91	181.48	11.38
Cotton, corn and sweet potatoes, rice, winter legumes	98.87	212.63	152,64	6.90
Cotton, rice, sweet potatoes, wheat, winter legumes	128.22	279.94	171.36	12.80
Citrus fruits, cotton, corn, winter legumes	180.19	218.19	178.74	10.39
Average	228.92	260.17	181.81	6.48

(333,000 calories). Farms with 3 *shih mow* and over in cash crops naturally produce less food (442,000 calories per *shih mow*) than do those without or with less than 3 *shih mow* in cash crops (578,000 calories per *shih mow*). Rice-rapeseed-broad bean farms produced the greatest amount of food among the different types of farming.

It should be understood that this is only the actual food production, not the total production. If other crop production which has no food value is converted to food equivalent

TABLE 2. EFFICIENCY FACTORS AND PROFITABLENESS OF DIFFERENT TYPES OF FARMING BY AREA IN CASH CROPS

371 farms, 4 localities, Western Szechwan, China, 1938-1940

Types of farming by area in cash crops	Number of farms	Farm area (*shih mow*)	Crop area (*shih mow*)	Percent of productive area to gross area	Percent of irrigated land to the total area for important crops
Types of farming with 3 shih mow or over in cash crops	120	20.8	18.9	90.9	55.9
Rice, rapeseed, hemp, tobacco	10	27.2	25.6	94.1	100.0
Rice, rapeseed, hemp	33	21.8	20.9	95.9	99.5
Sugar-cane, rice, cotton, sweet potatoes	23	28.3	25.4	89.8	13.3
Cotton, corn and sweet potatoes, rice, winter legumes	7	18.7	17.3	92.5	22.9
Cotton, rice, sweet potatoes, wheat, winter legumes	21	16.0	13.8	86.2	26.7
Citrus fruits, cotton, corn, winter legumes	26	13.0	10.2	78.5	19.5
Types of farming without or with less than 3 shih mow in cash crops	251	17.7	16.7	94.4	93.3
Rice, rapeseed	21	28.8	27.7	96.2	100.0
Rice, rapeseed and others	40	20.2	19.3	95.5	98.9
Rice, rapeseed, chwan-shung	22	15.5	14.5	93.5	100.0
Rice, rapeseed, tobacco	47	15.2	14.3	94.1	96.3
Rice, rapeseed, broad bean, tobacco	15	12.5	12.0	96.0	100.0
Rice, rapeseed, broad bean	25	11.4	10.9	95.6	99.1
Rice, winter legumes	81	20.2	18.3	90.6	62.0
Average	371	19.1	17.7	92.2	72.2

on the basis of the amount of food such crops will purchase, farms on the plain still produced more food (719,000 calories per *shih mow*) than those in the hill and valley regions (402,000 calories per *shih mow*). But farms with three *shih mow* or over in cash crops produced more food equivalent (669,000 calories per *shih mow*) than did those without or with less than 3 *shih mow* in cash crops (532,000 calories per *shih mow*).

Labor efficiency. There is no significant difference, on the average, in labor efficiency between cash crop farms and general crop farms. As shown by productive man-work units per man-equivalent, efficiency in the utilization of

Table 2. (continued)

Types of farming by area in cash crops	Crop index	Man work units per man-equivalent	Food production per *shih mow* (1,000 calories)	Food equivalent per *shih mow* (1,000 calories)
Types of farming with 3 shih mow or over in cash crops	100.40	158.4	442	669
Rice, rapeseed, hemp, tobacco	98.99	176.7	561	839
Rice, rapeseed, hemp	97.76	182.1	580	812
Sugar-cane, rice, cotton, sweet potatoes	144.79	183.8	607	671
Cotton, corn and sweet potatoes, rice, winter legumes	66.68	177.0	238	794
Cotton, rice, sweet potatoes, wheat, winter legumes	99.29	97.2	352	501
Citrus fruits, cotton, corn, winter legumes	94.88	107.5	311	344
Types of farming without or with less than 3 shih mow in cash crops	99.59	163.5	578	532
Rice, rapeseed	110.63	205.1	665	692
Rice, rapeseed and others	103.85	170.2	610	668
Rice, rapeseed, chwan-shung	89.62	118.6	546	662
Rice, rapeseed, tobacco	91.65	141.2	530	615
Rice, rapeseed, broad bean, tobacco	107.91	214.3	726	834
Rice, rapeseed, broad bean	111.37	139.2	814	828
Rice, winter legumes	82.07	155.3	156	255
Average	100.00	159.1	515	655

farm labor on the plain (170 work units) is better than on the hill and valley farms (149 work units). Among the different types of farming, the man-work units per man-equivalent of the rice-rapeseed-broad bean-tobacco type of farming on the plain is high (214) while in the hill and valley regions, the labor efficiency of the cotton-rice-sweet potatoes-wheat-winter legumes type of farming is very low (97).

Costs and profits of crop production. Of the thirteen types of farming in Western Szechwan, there were eleven important crops in which it was possible to study the cost of production and relative profitableness (table 3). The net profits or loss per *shih mow* of various crops differed widely

Table 2. (continued)

Types of farming by area in cash crops	Capital investment per *shih mow* (*yuan*)	Operator's labor earnings (*yuan*)	Labor return per man-equivalent (*yuan*)	Net return per *shih mow* (*yuan*)
Types of farming with 3 shih mow or over in cash crops	161.29	398.44	216.58	15.31
Rice, rapeseed, hemp, tobacco	203.80	296.76	157.64	8.20
Rice, rapeseed, hemp	178.23	127.51	110.58	2.08
Sugar-cane, rice, cotton, sweet potatoes	178.45	1255.62	435.08	41.48
Cotton, corn and sweet potatoes, rice, winter legumes	98.87	212.63	152.68	6.90
Cotton, rice, sweet potatoes, wheat, winter legumes	128.22	279.94	171.36	12.80
Citrus fruits, cotton, corn, winter legumes	180.19	218.19	178.74	10.39
Types of farming without or with less than 3 shih mow in cash crops	286.89	141.65	164.85	1.26
Rice, rapeseed	253.88	159 04	136.23	2.96
Rice, rapeseed and others	276 76	90.89	100.13	6.85
Rice, rapeseed, chwan-shung	354.78	16.11	193 42	-13.32
Rice, rapeseed, tobacco	450 21	263.23	292.19	7.40
Rice, rapeseed, broad bean, tobacco	365.86	71.94	132 58	-3.68
Rice, rapeseed, broad bean	193 06	82.46	121.43	-3.19
Rice, winter legumes	113.68	307.91	181.48	11 38
Average	228.92	260 17	181.81	6.48

between localities and in different years, ranging from net profits of 28.40 *yuan* for sugar-cane to a net loss of 36.24 *yuan* for citrus fruits. The rice crop varied from a net gain of 16.62 *yuan* per *shih mow* to a net loss of 5.73 *yuan* per *shih mow*. Sugar-cane was the most profitable crop in the hill and valley regions, and tobacco on the plain. Rice is the more universally adaptable crop to the land in Western Szechwan. Nearly all the other crops, such as rapeseed, hemp, winter legumes, sweet potatoes, corn, cotton, citrus fruits and wheat were grown at a loss during the period of this study.

Farm profits. As far as farm profits under different types of farming is concerned, there are two outstanding situations existing in Western Szechwan: (1) the types of farming on the plain are less profitable (average operator's labor earnings of 138 *yuan*) than types of farming in the hill and valley regions (average operator's labor earnings of 455 *yuan*); and (2) the types of farming with an average of three *shih mow* or over in cash crops are more profitable (average operator's labor earnings of 398 *yuan*) than those without or with less than three *shih mow* in cash crops (average operator's labor earnings of 142 *yuan*).

Rice-rapeseed-hemp-tobacco type of farming is the most profitable type on the plain with average operator's labor earnings of 297 *yuan*. A larger size of business may be considered to be a factor giving this result, but the rice-rapeseed-tobacco farms with small size also are found to be very profitable. It is attributable to the fact that this type of farming is better adapted to the region during the time of this study. The price of tobacco leaves, which in 1939 was somewhat more favorable than the prices of many other competing crops, was an important factor. The other types of farming on the plain had average operator's labor earnings varying from 16 to 263 *yuan*.

Sugar-cane in combination with other crops in the hill and valley regions was found to be the most profitable type among all types of farming in both the plain and hill and valley regions with average operator's labor earnings of 1256 *yuan*. The size of farm may be considered a factor influencing this result, but this type was still more profitable than other types of farms with similar sizes. The high rate of production and the high labor efficiency are the indicators of adaptability of sugar-cane type of farming to the region.

TABLE 3. COSTS OF PRODUCTION, TOTAL RECEIPTS AND NET PROFITS PER *SHIH MOW* OF VARIOUS CROPS

94 farms, 4 localities, Western Szechwan (1938-40)

Crops	Wenkiang			Jensheo		
	Cost of production *yuan*	Total receipts *yuan*	Net profits *yuan*	Cost of production *yuan*	Total receipts *yuan*	Net profits *yuan*
Rice	22.11	27.28	5.17	16.37	32.99	16.62
Rapeseed	23.58	15.53	-8.05	24.94	13.51	-11.43
Hemp	25.99	23 49	-2.50	-	-	-
Tobacco	40.86	50.38	9.52	-	-	-
Winter legumes	27.40	15.46	-11.94	14.68	9.61	-5.07
Sweet potatoes	12.93	7.50	-5.43	19 82	13.80	-6.02
Corn	-	-	-	29.24	19.33	-9.91
Cotton	-	-	-	33.42	29.67	-3.75
Sugarcane	-	-	-	-	-	-
Citrus fruit	-	-	-	-	-	-
Wheat	21.97	14.47	-7.50	15.89	13.67	-2.22

Table 3 (Continued)

	Kingtang			Kwanhsien		
	Cost of production	Total receipts	Net profits	Cost of production	Total receipts	Net profits
Rice	24.69	28.08	3.39	31.76	26.03	-5.73
Rapeseed	28.08	10.15	-17.93	41.16	47.03	5.42
Hemp	-	-	-	-	-	-
Tobacco	-	-	-	-	-	-
Winter legumes	20.08	6.12	-13.96	30.00	5.35	-24.65
Sweet potatoes	22.34	19.84	-2.50	-	-	-
Corn	22.43	12.89	-9.59	41.57	17.26	24.31
Cotton	24.68	23.82	-0.86	-	-	-
Sugarcane	101.40	129.80	28.40	-	-	-
Citrus fruit	74.27	38.03	-36.24	-	-	-
Wheat	22.42	11.57	-10.85	35.11	27.13	-7.98

Rice-winter-legumes' farms in the hill and valley regions were more profitable (average operator's labor earnings of 308 *yuan*) than rice farms on the plain (average operator's labor earnings of 138 *yuan*). They were also more profitable than those types of farms other than sugar-cane farms in the hill and valley regions with average operator's labor earnings varying from 213 to 280 *yuan*. It is chiefly due to the fact that they have a comparatively high percentage

of irrigated land for the hill and valley region, and their capital investment per *shih mow* is low because of low land values.

Conclusion. On the basis of usual prices, yields and production requirement, most farming areas have greater advantages for the production of some crops than for others. The returns from the resources devoted to some enterprises usually are larger than the returns from similar resources expended upon other enterprises. Therefore certain crops usually become the major enterprises, and generally the most profitable types of farming of an area are built around them. During the period of this study, it was found in Western Szechwan that rice-rapeseed-tobacco is the most profitable type of farming on the plain and sugar-cane combined with other crops, the most profitable one in hill and valley regions. On the average, farms in the hill and valley regions are more profitable than those on the plain. Farms with 3 *shih mow* or more in cash crops are more profitable than those without or with less than 3 *shih mow* in cash crops. The returns from various types of farming vary greatly. The type of farming is a very important factor affecting other efficiency factors and profits either directly or indirectly.

It was observed that the prices of various crops have a great influence in determining the profitableness of different types of farming, and it should be clearly understood that the most profitable types of farming in this region may change when the relationship of crop prices changes. Under the present condition of violent changes of prices, it is difficult for the farmer to predict which type of farming will give the greater profit. Farmers have little knowledge of prices, and, therefore, it is essential to advise them in regard to possible changes in their practices when prices change. Furthermore, it should be clearly understood that not all farmers can undertake the same type of farming and be successful. Farmers themselves should give much attention to the utilization of farm labor and the combination of crops best adapted to their own land in order to earn a greater profit.

Fuh-ting Ko

WHOLESALE PRICE LEVEL IN CHENGTU

January 1937-March 1943

Prices in free China have risen to a level higher than any other country has experienced during a war. It seems strange to many people how the price level could increase to almost a hundred times its pre-war base in such a short period. It is the purpose of this article to make known briefly some facts about changes in prices since the outbreak of Sino-Japanese hostilities. Wholesale prices of 57 commodities (including a few of the commodities entering foreign trade under normal conditions) have been used in this analysis.

Prices in Chengtu were comparatively stable until the end of 1938. Beginning with 1939, the general price index rose with increasing rapidity. The general index of wholesale prices in Chengtu from July 1938 to March 1943 approaches closely a curve represented by the equation, log $Y = 2.80439 + 0.03558X$ (fig. 1). In fact, the index moved along a straight line on a semi-logarithmically ruled chart, showing that prices were rising at a more or less constant

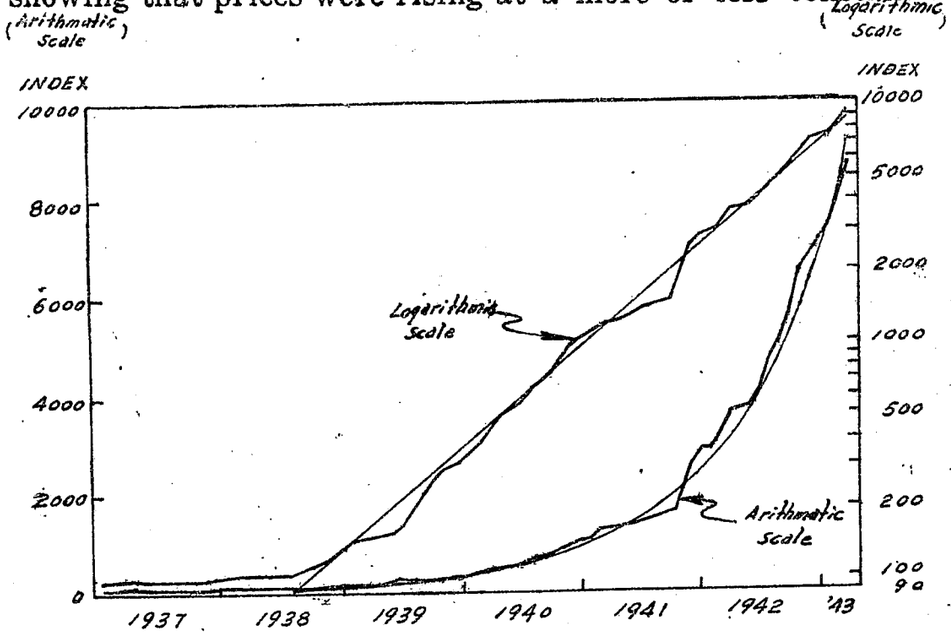


FIGURE 1. THE GENERAL INDEX NUMBER OF WHOLESALE PRICES IN CHENGTU (January to June 1937 = 100)

rate in geometric progression. The price index has doubled itself about every eight or nine months and evidently this tendency is still continuing in spite of attempts at price control. In the absence of statistics, it is impossible to estimate the proportion of rise caused by the increment of currency circulation, the diminishing volume of production in free China and the increased demand for goods. However, the similarity in slopes of the group indices (figs. 2a and 2b), although at different levels, leads one to believe that the former has been the major cause. The general index for March 1943 was 9232 (Jan.-June 1937=100).

Foodstuffs are mostly Szechwan agricultural products and during the first two years of war they were least affected. The food index was almost stable up to the middle of 1939 (fig. 2a), but since June of that year, it has risen very

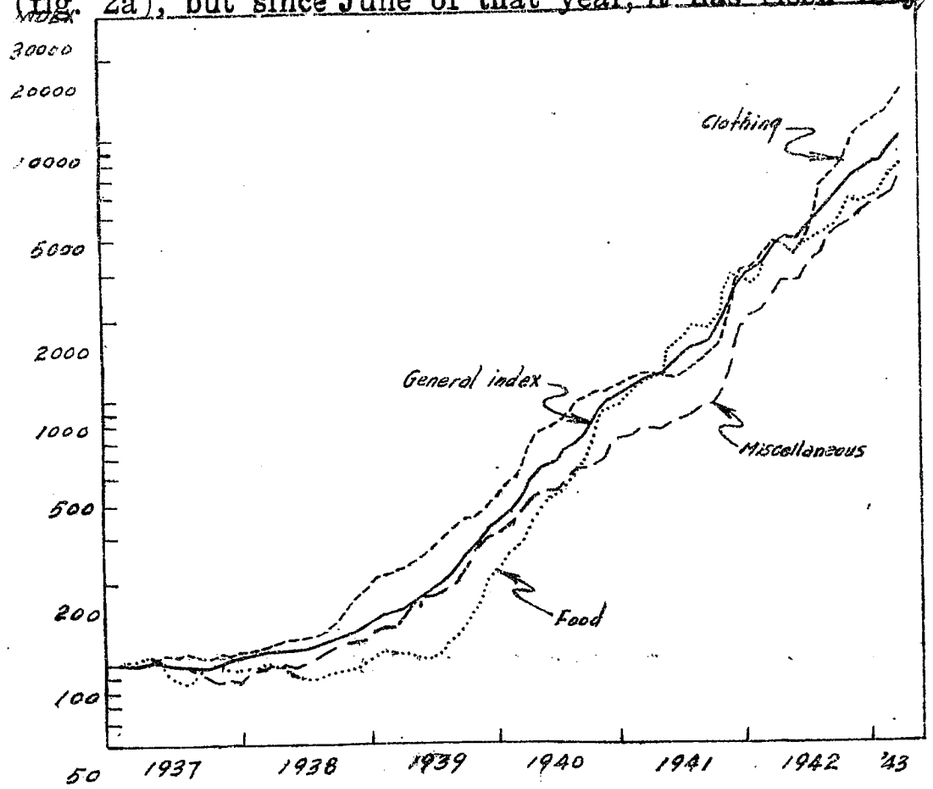


FIGURE 2a. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU: GENERAL INDEX, FOOD, CLOTHING, AND MISCELLANEOUS COMMODITIES

(January to June 1937 = 100) (Semi-logarithmic scale)

rapidly. However, it was not until February 1941 that this index lagged behind the general price level, although, owing to a drought in the spring and early summer of 1941, it rose for a time above the general price level. Since the spring of 1942, the index again lagged behind the general price level. In March 1943, the food index was 7204 (Jan.-June 1937=100).

Clothing supply has been a difficult problem throughout the war. The index rose steadily after the so-called Shanghai incident in August 1937 (fig. 2a). In 1941, like that of other groups, the clothing index remained quite stable, but beginning with September 1941, it again increased rapidly, doubled from September 1941 to February 1942 and redoubled from February to August 1942. In March 1943 the clothing index was 14273 (Jan.-June 1937=100).

The price of fuel began to move upward in July 1939. Beginning with June, 1941, the fuel index increased ten times in 17 months (fig. 2a). Having remained comparatively stable from November 1940 to September 1941, it quickly doubled itself from September to December 1941. In March 1943, the index was 11580. (Jan.-June 1937=100)

Metals and electric materials are mostly imported goods. The index for these goods rose immediately after the outbreak of the war (fig. 2b) and by June 1940 it was more than double the general price level. During the the past four years, it has fluctuated at a level 160-250 percent above the general price level. In March 1943 it was 18708 (Jan.-June 1937=100).

Building materials include many products from the land, therefore labor is one of the chief constituents of the price. The building index advanced along a course below the general price level throughout the whole period ex ept in the summer of 1939 (fig. 2b). The building of dugouts and of new houses for evacuees from the cities early in 1939 and the bombing of Chengtu in June caused a sudden demand for building materials and consequently stimulated a rapid rise of prices of building materials in that year. In March 1943, the building index was 6449 (Jan.-June 1937=100).

The miscellaneous group includes several exported commodities. Its index has remained below the general price level throughout the war (fig. 2a). In March 1943, the miscellaneous index was 6324, the lowest among all groups (Jan.-June 1937=100).

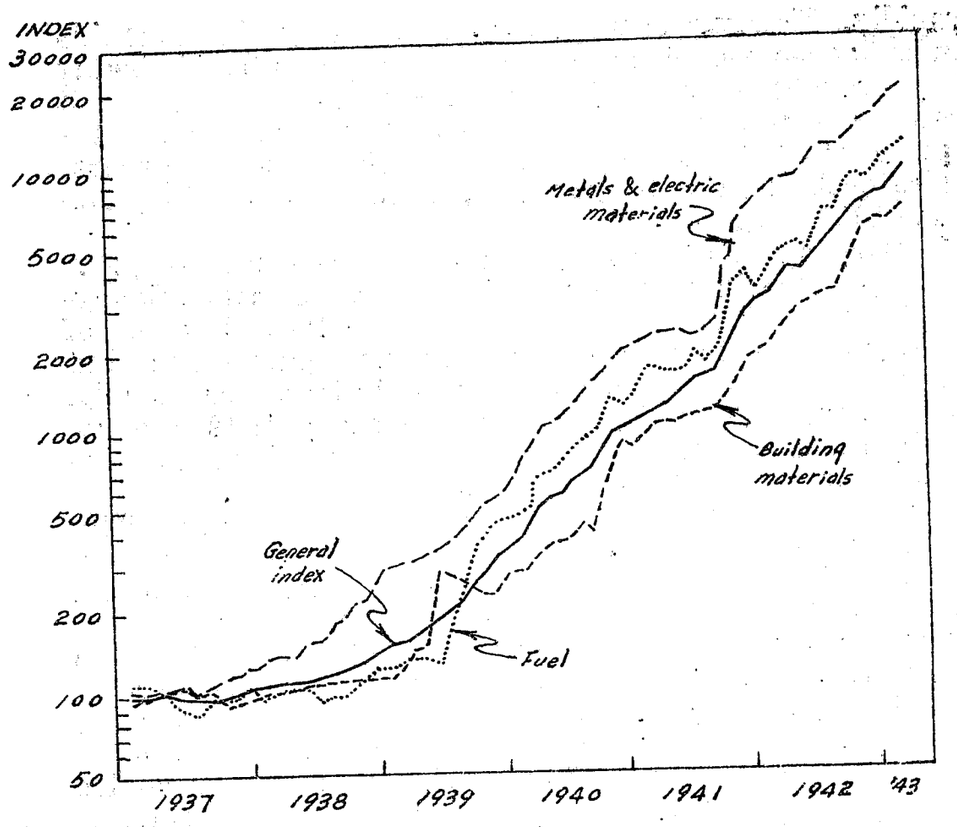


FIGURE 2b. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU: GENERAL INDEX, FUEL, BUILDING MATERIALS, METALS AND ELECTRIC MATERIALS

(January to June 1937 = 100) (Semi-logarithmic scale)

During the present war, difficulties in transportation with other countries have been one of the main reasons for rapid advances in prices of imported commodities and slow advances in prices of exported commodities. Immediately after the outbreak of the war, imported goods rose in price while exported goods fell in price on account of the difficulty of transportation. The price of exported goods began to recover after June 1938. But the insoluble transportation problem constantly restrained prices of exported goods on the one hand, and encouraged the rise in prices of imported goods on the other. In consequence, the difference between the index of imports and that of exports became wider and wider,

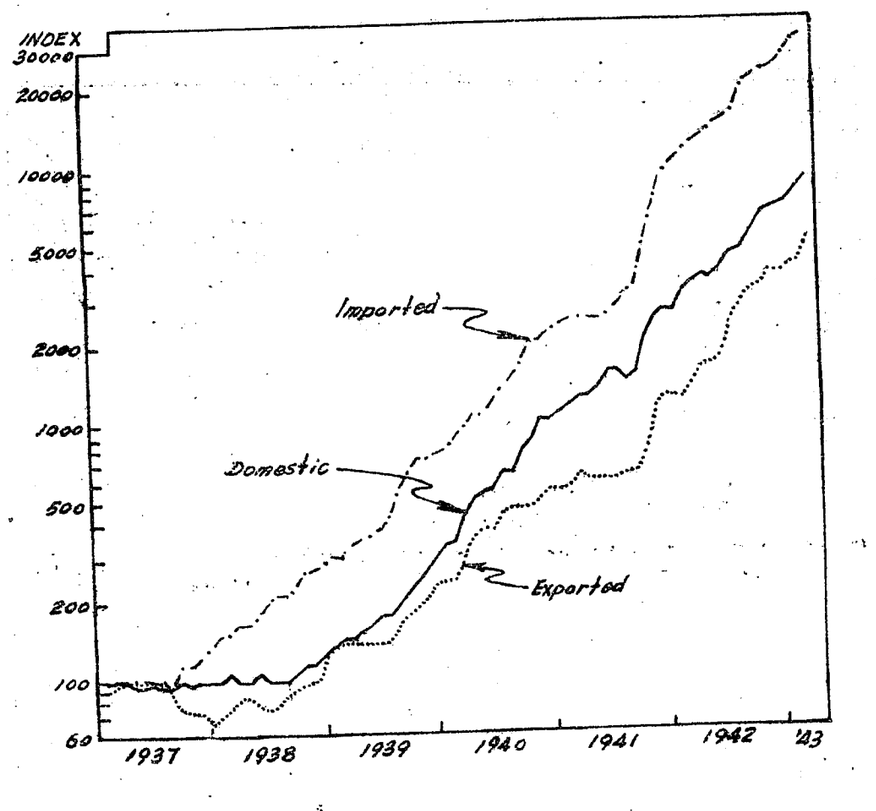


FIGURE 3. INDEX NUMBERS OF WHOLESALE PRICES OF DOMESTIC, IMPORT AND EXPORT COMMODITIES

(Semi-logarithmic scale)

and in March 1943 showed the greatest divergence. The ratio was 8 to 1. The price of domestic goods (excluding exported goods) has fluctuated between import and export prices in a manner showing fairly correctly the relative difficulty at different periods of obtaining imported goods and disposing of exported goods.

In normal times, when general prices rise, prices of raw materials advance more rapidly than those of manufactured goods. But during the present war, the price index of raw materials has lagged behind that of manufactured goods throughout the whole period (imported manufactured goods excluded). This is chiefly due to a reduction in the supply of manufactured goods and an increased demand. Foreign manufactured goods were barred from coming into free China while the domestic industry in the West had yet to be

developed. However, the spreads were not very great. The biggest spread was 50 percent in May 1939. In the last three years, the spreads seldom exceeded 30 percent (index of raw materials=100) (fig. 4).

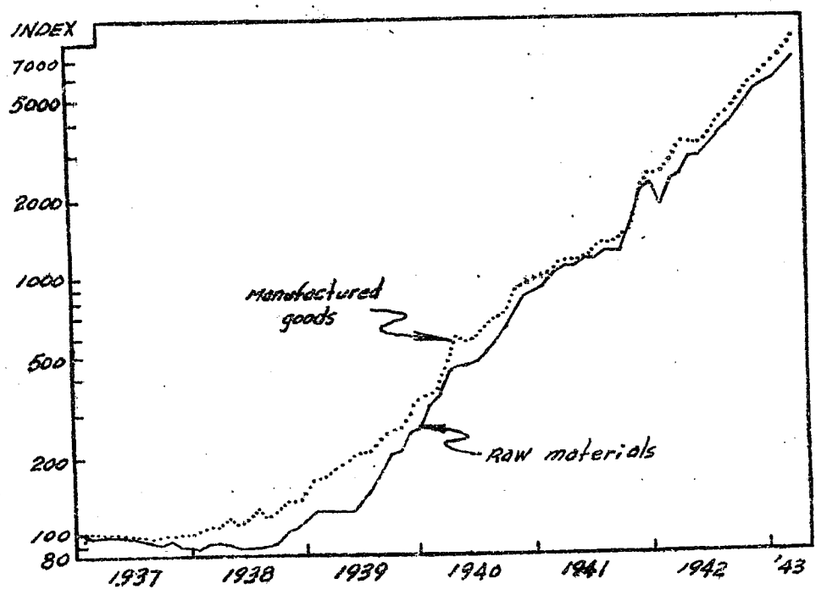


FIGURE 4. INDEX NUMBERS OF WHOLESALE PRICES OF RAW MATERIALS AND MANUFACTURED GOODS IN CHENGTU

(January to June 1937=100) (Semi-logarithmic scale)

Immediately after the outbreak of the Sino-Japanese hostilities, prices of imported goods rose high above the general price level, while some exported goods and foodstuffs, owing to good crops, even fell below the pre-war level. There was a wide dispersion in price ratios. An index of dispersion has been compiled to show the divergency of the price relatives by calculating standard deviations of price relatives of fifty-seven commodities used in the wholesale price index (fig. 5). Immediately after August 1937, the index numbers of dispersion shot up so rapidly that it became almost perpendicular to the wholesale price index. As the index numbers of prices advanced, the index numbers of dispersion rose correspondingly, but unlike the index of prices, they fluctuated very violently.

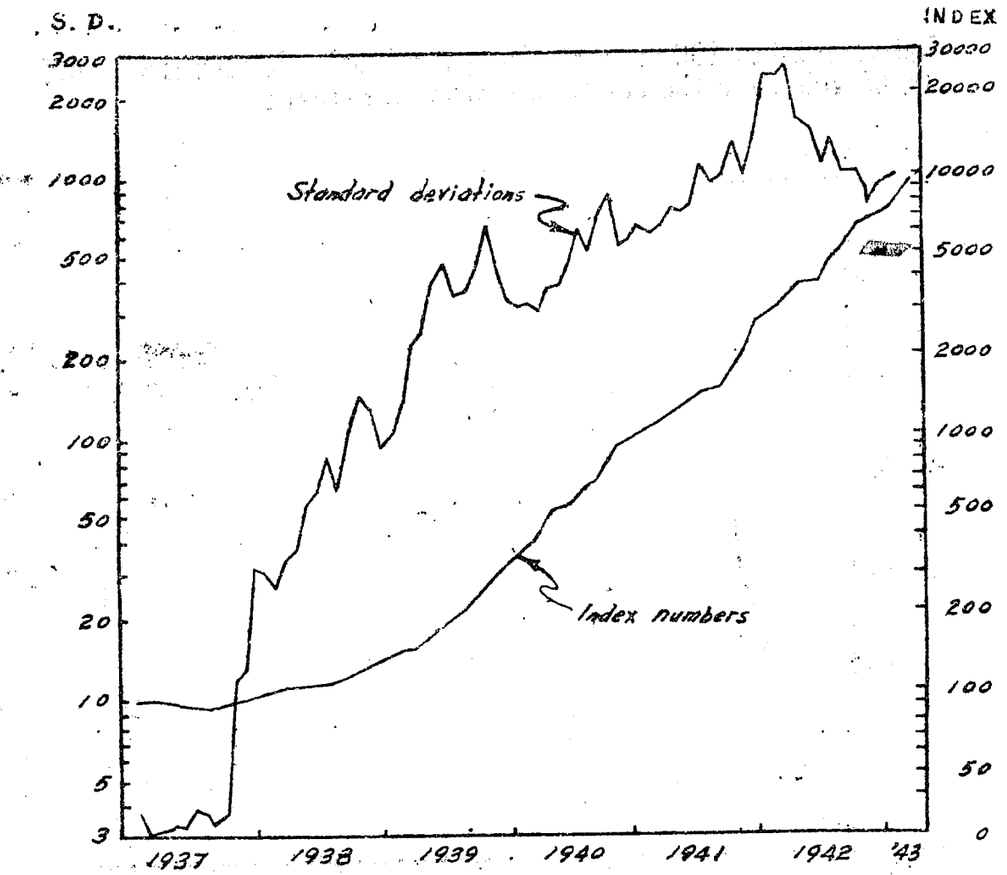


FIGURE 5. THE INDEX NUMBERS AND THE STANDARD DEVIATIONS OF WHOLESALE PRICES OF 57 COMMODITIES IN CHENGTU

(January to June 1937=100) (Semi-logarithmic scale)

By dividing the index numbers of dispersion by the price index, another picture of price behavior is obtained (fig. 6). The variability of price relatives as a percent of the price index, shot up very rapidly from the outbreak of the war up to the summer of 1939. Then, when the general price level started to move upward, it began to fall, indicating a tendency to a gradual restoration of the purchasing power of commodities whose price had lagged behind during the first two years. From July 1939 to March 1940, the coefficient of variability dropped precipitously from 132 percent to 93 percent. Since January 1940, the coefficients were fluctuating

between 80 to 100 percent along a slightly downward trend. In March 1943 the coefficient was 73 percent.

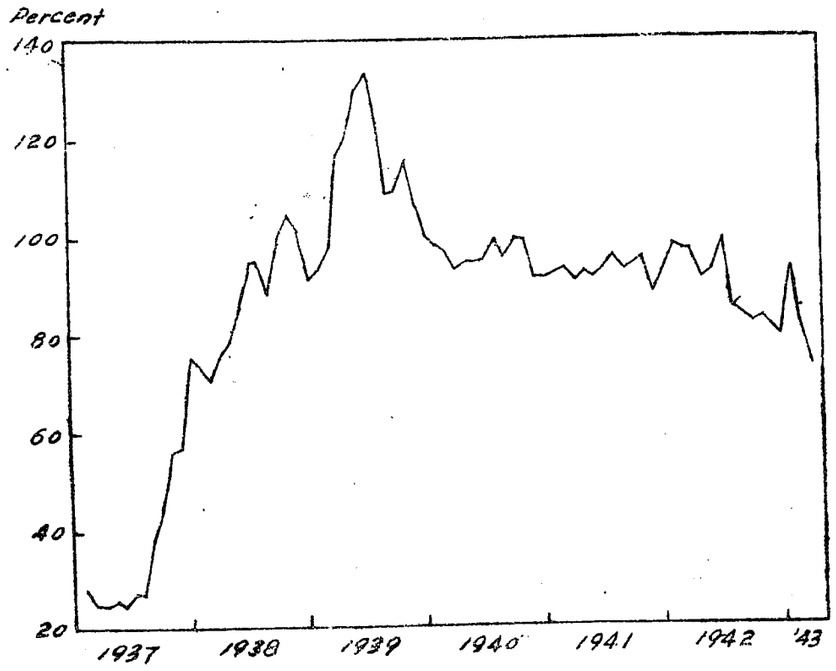


FIGURE 6. COEFFICIENTS OF VARIABILITY OF INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU

(January to June 1937=100)

The rate of the month-to-month change in prices has fluctuated widely during the past five years (fig. 7). The monthly rate of increase from July 1938 to March 1943 is 8 to 9 percent (the preceding month equals 100). In five and a half years there have been only 3 months when the indices were lower than their respective preceding months. In October and November 1941, the monthly rate of increase was as high as 23 and 35 percent respectively. These have been so far the quickest rises in prices in Chengtu.

In conclusion, we may conveniently classify the whole period into 3 stages. The first stage was from July 1937 to June 1939. This stage was characterized by a gentle rise in prices, an increasing dispersion between price ratios, an unnatural fluctuation between prices of exported and

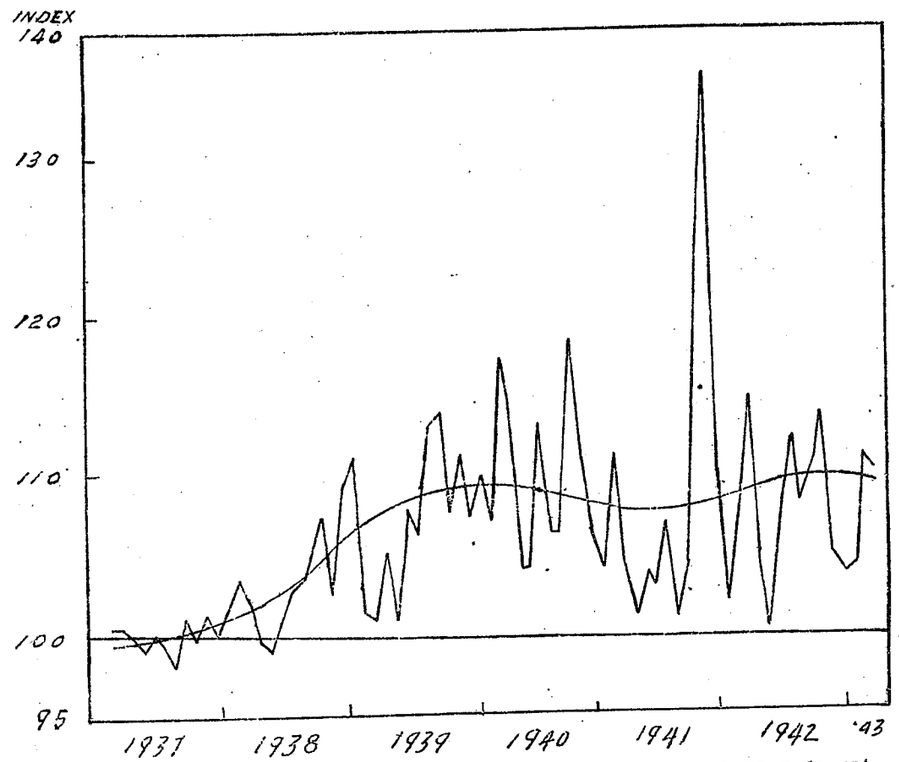


FIGURE 7. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU

(preceding month=100)

imported commodities and an increasing month-to-month rate of change in prices. In this stage, the government tried to stabilize the value of the *yuan* both externally and internally. However, the shortage of imports and the needs of readjustment in price relationships in order to fit wartime industry, called for a gentle rise in prices. The general public was unaware of the depreciation of the *yuan* but, here and there, claims for raising prices of exported goods and agricultural products were heard. Difficulties in transpor tation with other countries and other parts of China were probably the major cause of price changes in this stage.

The second stage, extending from July 1939 to September 1941, was characterized by a rapid rise of prices, a restoration of the position of prices of fuel and foodstuffs, a reduction of the dispersion of prices and a leveling out of the month-to-month rate of increase in prices. During this stage, people began to realize the depreciation of the *yuan*, and the speculation and profiteering developed quickly and became more and more widespread. The government began to set ceilings on prices.

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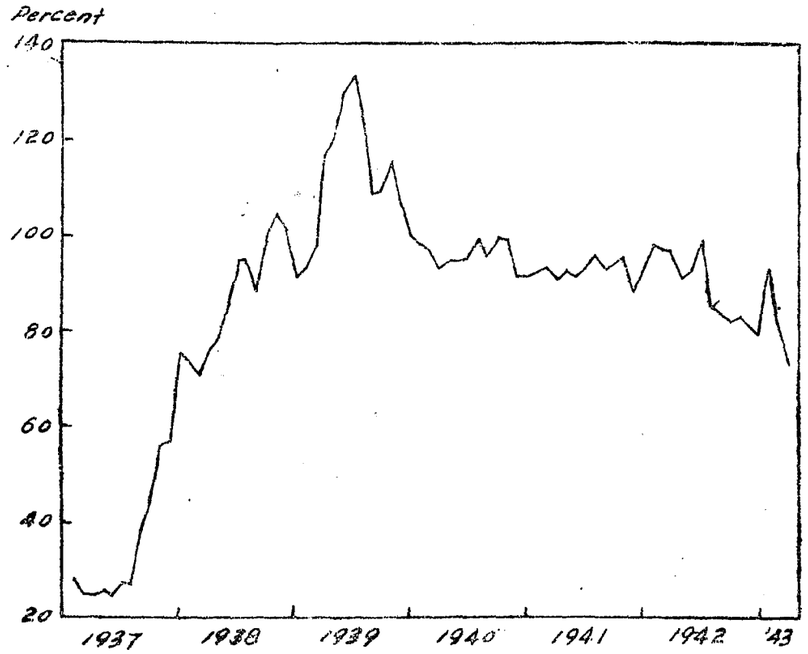

FIGURE 6. COEFFICIENTS OF VARIABILITY OF INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU

(January to June 1937=100)

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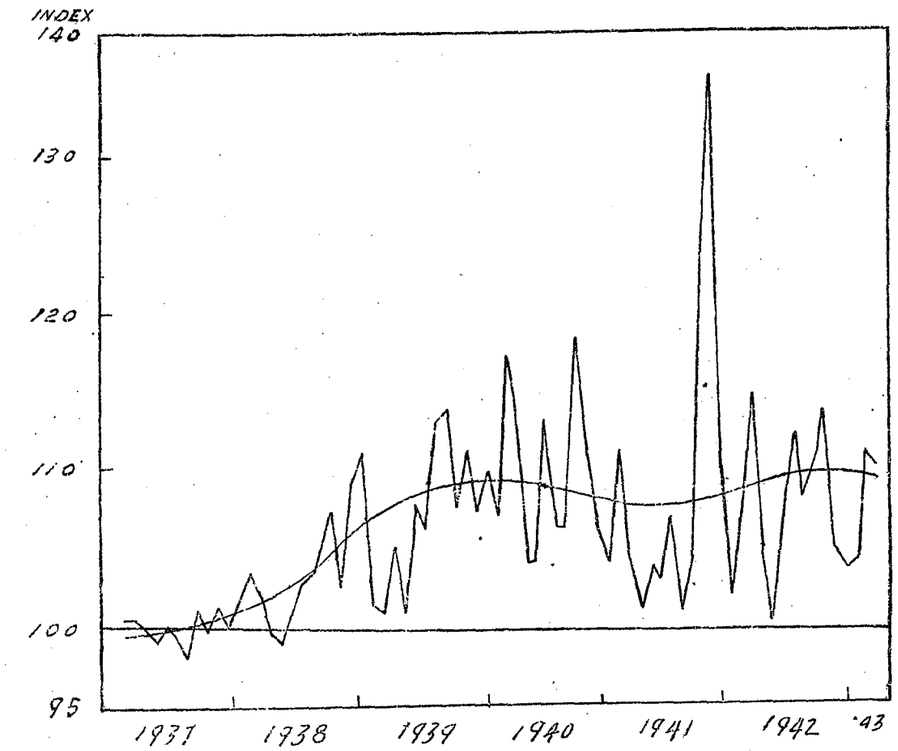


FIGURE 7. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU

(preceding month=100)

imported commodities and an increasing month-to-month rate of change in prices. In this stage, the government tried to stabilize the value of the *yuan* both externally and internally. However, the shortage of imports and the needs of readjustment in price relationships in order to fit wartime industry, called for a gentle rise in prices. The general public was unaware of the depreciation of the *yuan* but, here and there, claims for raising prices of exported goods and agricultural products were heard. Difficulties in transpor tation with other countries and other parts of China were probably the major cause of price changes in this stage.

The second stage, extending from July 1939 to September 1941, was characterized by a rapid rise of prices, a restoration of the position of prices of fuel and foodstuffs, a reduction of the dispersion of prices and a leveling out of the month-to-month rate of increase in prices. During this stage, people began to realize the depreciation of the *yuan*, and the speculation and profiteering developed quickly and became more and more widespread. The government began to set ceilings on prices.

The third stage has lasted from October 1941 up to the present. This stage has been characterized by a continuous rapid rise in prices with more or less uniform slopes of group index curves (see figs. 2a and 2b, 3 and 4), violent fluctuations in month-to-month rates of changes in prices, and a falling of the index of dispersion. In this stage, the government attempted stronger controls on prices, but since there were many commodities and a large area to be controlled, prices have continued to soar. Merchants as well as consumers have been alive to the rise of the general price level and the depreciation of the *yuan*. Prices of individual commodities have reacted quickly to one another. The re-adjustment of price relationships from peace time to wartime seems more or less complete so that group index curves are moving along with fairly constant margins between each other. The general price level continues to rise at a fairly constant rate in geometric progression, in disregard of any control measures. If the trend goes on unchanged, the general price index for the first month of 1944 will probably be in the neighborhood of 20000 (Jan. - June 1937=100).

Kwoh-hwa Hu

INDICATORS OF PRICE CHANGES[1]

(January to June 1937=100)

Items	Number of items or observations	Index numbers	Date	Place
Wholesale prices and cost of living:				
1. Wholesale prices of all commodities	57	10278	Apr. 1943	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	9650	Apr. 1943	Chengtu
3. Wholesale prices of imported goods	9	31160	Apr. 1943	Chengtu
4. Wholesale prices of exported goods	10	4812	Apr. 1943	Chengtu
5. Wholesale prices of raw materials	30	7773	Apr. 1943	Chengtu
6. Wholesale prices of manufactured producers' goods	11	10966	Apr. 1943	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	10141	Apr. 1943	Chengtu
8. Wholesale prices in important cities, Free China				
(a)Highest: Kunming, Yunnan		14270	Dec. 1942	
(b)Lowest: Kweilin, Kwangsi		5439	Feb. 1943	
(1) Kunming, Yunnan (Aug. 1937=100)(a)	141	14270	Dec. 1942	
(2) Sian, Shensi (June 1937=100)(b)		10768	Feb. 1943	
(3) Chungking, Szechwan(c)	94	7944	Feb. 1943	
(4) Chengtu, Szechwan	57	8321	Feb. 1943	
(5) Kweilin, Kwangsi(d)	48	5439	Feb. 1943	
9. Cost of living	76	7389	Apr. 1943	Chengtu
10. Retail prices of seven commodities commonly used	7	8585	Apr. 1943	Chengtu
11. Retail prices for 6 cities in Free China(e)				
(a)Highest: Sian, Shensi	25	8810	Feb. 1943	
(b)Lowest: Sining, Chinghai	25	4273	Feb. 1943	
(1) Sian, Shensi	25	8810	Feb. 1943	
(2) Chungking, Szechwan	25	7778	Feb. 1943	
(3) Yunyang, Hupeh	25	7659	Feb. 1943	

[1]Compiled by Department of Agricultural Economics, College of Agriculture and Forestry, University of Nanking, unless otherwise indicated.

Items	Number of items or observations	Index numbers	Date	Place
(4) Kweilin, Kwangsi	25	6957	Feb. 1943	
(5) Kweiyang, Kweichow	25	6916	Feb. 1943	
(6) Sining, Chinghai	25	4273	Feb. 1943	
12. Rent, city residences	100	1525	Apr. 1943	Chengtu
13. School tuition				
(1) Primary school	1	2500	Mar. 1943	Chengtu
(2) Middle school	1	450	Mar. 1943	Chengtu
(3) University	1	200	Mar. 1943	Chengtu
City wages (f)	12	5532	Apr. 1943	Chengtu
1. Carpenters	1	6667	Apr. 1943	Chengtu
2. Masons	1	6667	Apr. 1943	Chengtu
3. Cotton weavers	1	6000	Apr. 1943	Chengtu
4. Silk weavers	1	2375	Apr. 1943	Chengtu
5. Tailors	1	4000	Apr. 1943	Chengtu
6. Barbers	1	7500	Apr. 1943	Chengtu
7. Blacksmiths	3	5767	Apr. 1943	Chengtu
8. Coppersmiths	3	4383	Apr. 1943	Chengtu
9. Maidservants	8	7344	Apr. 1943	Chengtu
Salaries:				
1. Professors' salaries (g)	10	1090	Apr. 1943	Chengtu
2. Clerks (g)	10	2642	Apr. 1943	Chengtu
3. Soldiers' cash allowances	6	550	Apr. 1943	Chengtu
Chinese currency:				
1. Purchasing power of *yuan* in terms of cost of living	-	1.4	Apr. 1943	Chengtu
2. Purchasing power of *yuan* in terms of wholesale prices of domestic commodities	-	1.0	Apr. 1943	Chengtu
U.S.A. currency:				
1. Increase in number of *yuan* for one US$ at buying official exchange rate of 20 *yuan* to one US dollar	-	594	Apr. 1943	Chengtu
2. Calculated expected rate of *yuan*/US$ exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in U.S.A. (a) actual	-	US$ 0.0054	Jan. 1943	Chengtu
(b) Estimated (h)	-	US$ 0.0036	Apr. 1943	Chengtu

Items	Number of items or observations	Index numbers	Date	Place
3. Purchasing power of US$				
(a) at official exchange rate in China	-	6.1	Apr. 1943	Chengtu
(b) actual in U.S.A.	-	85	Jan. 1943	U.S.A.
4. Wholesale prices of domestic commodities in terms of US$ at official exchange rate		1625	Apr. 1943	Chengtu
5. Wholesale prices in U.S.A.	-	118	Jan. 1943	U.S.A.
Sterling currency:				
1. Increase in number of *yuan* for one pound sterling	-	483	Apr. 1943	
2. Calculated expected *yuan*/pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in England				
(a) Actual	-	0.32d	Jan. 1943	Chengtu
(b) Estimated (h)	-	0.32d	Apr. 1943	Chengtu
3. Purchasing power of pound sterling				
(a) at official buying rate in China	-	5.0	Apr. 1943	Chengtu
(b) actual in England	-	68	Jan. 1943	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the official exchange rate	-	1998	Apr. 1943	Chengtu
5. Wholesale prices in England	-	147	Jan. 1943	England
Gold and silver:				
1. Price of gold (open market)	1	7000	Apr. 1943	Chengtu
2. Price of silver (open market)	1	5641	Apr. 1943	Chengtu
3. Wholesale prices of domestic commodities in terms of gold (i)	-	138	Apr. 1943	Chengtu
4. Wholesale prices of domestic commodities in terms of silver (i)	-	171	Apr. 1943	Chengtn
Farm prices (4 *hsien*):				
1. Prices received by farmers (1937=100)	16-22	6611	Mar. 1943	Szechwan
2. Farmers' cost of production	-	6179	Mar. 1943	Szechwan

	Items	Number of items or observations	Index numbers	Date	Place
3.	Prices paid by farmers for producers' and consumers' goods (1937=100)	17-51	7659	Mar. 1943	Szechwan
4.	Prices paid by farmers for producers' goods	16-22	6788	Mar. 1943	Szechwan
5.	Prices paid by farmers for consumers' goods	17-29	8642	Mar. 1943	Szechwan
6.	Purchasing power of farmers (ratio of prices received by farmers to prices paid by farmers including all costs of production and prices paid for consumers' goods)	-	95	Mar. 1943	Szechwan
7.	Crop rent	-	4384	Oct. 1942	Szechwan
8.	Land taxes	-	3689	Oct. 1942	Szechwan
9.	Farm land value (8 *hsien*)	-	4699	Mar. 1943	Szechwan
10.	Farm year labor (8 *hsien*)	-	5031	Mar. 1943	Szechwan
11.	Farm day labor (8 *hsien*)	-	6429	Mar. 1943	Szechwan

(a) Statistical Department of Municipal Government of Kunming.
(b) Economic Research Department of Provincial Bank of Shensi.
(c) Central Bureau of Survey and Statistics, Commission of Military Affairs, Chungking, Szechwan. Probably ceiling prices used.
(d) Department of Economic Survey of Sin-chung Corporation, Kweilin, Kwangsi.
(e) Data from Farmers' Bank of China.
(f) The general index of city wages is the weighted geometric average of all groups, excluding maid-servants. The weights used are as follows: carpenters 22.2, masons 15.8, cotton weavers 11.0, silk weavers 12.2, tailors 11.9, barbers 21.9, blacksmiths 2.5, coppersmiths 2.5. The data on wages were supplied by the union or by individuals.
(g) From one organization.
(h) Preliminary estimate based on the rate of increase in priees.
(i) Previously wholesale prices of 57 commodities was used.

APPENDIX I

TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES IN CHENGTU, 1937-APRIL 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of *yuan*
Number of commodities	57	15	9	4	9	5	15	
Years:								
1937	99	99	102	98	106	100	94	101.1
1938	116	95	139	104	173	106	106	86.5
1939	219	147	298	232	398	208	193	45.7
1940	653	533	841	847	1282	454	491	15.3
1941	1616	1830	1637	2119	3059	1223	999	6.2
1942	4771	4084	5862	5974	10254	3408	3315	2.1
1943								
Jan.	7458	5666	10915	9602	15332	5758	5165	1.3
Feb.	8321	6757	11983	10469	17002	5986	5629	1.2
Mar.	9232	7204	14273	11580	18708	6449	6324	1.1
Apr.	10278	8256	16830	12356	21341	6890	6678	1.0

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-APRIL 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Domestic commodities	Import commodities	Export commodities
Number of commodities	57	38	9	0
1937	99	100	110	90
1938	116	108	212	87
1939	219	199	486	163
1940	653	633	1396	397
1941	1616	1658	3658	721
1942	4771	4358	15528	2349
1943				
Jan.	7458	6698	25308	3734
Feb.	8321	7581	28392	3928
Mar.	9232	8354	29967	4676
Apr.	10278	9650	31160	4812

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-APRIL 1943

Jan. to June 1937=100 (Simple geometric average)

Period	Raw materials			Manufactured goods		
	Producers' goods	Consumers' goods	All	Producers' goods	Consumers' goods	All
Number of commodities	8	2	30	11	9	20
1937	97	96	96	102	98	100
1938	97	95	96	134	114	125
1939	188	160	176	244	206	226
1940	628	447	548	637	648	642
1941	1498	1216	1377	1360	1623	1473
1942	3660	3538	3607	4469	4678	4548
1943						
Jan.	5865	5204	5591	7930	7037	7515
Feb.	6383	5970	6215	8490	8242	8377
Mar.	7063	6657	6901	9992	8924	9496
Apr.	8229	7136	7773	10966	10141	10587

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-APRIL 1943

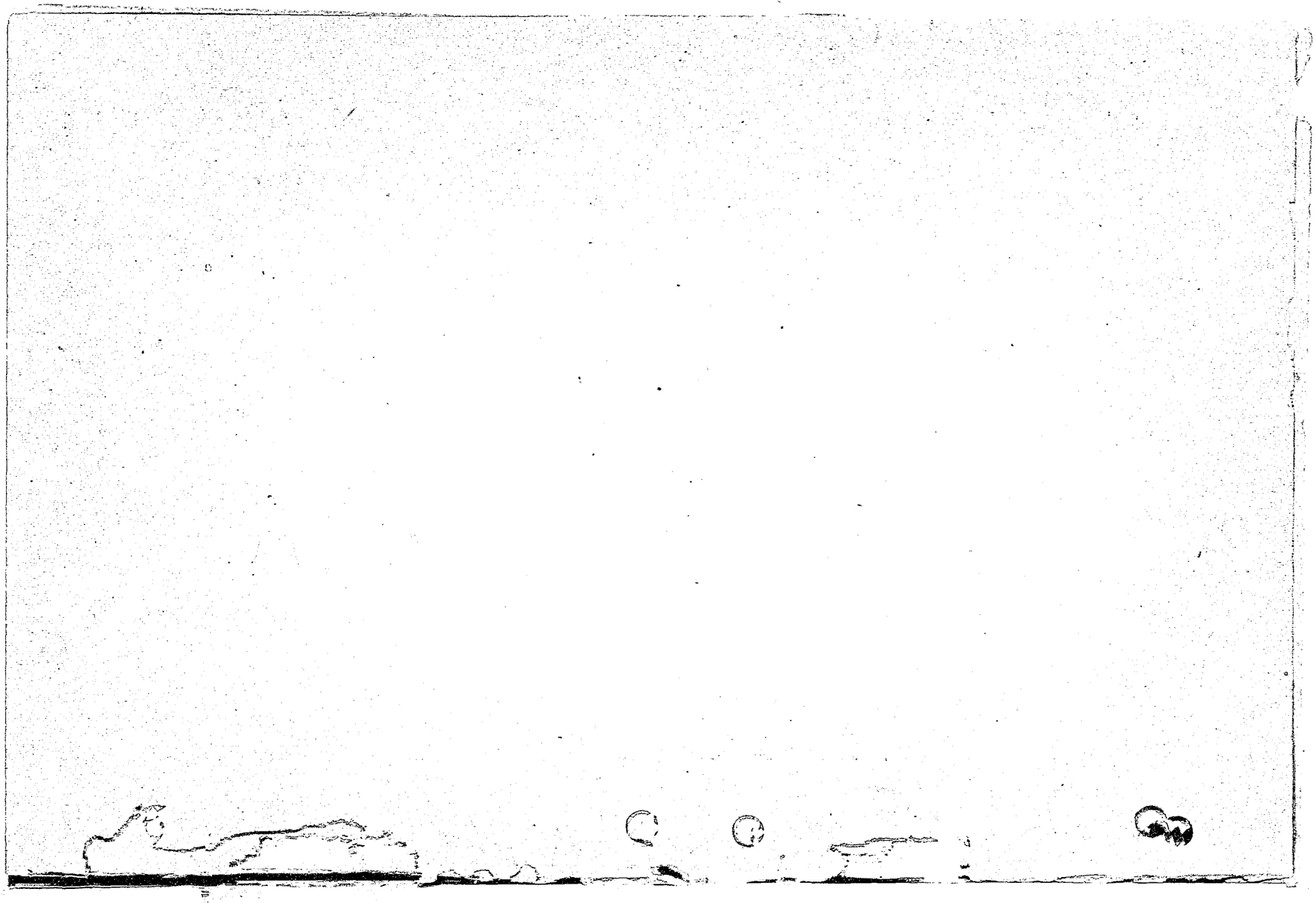
Feb. to June 1937=100 (weighted aggregative)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	102	105	100
1939	126	148	157	140
1940	435	448	444	442
1941	1661	1464	1391	1524
1942	3274	3560	3738	3473
1943				
Jan.	4450	5111	5744	4948
Feb.	5301	5804	6476	5723
Mar.	5742	6422	7230	6289
Apr.	7000	7434	8118	7389

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-APRIL 1943

Feb. to June 1937=100 (weighted geometric average)

Period	General index	Food	Clothing	Rent	Fuel and lighting	Miscellaneous	Purchasing power of *yuan*
Number of commodities	76	28	13	2	12	21	
1937	98	98	104	100	97	100	101.6
1938	100	92	142	103	97	115	100.4
1939	140	120	267	109	163	182	71.3
1940	442	441	852	117	604	387	22.7
1941	1524	1786	1787	185	1670	1171	6.6
1942	3473	3376	6409	462	4829	3621	2.9
1943							
Jan.	4948	4413	10835	1006	7451	5599	2.0
Feb.	5723	5398	11739	1006	7999	6099	1.7
Mar.	6289	5834	13810	1222	8524	6854	1.6
Apr.	7389	7080	16223	1525	9003	7602	1.4



ECONOMIC FACTS

DEPARTMENT OF AGRICULTURAL ECONOMICS
COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU, CHINA

No. 21 June 1943

MAJOR PRICE RELATIONS

(January to June 1937=100)

	Items	Number of items	Index numbers	Date		Place
1.	Wholesale prices of domestic commodities	38	11097	May	1943	Chengtu
2.	Prices received by farmers (4 hsien)	9-13	7254	Apr.	1943	Szechwan
3.	Cost of living	76	8898	May	1943	Chengtu
4.	City wages	12	5870	May	1943	Chengtu
5.	Farm wages	8	5599	Apr.	1943	Szechwan
6.	Salaries- professors	10	1256	May	1943	Chengtu
7.	Soldiers' cash allowances	6	550	May	1943	Chengtu
8.	Land taxes		3689	Oct.	1942	Szechwan
9.	Wholesale prices of domestic commodities in terms of silver	38	201	May	1943	Chengtu
10.	Wholesale prices of domestic commodities in terms of gold	38	154	May	1943	Chengtu
11.	Wholesale prices of domestic commodities in terms of US$ at official exchange rate	38	1868	May	1943	Chengtu
12.	Wholesale prices in U. S. A. (Statist index)	-	118	Jan,	1943	U.S.A.
13.	Wholesale prices in England (Statist index)	-	147	Jan,	1943	England
14.	Purchasing power of farmers (4 hsien)	-	96	Apr.	1943	Szechwan
15.	Purchasing power of rice (a)	-	87	May	1943	Chengtu
16.	Freight rates (Truck)	1	3600	May	1943	Szechwan
17.	Monthly interest rate per $1000	1	308	May	1943	Chengtu

(a) Calculated in terms of wholesale prices of 57 commodities.

CONTENTS

WEIGHTS AND MEASURES

One *li* is equivalent to one-third of an English mile

One *shih tan* is equivalent to 100 liters or 2.8378 American bushels.

One *shih tou* is one-tenth of a *shih tan.*

One *shih shen* is one-tenth of a *shih tan.*

One *shih picul* is equivalent to 110.23 pounds avoirdupois.

One *shih chin* (catty) is equivalent to 1.1 pounds avoirdupois.

The *yuan* is the Chinese unit of currency. The exchange rate is pegged at 20 *yuan* to one U.S. dollar and 80 *yuan* to one pound sterling. The rate has no relation to the price level in China.

A STUDY OF PRICE MARGINS OF IMPORTANT RAW MATERIALS AND MANUFACTURED ARTICLES IN CHENGTU

The object of this study is to ascertain price margins of raw materials and manufactured articles, the relative demand for various raw materials and between different types of manufactured articles. Such margins show the relative special profitableness of various industries.

Usually, when prices rise, prices of raw materials rise faster than those of manufactured goods; and when prices fall, prices of raw materials decline faster than those of manufactured goods. This is because much of the cost of manufactured goods is made up of wages, rents and other fixed charges which do not change rapidly.

This generalization does not hold true in Chengtu for the period under review, since Free China is primarily an agricultural country, dependent only in part upon the import of consumers' manufactured commodities and the export of farm products and other raw materials. Since the war, transportation distances have increased thus increasing transportation cost. Moreover, partial blockade conditions have existed and more recently the blockade has been almost complete. There also appears to have been more hoarding of manufactured goods than of raw materials, and hence prices of raw materials have advanced more slowly than prices of manufactured goods.

The wholesale price index of raw materials has shown a continuous fall from the second quarter of 1937 to the third quarter of 1938, declining to an index of 92, while the index of manufactured goods advanced to 129. From 1937 to April 1943, the advance in prices of raw materials has always lagged behind the rise in prices of manufactured goods. In the fourth quarter of 1939 the index of prices of raw materials advanced only to 252, while that of manufactured goods advanced to 293. In the first quarter of 1943, their respective indices were 6236 and 8463. As prices continued to rise rapidly, the discrepaney between these two groups widened.

The prices of different commodities varied greatly in their advance. Some articles rose less than the average index of wholesale prices, some about average and others advanced above the average.

The enormous dispersion of the individual items - that is, their divergences from the average - illustrates the extent to which each article was subject to its own complicated conditions of demand and supply in addition to the common monetary factor.

It is not necessary to discuss all these commodities in detail but some significant contrasts may be noted. Those articles which rose in price less than, or about the average of all commodities are mostly native products or goods which could be manufactured in China and which are relatively abundant. Most of the articles which rose in price more than the average are imported goods or goods in high demand, or those goods really scarce in Free China.

From the advance in prices of various commodities one may conclude that those articles which advanced in price and to a high point, are those in great need and of great scarcity. The relative special profitableness of various small scale industries may be determined roughly by these price margins between raw materials and manufactured articles, and between different types of manufactured articles.

I. *Metals*—Iron and steel - The basic raw materials in the metal industry are pig iron and coal. The demand for steel products for armaments is so urgent, that the price of steel rose higher than iron. The index of price of pig iron advanced to 12500 and coal to 16355 in April 1943 (Jan.-June 1937=100), while that of galvanized iron plain sheets, was 57683; galvanized wire, 53497; iron nails 28929 and steel, 22927. If equipment and technical skill are available, this industry should be very profitable.

From 1937 to April 1943, with the exception of a few months in 1940, the monthly prices of steel and galvanized iron plain sheets advanced much more rapidly than that of pig iron (figs. 1 and 2). For a few months in 1940, the production of pig iron was relatively lower than the demand for it, so its price advanced above that of steel for a short time.

II. *Textiles* (1) Cotton - The cotton textile industry is profitable because there was a divergency in prices of raw cotton and cotton yarn. By April 1943 the price indices were 26274 for cotton, 28790 for cotton yarn 20' and 23270 for native white cloth. The manufacturing of cotton yarn is very profitable on account of this divergence and its wide

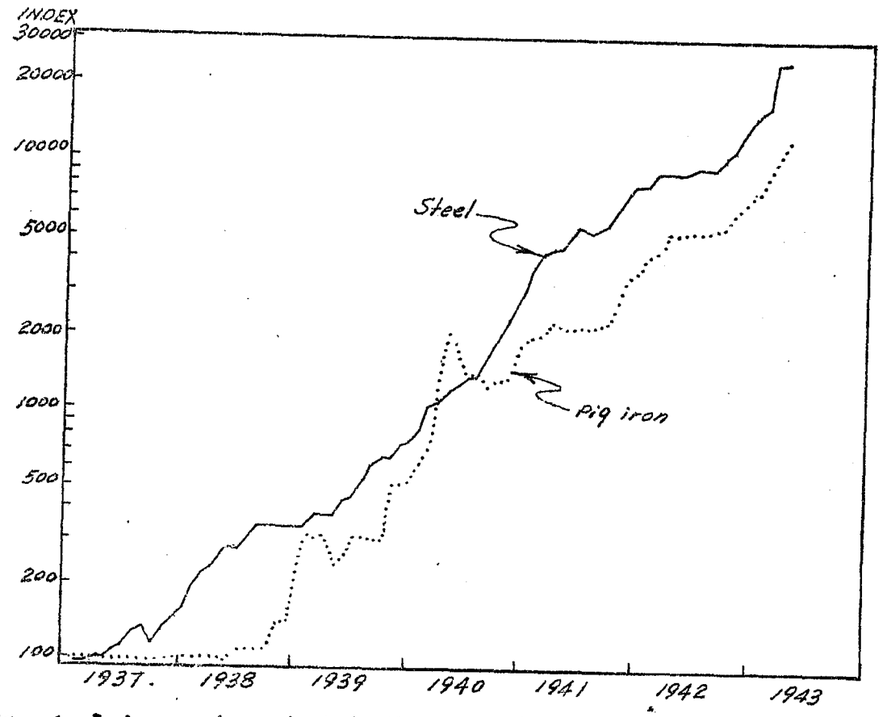


Fig. 1 - Index numbers of wholesale prices of pig iron and steel in Chengtu (January-June 1937=100)

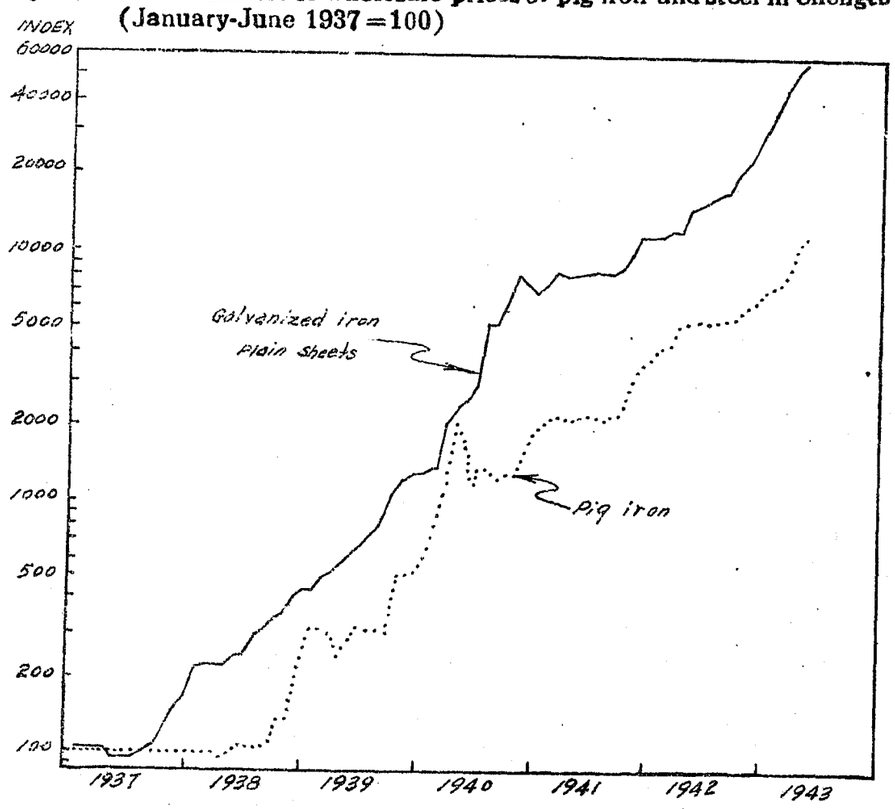


Fig. 2 - Index numbers of wholesale prices of pig iron and galvanized iron plain sheets in Chengtu (January-June 1937=100)

use. The manufacturing of native white cloth is not so profitable because its price rose on the whole less rapidly than that of cotton yarn (fig. 3).

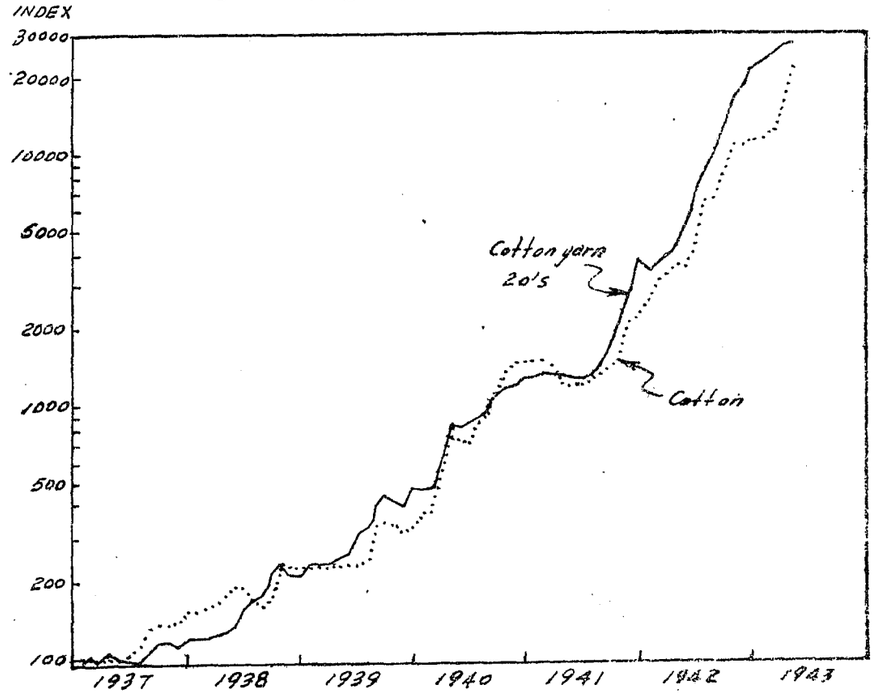


Fig. 3 - Index numbers of wholesale prices of cotton and cotton yarn 20' in Chengtu (January-June 1937 = 100)

The disparities between the prices of cotton and cotton yarn and the prices of yarn and its finished products are not so wide as that of pig iron and its finished products. From July 1937 to June 1938, the price of cotton rose more rapidly than that of cotton yarn 20'. Since June 1938 yarn advanced more rapidly than cotton (fig. 3). The prices of native white cloth and cotton yarn 20' rose approximately at the same rate, but cotton yarn 20' was slightly higher (fig. 4).

(2) Silk - The price of silk sometime rose more, sometimes less rapidly than the price of silk cloth (fig. 5). The profitability of manufacturing silk into cloth varied also. From April 1937 to August 1938, the price index of coarse raw silk was often lower than that of coarse silk cloth and sometimes it was below the prewar level due to blockade of exports (fig. 5). From September 1938 to June 1941, the decrease in production of silk caused the price to fluctuate

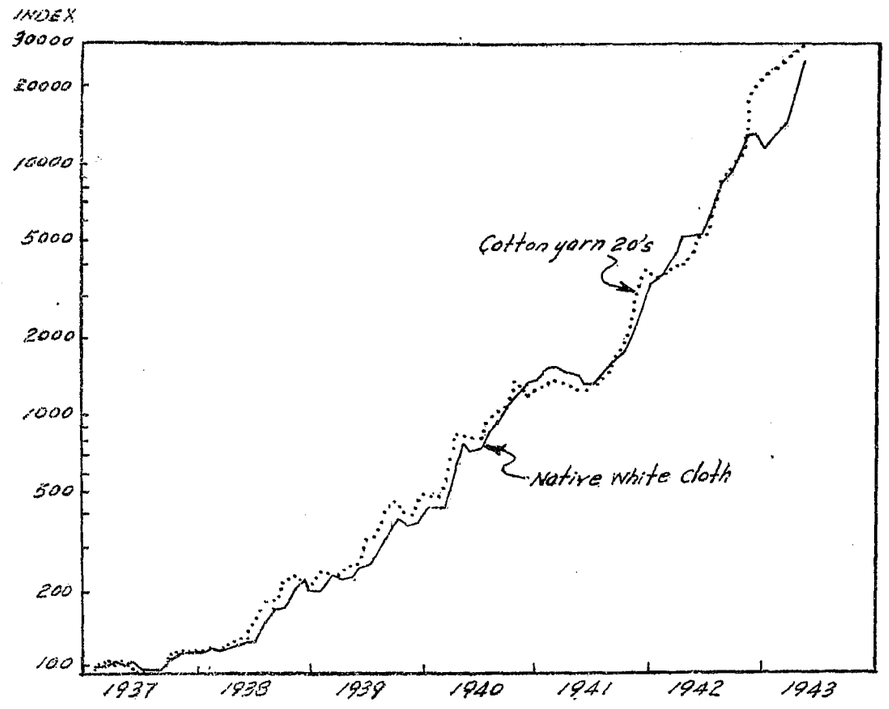


Fig. 4 - Index numbers of wholesale prices of cotton yarn 20' and native white cloth in Chengtu (January-June 1937 = 100)

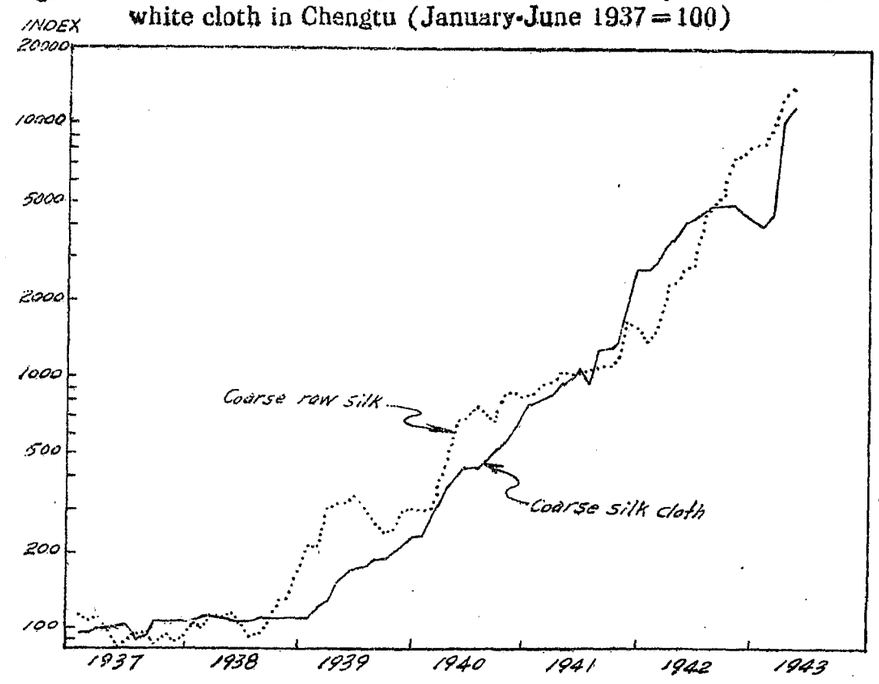


Fig. 5 - Index numbers of wholesale prices of coarse raw silk and coarse silk cloth in Chengtu (January-June 1937 = 100)

irregularly and advance higher than that of coarse silk cloth. Since June 1941, the prices of cotton rose very high and increased the demand for silk cloth. Therefore, silk cloth rose more rapidly than raw silk. It would be profitable to develop the coarse silk industry for domestic needs in addition to that of cotton cloth.

(3) Hemp - Hemp is a good raw material for grain bags and packaging. Since the war, internal transportation of goods has increased and the demand for grain bags and packaging cloth is so urgent that prices of hemp and hemp cloth rose steadily. The price of hemp cloth rose more rapidly than hemp, so its manufacture was very profitable.

III. *Flour and vegetable oil* - Milling of wheat and oil-pressing of rapeseed is profitable, because the prices of wheat and rapeseed rose less rapidly than their finished products.

From 1938 to 1939 the price of wheat rose less rapidly

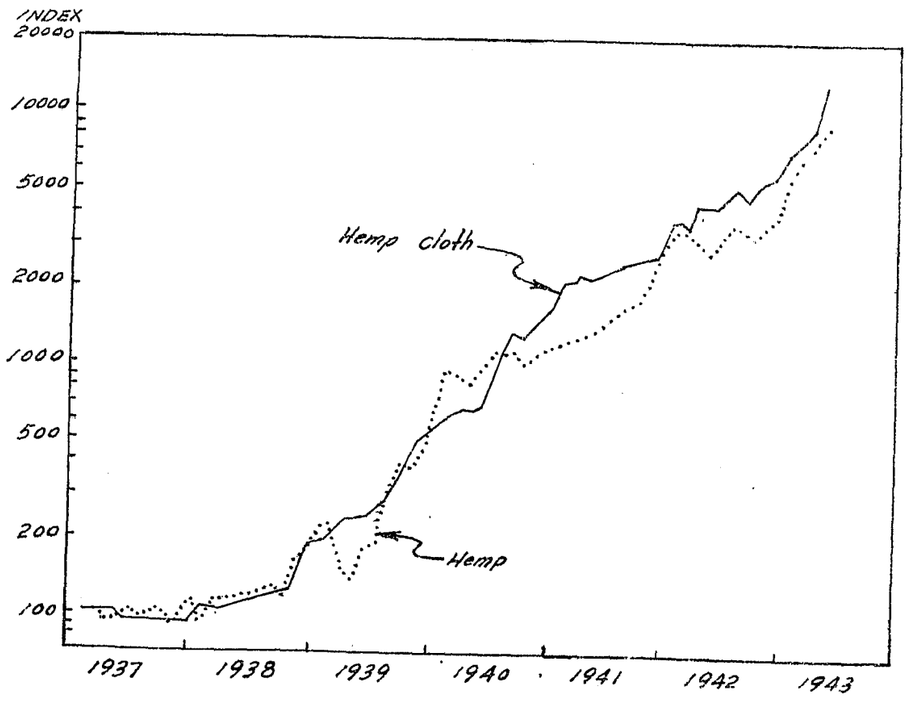


Fig. 6 - Index numbers of wholesale prices of hemp and hemp cloth in Chengtu (January-June 1937=100)

than that of wheat flour (fig. 7). Therefore milling was very profitable. From March 1940 to May 1942 wheat prices rose more rapidly than wheat flour and wheat milling was not so profitable as during the previous two years. From May 1942 to January 1943, the price of wheat flour rose a little higher than that of wheat, and milling became more profitable again. From 1937 to April 1943, the prices of rapeseed and rapeseed oil rose approximately at the same rate. Rapeseed oil was higher for longer periods than rapeseed (fig. 8).

IV. *Leather* - The prices of cow hides rose more rapidly than leather. Leather sometimes rose more rapidly than leather shoes. The tannin for curing leather advanced much higher in price than did hides or leather. The discrepancy of these prices indicates no special profit in the leather industry.

From September 1937 to May 1939, the price of leather rose slightly more rapidly than that of hides (fig. 9). From June 1939 to April 1943, the price of hides rose more rapidly than that of leather, and a wide discrepancy between their

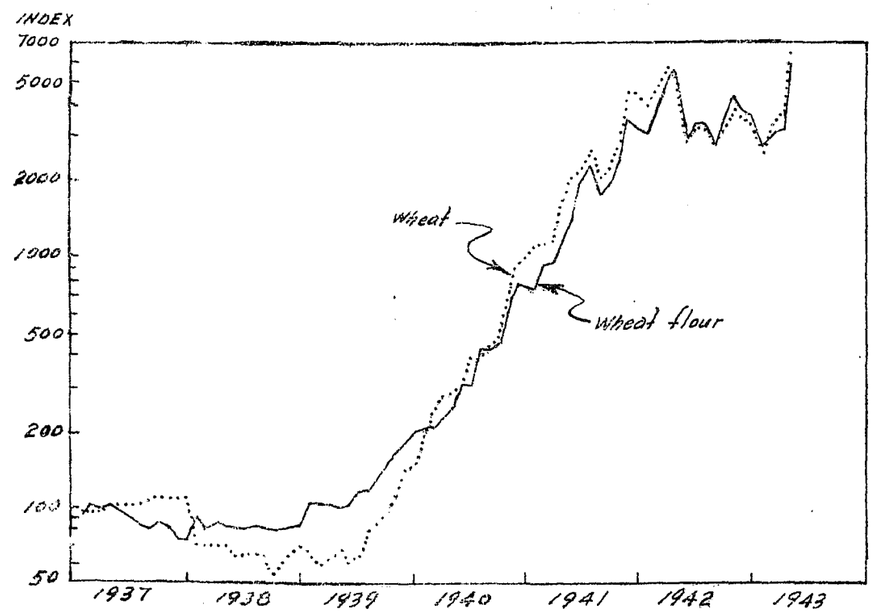


Fig. 7 - Index numbers of wholesale prices of wheat and wheat flour in Chengtu (January-June 1937=100)

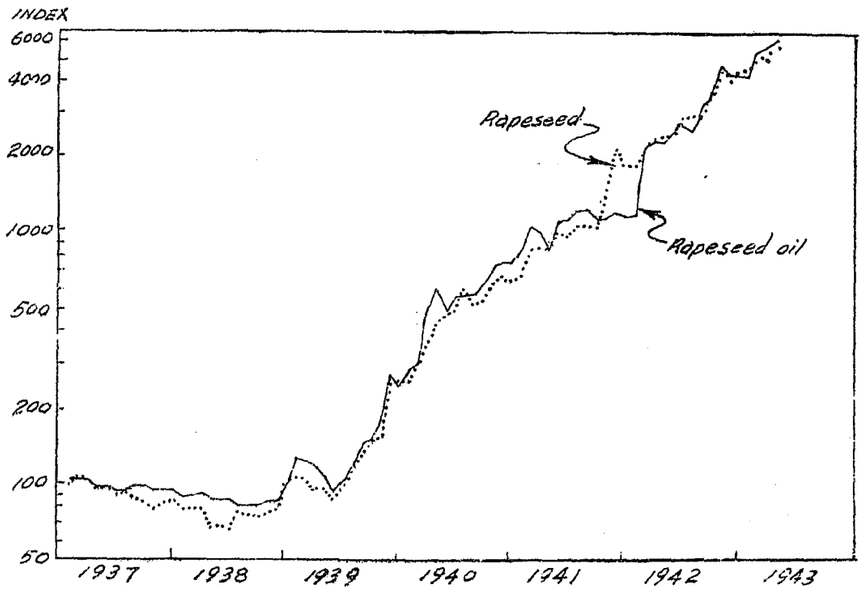


Fig. 8 - Index numbers of wholesale prices of rapeseed and rapeseed oi in Chengtu (January-June 1937 = 100)

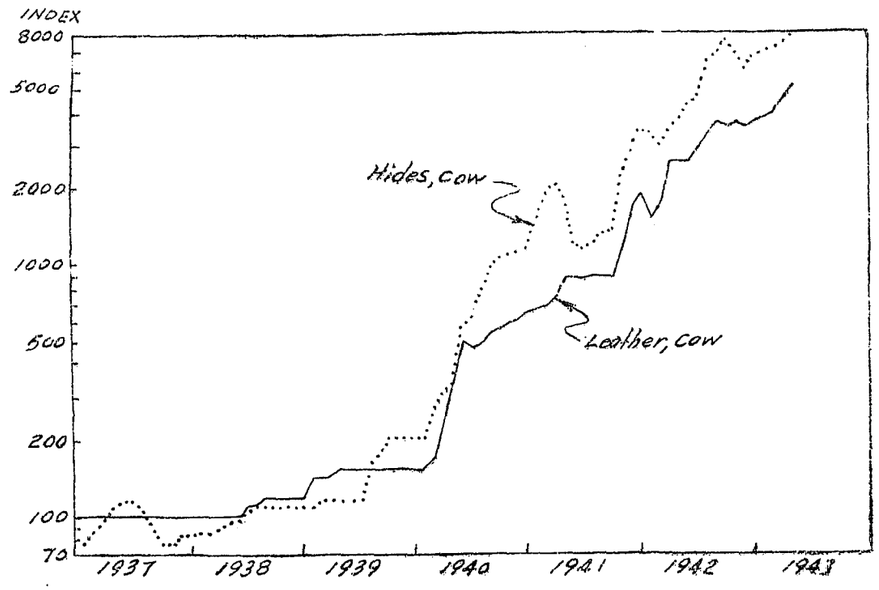


Fig. 9 - Index numbers of wholesale prices of cow-hides and leather in Chengtu (January-June 1937 = 100)

prices occurred. It was not profitable to produce leather during this period. The price of leather shoes rose sometimes more, sometimes less rapidly than the price of leather (fig. 10) causing variation in the profitability of making leather shoes.

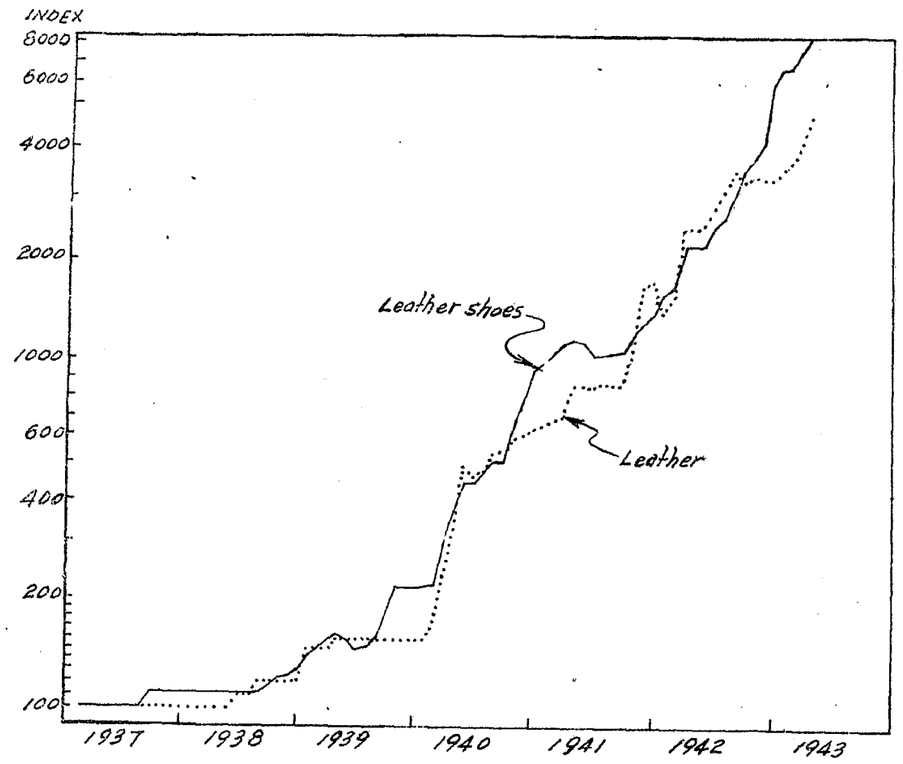


Fig. 10 - Index numbers of wholesale price of leather and retail price of leather shoes (January-June 1937 = 100)

Conclusion

During a period of abnormally rising prices, as at present, the factors which determine prices are very complicated. Moreover, the factors for success or failure of a given industry are many. During a time of rising prices, the special profitability of industry depends largely on the relation between the prices of finished products, the price of the material used in their production and the lag in advance of wages. From this study of price margins between raw materials and manufactured goods in these industries, it appears that iron and steel, cotton and hemp textiles indust-

ries are the most profitable. Other profitable industries with less divergence between prices of raw material and the finished article are wheat milling, rapeseed oil pressing and silk textiles. The least profitable of the industries included in this study is leather goods.

Yin-yuen Wang

A PRELIMINARY STUDY OF THE COST OF LIVING OF THE MILITARY-OFFICIAL-EDUCATIONAL CLASS IN CHENGTU, 1941-42

A study of the cost of living in Chengtu was made by the Department of Agricultural Economics in 1938. Index numbers of the cost of living in Chengtu based upon the said study have since been calculated regularly to reveal the living conditions of people of different social classes.

During these five years, prices of all commodities have risen so high that consumers' income and expenditure have been greatly altered and consequently, the amount and distribution of the consumers' income spent in different categories of purchases have been greatly changed.

In July 1942, a second study on the cost of living in Chengtu for June 1941-May 1942 was made by the Department of Agricultural Economics in order to see the effect of rising prices upon the living conditions of consumers, especially those of fixed income earners, and to revise the cost of living index by adjusting the weights to more up-to-date ones.

The present article is a part of the result of the 1941-42 study on 57 families of the military-official-educational (M.O.E.) class. It includes an investigation of 37 officials (including 20 military officials) and 20 educational families comparable in rank to those investigated in 1938.

Size of family. In the present study, 57 official and educational families were investigated as compared with 30 in the 1937 study. The average size of the 57 families, 3.83 adult male units (A.M.U.), was smaller than that in 1937, 5.04 adult male units (table 1).

This reduction was probably due to pressure from the high cost of living which forced many idle members of the family to go elsewhere for work and the old and disabled to go back to the villages to avoid air raids and to escape the high cost of city living.

The number of adult females was 44 percent more than adult males in the 57 families studied. This is probably due to the fact that, firstly, some of the adult males were working in other cities or at the front while their families lived in Chengtu, secondly, a few had more than one wife, and lastly, some adult females went to live in the home of relatives when their own families were dissolved owing to the death

of the husband or other causes. The average number of persons in a family was 5.11.

Table 1. Average size of family of 57 families of the M. O. E. class in Chengtu, June 1941-May 1942

Age	Number of persons *per family*		A. M. U. per *family*	
	Male	Female	Male	Female
Under 2	.21	.12	.06	.04
2 - 9	.40	.40	.18	.18
10-16	.37	.33	.28	.22
Adult	1.25	1.80	1.25	1.44
Over 60	.19	.04	.15	.03
Average	2.42	2.69	1.92	1.91
Average	5.11		3.83	

The income earners per family were 1.35 A.M.U. or .35 A.M.U. per 1 consuming A.M.U. (table 2).

Table 2. Average size of family and number of earners in A. M. U. per family in 57 families of the M.O.E. class in Chengtu, June 1941-May 1942

	Male	Female	Total
Number of A. M. U.	1.92	1.91	3.83
Number of earners in A. M. U.	1.14	.21	1.35
Percent of earners consuming A. M. U.			35

Only 11.7 percent of the adult females had direct earning power. Most of them stayed at home looking after their house and children. Of the adult males 8.8 percent had no earning power.

Family income. The family income of the M. O. E. class when compared with the cost of living has increased slowly during the past 5 years. The average annual family income was 13,078 *yuan* in 1941-42 (table 3). The income per A. M. U. in 1937 was 315 *yuan* while that in 1941-42 was 3414 *yuan*. Thus, in five years, the family income of the M. O. E. class increased only 10.83 times while the cost of living of that class increased by 20.69 times the pre-war average (1937). The purchasing power of the M. O. E. class, therefore, has been reduced to 52 percent of the prewar average. Sources of income have also undergone a great

change. In 1937, professional earnings and income from estates combined amounted to 96 percent of the total family income while professional earnings alone accounted for 82 percent. In 1941-42, professional earnings accounted for only 53 percent while non-professional income including that from estates) has risen to 34 percent. Besides, in 1941-42, special receipts such as loans and help from friends amounted to 13 percent of the total. Salary accounted for only 27 percent of the family income.

Table 3. Family income of 57 families of the M. O.E. class in Chengtu, June 1941-May 1942

	Family income	Income per A.M.U.	Group income in percent of total
	yuan	*yuan*	*percent*
Professional earnings	6,874	1,791	53
Salary	3,529	921	27
Rice subsidy	1,824	476	14
Wartime subsidy	1,007	263	8
Extra work	453	118	3
Board and lodging supplies	61	16	1
Non-professional income	4,360	1,138	34
Income from estate	2,374	620	18
Business income	1,919	501	15
Interest received	67	17	1
Special receipts	1,844	482	13
Loans	815	213	6
Gifts	545	142	4
Sale of belongings	182	48	1
Pawning of belongings	16	4	
Bonus for war service	3	1	
Others	283	74	2
Total	13,078	3,414	100

The distribution of the total family income of 57 families is shown in Fig. 1. It is moderately rightskewed even on logarithmic scale, concentrated in 4,000-10,000 *yuan*. The geometric average is 10,000 *yuan*, while the arithmetic mean, being greatly affected by the large incomes, is as high as 13,078 *yuan*.

Family expenditure. The expenditure per family in 1941-42 was 11,197 *yuan* or 2,923 *yuan* per A.M.U. (table 4.) This is 12.52 times that in 1937. Among the five expenditure groups, food and clothing expenditure has risen 23 times,

of the husband or other causes. The average number of persons in a family was 5.11.

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Family expenditure. The expenditure per family in 1941-42 was 11,197 *yuan* or 2,923 *yuan* per A.M.U. (table 4.) This is 12.52 times that in 1937. Among the five expenditure groups, food and clothing expenditure has risen 23 times,

while rent and miscellaneous expenditure have risen only four and half times. When prices rise, food, being essential to life, can not be reduced in amount to any considerable extent so the expenditure on it rises almost at the same pace as price. Prices of clothing materials have risen very rapidly during the war, so in spite of the reduction of family clothing, the expenditure on it has risen 23 times. Owing to a slow increase of rent, the disbursement on rent has risen very slowly during the past 5 years. Miscellaneous expenditures have also increased slowly because of the cutting out of many luxury and unnecessary expenses.

Table 4. Average family expenditures per A. M. U. for the M. O. E. class in Chengtu, 1937 and 1941-42

Items	1937	1941-42	Ratio 1941-42 / 1937	Cost of living index 1937=1
	yuan	*yuan*		
Food	74.68	1740	23.30	22.87
Clothing	17.17	397	23.06	33.95
Rent	36.32	133	3.66	1.87
Fuel and lighting	16.56	245	14.79	29.03
Miscellaneous	91.01	408	4.48	20.22
Total	235.74	2923	12.40	20.69

The distribution of money expended on different groups has therefore changed greatly (table 5). The percent for food has increased from 31.7 to 59.5 percent. Expenditure on clothing has increased by 6.1 percent, chiefly because of the rise in prices of clothing materials. Rent has decreased from 15.4 to 4.6 percent because of increases in other expenditures, while miscellaneous expenses have decreased from

Table 5. Average family expenditures for M. O. E. class in percent of total in Chengtu, 1937 and 1941-42

Items	1937	1941-42
	percent	percent
Food	31.7	59.5
Clothing	7.3	13.5
Rent	15.4	4.6
Fuel and lighting	7.0	8.4
Miscellaneous	38.6	14.0
Total	100.0	100.0

38.6 to 14 percent. The increase in percent of expenditures for necessities and decrease in percent of that for comforts and luxuries reveal a lowering of the standard of living of the M. O. E. class.

The physical consumption of commodities has decreased greatly. In terms of the *yuan* of 1937, the average annual expenditure per A. M. U. was only 187.48 *yuan*, showing a 20 percent decrease from 1937 to 1941-42 (table 6). Food increased only a little probably due to less frequenting of restaurants and less entertaining. Clothing, fuel and lighting decreased to 68 and 51 percent respectively under the pressure of high prices. House rent per A. M. U. was unusual in increasing to 196 percent, probably due to the reduc-

Table 6. Average annual expenditure per A. M. U. for the M O. E. class in Chengtu for 1937 and 1941-42 in terms of *yuan* of 1937

Items	1937	1941-42	Ratio 1941-42 to 1937
	yuan	*yuan*	
Food	74.68	76.08	102
Clothing	17.17	11.66	68
Rent	36.32	71.12	196
Fuel and lighting	16.56	8.44	51
Miscellaneous	91.01	20.18	22
Total	235.74	187.48	80

tion of size of families without a proportional reduction in the room occupancy and to the inclusion of a few extreme cases in 1941-42. The miscellaneous group contains many items low in order of urgency and has been reduced to 22 percent of that in 1937. However, the reduction of this group, which includes educational, medical and recreational expenses, will have great influence on the future welfare of this class. Although the M. O. E. families have reduced their physical consumption in 1941-42 to 80 percent of 1937, yet it is still more difficult to provide that 80 percent with their 1941-42 income than the 1937 consump tion with their income in 1937.

The people of the M. O. E. class are mostly well educated and patriotic and the pressure of the present high living cost has brought great disaster to them. A part of this disaster may be temporary and end with the war, but a part will be

permanent. Hard work, under-nourishment and neglect of curative measures will result in irreparable damage to the health of both adults and children. Reduction of expenditure on education and recreation may mean too great a loss in mental and spiritual development. An unceasing pursuing of extra sources of income outside one's profession in war time will necessarily result in lowered morale and character.

Kwoh-hwa Hu

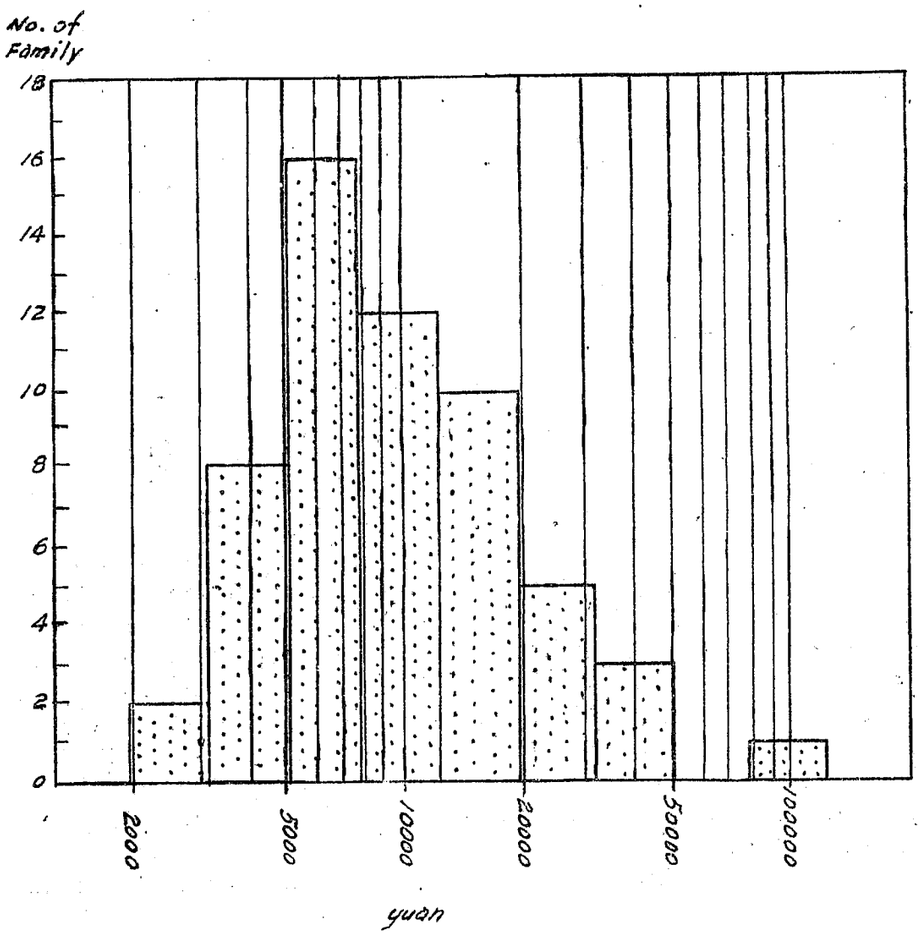


Fig. 1. The distribution of family income of 57 families of the ~~merchant~~ military official-educational class in Chengtu, June 1941 to May 1942

INDICATORS OF PRICE CHANGES[1]

(January to June 1937 = 100)

Items	Number of items or observations	Index numbers	Date	Place
Wholesale prices and cost of living:				
1. Wholesale prices of all commodities	57	11683	May 1943	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	11097	May 1943	Chengtu
3. Wholesale prices of imported goods	9	33892	May 1943	Chengtu
4. Wholesale prices of exported goods	10	5446	May 1943	Chengtu
5. Wholesale prices of raw materials	30	8932	May 1943	Chengtu
6. Wholesale prices of manufactured producers' goods	11	12631	May 1943	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	11866	May 1943	Chengtu
8. Wholesale prices in important cities, Free China				
(a)Highest: Kunming, Yunnan		16558	Feb. 1943	
(b)Lowest: Kweilin, Kwangsi		5439	Feb. 1943	
(1) Kunming, Yunnan (Aug. 1937=100)(a)	141	16558	Feb. 1943	
(2) Sian, Shensi (June 1937=100)(b)		12194	Mar. 1943	
(3) Chungking, Szechwan(c)	94	8047	Mar. 1943	
(4) Chengtu, Szechwan	57	9232	Mar. 1943	
(5) Kweilin, Kwangsi(d)	48	5439	Feb. 1943	
9. Cost of living	78	8898	May 1943	Chengtu
10. Retail prices of seven commodities commonly used	7	11097	May 1943	Chengtu
11. Retail prices for 6 cities in Free China(e)	No data since February, 1943			
12. Rent, city residences	100	1816	May 1943	Chengtu
13. School tuition				
(1) Primary school	1	2500	Mar. 1943	Chengtu
(2) Middle school	1	450	Mar. 1943	Chengtu
(3) University	1	200	Mar. 1943	Chengtu

[1]Compiled by Department of Agricultural Economics, College of Agriculture and Forestry, University of Nanking, unless otherwise indicated.

Items	Number of items or observations	Index numbers	Date	Place
City wages (f)	12	5870	May 1943	Chengtu
1. Carpenters	1	6667	May 1943	Chengtu
2. Masons	1	6667	May 1943	Chengtu
3. Cotton weavers	1	6000	May 1943	Chengtu
4. Silk weavers	1	2875	May 1943	Chengtu
5. Tailors	1	5000	May 1943	Chengtu
6. Barbers	1	7500	May 1943	Chengtu
7. Blacksmiths	3	6920	May 1943	Chengtu
8. Coppersmiths	3	5344	May 1943	Chengtu
9. Maidservants	8	8394	May 1943	Chengtu
Salaries:				
1. Professors' salaries (g)	10	1256	May 1943	Chengtu
2. Clerks (g)	10	3034	May 1943	Chengtu
3. Soldiers' cash allowances	6	550	May 1943	Chengtu
Chinese currency:				
1. Purchasing power of *yuan* in terms of cost of living	-	1.1	May 1943	Chengtu
2. Purchasing power of *yuan* in terms of wholesale prices of domestic commodities	-	0.9	May 1943	Chengtu
U.S.A. currency:				
1. Increase in number of *yuan* for one US$ at buying official exchange rate of 20 *yuan* to one US dollar	-	594	Apr. 1943	Chengtu
2. Calculated expected rate of *yuan*/US$ exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in U.S.A. (a) actual	-	US$ 0.0054	Jan. 1943	Chengtu
(b) estimated (h)	-	US$ 0.0033	May 1943	Chengtu
3. Purchasing power of US$ (a) at official exchange rate in China		5.4	May 1943	Chengtu
(b) actual in U.S.A.	-	85	Jan. 1943	U.S.A.
4. Wholesale prices of domestic commodities in terms of US$ at official exchange rate		1868	May 1943	Chengtu
5. Wholesale prices in U.S.A.	-	118	Jan. 1943	U.S.A.

Items	Number of items or observations	Index numbers	Date	Place
Sterling currency:				
1. Increase in number of *yuan* for one pound sterling	-	483	Apr. 1943	
2. Calculated expected *yuan*/pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in England				
(a) Actual	-	0.32d	Jan. 1943	Chengtu
(b) Estimated (h)	-	0.32d	May 1943	Chengtu
3. Purchasing power of pound sterling				
(a) at official buying rate in China	-	4.4	May. 1943	Chengtu
(b) actual in England	-	68	Jan. 1943	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the official exchange rate	-	2298	May 1943	Chengtu
5. Wholesale prices in England	-	147	Jan. 1943	England
Gold and silver:				
1. Price of gold (open market)	1	7220	May 1943	Chengtu
2. Price of silver (open market)	1	5534	May 1943	Chengtu
3. Wholesale prices of domestic commodities in terms of gold (i)	-	154	May 1943	Chengtu
4. Wholesale prices of domestic commodities in terms of silver (i)	-	201	May 1943	Chengtn
Farm prices (4 *hsien*):				
1. Prices received by farmers (1937=100)	16-22	7254	Apr. 1943	Szechwan
2. Farmers' cost of production	-	6620	Apr. 1943	Szechwan
3. Prices paid by farmers for producers' and consumers' goods (1937=100)	17-31	8268	Apr. 1943	Szechwan
4. Prices paid by farmers for producers' goods	16-22	7291	Apr. 1943	Szechwan
5. Prices paid by farmers for consumers' goods	17-29	9376	Apr. 1943	Szechwan

Items	Number of items or observations	Index numbers	Date	Place
6. Purchasing power of farmers (ratio of prices received by farmers to prices paid by farmers including all costs of production and prices paid for consumers' goods)	-	96	Apr. 1943	Szechwan
7. Crop rent	-	4384	Oct. 1942	Szechwan
8. Land taxes	-	3689	Oct. 1942	Szechwan
9. Farm land value (8 *hsien*)	-	5030	Apr. 1943	Szechwan
10. Farm year labor (8 *hsien*)	-	5116	Apr. 1943	Szechwan
11. Farm day labor (8 *hsien*)	-	6909	Apr. 1943	Szechwan

(a) Statistical Department of Municipal Government of Kunming.
(b) Economic Research Department of Provincial Bank of Shensi.
(c) Central Bureau of Survey and Statistics, Commission of Military Affairs, Chungking, Szechwan. Probably ceiling prices used.
(d) Department of Economic Survey of Sin-chung Corporation, Kweilin, Kwangsi.
(e) Data from Farmers' Bank of China.
(f) The general index of city wages is the weighted geometric average of all groups, excluding maid-servants. The weights used are as follows: carpenters 22.2, masons 15.8, cotton weavers 11.0, silk weavers 12.2, tailors 11.9, barbers 21.9, blacksmiths 2.5, coppersmiths 2.5. The data on wages were supplied by the union or by individuals.
(g) From one organization.
(h) Preliminary estimate based on the rate of increase in prices.
(i) Previously wholesale prices of 57 commodities was used.

APPENDIX I

TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES IN CHENGTU, 1937-MAY 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of *yuan*
Number of commodities	57	15	9	4	9	5	15	
Years:								
1937	99	99	102	98	106	100	94	101.1
1938	116	95	139	104	173	106	106	86.5
1939	219	147	298	232	398	208	193	45.7
1940	653	533	841	847	1282	454	491	15.3
1941	1616	1830	1637	2119	3059	1223	999	6.2
1942	4771	4084	5862	5974	10254	3408	3315	2.1
1943								
Jan.	7458	5666	10915	9602	15332	5758	5165	1.3
Feb.	8321	6757	11983	10469	17002	5986	5629	1.2
Mar.	9282	7204	14273	11580	18708	6449	6324	1.1
Apr.	10278	8256	16830	12356	21341	6890	6678	1.0
May	11683	9678	20138	15111	22402	7187	7555	0.9

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-MAY 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Domestic commodities	Import commodities	Export commodities
Number of commodities	57	38	9	0
1937	99	100	110	90
1938	116	108	212	87
1939	219	199	486	163
1940	653	633	1396	397
1941	1616	1658	3658	721
1942	4771	4358	15528	2349
1943				
Jan.	7458	6698	25308	3734
Feb.	8321	7581	28392	3928
Mar.	9232	8354	29967	4676
Apr.	10278	9650	31160	4812
May	11683	11097	33892	5446

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-MAY 1943

Jan. to June 1937=100 (Simple geometric average)

Period	Raw materials			Manufactured goods		
	Producers' goods	Consumers' goods	All	Producers' goods	Consumers' goods	All
Number of commodities	8	2	30	11	9	20
1937	97	96	96	102	98	100
1938	97	95	96	134	114	125
1939	188	160	176	244	206	226
1940	628	447	548	637	648	642
1941	1498	1216	1377	1360	1623	1473
1942	3660	3538	3607	4469	4678	4548
1943						
Jan.	5865	5204	5591	7930	7037	7515
Feb.	6383	5970	6215	8490	8242	8377
Mar.	7068	6657	6901	9992	8924	9496
Apr.	8229	7136	7773	10966	10141	10587
May	9453	8206	8932	12631	11866	12281

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-MAY 1943

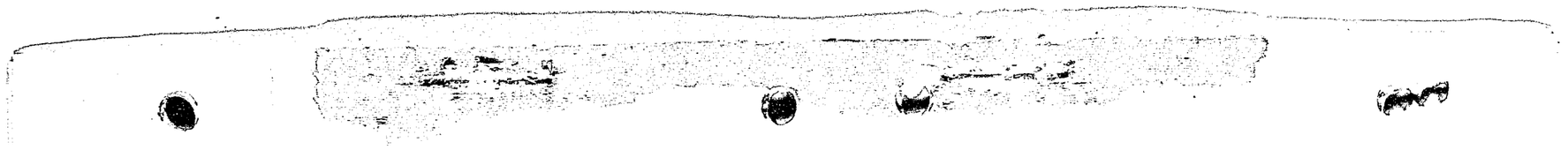
Feb. to June 1937=100 (weighted aggregative)

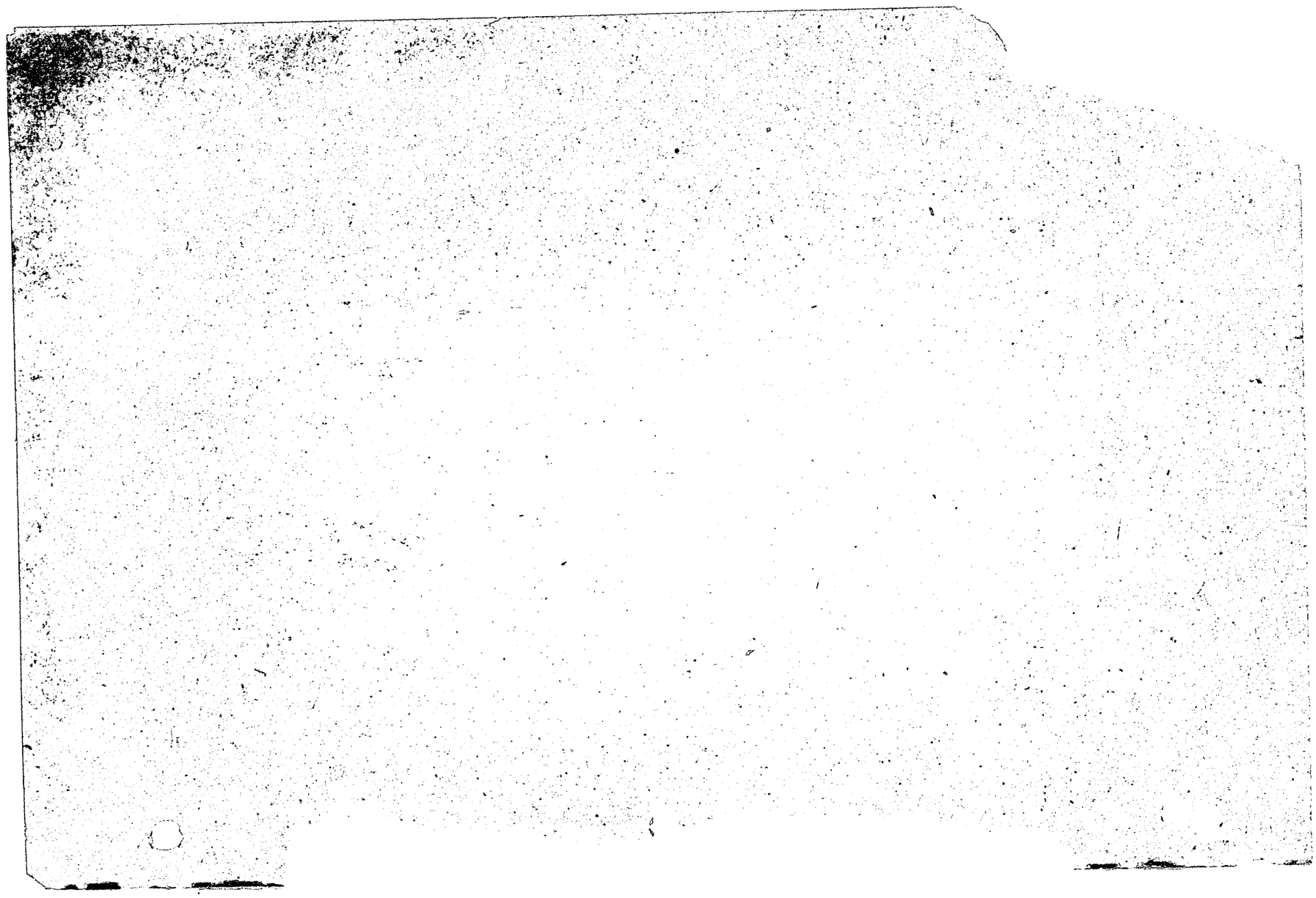
Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	102	105	100
1939	126	148	157	140
1940	435	448	444	442
1941	1661	1464	1391	1524
1942	3274	3560	3738	3473
1943				
Jan.	4450	5111	5744	4948
Feb.	5301	5804	6476	5723
Mar.	5742	6422	7230	6289
Apr.	7000	7434	8118	7389
May	8909	8711	9207	8898

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-MAY 1943

Feb. to June 1937=100 (weighted geometric average)

Period	General index	Food	Clothing	Rent	Fuel and lighting	Miscellaneous	Purchasing power of *yuan*
Number of commodities	76	28	13	2	12	21	
1937	98	98	104	100	97	100	101.6
1938	100	92	142	103	97	115	100.4
1939	140	120	267	109	163	182	71.3
1940	442	441	852	117	604	387	22.7
1941	1524	1786	1787	185	1670	1171	6.6
1942	3473	3376	6409	462	4829	3621	2.9
1943							
Jan.	4948	4413	10835	1006	7451	5599	2.0
Feb.	5723	5398	11739	1006	7999	6099	1.7
Mar.	6289	5834	13810	1222	8524	6854	1.6
Apr.	7389	7080	16223	1525	9003	7602	1.4
May	8898	8842	19297	1816	10242	8269	1.1





ECONOMIC FACTS

DEPARTMENT OF AGRICULTURAL ECONOMICS

COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU, CHINA

No. 22 July 1943

MAJOR PRICE RELATIONS

(January to June 1937=100)

Items	Number of items	Index numbers	Date	Place
1. Wholesale prices of domestic commodities	38	12947	June 1943	Chengtu
2. Prices received by farmers (4 hsien)	9-13	8687	May 1943	Szechwan
3. Cost of living	76	10850	June 1943	Chengtu
4. City wages	12	6360	June 1943	Chengtu
5. Farm wages	8	6429	May 1943	Szechwan
6. Salaries- professors	10	1430	June 1943	Chengtu
7. Soldiers' cash allowances	6	550	Jan. 1943	Chengtu
8. Land taxes		3689	Oct. 1942	Szechwan
9. Wholesale prices of domestic commodities in terms of silver	38	211	June 1943	Chengtu
10. Wholesale prices of domestic commodities in terms of gold	38	153	June. 1943	Chengtu
11. Wholesale prices of domestic commodities in terms of US$ at official exchange rate	38	2180	June, 1943	Chengtu
12. Wholesale prices in U. S. A. (Statist index)	-	118	Jan. 1943	U.S.A.
13. Wholesale prices in England (Statist index)	-	147	Jan. 1943	England
14. Purchasing power of farmers (4 hsien)	-	95	May 1943	Szechwan
15. Purchasing power of rice (a)	-	93	June. 1943	Chengtu
16. Freight rates (Truck)	1	3600	June 1943	Szechwan
17. Monthly interest rate per $1000	1	308	June 1943	Chengtu

(a) Calculated in terms of wholesale prices of 57 commodities.

CONTENTS

WEIGHTS AND MEASURES

One *li* is equivalent to one-third of an English mile

One *shih tan* is equivalent to 100 liters or 2.8378 American bushels.

One *shih tou* is one-tenth of a *shih tan.*

One *shih shen* is one-tenth of a *shih tan.*

One *shih picul* is equivalent to 110.23 pounds avoirdupois.

One *shih chin* (catty) is equivalent to 1.1 pounds avoirdupois.

The *yuan* is the Chinese unit of currency. The exchange rate is pegged at 20 *yuan* to one U S. dollar and 80 *yuan* to one pound sterling. The rate has no relation to the price level in China.

THE FARMER'S ECONOMIC POSITION IN RELATION TO OTHER CLASSES OF SOCIETY[1]

Essays and discussions on the parasitic nature of various social classes in relation to the farmer are numerous. A scientific or business-like analysis of the economic extent of the predatory nature of such classes is conspicuous by its absence. This study is a preliminary attempt to discover ways of making such an analysis. It is incomplete and suggestive only, but it is hoped it may be the forerunner of more thorough and comprehensive studies.

A total of 105 farms were studied at Lungfeng, a hsiang (township , in Penghsien, Szechwan. These farms averaged 16.5 *shih mow* in size and were equally divided in number, 35 each, for owner, part owner and tenant farmers. Owner farms were smaller than part owner farms, and part owner farms smaller than tenant farms (table 1).

Land values per *shih mow* were slightly higher for land farmed by part owners (2, 641 *yuan*) than by owner farms (2, 533 *yuan*) and still higher for land farmed by tenants (2, 852 *yuan*). The average value for all farmers was 2707 *yuan* per *shih mow* (table 1).

All taxes *paid* by owner farmers were 90.46 *yuan* per *shih mow;* a rate of 3.44 *yuan* per 100 *yuan* of land value (table 1). It includes taxes of all kinds. The rate for the new national tax was 1.87 *yuan* per 100 *yuan* value of land. The chief question which might legitimately be raised is that of type and quality of services the farmer receives in return for such tax payments.

Land taxes and other taxes based on land are not paid by tenant and part owner farmers renting land. Therefore, it is impossible to make any direct comparison as to which group bears the heaviest tax burden. The relation of size of farm to rate of taxation cannot be stated because the number

[1]The collection of field data and its subsequent analysis was done by Daniel Shaw, during the summer and autumn of 1942 as part of the work required for his Bachelor's degree in Agriculture, Department of Agricultural Economics, College of Agriculture and Forestry, University of Nanking. The field work was part of a survey conducted by summer project students in Department of Agricultural Economics in cooperation with and financial support from the Penghsien Government. The survey was under the direction of J. Lossing Buck with Hong-shen Pan as assistant- director.

TABLE 1. TAXATION

105 farms, Lungfeng, Penghsien, Szechwan, July 1941 to August 1942

Items	No, of farms	Average size of farm (*shih mow*)	Land value per *shih mow* (*yuan*)	Taxes and contributions per *shih mow* (a)			
				Total (*yuan*)	National land tax (*yuan*)	Hsien (*yuan*)	Hsiang (*yuan*)
All farms	105	16.5	2,707	50.04	17.40	1.63	31.01
Land tenure							
Owners	35	11.6	2,533	90.46	47.45	3.50	69.51
Part owners	35	16.5	2,611	50.56	18.79	2.43	29.34
Tenants	35	21.4	2,852	27.69	-	-	27.69
Size of farm (*shih mow*)							
0- 9.9	28	6.9	2,580	36.42	5.55	1.21	29.66
10-14.9	23	12.4	2,669	61.02	28.26	1.21	31.55
15-19.9	22	17.5	2,691	72.69	45.49	1.57	25.63
20-24.9	20	23.5	2,617	30.93	1.47	1.72	27.74
25 and over	12	33.3	2,917	49.56	7.15	2.09	40.32

(a) Land taxes paid by landlords of part owner and tenant farmers excluded.

TABLE 2. TAXATION (CONT'D.)

Items	No. of farms	Subdivision of Hsiang contributions per *shih mow* by kinds (*yuan*)			Farmers' impression of tax-collectors Number reporting			Farmers' impression of taxes and contributions Number reporting		
		Recruiting	Guarding	Miscellaneous	Good	Medium	Bad	Heavy	Medium	Light
All farms	105	10.13	11.00	9.88	14	46	45	74	26	5
Land tenure										
Owners	35	10.21	18.56	10.74	9	11	15	18	13	4
Part owners	35	10.13	9.57	9.64	-	26	9	27	8	-
Tenants	35	10.09	7.99	9.61	5	9	21	29	5	1
Size of farm (*shih mow*)										
0- 9.9	28	10.07	7.83	11.76	7	11	10	18	10	-
10-14.9	23	11.33	11.57	8.65	4	7	12	20	2	1
15-19.9	22	8.85	9.34	7.44	3	10	9	13	5	4
20-24.9	20	9.51	12.16	6.07	-	14	6	13	7	-
25 and over	12	14.18	15.01	11.13	-	4	8	10	2	-

of owner farmers was too few for such a grouping. Small farms are not as efficient an economic unit as the larger family farms and they should pay a smaller rate than the larger farms.

The impression of farmers toward tax collections was reported by 45 farmers as bad, by 46 as neither good nor bad and 14 as good. As to the burden of taxation, 74 farmers considered it heavy, 26 medium and 5 light. Naturally, most people believe taxes are too high and these farmers were no exception (table 2).

Farm credit received by farmers during the year averaged 1,054 *yuan*; 930 *yuan* borrowed from individuals, 119 *yuan* from Yao Hwei and 5 *yuan* from cooperatives. The 930 *yuan* from individuals was distributed, 338 *yuan* from relatives, 319 *yuan* from friends and 273 *yuan* from landlords. Only one-fourth of the total credit was from landlords whom are often considered as a predatory class in relation to farmers (table 3).

Part owner and tenant farmers borrowed twice the amount of owner farmers. There was little relationship between size of farm and amount of credit borrowed, except for the farms of 0-9.9 *shih mow*; with an amount of credit less than one-half the average for all farms.

TEBLE 3. FARM CREDIT

105 farms, Lungfeng, Penghsien, Szechwan, July 1941 to August 1942

Items	Total	Sources of credit per farm (*yuan*)					
		Individuals				Yao Hwei	Cooperatives
		Total	Landlords	Relatives	Friends		
All farms	1,054	930	273	338	319	119	5
Land tenure							
Owners	635	504	-	255	249	129	2
Part owners	1,240	1,097	253	335	409	143	-
Tenants	1,288	1,188	536	395	257	87	13
Sizn of farm (*shih mow*)							
0- 9.9	668	509	150	269	91	157	2
10-14.9	1,246	1,237	556	316	365	9	-
15-19.9	992	912	228	361	323	75	5
20-24.9	1,543	1,260	59	606	596	265	18
25 and over	838	805	246	240	319	83	-

Interest rates averaged 24.1 percent per annum. No interest was charged by relatives. The highest rates were charged by landlords 51.2 percent and the lowest by cooperatives, 12.5 percent.

Credit was obtained for one year or less by 75 percent of the farmers and by 25 percent for over one year. The impression of farmers toward their creditors was reported by 26 farmers as good, by three farmers as unfavorable and by 76 farmers as neither good nor unfavorable (table 4).

TABLE 4. FARM CREDIT (CONT'D.)

Sources of credit	Period of loans (percent for each)		Uses of credit by farmers (percent)		Farmers impression of creditors Number of farmers reporting		
	One year or less	Over one year	Productive	Consumption	Good	Medium	Bad
All	75	25	46	54	26	76	3
Cooperative	100	-	96	4	3	32	-
Yao Hwei	32	68	52	48	11	24	-
Individuals	89	11	45	55	12	20	3

Of farm products sold to merchants rapeseed was the only one of importance, amounting in value to 94 *yuan* per farm. Owners sold to merchants products of more value than they purchased from merchants. Tenants purchased rice chiefly from merchants which was more than twice the value of goods, principally rapeseed, sold to merchants. This appears to be an important reason why tenants obtained more credit than did owners and indicates an unhealthy situation, although the amounts involved are not large. The farmers' impression of merchants was reported by 37 farmers as good, by 65 as ordinary (neither good nor bad) and by 3 farmers as bad. Fewer tenant and part owner farmers reported a favorable impression of merchants than did owners. It is probable they received less favorable treatment than did owners (table 5).

Rent for land was paid by these farmers in definite amounts of unhulled rice per mow. If the value of unhulled rice paid is taken as 117.35 *yuan* per *shih tan* in October 1941 the rent paid per *shih mow* by tenants is 361.44 *yuan* and by part owners 252.30 *yuan*. The ratio of rent to the

land value per *shih mow* for tenants is 12.5 percent which is higher than the usual maximum standard of 10 percent. For part owners the ratio is 15.0 percent. Apparently. tenant and part owner farmers at Lungfeng are paying land rents higher than a fair rent to the extent of 76.24 *yuan* per *shih mow* for tenants and 84.50 *yuan* per *shih mow* for part owners.

However, in view of the difficulty of obtaining land values and of determining the date of land value to be used when calculating the ratio of rent to land value, or in calculating the interest received by the landlord on his investment in land, additional checks on these points should be made before concluding definitely that rents are too high in Penghsien.

TABLE 5. PRINCIPAL PRODUCTS BOUGHT AND SOLD BY FARMERS

105 farms, Lungfeng, Penghsien, Szechwan, July 1941 to August 1942

Items	No. of farms	Value of rapeseed per *shih mow* (yuan) the principal farm product sold to merchants	Value of rice per *shih mow* (*yuan*) the principal commodity bought from merchants	Farmers' impression of merchants (farms reporting) Good	Medium	Bad
All farms	104	94	94	37	65	3
Land tenure						
Owners	35	114	17	21	14	-
Part owners	35	88	127	6	27	2
Tenants	35	87	189	10	24	1
Size of farm (*shih mow*)						
0- 9.9	28	135	109	15	12	1
10-14.9	23	98	167	3	19	1
15-19.9	22	97	126	7	15	-
20-24.9	20	61	115	5	15	-
25 and over	12	106	133	7	4	1

The farmers' impression of landlords was reported good by 34 part owners and tenants, and ordinary (neither good nor bad) by 36 part owners and tenants. More tenants than part owners had a good impression of landlords (table 6).

The Ku Lao Hwei, or Secret Society in Szechwan, cost its farmer members 18.22 *yuan* per farm annually, or 1.10 *yuan* per *shih mow*. Farmers' impressions of Ku Lao Hwei

were reported by 13 farmers as good and by 92 farmers as neither good nor bad (table 7).

TABLE 6. FARM TENANCY

105 farms, Lungfnng, Penghsien, Szechwan, July 1941 to August 1942

Items	No. of farms	Average amount of rented land (*shih mow*)	Value of land rented per *shih mow* (ynan)	Rent deposit per *shih mow* (*yuan*)	Rent per *shih mow* unhulled rice (*shih tan*)	Value of rent per shih mow (*yuan*)	Ratio of rent to land value	Farmers impression of landlords Number of farmers reporting Good	Medium	Bad
All farms	70	14.7	2,531	13.16	2.83	-	-	34	36	-
Land tenure										
Part owners	35	8.0	1,678	28.91	2.15	252.30	15.04	14	21	-
Tenants	35	21.4	2,852	7.25	3.08	361.44	12.67	20	15	-
Size of farm										
0- 9.9	11	5.9	2,692	17.79	2.65	310.98	11.55	8	3	-
10-14.9	18	8.6	1,861	15.77	2.32	272.25	14.63	10	8	-
15-19.9	12	13.9	2,739	15.04	2.92	342.66	12.51	9	3	-
20-24.9	18	16.5	2,087	16.11	2.72	319.19	15.29	1	17	-
25-and over	11	31.4	3,081	7.69	3.13	367.31	11.92	6	5	-

TABLE 7. FEES TO KU LAO HWEI

105 farms, Lungfeng, Penghsien, Szechwan, July 1941 to August 1942

Items	No. of farms	Farmers' annual payments to Ku Lao Hwei Amount per farm (*yuan*)	Amount per *shih mow* (*yuan*)	Farmers' impression of Ku Lao Hwei (Number of farms reporting Good	Medium	Bad
All farms	105	18.22	1.10	13	92	-
Land tenure						
Owners	35	28.94	2.49	-	35	-
Part owners	35	15.17	0.90	13	22	-
Tenants	35	10.57	0.50	-	35	-
Size of farm (*shih mow*)						
0- 9.9	28	15.82	2.29	1	27	-
10-14.9	23	17.39	1.40	7	16	-
15-19.9	22	18.64	1.07	-	22	-
20-24.9	20	18.55	0.79	3	17	-
25 and over	12	24.16	0.73	2	10	-

Temple contributions cost the farmers 26.72 *yuan* per farm or 1.63 *yuan* per *shih mow*. Farmers' impressions of priests were reported by 56 farmers as good and by 48 farmers as ordinary. Only one farmer reported a bad impression of priests (table 8).

TABLE 8. CONTRIBUTIONS TO TEMPLES

105 farms, Lungfeng, Penghsien, Szechwan, July 1941 to August 1942

Items	No. of farms	All contributions (*yuan*) Per farm	Per *shih mow*	Farmers' impression of priest (Mumber of farms reporting Good	Medium	Bad
All farms	105	26.72	1.62	56	48	1
Land tenure						
Owners	35	40.76	3.54	30	5	-
Part owners	35	6.83	0.41	6	28	1
Tenants	35	32.60	1.53	20	15	-
Size of farm (*shih mow*)						
0- 9.9	28	23.70	3.43	27	1	-
10-14.9	23	5.32	0.42	5	18	-
14-19.9	22	65.64	3.76	12	9	1
20-24.9	20	15.10	0.64	7	13	-
25 and over	12	22.96	0.69	5	7	-

TABLE 9. FARMERS, EXPENDITURES AT TEASHOPS

105 farms, Lungfeng, Penghsien, Szechwan, July 1941 to August 1942

Items	No. of farms	Farmers' expenses at teashops (*yuan*) Amount per farm	Amount per (*shih mow*)	Farmers' impression of teashops (Number of farms reporting) Good	Medium	Bad
All farms	105	235.03	14.25	56	49	-
Land tenure						
Owners	35	287.71	24.80	19	16	-
Part owners	35	241.43	14.62	32	3	-
Tenants	35	175.97	8.24	5	30	-
Size of farm (*shih mow*)						
0- 9.9	28	231.42	33.52	-	28	-
10-14.9	23	174.13	14.06	23	-	-
15-19.9	22	258.23	14.06	1	21	-
20-24.9	20	263.00	11.18	20	-	-
25 and over	12	271.08	8.15	12	-	-

Teashops, a common rendezvous, cost farmers 235 *yuan* per farm annually or 14.25 *yuan* per *shih mow*. It was greatest for owner farmers, 24.80 *yuan* per *shih mow*, least for tenants 8.24 *yuan* and in between these amounts for part owners, 14.62 *yuan*.

The smaller the farm the greater the cost of sipping tea, 34 *yuan* per *shih mow* for farms of 0-9.9 *shih mow* and 8 *yuan* per *shih mow* for farms of over 25 *shih mow*. Farmers' impressions of teashops were reported by 56 as neither good nor bad (table 9).

Dining at restaurants cost farmers an average of 116 *yuan* per farm, or 7.03 *yuan* per *shih mow*. The cost per *shih mow* was higher for farmers with small farms than those with larger farms. Farmers' impressions of restaurants were reported by 10 farmers as good, by 80 as neither good nor bad and by 15 as unfavorable (table 10).

TABLE 10. FARMERS' EXPENDITURES AT RESTAURANTS

105 farms, Lungfeng, Szechwan, July 1941 to August 1942

Items	No. of farms	Farmers' expenses at restaurants (*yuan*)		Farmers' impression of restaurants (Number of farms reporting)		
		Amount per farm	Amount per *shih mow*	Good	Medium	Bad
All farms	105	116	7.03	10	80	15
Land tenure						
Owners	35	151	13.00	7	15	13
Part owners	35	107	6.45	3	30	2
Tenants	35	90	4.24	-	35	-
Size of farm (*shih mow*)						
0- 9.9	28	114	16.45	5	18	5
10-14.9	23	86	6.92	-	21	2
15-19.9	22	116	6.64	-	22	-
20-24.9	20	135	5.75	4	9	7
25 and over	12	148	4.44	1	10	1

Although the tems included in this analysis do not cover all the economic relationships of farmers to other classes, some of the more important ones have been dealt with and certain conclusions are possible.

For owners, all taxes cost 3.44 *yuan* per 100 *yuan* value of land. This is rather heavy taxation and the chief problem

is one of best use of taxes in terms of government services to farmers. The ratio of rent to land value of 12.8 for tenants and 15.0 for part owners is higher than the usual maximum standard of 10 percent. The landlords of tenants after deducting taxes paid from rent received, made 11 percent annual interest on the value of their land. This is higher than the average of 8 03 percent for landlords in 10 other *hsien* of Szechwan. If rents were reduced to a ratio of rent to land value of 10 percent, the tenants in this study would have a saving of 76.24 *yuan* per *shih mow* or 1632 *yuan* per tenant (table 11).

TABLE 11. SUMMARY OF ECONOMIC STATUS OF FARMERS IN RELATION TO OTHER CLASSES

Items	Owners	Part owners	Tenants	Possible savings for tenants
Farm area (*shih mow*)	11.6	16.5	21.5	
Land value per *shih mow* (*yuan*)	2,533	2,641	2,852	
Taxes per *shih mow*	90.46	50.56	27.69	
Tax rate (all taxes per 100 *yuan* land value) (*yuan*)	3.57	-	-	
Rent per *shih mow* (*yuan*)	-	252.30	361.44	
Ratio of rent to land value	-	15.0	12.8	
Landlord's interest on investment after land taxes only (47.45) deducted from rent received (*yuan*)	-	12.2	11.0	
Interest rate (annual) paid by landlords on rent deposit of tenants (*yuan*)	-	-	23	
Credit per shih mow	54.70	75.07	60.33	
Interest (annual) on funds borrowed during the year (@24.1) (*yuan*)	153.04	298.84	286,31	
Fees to Ko Lao Hwei per *shih mow* (*yuan*)	2.49	0.90	0.50	
Contributions to temples per *shih mow* (*yuan*)	3.54	0.41	1.53	
Expenditures at teashops per *shih mow* (*yuan*)	24.80	14.62	8.24	
Expenditures at restaurants per *shih mow* (*yuan*)	13.00	6.45	4.24	

Interest rates paid by farmers were high in comparison with rates in credit cooperatives because the risk and expense of handling individual loans is much greater than through cooperatives. Tenant farmers by joining cooperatives could save interest payments of 125.31 *yuan* annually.

Possible savings by farmers on payments to Ku Lao Hwei, temples, teashops and restaurants appears to be a personal matter or one related to custom. A cooperative tea-shop might reduce costs to farmers.

For all these items studied, tenant farmers might expect a possible savings of 2,000 *yuan* per year.

In summary the chief possible economic improvements of farmers in relation to other classes of society in Penghsien are more favorable land rents and interest rates.

John Lossing Buck
Daniel Shaw

A PRELIMINARY STUDY OF THE COST OF LIVING OF THE MERCHANT-STOREKEEPER CLASS IN CHENGTU (1941-42)

In the preceding issue of Economic Facts the cost of living for the military-official-educational class was discussed. In this study for the same period (June 1941 to May 1942) 91 families were investigated for six types of businesses. These bussineses were the same as for 63 families studied in 1938[1]. Of these 91 families, 31 were employees of large firms and 60 merchant proprietors of small businesses (table 1).

Table 1. Occupations of 91 families of merchant-storekeeper class in Chengtu in 1941-42

Items	Proprietors	Employees	All
Groceries	11	-	11
Silk clothing shops	6	11	17
Bookstores	10	8	18
Stationery stores	10	5	15
Dispensary and drug'stores	9	7	16
Rice and oil shops	14	-	14
Total	60	31	91

Size of family and household

The 91 households averaged 4.25 adult-male units in 1941-42 (table 2), while in 1937, the average aize was 5.06. Air raids and high cost of city living probably accounted for

Table 2. Size of merchant-storekeeper households and families in Chengtu in 1941-42

Items	Number of adult-male units				
	Per household			Per family	Of no kinship
	Male	Female	Total		
Proprietors	3.05	1.87	4.92	3.89	1.03
Employees	1.70	1.32	3.02	2.88	.14
All	2.57	1.68	4.25	3.54	.71

[1]Yang, W. Y., *Cost of living in Chengtu, Szechwan, China*, Research Bul. No. 5 (Chengtu Series) June 1940 (in Chinese with English summarry).

the reduction in size of household. Proprietors had larger households than did employees for the reason that proprietors had some employees and more dependent relatives living in the household. The average size of family for proprietors was 3.89 adult-male units and of employees 2 88 adult-male units

Family income

The average family income of the merchant-storekeeper class was 13,190 *yuan* or 3, 726 *yuan* per adult-male unit. It is 18.5 times that in 1937 (table 3). The cost of living index of merchant-storekeeper class in 1941-42 was 21 times prewar. The real income of merchant-storekeeper class was therefore only 88 percent of that in 1937. Although below the-war level, the merchant-storekeeper class was comparatively in a much better situation than the military-offlcial-educational class. In 1937 the annual family income per adult-male unit of merchant-storekeeper class was 201. *yuan* while that of the military-official-educational class was 315. In 1941-42, the condition was reversed. The merchant-storekeeper class had 16 percent more income than

Table 3. Average family income of 91 families of merchant-storekeeper class in comparison with military-official-educational class in Chengtu 1937 and 1941-42

	Number of families	Family income (*yuan*)	Income per adult-male unit (*yuan*)	Income per adult male unit in 1937 (*yuan*)	Ratio 1941-42 to 1937
Merchant storekeeper					
Proprietors	60	15,397	3,960	-	-
Employees	31	11,263	3,913	-	-
Total	91	13,990	3,726 a)	201	18,54
Military-official-educational	57	13.078	3.201(b)	315	10.16

(a) Loans obtained amounted to 221 *yuan* and are not included as income.

(b) Loans obtained amounted to 214 *yuan* and are not included as income.

the military-official-educational class. The merchant proprietor's income averaged 22 percent higher than merchant employees' income, but the difference was not statistically significant because of great variance in incomes of both groups.

The frequency distribution of merchant-storekeeper families by the amount of income was fairly symmetrical on a logarithmic scale, concentratod largely within a range of 5000 to 20,000 *yuan* (figure 1). The proprietors' income

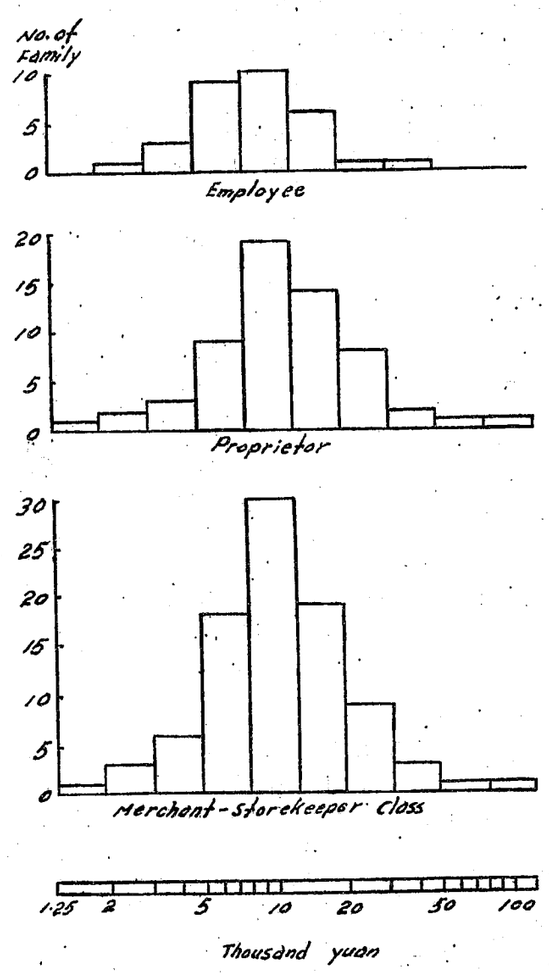


Figure 1. Frequency distribution of family income of merchant-storekeeper class 91 families, Chengtu, June 1941-May 1942

had a bigger dispersion than employees because business profit is never as stable as salaries and wages.

Comparing the source of income in 1937 and in 1941-42, business profits happened to be nearly the same, being 58.4 percent in 1937 and 58.6 percent in 1941-42 (table 4). Estate income and wages have increased from 15.8 and 17.2 percent in 1937 to 8.0 and 7.9 percent in 1941-42 respectively. More than 80 percent of proprietors' family income came from employment as shop clerks. The employees had 15 percent of their family income from estates and 10 percent from sideline business and handicraft work.

Table 4. Percentage distribution of family income of merchant-storekeeper class by sources of income in Chengtu in 1941-42 and 1937

	Proprietors	Employees	All	1937
Number of families	60	31	91	63
Business profits	80.7	-	58.6	58.4
Estate income	5.3	15.3	8.0	15.8
Handicraft income	.4	3.1	1.1	-
Sideline	.2	7.5	2.2	-
Wages	-	29.3	7.9	17.2
Bonuses	-	20.7	5.7	2.6
Board	-	15.9	4.4	4.8
Wartime subsidies	-	.7	.2	-
Gifts	1.2	1.9	1.4	-
Money borrowed	6.9	2.1	5.9	-
Others	5.3	3.5	4.9	1.20
Total	100	100	100	100

Family expenditure

The average family expenditure for June 1941-May 1942 was 8353 *yuan* or 2323 *yuan* per adult-male unit (table 5). In 1937, it was 175 *yuan* per adult-male unit. The average cost of living index for the merchant-storekeeper class in 1941-42 (based on 1937 weights) was 2104 However, the expenditure increased only by 14 times, resulting in a reduction of actual consumption of 77 percent of 1937. Only 62.4 percent of their income of 3726 *yuan* per adult-male unit was spent (table 3). The savings were mostly reinvested into business as working capital. Food expenditure of 1577 *yuan* per adult-male unit has increase

faster than the cost index of foodstuffs. For the period 1937 to 1941-42 expenditures for clothing materials increased from 12 to 264 *yuan*. Fuel and lighting materials increased from 12 *yuan* to 187 *yuan*. Rent increased only 2 times and miscellaneous expenses 4 times.

Table 5. Average family expenditures per adult-male unit for the merchant-storekeeper class in Chengtu, 1937 and 1941-42

Items	1937	1941-42	Ratio 1941-42	Cost of living index
	(*yuan*)	(*yuan*)	1937	1937 = 1
Food	60	1,577	26	23
Clothing	12	264	22	25
Rent	34	71	2	2
Fuel and lighting	12	187	16	26
Miscellaneous	57	224	4	23
Total	175	2,323	13	21

A comparison of distribution of income spent in 1937 and in 1941-42 shows a tendency of a lower standard of living. The proportion of income spent for food increased from 34 to 68 percent (table 6); for clothing from 7 to 11 percent (because of a more rapid increase in price of clothes); and for fuel and lighting the percentage increase was slight. Miscellaneous expenses including education, medicine and recreation decreased from 32.5 to 9.6 per cent

Table 6. Percentage distribution of family expenditures for merchant-storekeeper class in Chengtu, 1937 and 1941-42

Items	1937 (percent)	1941-42 (percent)
Food	34.2	67.9
Clothing	7.0	11.4
Rent	19.3	3.1
Fuel and lighting	7.0	8.0
Miscellaneous	32.5	9.6
Total	100	100

The decrease in percentage of income spent on rent (from 19.3 to 3.1 percent) was mainly due to the lag of rent behind the rising general price level. Actually the house area per adult-male unit increased from 56 square feet in 1937 to 62 square feet in 1941-42 probably due to the decreased size of family.

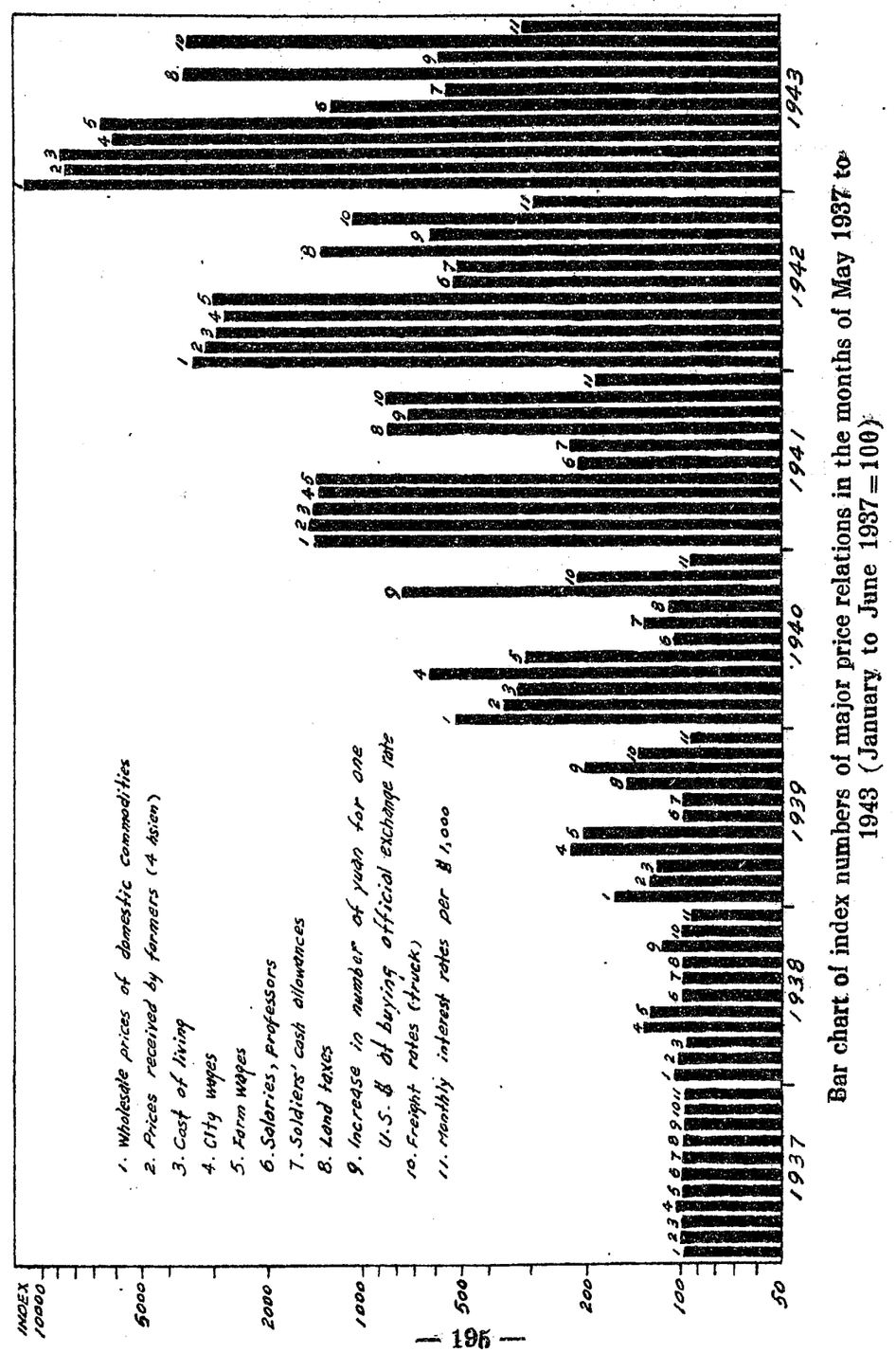
In terms of pre-war *yuan* (1937) the merchant-storekeeper's families in 1941-42 were consuming 23 percent less than in 1937 (table 7). This was accomplished chiefly by the reduction of miscellaneous expenditures which were only one-fifth of that in 1937.

Table 7. Average family expenditure of 91 families of merchant-storekeeper class in terms of 1937 *yuan* in Chengtu, 1937 and 1941-42

Items	1937 (*yuan*)	1941-42 (*yuan*)	Ratio 1941-42 to 1937
Food	69	68	113.3
Clothing	12	11	91.7
Rent	34	38	111.8
Fuel and lighting	12	7	58.3
Miscellaneous	57	10	17.5
Total	175	134	76.6

In general, the merchant-storekeeper class was not as well off as is assumed by most people. Wartime windfalls only happen to a few profiteers and speculators, probably, beyond the group of people in this sample. The sampling method was at random, yet no case of profiteering was discovered. Many merchants complained about the increasing operating cost, and the need of continually increasing working capital to finance the normal volume of business. Part of their income had to be re-invested in the business resulting consequently in a decreased family budget. The families studied were either small proprietors or middle rank employees of comparatively big firms. They were marginal consumers before the war. They still remain so, although, as far as income is concerned, they have risen in rank above the military-official-educational class.

Kwoh-hwa Hu



Bar chart of index numbers of major price relations in the months of May 1937 to 1943 (January to June 1937 = 100)

EXPLANATION OF BAR CHART OF MAJOR RELATIONS ON PREVIOUS PAGE

Prices were stable in May 1937. In 1938 wages and the number of *yuan* required to purchase one US dollar had increased. Other items were stable or declining slightly. In the autumn of 1938 the general price level began to rise and by May 1939 there were significant discrepancies between the extent of increase in prices of different items. As prices continued to rise rapidly the discrepancy between items became greater and greater.

By May 1941 all the items which had remained stationary in previous years began to advance and by May 1943 were moving upward more rapidly, except the increase in number of *yuan* required to purchase one US dollar at the official exchange rate. If all classes of prices advanced at the same rate during inflation (rapidly rising prices) there would be no harmful affects on different classes of people. The desirable price level is a stable one. Rapidly rising prices cause inequalities among social classes and social unrest. Rapidly falling prices cause severe losses for producers and because of this fact no country can stand much deflation (falling prices) without great social unrest, often a change in government and even a revolution.

John Lossing Buck
Yin-yuen Wang

INDICATORS OF PRICE CHANGES[1]

(January to June 1937=100)

Items	Number of items or observations	Index numbers	Date	Place
Wholesale prices and cost of living:				
1. Wholesale prices of all commodities	57	13690	June 1943	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	12947	June 1943	Chengtu
3. Wholesale prices of imported goods	9	41502	June 1943	Chengtu
4. Wholesale prices of exported goods	10	6237	June 1943	Chengtu
5. Wholesale prices of raw materials	30	10276	June 1943	Chengtu
6. Wholesale prices of manufactured producers' goods	11	14550	June 1943	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	15042	June 1943	Chengtu
8. Wholesale prices in important cities, Free China				
(a)Highest: Kunming, Yunnan		17605	Mar. 1943	
(b)Lowest: Kweilin, Kwangsi		6514	Mar. 1943	
(1) Kunming, Yunnan (Aug. 1937=100)(a)	141	17605	Mar. 1943	
(2) Sian, Shensi (June 1937=100)(b)		12194	Mar. 1943	
(3) Chungking, Szechwan(c)	94	8047	Mar. 1943	
(4) Chengtu, Szechwan	57	9232	Mar. 1943	
(5) Kweilin, Kwangsi(d)	48	6514	Mar. 1943	
9. Cost of living	76	10830	June 1943	Chengtu
10. Retail prices of seven commodities commonly used	7	13443	June 1943	Chengtu
11. Retail prices for 13 cities in Free China(e)				
(a)Highest: Kunming, Yunnan	25	14592	Apr. 1943	
(b)Lowest: Lanchow, Kansu	25	4727	Apr. 1943	
(1) Kunming, Yunnan	25	14592	Apr. 1943	
(2) Loyang, Honan	25	11760	Apr. 1943	

[1]Compiled by Department of Agricultural Economics, College of Agriculture and Forestry, University of Nanking, unless otherwise indicated.

Items	Number of items or observations	Index numbers	Date	Place
(3) Sian, Shensi	25	11488	Apr. 1943	
(4) Yaan, Sikong	25	10360	Apr. 1943	
(5) Hengyang, Hunan	25	9584	Apr. 1943	
(6) Yunyang, Hupeh	25	9576	Apr. 1943	
(7) Kweilin, Kwangsi	25	8824	Apr. 1943	
(8) Chengtu, Szechwan	25	8707	Apr. 1943	
(9) Kweiyang, Kweichow	25	8243	Apr. 1943	
(10) Chungking, Szechwan	25	7752	Apr. 1943	
(11) Kanchow, Kiangsi	25	6504	Apr. 1943	
(12) Sining, Chinghai	25	5050	Apr. 1943	
(13) Lanchow, Kansu	25	4727	Apr. 1943	
12. Rent, city residences	100	2440	June 1943	Chengtu
13. School tuition				
(1) Primary school	1	2500	Mar. 1943	Chengtu
(2) Middle school	1	450	Mar. 1943	Chengtu
(3) University	1	200	Mar. 1943	Chengtu
City wages (f)	12	6360	June 1943	Chengtu
1. Carpenters	1	6667	June 1943	Chengtu
2. Masons	1	6667	June 1943	Chengtu
3. Cotton weavers	1	12000	June 1943	Chengtu
4. Silk weavers	1	2875	June 1943	Chengtu
5. Tailors	1	5000	June 1943	Chengtu
6. Barbers	1	7500	June 1943	Chengtu
7. Blacksmiths	3	7305	June 1943	Chengtu
8. Coppersmiths	3	5921	June 1943	Chengtu
9. Maidservants	8	8679	June 1943	Chengtu
Salaries:				
1. Professors' salaries (g)	10	1430	June 1943	Chengtu
2. Clerks (g)	10	3417	June 1943	Chengtu
3. Soldiers' cash allowances	6	550	June 1943	Chengtu
Chinese currency:				
1. Purchasing power of *yuan* in terms of cost of living	-	0.9	June 1943	Chengtu
2. Purchasing power of *yuan* in terms of wholesale prices of domestic commodities	-	0.8	June 1943	Chengtu
U.S.A. currency:				
1. Increase in number of *yuan* for one US$ at buying official exchange rate of 20 *yuan* to one US dollar	-	594	June 1943	Chengtu

Items	Number of items or observations	Index numbers	Date	Place
2. Calculated expected rate of *yuan*/US$ exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in U.S.A. (a) actual	-	US$ 0.0054	Jan. 1943	Chengtu
(b) estimated (h)	-	US$ 0.0027	June 1943	Chengtu
3. Purchasing power of US$				
(a) at official exchange rate in China		4.6	June 1943	Chengtu
(b) actual in U.S.A.	-	85	Jan. 1943	U.S.A.
4. Wholesale prices of domestic commodities in terms of US$ at official exchange rate		2180	June 1943	Chengtu
5. Wholesale prices in U.S.A.	-	118	Jan. 1943	U.S.A.
Sterling currency:				
1. Increase in number of *yuan* for one pound sterling	-	483	June 1943	
2. Calculated expected *yuan*/pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in England				
(a) Actual	-	0.32d	Jan. 1943	Chengtu
(b) Estimated (h)	-	0.32d	June 1943	Chengtu
3. Purchasing power of pound sterling				
(a) at official buying rate in China	-	3.7	June 1943	Chengtu
(b) actual in England	-	68	Jan. 1943	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the official exchange rate	-	2677	June 1943	Chengtu
5. Wholesale prices in England	-	147	Jan. 1943	England
Gold and silver:				
1. Price of gold (open market)	1	8463	June 1943	Chengtu
2. Price of silver (open market)	1	6128	June 1943	Chengtu

Items	Number of items or observations	Index numbers	Date	Place
3. Wholesale prices of domestic commodities in terms of gold	-	153	June 1943	Chengtu
4. Wholesale prices of domestic commodities in terms of silver	-	211	June 1943	Chengtu
Farm prices (4 *hsien*):				
1. Prices received by farmers (1937=100)	16-22	8687	May 1943	Szechwan
2. Farmers' cost of production	-	7708	May 1943	Szechwan
3. Prices paid by farmers for producers' and consumers' goods (1937=100)	17-51	10025	May 1943	Szechwan
4. Prices paid by farmers for producers' goods	16-22	8223	May 1943	Szechwan
5. Prices paid by farmers for consumers' goods	17-29	12222	May 1943	Szechwan
6. Purchasing power of farmers (ratio of prices received by farmers to prices paid by farmers including all costs of production and prices paid for consumers' goods)	-	95	May 1943	Szechwan
7. Crop rent (i)	-	4324	Oct. 1942	Szechwan
8. Land taxes	-	3689	Oct. 1942	Szechwan
9. Farm land value (8 *hsien*)	-	5723	May 1943	Szechwan
10. Farm year labor (8 *hsien*)	-	5787	May 1943	Szechwan
11. Farm day labor (8 *hsien*)	-	8217	May 1943	Szechwan

(a) Statistical Department of Municipal Government of Kunming.
(b) Economic Research Department of Provincial Bank of Shensi.
(c) Central Bureau of Survey and Statistics, Commission of Military Affairs, Chungking, Szechwan.
(d) Department of Economic Survey of Sin-chung Corporation, Kweilin, Kwangsi.
(e) Data from Farmers' Bank of China.
(f) The general index of city wages is the weighted geometric average of all groups, excluding maid-servants. The weights used are as follows: carpenters 22.2, masons 15.8, cotton weavers 11.0, silk weavers 12.2, tailors 11.9, barbers 21.9, blacksmiths 2.5, coppersmiths 2.5. The data on wages were supplied by the union or by individuals.
(g) From one organization.
(h) Preliminary estimate based on the rate of increase in prices.
(i) Revised

APPENDIX I

TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES IN CHENGTU, 1937-JUNE 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of *yuan*
Number of commodities	57	15	9	4	9	5	15	
Years:								
1937	99	99	102	98	106	100	94	101.1
1938	116	95	139	104	173	106	106	86.5
1939	219	147	298	232	398	208	193	45.7
1940	653	533	841	847	1282	454	491	15.3
1941	1616	1830	1637	2119	3059	1223	999	6.2
1942	4771	4084	5862	5974	10254	3408	3315	2.1
1943								
Jan.	7458	5666	10915	9602	15332	5758	5165	1.3
Feb.	8321	6757	11983	10469	17002	5986	5629	1.2
Mar.	9232	7204	14273	11580	18708	6449	6324	1.1
Apr.	10278	8256	16830	12356	21341	6890	6678	1.0
May	11683	9678	20136	15111	22402	7187	7555	0.9
June	13690	12038	24255	16166	24117	7974	9007	0.7

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-JUNE 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Domestic commodities	Import commodities	Export commodities
Number of commodities	57	38	9	10
1937	99	100	110	90
1938	116	108	212	87
1939	219	199	486	163
1940	653	633	1396	397
1941	1616	1658	3658	721
1942	4771	4358	15528	2349
1943				
Jan.	7458	6698	25308	3734
Feb.	8321	7581	28392	3928
Mar.	9232	8354	29967	4676
Apr.	10278	9650	31160	4812
May	11683	11097	33892	5446
June	13690	12947	41502	6237

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-JUNE 1943

Jan. to June 1937=100 (Simple geometric average)

Period	Raw materials			Manufactured goods		
	Producers' goods	Consumers' goods	All	Producers' goods	Consumers' goods	All
Number of commodities	18	12	30	11	9	20
1937	97	96	96	102	98	100
1938	97	95	96	134	114	125
1939	188	160	176	244	206	226
1940	628	447	548	637	648	642
1941	1498	1216	1377	1360	1623	1473
1942	3630	3538	3607	4469	4678	4548
1943						
Jan.	5865	5204	5591	7930	7037	7515
Feb.	6383	5970	6215	8490	8242	8377
Mar.	7068	6657	6901	9992	8924	9496
Apr.	8229	7136	7773	10966	10141	10587
May	9453	8206	8932	12631	11866	12281
June	11274	8942	10276	14550	15042	14769

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-JUNE 1943

Feb. to June 1937=100 (weighted aggregative)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	102	105	100
1939	126	148	157	140
1940	435	448	444	442
1941	1661	1464	1391	1524
1942	3274	3560	3738	3473
1943				
Jan.	4450	5111	5744	4948
Feb.	5301	5804	6476	5723
Mar.	5742	6422	7230	6289
Apr.	7000	7434	8118	7389
May	8909	8711	9207	8898
June	10959	10575	11125	10850

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-JUNE 1943

Feb. to June 1937=100 (weighted geometric average)

Period	General index	Food	Clothing	Rent	Fuel and lighting	Miscellaneous	Purchasing power of *yuan*
Number of commodities	76	28	13	2	12	21	
1937	98	98	104	100	97	100	101.6
1938	100	92	142	103	97	115	100.4
1939	140	120	267	109	163	182	71.3
1940	442	441	852	117	604	387	22.7
1941	1524	1786	1787	185	1670	1171	6.6
1942	3473	3376	6409	462	4829	3621	2.9
1943							
Jan.	4948	4413	10835	1006	7451	5599	2.0
Feb.	5723	5398	11739	1006	7999	6099	1.7
Mar.	6289	5834	13810	1222	8524	6854	1.6
Apr.	7389	7080	16223	1525	9003	7602	1.4
May	8898	8842	19297	1816	10242	8269	1.1
June	10850	10600	23280	2440	13512	9701	0.9

ECONOMIC FACTS

DEPARTMENT OF AGRICULTURAL ECONOMICS

COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU, CHINA

No. 23 August 1943

MAJOR PRICE RELATIONS

(January to June 1937=100)

Items	Number of items	Index numbers	Date		Place
1. Wholesale prices of domestic commodities	38	16456	July	1943	Chengtu
2. Prices received by farmers	9-13	10235	June	1943	Szechwan
3. Cost of living	76	15000	July	1943	Chengtu
4. City wages	12	8678	July	1943	Chengtu
5. Farm wages	8	7311	June	1943	Szechwan
6. Salaries-, professors	10	1877	July	1943	Chengtu
7. Soldiers' cash allowances	6	699	July	1943	Chengtu
8. Land taxes		3689	Oct.	1942	Szechwan
9. Wholesale prices of domestic commodities in terms of silver	38	243	July	1943	Chengtu
10. Wholesale prices of domestic commodities in terms of gold	38	142	July	1943	Chengtu
11. Wholesale prices of domestic commodities in terms of US$ at official exchange rate	38	2771	July	1943	Chengtu
12. Wholesale prices in U. S. A. (Statist index)	-	122	Apr.	1943	U.S.A.
13. Wholesale prices in England (Statist index)	-	149	Apr.	1943	England
14. Purchasing power of farmers	-	98	June	1943	Szechwan
15. Purchasing power of rice (a)	-	115	July	1943	Chengtu
16. Freight rates (Truck)	1	5200	July	1943	Szechwan
17. Monthly commercial loan interest rate per $1000	1	308	July	1943	Chengtu

(a) Calculated in terms of wholesale prices of 57 commodities.

CONTENTS

WEIGHTS AND MEASURES

One *li* is equivalent to one-third of an English mile

One *shih tan* is equivalent to 100 liters or 2.8378 American bushels.

One *shih tou* is one-tenth of a *shih tan*.

One *shih shen* is one-tenth of a *shih tan*.

One *shih picul* is equivalent to 110.23 pounds avoirdupois.

One *shih chin* (catty) is equivalent to 1.1 pounds avoirdupois.

The *yuan* is the Chinese unit of currency. The exchange rate is pegged at 20 *yuan* to one U.S. dollar and 80 *yuan* to one pound sterling. The rate has no relation to the price level in China.

EFFECT OF RISING PRICES ON DIFFERENT SOCIAL CLASSES

Inequality of real income during inflation (rising prices) arises from differences in the rate of appreciation of wages, salaries and prices of commodities. Wages and salaries are slow to follow the general price level. Therefore, rising prices find the salaried worker or wage earners with an income that does not keep pace with the rise in the cost of living. As the price level moves upward, the prices of things manufactured or sold by businessmen rise rapidly. Certain costs do not advance so rapidly as do prices. Wages lag, interest payments on past borrowings do not increase and other fixed costs are slow to rise. The businessman, therefore, finds that as prices rise, the proportion of fixed costs to gross income is decreasing. Moreover, the increased demand associated with the rise of the general price level also increases the quantities of products that can be sold at the more profitable prices. Hence, rising prices mean increased profits in terms of currency units. A similar situation holds true for farmers. Interest rates, taxes, payments for labor, prices of equipment and other costs do not fluctuate up and down in proportion to changes in prices of farm products, and all prices of individual products do not move together. Hence, the farmer is interested in the disparity in the up and down movements of different kinds of prices.

After the outbreak of the Sino Japanese War, prices of all commodities increased steadily; some people were benefited and others injured. The purpose of this article is to show the economic effect of the rising price level on different classes of people.

Effect of rising prices on different classes of workers. When prices are rising rapidly maladjustments occur not only between wages and prices, but also among different classes of labor. From January to April 1943 index numbers of professors' salaries advanced to 955, of soldiers' cash allowances to 550, of city wages to 4600 and farm wages to 4202 (table 1). Wages always respond to changes in the cost of living. Salaries (including all allowances) of professors and teachers increased slowly compared with wages.

It is important to distinguish money wages and real wages. The real wage consists of the goods, services and

Table 1. Index numbers of professors' salaries, soldiers' cash allowances, city wages, farm wages and family income of merchants, (a)

1937 to April 1943, Chengtu (1937=100)

Year	Professors' salaries	Soldiers' cash allowances	City wages	Farm wages	Merchants' family income
1937	100	100	100	100	100
1938	100	100	131	128	-
1939	100	100	227	205	-
1940	113	128	656	352	-
1941	212	296	1556	1486	1854
1942	446	368	2928	3318	-
1943 (Jan.-Apr.)	955	550	4600	4202	-

(a) Data supplied by the Department of Agricultural Economics, University of Nanking. The averages of first four months were used for 1943. The family income of merchants is calculated on a per adult male unit basis, and the figure for 1941 was the average of June 1941-May 1942.

enjoyments which the worker can purchase with his money wage. To obtain an idea of the real wage which a laborer receives, one must not only know his money wage but also the average unit cost of commodities which he is accustomed to buy. This unit cost of goods bought by workers is known as the cost of living. If money wages rise more rapidly than the cost of living, real wages will rise; and if the opposite occurs, real wages will decrease. When the real wages are calculated on the basis of cost of living, a clear comparison is presented of the effect of rising prices on different salaried persons and wage earners.

Due to the small increase in professors' salaries and soldiers' cash allowances in comparison with the continuously rising cost of living, the purchasing power of salaried classes has declined greatly. In 1943, the index of real salaries of professors had declined to 14, real cash allowances of soldiers to 8, city wages to 79 and farm wages to 51 (table 2).

The real purchasing power of the people as a whole is the same. Salary and wage earning classes are disadvantaged while other classes obtain the benefit of the differential.

Effect of rising prices on property owners and those who have goods to sell. Now while China is fighting against

Table 2. Index numbers of real salaries of professors and soldiers, real wages of city workers and farm workers and real income of merchants, (a)

1937 to April 1943, Chengtu (1937=100)

Year	Professors' salaries	Soldiers' cash allowances	City wages	Farm wages	Merchants' family income
1937	100.0	100.0	100.0	100.0	100.0
1938	95.2	95.2	133.7	111.8	-
1939	63.9	63.7	175 0	125.8	-
1940	25.5	28.8	146.3	65,8	-
1941	15.2	21.3	90.9	81.8	88.0
1942	11.9	9.8	86.7	78.3	-
1943 (Jan.-Apr.)	13.8	8.0	79.4	50.7	.

(b) The real salaries, wages and income are calculated by dividing the index numbers of salaries, wages and income of different classes with their respective indices of cost of living and multipled by 100.

a strong opponent for freedom, all people are willing to suffer. As the cost of living rises, the purchasing power of the *yuan* in the consumers' hands varies inversely. Therefore, those who have more or less fixed incomes find it more difficult to live and lower their standard of living. On the other hand, owners of property such as landlords have real income as great or slightly greater than pre-war (table 3).

Table 3. The purchasing power of landlords and farmers,

1937-42, Szechwan (1937=100)

Year	Index numbers of crop rent received	Index numbers of prices paid for consumers' goods	Index numbers of land taxes	Weighted index numbers of all prices paid by landlords	Purchasing power of landlords	Purchasing power of farmers (a)
1937	100	100	100	100	100	100
1938	102	116	149	119	86	88
1939	169	165	109	159	106	86
1940	628	541	852	572	110	91
1941	2118	1834	1295	1780	119	105
1942	4324	4283	3689	4224	102	97

(a) Ratio of prices received by farmers to the prices paid by farmers. (for producers' goods, consumers' goods, land taxes and crop rent)

With the exception of 1941, the average purchasing power of farmers had fallen about 10 per cent below the pre-war level (table 3). The farmers' economic status is not as good as it is usually thought to be.

Even the business of small merchants is not as profitable as most people think. Business income per adult male unit as reported by merchants-storekeeper (excluding all other income) increased from 117.27 (a) in 1937 to 2312.92 (b) *yuan* in June 1941 to May 1942, about 20 times the pre-war level. Bonuses paid to shop clerks increased from 5.12 (a) to 224.65 (b) *yuan* during the same period, about 48 times that of pre-war. The average family income per adult male unit of the merchant-storekeeper class increased from 201 (a) in 1937 to 3,726 (b) in June 1941-May 1942 or 18.5 times. But their cost of living was 21 times the pre-war level. Hence, the purchasing power of the merchant-storekeeper class declined slightly, about 12 percent below the pre-war level. The small merchants were not as well off as they are usually thought to be, but they were much better than the salaried and wage earn ing classes.

Usually, when prices rise, prices of raw materials rise faster than those of manufactured goods, and when prices fall, prices of raw materials decline faster than those of manufactured goods. This is because much of the cost of manufactured goods is made up of wages, rents and other fixed charges which do not change rapidly. This generalization has not held true in Chengtu for the period under review (table 4). Regardless of the reason for this situation, it results in manufacturing being especially profitable.

Conclusion. When prices rise, commodity prises rise faster than salaries, wages and taxes. The rising price level causes maladjustments not only among different knds of commodities but also among different classes of labor. For the period 1937 to 1942, landlords were slightly better off than in pre-war time, small merchants and farmers were not as well off as in pre-war; wage earners (after 1941) were at a much

(a) "Cost of Living in Chengtu" W. Y. Yang, June 1940, Research Bulletin No. 5 (Chengtu series), (in Chinese with English summary), College of Agriculture and Forestry, University of Nanking, p. 24, table 9.

(b) Data obtained from a survey of 60 merchants and 31 shop clerks in Chengtu made by the Department of Agricultural Economics, University of Nanking, July-September 1942.

Table 4, Index numbers of wholesale prices of manufactured goods and raw materials and their ratio,

1937-42, Chengtu, (January-June 1937 = 100)

Year	Raw materials	Manufactured goods	Ratio of indices of prices of manufactured goods to raw materials
1937	96	100	104
1938	96	125	130
1939	176	226	128
1940	548	642	117
1941	1377	1473	107
1942	3607	4548	126

greater disadvantage than pre-war; salaried persons such as teachers and professors and soldiers suffered the greatest.

Attention should be given to equalizing the burden among different social clases. One method is to increase the salaries of professors, wages of workers and bonuses to soldiers and to tax property owners more heavily.

Yin-yuen Wang

THE OFFICIAL EXCHANGE RATE AND PRICE RELATIONSHIPS

In last month's issue of Economic Facts major price relationships of various types of prices were shown for the month of May for the years 1937-43. Among these relationships the exchange rate (official) has adjusted least among these types of prices.

Exchange rates are prices just as much as wages, interest rates and value of commodities in terms of currency are prices. Exchange rates are merely the price of one currency in terms of another currency. Like other prices, a country's exchange rate may be controlled, fixed or allowed to fluctuate (1) with supply of and demand for its currency and (2) with the changing internal values of its currency. The exchange rate except when controlled and when not adjusted to changing ecconomic conditions is an expression of those conditions. It is the resultant factor rather than the causative factor and must be in adjustment with economic conditions if a country desires a flourishing international trade and a cordial relationship with other countries.

Under normal conditions economic intercourse between two countries can exist freely only if the exchange rate fluctuates with changing price levels in the two countries (near the purchasing power parity). Under the abnormal condition of the severe blockade existing in China to-day, the maintenance of the present fixed exchange rate is an additional factor increasing the intensity of the blockade. Exchange transactions between China and her Allies are still taking place, but the official rate of exchange is unfavorable to both China and her Allies. The effect of this financial blockade caused by maintenance of the pegged exchange rate out-of-line with the price level may be demonstrated.

The official exchange rate of 20 yuan for one US dollar (and other fixed rates for other foreign currencies) has not been adjusted to correspond with changes in Free China's price level. By April 1943 at Chengtu, wholesale prices of domestic commodities (excluding export and import commodities) in terms of US dollars at the official rate had advanced to an index of 1625 above pre-war wholsale prices[1]

[1] January to June 1937 equals 100

(chart 1). Therefore, in Free China, one US dollar purchases only one-sixteenth, or 6.2 percent as much as it did before July 1937.

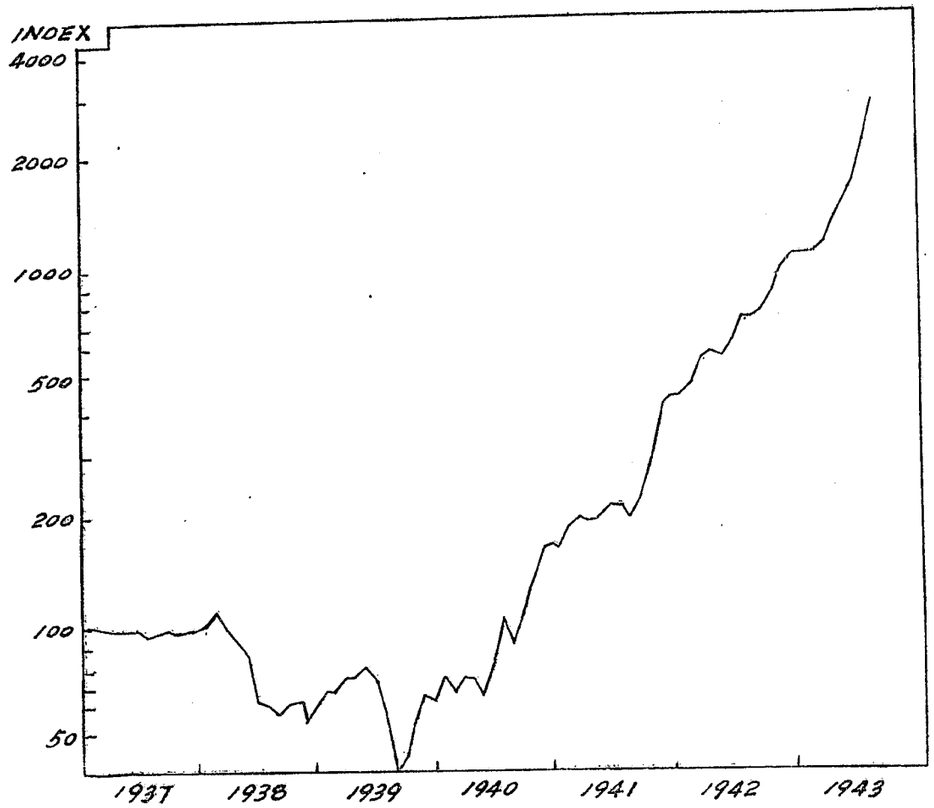


Chart 1. Index numbers of wholesale prices of domestic commodities in Chengtu in terms of U.S. dollars at current exchange rate and official exchange rate (beginning with August 1941) for January 1937 to July 1943 (January-June 1937=100)

For April 1943, on the basis of Chengtu wholesale prices of domestic commodities and of wholesale prices in the United States (Statist Index), the exchange rate with U.S.A. would be 270 *ynan* for one US dollar, or 0.37 US cents (US$0.0037) for each *yuan*, if the rate (the purchasing power parity)[1] were based on price levels in both countries. The non-adjustment of the official exchange rate to the Chengtu price level (which is comparatively representative of Free

[1]Footnote on next page

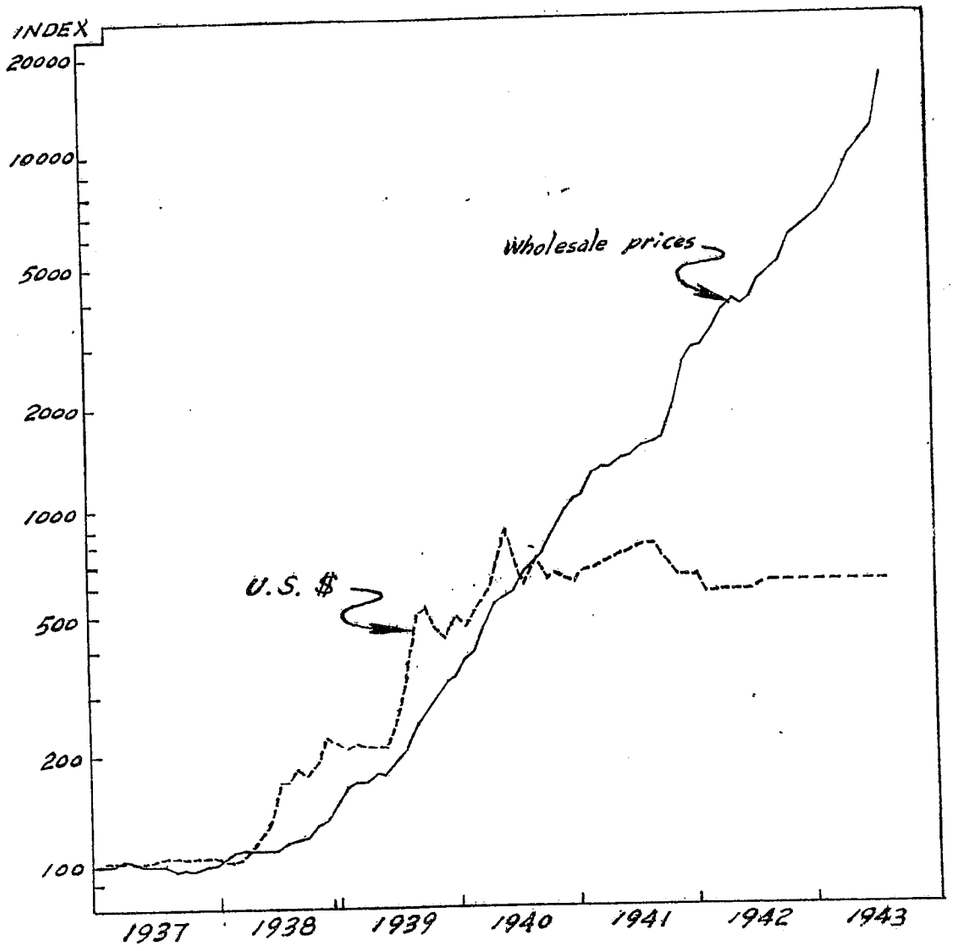


Chart 2. Index numbers of wholesale prices of domestic commodities in Chengtu and of number of Chinese *yuan* to purchase one U.S. dollar in Chengtu for January 1937 to July 1943 (January-June 1937=100)

[1]The computations are as follows when

(1) 29.732 US was the exchange rate of one *yuan* for Jan. to June 1937

(2) 121.7 is the Sauerbeck-statist index of wholesale prices in U.S.A., for Aprll 1943 (January to June 1937 = 100)

(3) 9650 is the index of wholesale prices in Chengtu for April 1943 (January to June 1937=100,

$$29.732 \times \frac{121.7}{9650} = 29.732 \text{ x } 0.126 \text{ percent} = \text{US\$0.0037 or}$$

0.37 US cents

April 1943 is the latest date for which data are available in Chengtu, for U.S.A., and for this reason April is ehosen.

China) is shown in chart 2. The fact that exchange rates normally fluctuate with changing price levels in two countries (purchasing power parity), although not exactly at the same time, is shown by chart 3. The extent to which the official

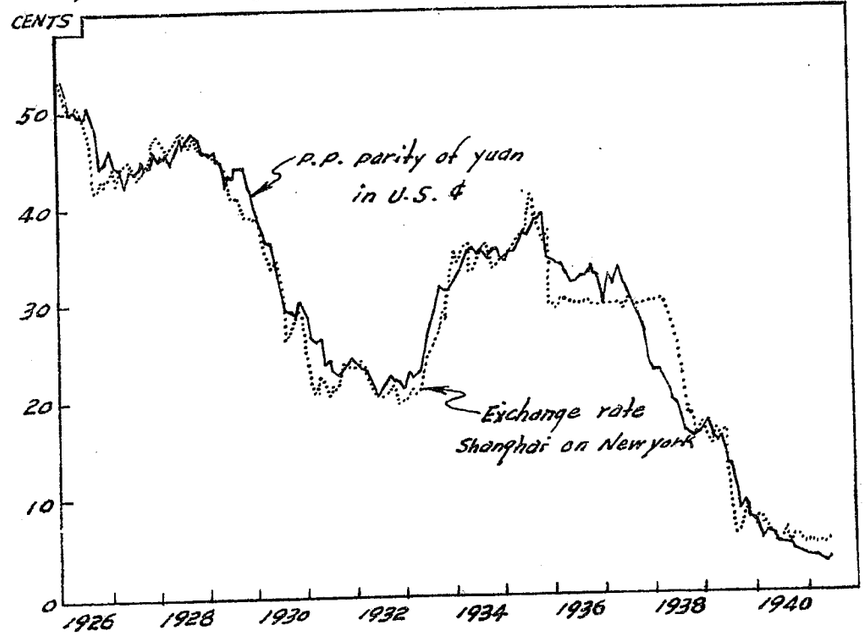


Chart 3. The T.T. exbhange rate of *yuan*, Shanghai on N.Y. and its purchasing power parity (1926-29=100 for calculating purchasing power parity).

exchange rate is not in line with the price levels (purchasing power parity) of Free China and U.S.A., is shown in chart 4. The disparity between the official exchange rate and the price level is becoming greater and greater.

The type of prices which should be used to compute the purchasing power parity rate may be a subject of dispute. Shall it be wholesale prices of all commodities (including export and import commodities), wholesale prices of domestic commodities (excluding export and import commodities) or of export commodities only? The index number of wholesale prices of all commodities for April 1943 was 10278; for domestic commodities it was 9650 and for export commodities it was 4812. Import commodities which affect the index of all commodities stood at an index of 31160. Import commodities were at one extreme and export commodities at the other. In determining a parity rate probably no one would advocate the

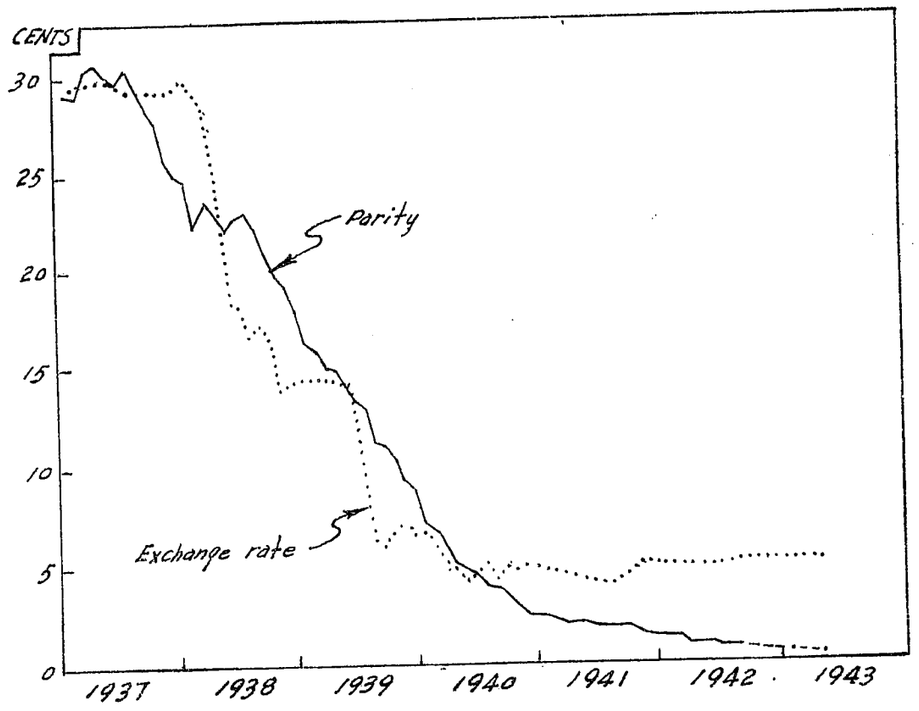


Chart 4. The exchange rate of *yuan* at Chengtu[1] on New York and purchasing power parity of *yuan* at Chengtu in terms of U.S. dollars[2] (January 1937 to April 1943).

[1]T.T. exchange rate (Shanghai on New York) plus remittance fee Shanghi to Chengtu.

[2]Computed by use of index of wholesale prices of domestic commodities at Chengtu and the Sauerbeck-Statist index number of wholesale prices in U.S.A. (January to June 1937 = 100)

use of import prices. Some might favor the use of export prices. In normal times there is more argument in its favor than at present when exports are so limited in quantity and prices greatly depressed compared with other commodities. As soon as the blockade is lifted these export prices will rise if the exchange rate is adjusted to a parity rate. If the exchange rate is not adjusted to a parity rate there will be no exports because other countries will buy or find substitutes elsewhere. Moreover, if there are no exports there can be no imports either.

The best measure of the Chinese price level in Free China appears to be wholesale prices of domestic commodities.

The experiment of "pegging" the official rate of exchange has not prevented inflation (rising prices) and its consequent economic inequalities that are imposed on various social classes, and even the hardships imposed on the National

Government itself. It may be argued that the present pegged rate tends to lower, rather than to raise, the internal value of the *yuan*.

There are two reasons usually advanced against a change in the official rate.

(1) Government imports of war necessities can be purchased with fewer *yuan* than would be possible with a rate of exchange adjusted to price levels. But this policy has the danger of being considered "high finance" at the expense of Allied nations who are given the unfavorable official rate when exchanging their moneys into *yuan*. And such a procedure does not appear necessary in view of the liberal loans and lend-lease aid offered by Allied Nations for all military requirements.

(2) It is argued that the present official rate does give some confidence in the *yuan*. There is a fear that a lowering of the official rate would be government admission of the low value of the *yuan* and that such admission would cause fear of still further depreciated rates with consequent further and even more rapid increases in prices. This feeling undoubtedly will persist until people think that the Government can maintain a stable rate. The conditions for confidence in Chinese currency do not now exist. However, a change in exchange policy might create greater confidence in the currency than at present.

The present pegged rate intensifies the blockade and tends to decrease, rather than increase, the internal value of Chinese currency for six reasons.

(1) It discourages exports that, otherwise, would increase the amount of U.S. exchange and other foreign exchange for the Chinese Government. So few *yuan* are obtained by foreign buyers of Chinese goods at the present rate that Chinese products cannot be purchased and shipped abroad on a commercial basis without loss to buyers. This prevents exports from China, except of stragetic materials unobtainable elsewhere. At present, blockade conditions prevents this from being as important a factor as it would be under more normal circumstances. However, China may lose such trade because Allied Countries will seek cheaper markets and substitutes wherever possible.

(2) It discourages remittances from overseas Chinese and, therefore, deprives the Chinese Government of foreign exchange available from this source. At present, these

possible remittances are less than they were formerly.

(3) It discourages expenditure of US dollars or sterling in China by Nationals of other countries and deprives the Chinese Government of foreign exchange available from this source.

(4) It is unfavorable treatment of Nationals of other countries (including Chinese citizens abroad) and of Allied nations which must exchange their currencies to support their official organizations in China and to purchase certain necessary strategic materials. Such unfavorable treatment has already created considerable adverse feeling toward China among Nationals of friendly countries.

(5) The present pegged rate encourages exchange operations in the unofficial open market. All such transactions deprive the government of foreign exchange it would otherwise acquire.

(6) Exchange control under conditions where foreign exchange cannot be freely given for legitimate purposes destroys confidence in currency and causes it to become less valuable.

The above enumeration of the pros and cons of the pegged exchange rate and the computation of the expected exchange rate at purchasing power parity does not offer a complete solution of the problem. The present economic situation is abnormal, different types of prices and services are out of the usual adjustment with each other and thus normal functions of economic life of the nation are impossible. The problem is one of making economic life function as efficiently as it can in a war situation. The nearer all types of prices and services can be in adjustment with each other (at the same price level) the more perfectly will economic life function.

It can be assumed that inflation (rising prices) was inevitable with the outbreak of the war. There are many reasons for this but they will not be discussed here. The American Revolutionary War was financed by the printed currency known as Continental money. Leavitt, E., in *Our Money Wars*, p. 24, 1894, states: "The Continental money carried the United States through the most arduous and perilous stages of the war, and ..... it can not be denied that it saved the country." The American phrase "It is not worth a continental" had its origin from this greatly depreciated currency.

The above quotation is not given as an argument in favor of inflation. It is generally recognized by economists that inflation is undesirable, particularly because of the much greater economic distress involved in deflation which almost always follows a period of inflation. Many Western countries experienced severe deflation after World War I and it is that experience which has caused these countries to exert such great effort to avoid inflation.

Whether or not China could have avoided the present extent of inflation is perhaps an open question. Inflation is with us in full force and at this late date it seems most politic to do everything possible to iron out the inequalities it causes in price discrepancies between different groups of prices and services.

The official exchange rate is one type of price which has adjusted least to the changing situation, chiefly because it is arbitrarily fixed.

In order to bring it nearer in line with other prices it might be best to permit demand for and supply of Chinese currency to determine the rate.

The present position of a partial financial blockade is not an enviable one. On the one hand, a psychology exists which makes it difficult to lower the external value of the *yuan* for fear of a more sudden rise in prices. On the other hand, a radical change in the exchange rate at one bold stroke to correspond more nearly to the price levels in China and in her Allied Countries might cause a severe shock at first, but the shock might soon be overcome by a rise in the real value of the *yuan*.

The present fixed rate does not permit an automatic return to more normal conditions. For instance, a limited amount of exports which might be shipped out as transportation becomes gradually possible will not take place at the present pegged rate. The most effective way ef reducing the value of anything is to decrease its use. If the *yuan* is made more useful its value will not decrease as rapidly as at present and if its usefulness is increased sufficienty its value will even increase.

A change in the exchange rate to correspond more closely with economic conditions in China and abroad will be helpful in bringing a return to a more normal economic life of the nation, especially if such a change can be made in readiness for the time when transportation and communication with

the Allied countries become more and more feasible. If such a change is not made in time opportunities for export of goods, encouragement of investments in China, acquirement of larger foreign exchange balances and continued international good will be forfeited.

John Lossing Buck

A PRELIMINARY STUDY OF THE COST OF LIVING OF THE LABORER-PEDDLER CLASS IN CHENGTU, 1941-42

For 1941-42, in the study of cost of living in Chengtu, 199 families of laborer-peddler class were investigated for the same period as for the two classes disscused in the preceeding two issues of Economic Facts. Thefamilies were sampled from eleven types of business similar to the 120 families studied in 1938[1]. They are divided into 114 proprietors' and 85 employees' families (table 1).

Table 1. Occupations of 199 families of laborer-peddler class in Chengtu in 1941-42

Items	Proprietors	Employees	All
Peddlers	21	-	21
Ricksha pullers	16	-	16
Cotton weavers	13	8	21
Silk weavers	11	10	21
Tailors	11	10	21
Barbers	11	10	21
Carpenters	10	11	21
Masons	-	11	11
Metal workers	10	6	16
Restuarant waiters	10	9	19
Teahouse waiters	1	10	11
Total	114	85	199

Size of family and household. The laborer-peddler households averaged 3.51 adult-male units per household. The average size of family was 2.80 adult-male units. The proprietors' household contained more non-kinship members than did the employee group, but the proprietors' families were only 13 percent larger than the employees' families (table 2).

Family income. In 1941-42 the year's family income of laborer-peddler class was 9026 *yuan* or 3224 *yuan* per adult-male unit (table 3). In 1937 it was 85 *yuan* per adult-male unit. The increase of family income from 1937 to 1941-42 was therefore 38 times while the increase in the

[1]Yang, W.Y.: Cost of Living in Chengtu, Szechwan, China, Research Bul. No. 5 (Chengtu) June 1940 (in Chinese with English summary)

Table 2. Size of laborer-peddler households and families in Chengtu in 1941-42

Items	Number of adult-male units Per household			Per family	Of no kinship
	Male	Female	Total		
Proprietors	2.92	1.32	4.24	3.06	1.18
Employees	1.59	1.20	2.79	2.70	0.09
All	2.25	1.26	3.51	2.80	0.71

index of cost of living for this class was 22 times for the same period. In comparison with the other classes (military-official-educational and merchant class) during the war, the laborer-peddler class was much better off. From 1937 to 1941-42 the real income of the laborer-peddler class increased from 85 *yuan* to 148.6 *yuan* or 75 percent. The real income of military-official-educational class decreased 50.5 percent and that of merchant-storekeeper class decreased 11.7 percent. The proprieters' families of the laborer-peddler class have 70 percent higher family income per adult-male unit than do the employees' in this group.

Teble 3. Average family income of three social classes in Chengtu in 1937 and in 1941-42.

Class	Family income in 1941-42 (*yuan*)	Income per adult-male unit in 1941-42 (*yuan*)	Income per adult-male unit in 1937 (*yuan*)	Ratio 1941-42 to 1937 income	Cost of living index (1937=1)	Real income in 1941-42 in terms of 1937 (*yuan*)
Laborer-Peddler	9026	3224	85	37.9	21.7	148.6
Merchant-storekeeper	13990	3726	201	18.5	21.0	177.4
Military-official -educational	13078	3201	315	10.2	20.7	154.6

The distribution of incomes of laborer peddler class ranged from 1,259 to 79,430 *yuan* (figure 1). The curve of proprietors' family income has a flat topped and wide dispersion, centered near 8,000-12,000 *yuan* while the em- family income ployees' was more concentrated and centered nearly at 5,000-8,000 *yuan*, but tailed down very fast to the right.

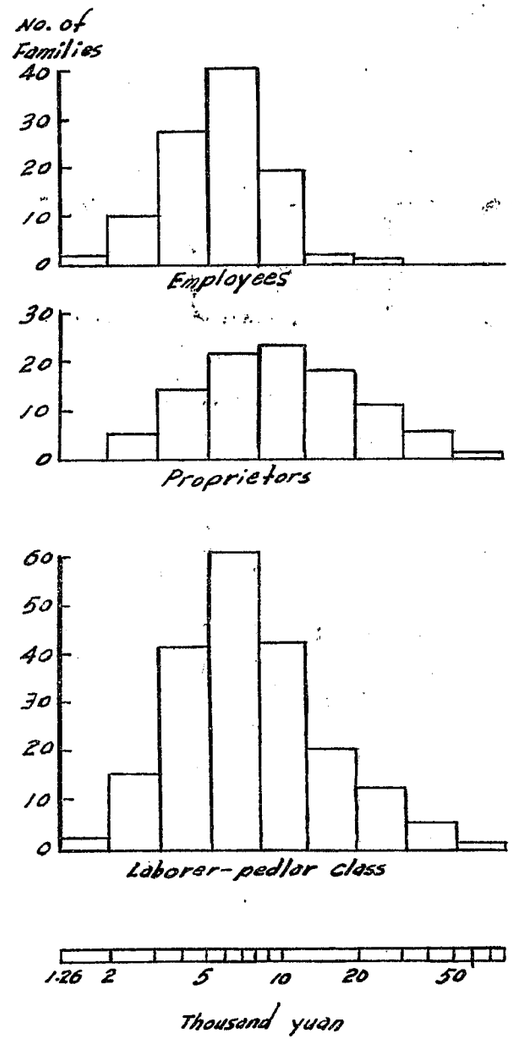


Figure 1 Frequency distribution of family Income of 199 laborer-peddler families, Chengtu, June 1941-May 1942.

Nearly 86 percent of the proprietors' family income came from business profits. For employees' family income 76 percent was derived from wages and board (table 4). Sideline business was 9 percent of proprietors' income and handicrafts 9 percent of employees' income. Neither proprietors nor employees had any considerable income from estates.

Table 4. Percentage distribution by sources of family income of laborer-peddler class in Chengtu in 1941-42 and 1937

Items	Proprietors 1941-42	Employees 1941-42	All 1941-42	1937
Number of families	114	85	199	120
Business profits	86.2	-	62.1	66.37
Estate income	1.1	1.1	1.1	-
Handicraft income	1.6	9.8	3.9	-
Sideline income	8.5	4.2	1.9	-
Wages	-	60.6	22.7	25.41
Board	-	17.7	5.0	4.21
Bonuses	-	1.2	0.3	-
Gifts	0.4	2.4	1.0	-
Others	2.2	3.0	2.0	4.01
Total	100	100	200	100

Family expenditure. The total family expenditure of 199 laborer-peddler families in 1941-42 was 2,380 *yuan* which was 32 time greater than in 1937 (table 5). Among different groups of expenditure clothing increased the most and rent the least. The ratio of all 1941-42 expenditures to 1937 expenditures was higher than the increase in the index of cost of living because income increased faster than did cost of living.

Table 5. Average family expenditures per adult-male unit for the laborer-peddler class in Chengtu, 1937 and 1941-42

Items	1937 expenditures (*yuan*)	1941-42 expenditures (*yuan*)	Ratio 1941-42 to 1937 expenditures	Cost of living index (1937=1)
Food	47	1733	36.9	23.7
Clothing	2	196	98.0	25.7
Rent	10	90	9.9	3.2
Fuel and lighting	6	157	26.2	23.0
Miscellaneous	10	204	20.4	16.7
Total	75	2380	31.7	21.7

However, the percentage distribution by expenditure groups of income spent shows a probable lowering of standard of living. In 1941-42 in spite of increased real income as

compared with 1937, a larger proportion of it has been used for food and clothing and a smaller percentage for other expenditure groups (table 6).

Table 6. Average family income and average family expenditure per adult-male unit for 199 families of laborer-peddler class in Chengtu, 1941-42

Items	No. of families	Income (*yuan*)	Expenditure (*yuan*)
Proprietors	114	3716	2371
Employees	85	2195	2187
All	199	3224	2380

Although the average income of proprietors was much higher than that of employees, yet the difference of expenditure between them was slight (table 7). The average expenditure of employees was nearly equal to their average income in 1941-41.

Table 7. Percentage distribution of family expenditures for laborer-peddler class in Chengtu, 1937 and 1941-42

Items	1937 *percent*	1941-42 *percent*
Food	63.3	72.8
Clothing	2.7	8.2
Rent	13.0	3.3
Fuel and lighting	8.0	6.6
Miscellaneous	13.0	8.6
Total	100.0	100.0

In terms of 1937 *yuan*, clothing expenditure increased nearly 3 times, rent nearly 2 times, food by 60 percent and others only slightly. The house area per adult-male unit increased from 26 square feet in 1937 to 49 square feet in 1941-42 (table 8). Reduction of size of family is an important factor causing the change.

Table 8 Average family expenditure of 199 families of laborer-peddler class in terms of 1937 *yuan* in Chengtn, 1937 and 1941-42

Items	1937 (*yuan*)	1941-42 (*yuan*)	Ratio 1941-42 to 1937 (1937=100)
Food	47	73.1	1.6
Clothing	2	7.6	3.8
Rent	10	28.1	2.8
Fuel and lighting	6	6.8	1.1
Miscellaneous	10	12.2	1.2
Total	75	127.8	1.5

Among the three social classes in Chengtu, the laborer-peddler class is much better off since the beinning of war than are the other two classes. For 1941-42 the average real income of this class was nearly as high as that of military-official-educational class. During these years of inflation the former differences between incomes of different social groups have nearly vanished.

Kwoh-hwa Hu

INDICATORS OF PRICE CHANGES[1]

(January to June 1937=100)

Items	Number of items or observations	Index numbers	Date		Place
Wholesale prices and cost of living:					
1. Wholesale prices of all commodities	57	17159	July	1943	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	16456	July	1943	Chengtu
3. Wholesale prices of imported goods	9	48572	July	1943	Chengtu
4. Wholesale prices of exported goods	10	7887	July	1943	Chengtu
5. Wholesale prices of raw materials	30	13389	July	1943	Chengtu
6. Wholesale prices of manufactured producers' goods	11	16850	July	1943	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	19443	July	1943	Chengtu
8. Wholesale prices in important cities, Free China					
(a)Highest: Kunming, Yunnan		18670	Apr,	1943	
(b)Lowest: Kweilin, Kwangsi		7691	Apr.	1943	
(1) Kunming, Yunnan (Aug. 1937=100)(a)	141	18670	Apr.	1943	
(2) Sian, Shensi (June 1937=100)(b)		12194	Apr.	1943	
(3) Chungking, Szechwan(c)	94	9650	Apr.	1943	
(4) Chengtu, Szechwan	57	10278	Apr.	1943	
(5) Kweilin, Kwangsi(d)	48	7691	Apr.	1943	
9. Cost of living	76	15000	July	1943	Chengtu
10. Retail prices of seven commodities commonly used	7	18417	July	1943	Chengtu
11. Retail prices for 12 cities in Free China(e)					
(a)Highest: Loyang, Honan	25	15750	May	1943	
(b)Lowest: Sining, Chinghai	25	5631	May	1943	
(1) Loyang, Honan	25	15750	May	1943	
(2) Sian, Shensi	25	14355	May	1943	
(3) Yaan, Sikong	25	11037	May	1943	
(4) Yunyang, Hupeh	25	10943	May	1943	
(5) Kweilin. Kwangsi	25	9998	May	1943	

Items	Number of items or observations	Index numbers	Date	Place
(6) Chukiang, Kwangtung	25	9874	May 1943	
(7) Cheugtu, Szchwan,	25	8972	May 1943	
(8) Kweiyang Kweichow	25	8913	May 1943	
(9) Chungking, Szechwan	25	8332	May 1943	
(10) Kanchow, Kiangsi	25	7329	May 1943	
(11) Lanchow, Kansu	25	5692	May 1947	
(12) Sining, Chinghai	25	5631	May 1943	
12. Rent, city residences	100	2504	July 1943	Chengtu
13. School tuition				
(1) Primary school	1	2500	Mar. 1943	Chengtu
(2) Middle school	1	450	Mar. 1943	Chengtu
(3) University	1	200	Mar. 1943	Chengtu
City wages (f)	12	8678	July 1943	Chengtu
1. Carpenters	1	10000	July 1943	Chengtu
2. Masons	1	10000	July 1943	Chengtu
3. Cotton weavers	1	13000	July 1943	Chengtu
4. Silk weavers	1	2875	July 1943	Chengtu
5. Tailors	1	10000	July 1943	Chengtu
6. Barbers	1	10000	July 1943	Chengtu
7. Blacksmiths	3	7303	July 1943	Chengtu
8. Coppersmiths	3	6498	July 1943	Chengtu
9. Maidservants	8	9570	July 1943	Chengtu
Salaries:				
1. Professors' salaries (g)	10	1877	July 1943	Chengtu
2. Clerks (g)	10	4428	July 1943	Chengtu
3. Soldiers' cash allowances	6	699	July 1943	Chengtu
Chinese currency:				
1. Purchasing power of *yuan* in terms of cost of living	-	0.7	July 1943	Chengtu
2. Purchasing power of *yuan* in terms of wholesale prices of domestic commodities	-	0.6	July 1943	Chengtu
U.S.A. currency:				
1. Increase in number of *yuan* for one US$ at buying official exchange rate of 20 *yuan* to one US dollar	-	594	July 1943	Chengtu
2. Calculated expected rate of *yun*/US$ exchange(purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in U.S.A. (a) actual	- US$ 0.0037		Apr. 1943	Chengtu
(b) estimated (h)	- US$ 0.0021		July 1943	Chengtu
3. Purchasing power of US$				
(a) at official exchange rate in China		3.6	July 1943	Chengtu
(b) actual in U.S.A.	-	82	Apr. 1943	U.S.A.
4. Wholesale prices of domestic commodities in terms of US$ at official exchange rate		2771	July 1943	Chengtu
5. Wholesale prices in U.S.A.	-	122	Apr. 1943	U.S.A.
Sterling currency:				
1. Increase in number of *yuan* for one pound sterling	-	483	July 1943	
2. Calculated expected *yuan*/ pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in England				
(a) Actual	-	0.22d	Apr. 1943	Chengtu
(b) Estimated (h)	-	0.13d	July 1943	Chengtu
3. Purchasing power of pound sterling				
(a) at official buying rate in China	-	2.9	July 1943	Chengtu
(b) actual in England	-	67	Apr. 1943	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the official exchange rate	-	3403	July 1943	Chengtu
5. Wholesale prices in England	-	149	Apr. 1943	England
Gold and silver:				
1. Price of gold (open market)	1	11585	July 1943	Chengtu
2. Price of silver (open market)	1	6766	July 1943	Chengtu
3. Wholesale prices of domestic commodities in terms of gold	-	142	July 1943	Chengtu
4. Wholesale prices of domestic commodities in terms of silver	-	243	July 1943	Chengtu

Items	Number of items or observation	Index numbers	Date	Place
Farm prices (4 hsien):				
1. Prices received by farmers (1937=100)	16-22	10235	June 1943	Szechwan
2. Farmers' cost of production	-	8669	June 1943	Szechwan
3. Prices paid by farmers for producers' and consumers' goods (1937=100)	17-51	10956	June 1943	Szechwan
4. Prices paid by farmers for producers' goods	16-22	8560	June 1943	Szechwan
5. Prices paid by farmers for consumers' goods	17-29	14023	June 1943	Szechwan
6. Purchasing power of farmers (ratio of prices received by farmers to prices paid by farmers including all costs of production and prices paid for consumers' goods)	-	98	June 1943	Szechwan
7. Crop rent	-	4324	Oct. 1942	Szechwan
8. Land taxes	-	3689	Oct. 1942	Szechwan
9. Farm land value (8 *hsien*)	-	6389	June 1943	Szechwan
10. Farm year labor (8 *hsien*)	-	6542	June 1943	Szechwan
11. Farm day labor (8 *hsien*)	-	9475	June 1943	Szechwan

(a) Statistical Department of Municipal Government of Kunming.
(b) Economic Research Department of Provincial Bank of Shensi.
(c) Central Bureau of Survey and Statistics, Commission of Military Affairs, Chungking, Szechwan.
(d) Department of Economic Survey of Sin-chung Corporation, Kweilin, Kwangsi.
(e) Data from Farmers' Bank of China.
(f) The general index of city wages is the weighted geometric average of all groups, excluding maid-servants. The weights used are as follows: carpenters 22.2, masons 15.8, cotton weavers 11.0, silk weavers 12.2, tailors 11.9, barbers 21.9, blacksmiths 2.5, coppersmiths 2.5. The data on wages were supplied by the union or by individuals.
(g) From one organization.
(h) Preliminary estimate based on the rate of increase in prices.

APPENDIX I

TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES IN CHENGTU, 1937-JULY 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of *yuan*
Number of commodities	57	15	9	4	9	5	15	
Years:								
1937	99	99	102	98	106	100	94	101.1
1938	116	95	139	104	173	116	116	86.5
1939	219	147	298	232	398	218	193	45.7
1940	653	533	841	847	1282	454	491	15.3
1941	1616	1830	1637	2119	3059	1223	999	6.2
1942	4771	4084	5862	5974	10254	3408	3315	2.1
1943								
Jan.	7458	5666	10915	9602	15332	5758	5165	1.3
Feb.	8321	6757	11983	10469	17002	5986	5629	1.2
Mar.	9232	7204	14273	11580	18708	6449	6324	1.1
Apr.	10278	8256	16830.	12356	21341	6890	6678	1.0
May	11683	9678	20136	15111	22402	7187	7555	0.9
June	13690	12038	24255	16166	24117	7974	9007	0.7
July	17159	16627	31184	19998	27386	9019	11121	0.6

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-JULY 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Domestic commodities	Import commodities	Export commodities
Number of commodities	57	38	9	10
1937	99	100	110	90
1938	116	108	212	87
1939	219	199	486	163
1940	633	633	1398	397
1941	1616	1658	3658	721
1942	4771	4358	15528	2349
1943				
Jan.	7458	6698	25308	3734
Feb.	8321	7581	28392	3928
Mar.	9232	8354	29967	4676
Apr.	10278	9650	31160	4812
May	11683	11097	33892	5446
June	13690	12947	41502	6237
July	17159	16456	48572	7887

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-JULY 1943

Jan. to June 1937=100 (Simple geometric average)

Period	Raw materials			Manufactured goods		
	Producers' goods	Consumers' goods	All	Producers' goods	Consumers' goods	All
Number of commodities	18	12	30	11	9	20
1937	97	96	96	102	98	100
1938	97	95	96	134	114	125
1939	188	160	176	244	206	226
1940	628	447	548	637	648	642
1941	1498	1216	1377	1360	1623	1473
1942	3660	3538	3607	4469	4678	4548
1943						
Jan.	5865	5204	5591	7930	7037	7515
Feb.	6383	5970	6215	8490	8242	8377
Mar.	7063	6657	6901	9992	8924	9496
Apr.	8229	7136	7773	10966	10141	10587
May	9453	8206	8932	12631	11866	12281
June	11274	8942	10276	14550	15042	14769
July	15289	10973	13389	16850	19443	17971

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-JULY 1943

Feb. to June 1937=100 (weighted aggregative)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	102	105	100
1939	126	148	157	140
1940	435	448	444	442
1941	1661	1464	1391	1524
1942	3274	3560	3738	3473
1943				
Jan.	4450	5111	5744	4948
Feb.	5301	5804	6476	5723
Mar.	5742	6422	7230	6289
Apr.	7000	7434	8118	7389
May	8909	8711	9207	8898
June	10959	10575	11125	10850
July	15811	14609	14181	15000

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-JULY 1943

Feb. to June 1937=100 (weighted geometric average)

Period	General index	Food	Clothing	Rent	Fuel and lighting	Miscellaneous	Purchasing power of *yuan*
Number of commodities	76	28	13	2	12	21	
1937	98	98	104	100	97	100	101.6
1938	100	92	142	103	97	115	100.4
1939	140	120	267	109	163	182	71.3
1940	442	441	852	117	304	387	22.7
1941	1524	1786	1787	185	1670	1171	6.6
1942	3473	3376	6409	462	4829	3621	2.9
1943							
Jan.	4948	4413	10835	1006	7451	5599	2.0
Feb.	5723	5398	11739	1006	7999	6099	1.7
Mar.	6289	5834	13810	1222	8524	6854	1.6
Apr.	7389	7080	16223	1525	9003	7602	1.4
May	8898	8842	19297	1816	10242	8269	1.1
June	10850	10600	23280	2440	13512	9701	0.9
July	15000	15665	29381	2504	18592	11109	0.7

ECONOMIC FACTS

DEPARTMENT OF AGRICULTURAL ECONOMICS

COLLEGE OF AGRICULTURE AND FORESTRY
UNIVERSITY OF NANKING
CHENGTU, CHINA

No. 24 September 1943

MAJOR PRICE RELATIONS

(January to June 1937=100)

	Items	Number of items	Index numbers	Date		Place
1.	Wholesale prices of domestic commodities	38	17422	Aug.	1943	Chengtu
2.	Prices received by farmers	9-13	12926	July	1943	Szechwan
3.	Cost of living	76	15028	Aug.	1943	Chengtu
4.	City wages	12	10452	Aug.	1943	Chengtu
5.	Farm wages	8	8589	July	1943	Szechwan
6.	Salaries-, professors	10	1900	Aug.	1943	Chengtu
7.	Soldiers' cash allowances	6	699	Aug.	1943	Chengtu
8.	Land taxes		3689	Oct.	1942	Szechwan
9.	Wholesale prices of domestic commodities in terms of silver	38	259	Aug.	1943	Chengtu
10.	Wholesale prices of domestic commodities in terms of gold	38	163	Aug.	1943	Chengtu
11.	Wholesale prices of domestic commodities in terms of US$ at official exchange rate	38	2934	Aug.	1943	Chengtu
12.	Wholesale prices in U. S. A. (Statist index)	-	123	June	1943	U.S.A.
13.	Wholesale prices in England (Statist index)	-	149	Apr.	1943	England
14.	Purchasing power of farmers	-	96	July	1943	Szechwan
15.	Purchasing power of rice (a)	-	88	Aug.	1943	Chengtu
16.	Freight rates (Truck)	1	6818	Aug.	1943	Szechwan
17.	Monthly commercial loan interest rate per $1000	1	308	Aug.	1943	Chengtu

(a) Calculated in terms of wholesale prices of 57 commodities.

CONTENTS

WEIGHTS AND MEASURES

One *li* is equivalent to one-third of an English mile

One *shih tan* is equivalent to 100 liters or 2.8378 American bushels.

One *shih tou* is one-tenth of a *shih tan.*

One *shih shen* is one-tenth of a *shih tan.*

One *shih picul* is equivalent to 110.23 pounds avoirdupois.

One *shih chin* (catty) is equivalent to 1.1 pounds avoirdupois.

The *yuan* is the Chinese unit of currency. The exchange rate is pegged at 20 *yuan* to one U.S. dollar and 80 *yuan* to one pound sterling. The rate has no relation to the price level in China.

DEFLATION: THE GREATEST POST-WAR PROBLEM

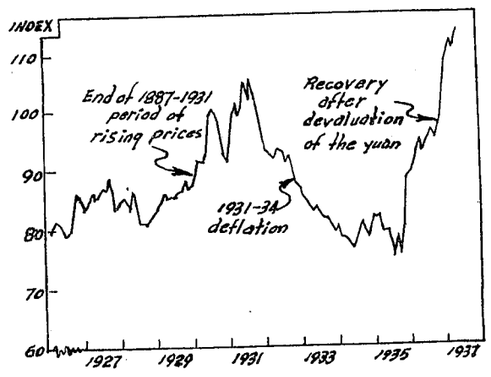
No prominent discussion of deflation (rapidly falling prices) as a post-war problem has yet come to the attention of the writer in any of the public considerations of China's post-war reconstruction. Either there is a reticence to deal with the problem or there is an absence of understanding of the possibility of a post-war period of deflation. Various articles in the past eight issues of Economic Facts have shown the effects of inflation. Any nation can stand a great deal of inflation but no nation can stand a large amount of deflation without serious consequences. In the past, particularly after World War I, many countries tried to pass through a period of deflation and after varying degrees of suffering by people of these nations, Governments were compelled to give up the policy.

Inflation in China since 1937 has seriously affected the living of only ten percent of the total population while the other 90 percent are getting along tolerably well. If China adopts a policy of deflation after the war, the very existence of 90 percent of the population will be jeopardized. History has shown that such a large proportion of a population will not quietly accept deflation and the consequent adverse effect on its economic condition. This fact has been true, not only in other countries, but also in China during the period 1931-34, when there was much discussion about the deterioration in rural villages. In reality this so-called deterioration was the result of deflation caused by a rising value of silver and a consequent fall in prices; for the unit of currency in which prices were measured was based on silver and it took fewer units to purchase the same amount of goods.

The nation at that time was comparatively prosperous because of the long period of rising prices. The index of wholesale prices advanced from 47.3 in 1887 to 162.4 in 1931 (1910-14=100). Even then the nation could not tolerate a period where prices fell from an index of 162.4 in 1931 to that of 120 in 1934 (Fig. I). Consequently the National Government was forced by the unfavorable economic situation to abandon the silver standard, to devalue its currency and establish a managed currency (Nov. 4, 1935) at stabilized rates of foreign exchange with U.S.A. and England. This step was followed by a rise in prices which soon reached the pre-depression level. It was the devaluation of currency

Fig. 1. INDEX NUMBERS OF WHOLESALE PRICES AND BASIC COMMODITIES, SHANGHAI, JAN. 1926-JUNE 1937

[From an article by Raeburn, John R. and Hu Kwoh-hwa in Economic Facts No. 9, April 1938, page 399]



The 1931-34 deflation period greatly decreased profits in business and in farming and made necessary a devaluation of the currency because of the rising value of silver which was the currency base.

on the part of the National Government that restored the economic life of the nation. Discussion and data on the economic effects of this deflationary period (1931 to 1934) have been published [1].

Briefly stated, deflation causes a cessation or great curtailment of production and business. When prices begin to fall, people postpone buying because they know that the longer they wait the more their money will purchase. This postponement is just the opposite of purchasing in advance of needs in an inflationary period because people then know that postponement will mean that more money is required to make such purchases.

Deflation curtails business because (1) costs are incurred at a time when the price level is higher than when the finished products are sold and (2) there is a lag in the fall of such costs as taxes, rents, wages and interest rates; consequently, businesses operate either without profit or at such losses as to force them to close, creating additional unemployment.

Moreover, the business of the nation is adversely affected. Customs revenues decrease because of decreased imports. Other revenues decrease because of less business activity. Taxes are more difficult to collect and are often defaulted. National, Provincial and local government debts cannot be repaid in a currency which has a higher value than when the debt was incurred for the simple reason that fewer units can

[1] Silver and prices. The Commercial Press Ltd., 1935.

be collected in the form of taxes than could be collected before deflation occurred.

Some of the effects of deflation may be listed as follows:[1]

Costs of production for producers do not fall as rapidly as prices. These costs include wages, rents, taxes and interest.
Business becomes unprofitable and many businesses fail.
Production decreases.
Unemployment increases.
Wages lag and the employed are well off because costs of living fall more than wages do.
Debts are difficult or impossible to pay.
Creditors lose everything unless they are able to collect.
Taxes are difficult to pay.
Money is hoarded.
Suicides increase.
Stealing increases.
Education suffers because incomes of schools and universities are reduced.
Many people must be fed at public expense.
Organizations for the purpose of urging reductions in taxes appear.

Deflation pits individual against individual, class against class and even nation against nation. It causes changes in governments within a country. It has been claimed that Germany's attempt at deflation brought Hitler into power.

With reference to the 1931-34 depression in China, the Report of the Ministry of Industries [1] contains a very significant statement equally as applicable to China's post-war period as to the period of deflation during 1931-34. It reads:

In order to insure the success of any form of economic planning in a society where goods are to be exchanged for money in free markets, the government must first insure a reasonably stable level of commodity prices.

Statistical evidence of the effects of deflation (rising value of the currency and falling prices) on business during the 1931-34 depression in China is limited but conclusive. It shows (1) significant decreases in volume of business, (2) decrease in costs of producing farm products and in

[1] Warren, G.F. and Pearson F.A., give an excellent list of consequences of inflation and deflation in *Gold and Prices*, John Wiley and Sons.

prices paid by farmers decreasing at a much slower pace than prices received by farmers for their products and (3) a decrease in the revenues of the National Government.

I. *Decrease in volume of business*:-For the years 1931-33 in Shanghai the volume of 16 factories decreased from an index of 124 in 1931 to 93 in 1933 (table 1).

TABIF 1. INDEXES OF VOLUME OF BUSINESS OF CHINESE FACTORIES 1930 to 1933, when 1930 = 100

[Estimates published by the Bank of China in its Annual Report for 1933]

Type of Factory	Index of volume of business 1930 = 100			
	1930	1931	1932	1933
Polish and varnish	100	128	137	185
Thermos bottles	100	100	120	150
Matches	100	120	135	140
Cotton weaving	100	128	110	110
Soup flavoring	100	112	135	100
Enamel ware	100	158	126	95
Silk weaving	100	160	120	90
Wool weaving	100	89	65	85
Toilet articles	100	120	75	85
Dyeing	100	125	110	80
Cigarettes	100	115	105	80
Rubber	100	200	135	80
Machinery	100	125	31	73
Knitting	100	100	70	50
Wheat flour	100	120	85	50
Cotton spinning	100	78	52	35
Simple average	100	124	104	93

The lag in the decrease in industrial wages is one of the reasons for this decrease in volume of business (fig. 2). As prices recede, costs of production (in which wages is one of several factors) decrease less rapidly than the general price level decreases and business becomes unprofitable. Even though the cost of living falls, wages still remain much higher than the cost of living because workers resist any reduction in wages.

This principle is verified by the lag in the recession of industrial wages in the United States during the depression

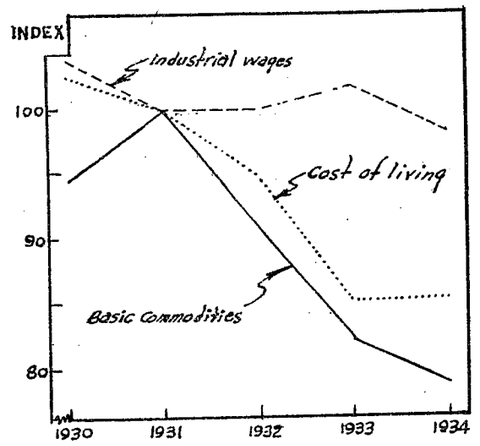


Fig. 2. INDEX NUMBERS OF WHOLESALE PRICES OF BASIC COMMODITIES, COST OF LIVING AND INDUSTRIAL WAGES 1930-1934 (1931 = 100)

[From article by Raeburn, John R. and Hu Kwoh-hwa in Economic Facts No. 9, April 1938, page 400]

Industrial wages did not fall with basic commodities or cost of living. Workers resist reductions in wages even though their cost of living has decreased. This lag in the fall of wages is one factor in causing business failures during deflation.

after the Civil War and after the World War I and in England. (figs. 3,4,5).

In Tsingtao (1931-33) the number of new grocery stores established decreased from 281 in 1931 to 192 in 1932 and 89 in 1933. The number of grocery stores discontinued increased from 98 in 1931 to 175 in 1932 and 305 in 1933. There was a decrease of 679 stores from 1931 to 480 stores in 1933 [1]. Postponement of purchases during a falling price level and unemployment in spite of high wages are important factors in reducing the business of stores.

The banking business also suffered. For the principal Chinese banks, cash on hand for the period 1925 to 1931 increased from 116 million to 194 million *yuan*, but during the period of the depression it increased from 194 million in 1931 to 305 million in 1933. These figures show a hoarding of cash and hence less spending of cash for purchases. Drafts issued declined from 26 million *yuan* in 1931 to 14 million *yuan* in 1933, A still better measurement of the business of banks is the average clearings of native banks which in Shanghai rose from 42 million *yuan* in 1928 to 75 million in 1931 and declined to 39 million in 1933[2].

[1] *Silver and price in China*, p. 153, The Commercial Press Ltd., 1935.

[2] *Silver and prices*, p. 155, The Commercial Press Ltd., 1935 (Original data quoted from Research Department Bank of China)

FIGS. 3-5 WHOLESALE PRICES AND WAGES

[Extracts From *Gold And Prices* by Warren G. F., and PEARSON F. A., pp. 323-326]

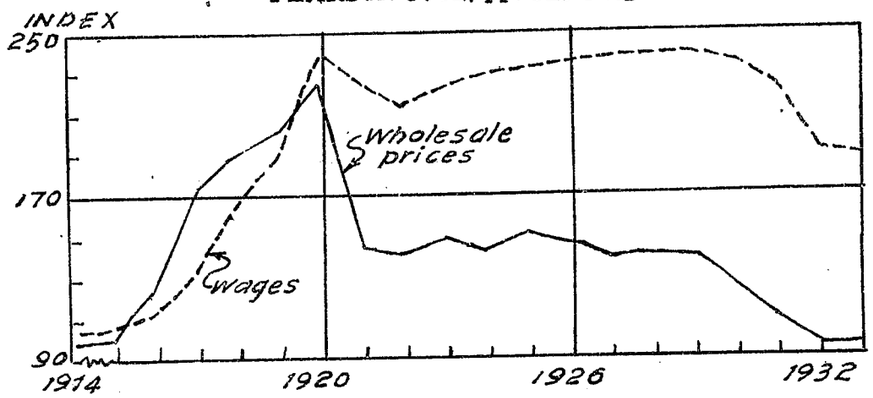


FIG. 3—PRICES AND WAGES, U.S.A., WORLD WAR I.

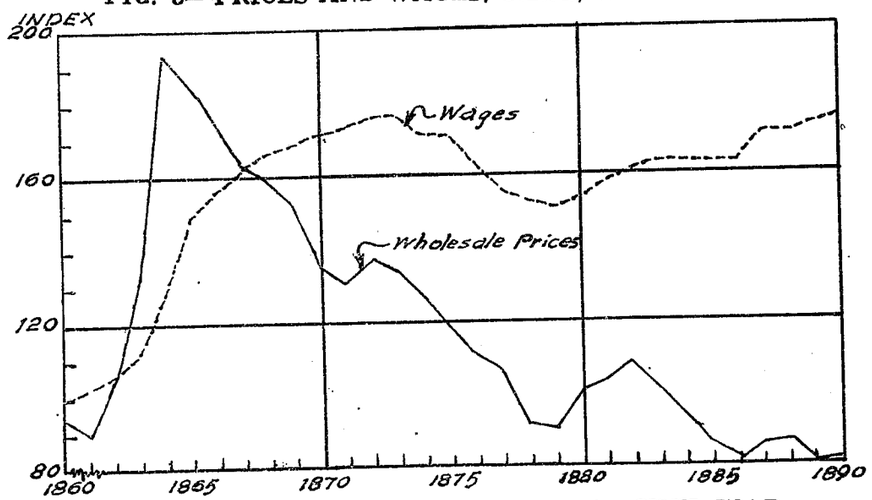


FIG. 4—PRICES AND WAGES, U. S. A., CIVIL WAR.

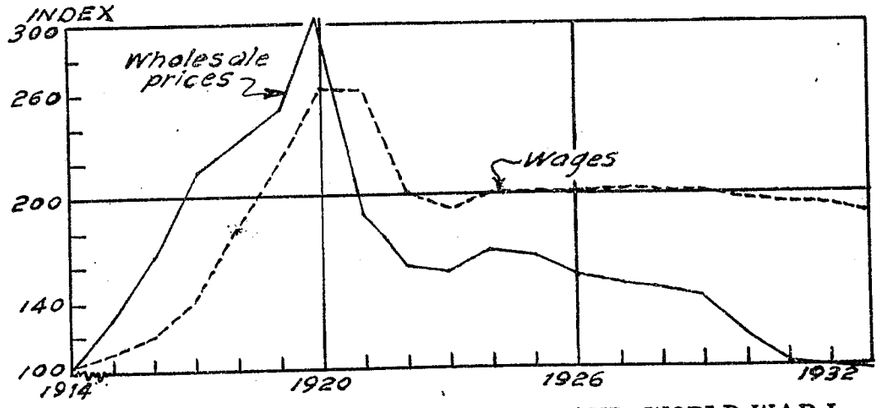


FIG. 5—PRICES AND WAGES, ENGLAND, WORLD WAR I.

Quantities of China's imports dropped from an, index of 129 in 1931 to 85.1 in 1934[1]. Imports of a country are determined chiefly by the internal prosperity of the country, while its exports are determined chiefly by the prosperity of other countries.

2. *Adverse effect on farming*: Costs of producing agricultural products fall less rapidly than do prices received by farmers. Farm wages, taxes, rents and interest rates lag in relation to prices received by farmers for their products (fig. 6,7,8).

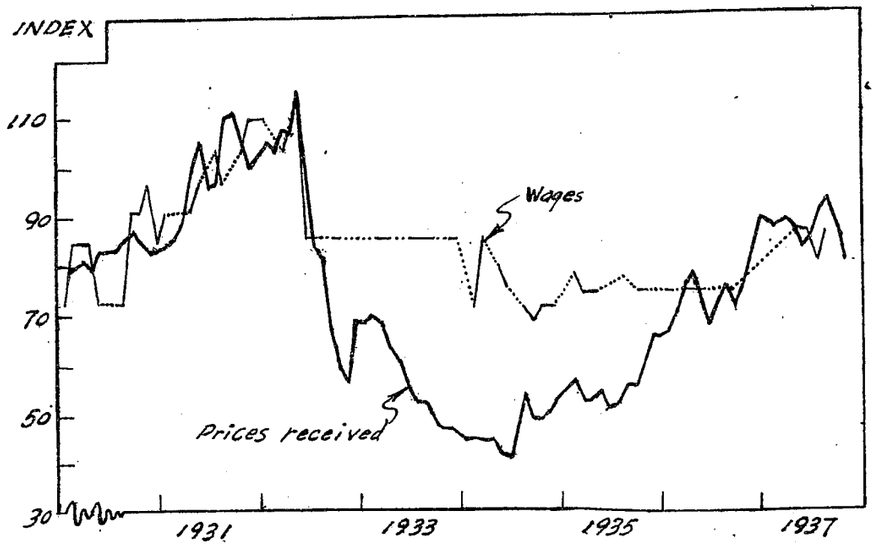


Fig. 6.—.INDEX NUMBERS OF PRICES RECEIVED BY FARMERS AND OF FARM WAGES, SUHSIEN, ANHWEI (1931=100) JAN., 1930-AUG, 1937

[From an article by Raeburn, John R. and Hu Kwoh-hua in Economic Facts No. 7, Oct, 1937, page 292]

During the depression in 1931-34 farm wages fell less rapidly than did prices received by farmers. This lag in the fall of wages was one of the factors making farming less profitable during the period of deflation.

Taxes decline more slowly than do prices received by farmers and more slowly than land values.

In twelve provinces where land values were reported to have declined, totat laxes on irrigated land in 1931 were 2.01 per cent of the value of the land. In 1933, total taxes were 2.77 percent of the value of land. A similar rise in per-

[1]Compiled by Nankai Institute of Economics, Nankai University.

centage that taxes were of land values was reported for dry or non-irrigated land[1].

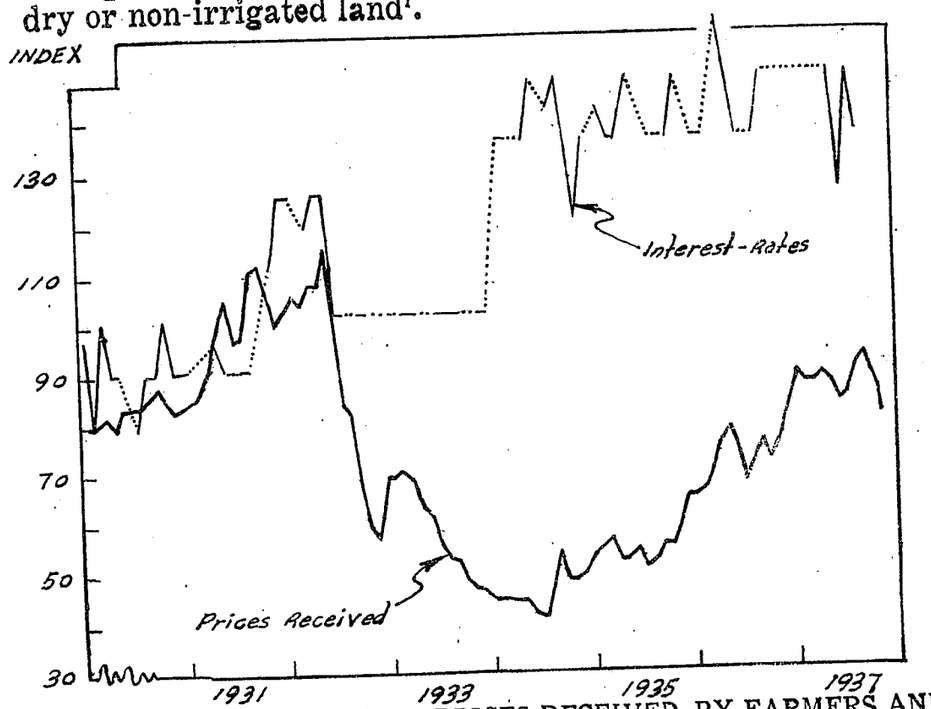


Fig. 7—INDEX NUMBERS OF PRICES RECEIVED BY FARMERS AND OF INTEREST RATES IN SUHSIEN, ANHWEI, JAN., 1930-AUG., 1937 (1931=100)

During the depression the need for loans increased and many loans could not be repaid. Interest rates were raised to a high level. After reflation began in 1935, interest rates were not lowered because the losses suffered during the depression had not been made up.

(Extract from an article by Raeburn, John R. and Hu Kwoh-hua in Economic Facts, No. 7, Oct. 1937, p.293.)

Prices of producers' and consumers' goods purchased by farmers remain at a higher level than prices received because of a lag in industrial wages and transportation rates (fig. 8).

3. *Decrease in the income of the National Government:-* Not only is private business of the individual farmer and city business man seriously affected and curtailed but the very business of the government itself is threatened. For example, the gross customs revenue of the National Govern-

[1]*Silver and prices*, p. 133, The Commercial Press Ltd, 1935 (Original data from Crop Reports of the National Agricultural Research Bureau).

ment of China decreased from 246 millions of Haikwan taels in 1931 to 188 in 1932 and 209 in 1933. The effect of deflation on the revenues of a government was much more pronounced in the severe depression of the United States where the customs receipts of the United States Government dereased from 587 millions of dollars in 1929 to only 328 millions in 1932. Deflation decreases business and therefore must decrease the source of revenues for a government. Moreover, in repaying loans with units of currency higher in value than the units borrowed, a government has as great difficulty as the individual or the corporation.

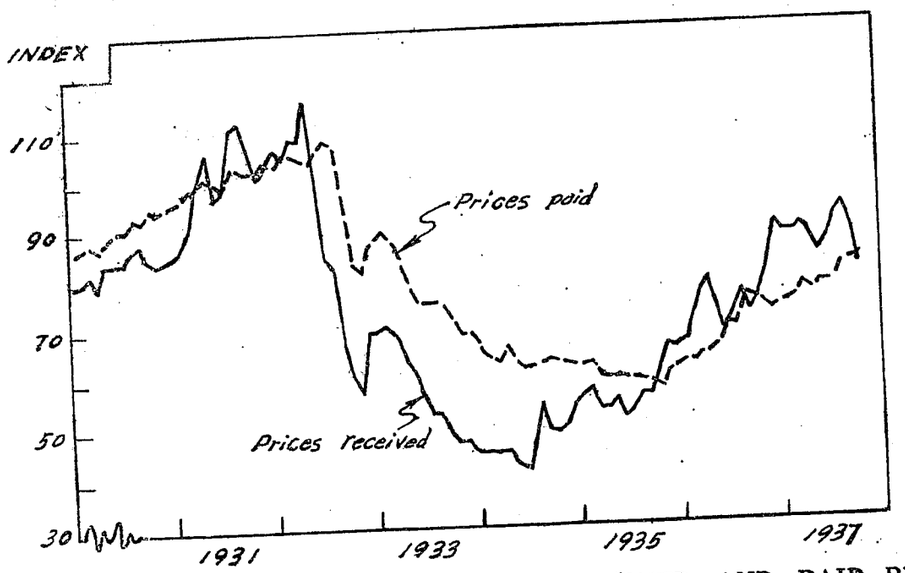


Fig 8—INDEX NUMBERS OF PRICES RECEIVED AND PAID BY FARMERS IN SUHSIEN, ANHWEI, JAN., 1930-AUGUST, 1937 (1931=100)

When the general level of prices declined, prices of farm produce declined more rapidly than the prices of goods purchased by farmers. Reflation has corrected the maladjustment.

(Extract from an article by Raeburn, John R. and Hu Kwoh-hua in Economic Facts, No. 7, Oct. 1937, p. 290)

It is a well established fact that inflation is usually followed by deflation. China's greatest post-war problem is how to prevent deflation. No sane person with knowledge of what deflation does to the economic life of a country would advocate it. All the plans of postwar reconstruction would come to naught if a policy of deflation were adopted.

The problem of how to prevent deflation is one of how to stabilize prices at the level they will have reached at the end of the war. At that time prices of various commodities and services will be in closest adjustment with each other because, as prices advance over a long period, disparities usually become less and less unless controls prevent the usual adjustment. Stabilization of prices at that level will enable types of prices which have not yet adjusted, to rise to that level and will re-establish the pre-war equilibrium between groups of commodities and services. rents, taxes and interest rates. Usually the best price level at which to stabilize is the existing price level whatever it may be at the time stabilization is to take place. Any attempt to stabilize at a lower level will adversely affect the business of the nation. The crux of the problem is to stabilize so that the relative number of units of currency paid or received is in equilibrium between the different groups of commodities and services.

Any attempt after the war to maintain the present official rate of foreign exchange will mean raising the value of each unit of currency and a consequent fall in prices (since fewer units of currency will be required to buy the same amount of commodities). This would mean a policy of deflation; but it has already been been shown that a country cannot stand much deflation and certainly not so much as that which would be caused by maintaining the present official rate of exchange. China in 1931-34 could not permit a deflation of more than 30 percent drop in her price level before devaluing her currency. The United States in 1929 to 1934 permitted a deflation of 50 percent, before devaluing its currency, but even that amount led to serious disruption of the economic life of the nation. A return of the actual value of China's currency to the present official exchange would mean a deflation of much greater magnitude than the above percentage and would cause the cessation of almost all economic life and consequently great social unrest.

John Lossing Buck

CHINA'S INTERNAL AND EXTERNAL PRICE RELATIONSHIPS

The price situation in China is graphically shown by figures 1-3. Prices of import commodities have advanced more rapidly than prices of domestic commodities; export prices have advanced more slowly than domestic commodities; both because of blockade conditions.

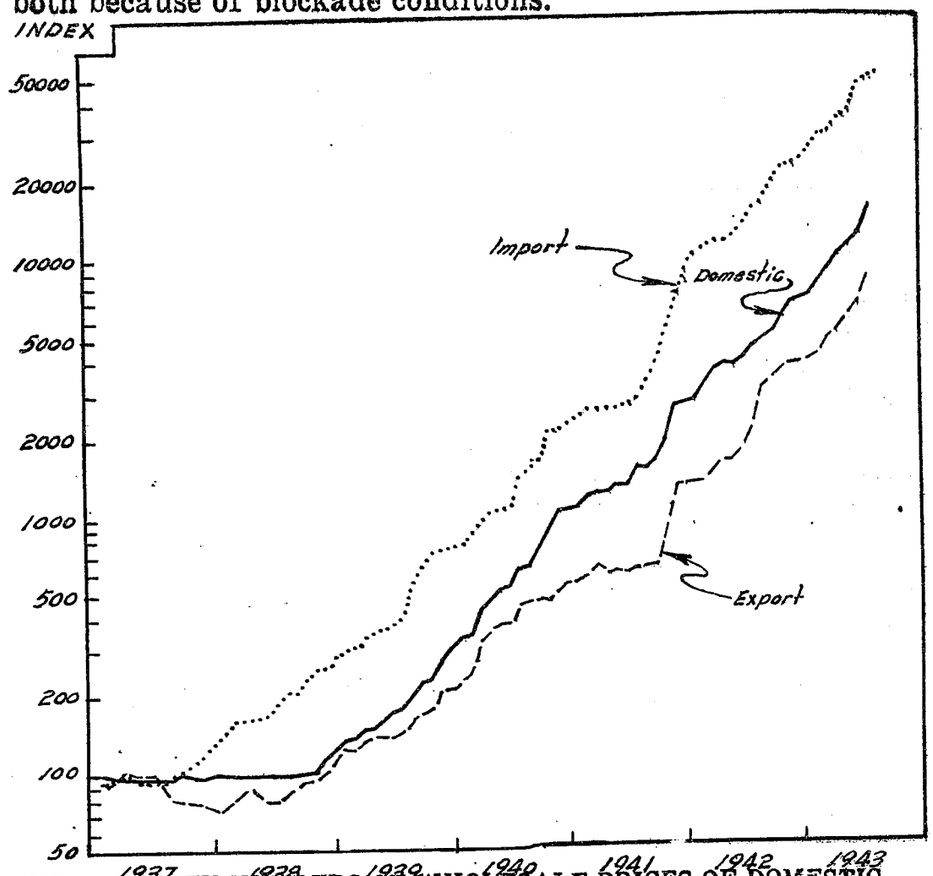


FIG. 1—INDEX NUMBERS OF WHOLESALE PRICES OF DOMESTIC, IMPORT, AND EXPORT COMMODITIES, CHENGTU, JANUARY 1937 to JULY 1943 (JANUARY-JUNE 1937=100)

Import commodities advanced much more rapidly than domestic prices; export prices advanced more slowly than domestic prices. A shortage of supply was responsible for the more rapid advance in import prices and the absence of demand for export commodities caused them to advance more slowly than domestic commodities. The fact that export commodities advanced in price in spite of low demand is evidence of a depreciated currency.

Raw materials since August 1941 have advanced more slowly than the manufactured articles from such raw materials. The apparent reason is a greater amount of hoarding of manufactured articles and possibly a decrease in the rate of production.

Prices in China have advanced at a rapid rate equal to a geometric ratio of increase until by August 1943 the *yuan* had depreciated to five tenths of one pre-war cent. On the other hand-prices in England and U.S.A. increased only slightly, 49 and 22 percent respectively. Controls in these two countries were comparatively effective, especially in England. Most of England's price rise occurred immediately

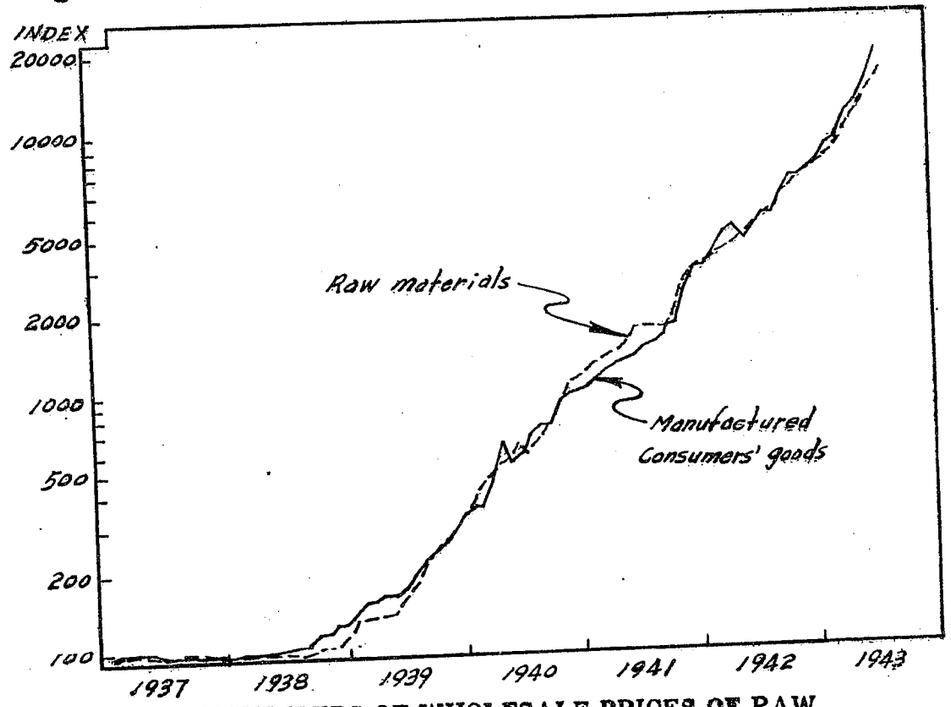


FIG. 2—INDEX NUMBERS OF WHOLESALE PRICES OF RAW MATERIAIS AND MANUFACTURED CONSUMERS' GOODS FROM SUCH RAW MATERIALS, CHENGTU, JANUARY 1937 TO JULY 1943 (JANUARY-JUNE 1937=100)

Raw materials and manufactured goods from such raw materials advanced at different rates sometimes one and than the other at a faster faster pace. For about one year manufactured goods have steadily advanced more rapidly than raw materials. Probably this reflects a declining increase in rate of production and more hoarding of manufactured articles than of raw materials.

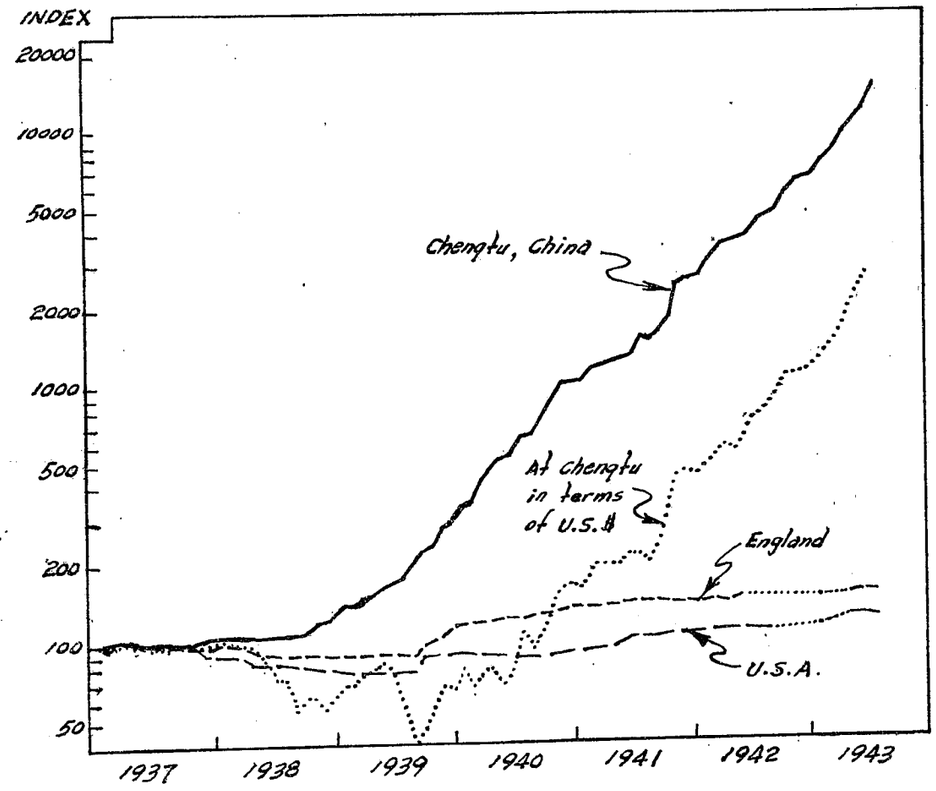


FIG. 3—INDEX NUMBERS OF WHOLESALE PRICES FOR (1) CHENGTU, CHINA (DOMESTIC PRICES), (2) ENGLAND AND (3) WHOLESALE PRICES OF DOMESTIC COMMODITIES AT CHENGTU IN TERMS OF US$ (AT OFFICIAL EXCHANGE RATE BEGINNING WITH AUG. 1940) FOR JANUARY 1937 to APRIL 1943 (JANUARY-JUNE 1937=100)

Prices in U.S.A. and in England have advanced slightly while prices in China have advanced precipitously. In terms of U.S. dollars (official pegged exchange rate, after August 1940) prices at Chengtu have also advanced rapidly and since August 1940 have advanced parallel with domestic prices at Chengtu.

after depreciation of her currency at the time of her declaration of war against Germany.

John Lossing Buck
Ying-yuen Wang

INDICATORS OF PRICE CHANGES[1]

(January to June 1937 = 100)

Items	Number of items or observations	Index numbers	Date	Place
Wholesale prices and cost of living:				
1. Wholesale prices of all commodities	57	18559	Aug. 1943	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	17422	Aug. 1943	Chengtu
3. Wholesale prices of imported goods	9	59917	Aug. 1943	Chengtu
4. Wholesale prices of exported goods	10	8213	Aug. 1943	Chengtu
5. Wholesale prices of raw materials	30	14220	Aug. 1943	Chengtu
6. Wholesale prices of manufactured producers' goods	11	17580	Aug. 1943	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	20033	Aug. 1943	Chengtu
8. Wholesale prices in important cities, Free China				
(a) Highest: Kunming, Yunnan		24292	June 1943	
(b) Lowest: Kweilin, Kwangsi		10489	June 1943	
(1) Kunming, Yunnan (Aug. 1937 = 100)(a)	141	24292	June 1943	
(2) Sian, Shensi (June 1937=100)(b)		12194	Apr. 1943	
(3) Chungking, Szechwan(c)	94	12532	June 1943	
(4) Chengtu, Szechwan	57	13690	June 1943	
(5) Kweilin, Kwangsi(d)	48	10489	June 1943	
9. Cost of living	76	13028	Aug. 1943	Chengtu
10. Retail prices of seven commodities commonly used	7	17240	Aug. 1943	Chengtu
11. Retail prices for 14 cities in Free China(e)				
(a) Highest: Loyang, Honan	25	20869	June 1943	
(b) Lowest: Sining, Chinghai	25	6284	June 1943	
(1) Loyang, Honan	25	20869	June 1943	
(2) Sian, Shensi	25	17445	June 1943	
(3) Kunming, Yunnan	25	17046	June 1943	
(4) Yunyang, Hupeh	25	14118	June 1943	
(5) Yaan, Sikong	25	12876	June 1943	
(6) Kweilin, Kwangsi	25	12696	June 1943	
(7) Hengyang, Hunan	25	11920	June 1943	
(8) Chukiang, Kwangtung	25	10517	June 1943	
(9) Chengtu, Szechwan	25	10208	June 1943	
(10) Kweiyang Kweichow	25	9953	June 1943	
(11) Chungking, Szechwan	25	9285	June 1943	
(12) Kanchow, Kiangsi	25	8956	June 1943	
(13) Lanhow, Kansu	25	6692	June 1943	
(14) Sining, Chinghai	25	6284	June 1943	
12. Rent, city residences	100	2846	Aug. 1943	Chengtu
13. School tuition				
(1) Primary school	1	2500	Mar. 1943	Chengtu
(2) Middle school	1	450	Mar. 1943	Chengtu
(3) University	1	200	Mar. 1943	Chengtu
City wages (f)	12	10452	Aug. 1943	Chengtu
1. Carpenters	1	14000	Aug. 1943	Chengtu
2. Masons	1	14000	Aug. 1943	Chengtu
3. Cotton weavers	1	10000	Aug. 1943	Chengtu
4. Silk weavers	1	2875	Aug. 1943	Chengtu
5. Tailors	1	10000	Aug. 1943	Chengtu
6. Barbers	1	15000	Aug. 1943	Chengtu
7. Blacksmiths	3	7689	Aug. 1943	Chengtu
8. Coppersmiths	3	5767	Aug. 1943	Chengtu
9. Maidservants	8	10237	Aug. 1943	Chengtu
Salaries:				
1. Professors' salaries (g)	10	1900	Aug. 1943	Chengtu
2. Clerks (g)	10	4339	Aug. 1943	Chengtu
3. Soldiers' cash allowances	6	699	Aug. 1943	Chengtu
Chinese currency				
1. Purchasing power of *yuan* in terms of cost of living	-	0.7	Aug. 1943	Chengtu
2. Purchasing power of *yuan* in terms of wholesale prices of domestic commodities	-	0.5	Aug. 1943	Chengtu
U.S.A currency				
1. Increase in number of *yuan* for one US$ at buying official exchange rate of 20 *yuan* to one US dollar	-	594	Aug. 1943	Chengtu
2. Calculated expected rate of *yuan*/US$ exchange (purchasing power parity) on basis of prices of domestic commodi-				

Items	Number of items or observations	Index numbers	Date	Place
ties at Chengtu and Statist Index of wholesale prices in U.S.A. (a) actual	-	US$ 0.0030	June 1943	Chengtu
(b) estimated (h)	-	US$ 0.0021	Aug. 1943	Chengtu
3. Purchasing power of US$				
(a) at official exchange rate in China		3.4	Aug. 1943	Chengtu
(b) actual in U.S.A.	-	81	June 1943	U.S.A.
4. Wholesale prices of domestic commodities in terms of US$ at official exchange rate		2934	Aug. 1943	Chengtu
5. Wholesale prices in U.S.A.	-	123	June 1943	U.S.A.
Sterling currency:				
1. Increase in number of *yuan* for one pound sterling	-	483	Aug. 1943	
2. Calculated expected *yuan*/pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in England				
(a) Actual	-	0.22d	Apr. 1943	Chengtu
(b) Estimated (h)	-	0.13d	Aug. 1943	Chengtu
3. Purchasing power of pound sterling				
(a) at official buying rate in China	-	2.8	Aug. 1943	Chengtu
(b) actual in England	-	67	Apr. 1943	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the official exchange rate	-	3603	Aug. 1943	Chengtu
5. Wholesale prices in England	-	149	Apr. 1943	England
Gold and sliver:				
1. Price of gold (open market)	1	10342	Aug. 1943	Chengtu
2. Price of silver (open market)	1	6716	Aug. 1943	Chengtu
3. Wholesale prices of domestic commodities in terms of gold	-	168	Aug. 1943	Chengtu
4. Wholesale prices of domestic commodities in terms of silver	-	259	Aug. 1943	Chengtn
Farm prices (4 *hsien*):				
1. Prices received by farmers (1937=100)	16-22	12926	July 1943	Szechwan

Items	Number of items or observation	Index numbers	Date	Place
2. Farmers' cost of production	-	11327	July 1943	Szechwan
3. Prices paid by farmers for producers' and consumers' goods (1937=100)	17-51	14507	July 1943	Szechwan
4. Prices paid by farmers for producers' goods	16-22	11725	July 1943	Szechwan
5. Prices paid by farmers for consumers' goods	17-29	17950	July 1943	Szechwan
6. Purchasing power of farmers (ratio of prices received by farmers to prices paid by farmers including all costs of production and prices paid for consumers' goods)	-	96	July 1943	Szechwan
7. Crop rent				
(a) paid last year	-	4345*	Oct. 1942	Szechwan
(b) if paid current month	-	12735	July 1942	Szechwan
8. Land taxes				
(a) paid last year	-	3689	Oct. 1942	Szechwan
(b) if paid current month	-	15676	July 1943	Szeohwan
9. Farm land value (8 *hsien*)	-	7195	July 1943	Szechwan
10. Farm year labor (8 *hsien*)	-	7946	July 1943	Szechwan
11. Farm day labor (8 *hsien*)	-	10299	July 1943	Szechwan

(a) Statistical Department of Municipal Government of Kunming.
(b) Economic Research Department of Provincial Bank of Shensi.
(c) Central Bureau of Survey and Statistics, Commission of Military Affairs, Chungking, Szechwan.
(d) Department of Economic Survey of Sin-chung Corporation, Kweilin, Kwangsi.
(e) Data from Farmers' Bank of China.
(f) The general index of city wages is the weighted geometric average of all groups, excluding maid-servants. The weights used are as follows: carpenters 22.2, masons 15.8, cotton weavers 11.0, silk weavers 12.2, tailors 11.9, barbers 21.9, blacksmiths 2.5, coppersmiths 2.5. The data on wages were supplied by the union or by individuals.
(g) From one organization.
(h) Preliminary estimate based on the rate of increase in prices.
(i) Beginning with this issue this index is computed as if taxes and rent were paid at current prices of rice for this month.

*Revised.

APPENDIX I

TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES IN CHENGTU, 1937-AUG. 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of *yuan*
Number of commodities	57	15	9	4	9	5	15	
Years:								
1937	99	99	102	98	106	100	94	101.1
1938	116	95	139	104	173	106	106	86.5
1939	219	147	298	232	398	208	193	45.7
1940	653	533	841	847	1282	454	491	15.3
1941	1616	1830	1637	2119	3059	1223	999	6.2
1942	4771	4084	5862	5974	10254	3408	3315	2.1
1943								
Jan.	7458	5666	10915	9602	15332	5758	5165	1.3
Feb.	8321	6757	11983	10469	17002	5986	5629	1.2
Mar.	9232	7204	14273	11580	18708	6449	6324	1.1
Apr.	10278	8256	16830	12356	21341	6890	6678	1.0
May	11683	9678	20136	15111	22402	7187	7555	0.9
June	13690	12038	24255	16166	24117	7974	9007	0.7
July	17159	16627	31184	19998	27386	9919	11121	0.6
Aug.	18559	16931	31353	21192	34004	10625	11964	0.5

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-AUG. 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Domestic commodities	Import commodities	Export commodities
Number of commodities	57	38	9	10
1937	99	100	110	90
1938	116	108	212	87
1939	219	199	486	163
1940	653	633	1396	397
1941	1616	1658	3658	721
1942	4771	4358	15528	2349
1943				
Jan.	7458	6698	25308	3734
Feb.	8321	7581	28392	3928
Mar.	9232	8354	29967	4676
Apr.	10278	9650	31160	4812
May	11683	11097	33392	5446
June	13690	12947	41502	6237
July	17159	16456	48572	7887
Aug.	18559	17422	59917	8213

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-AUG. 1943

Jan. to June 1937=100 (Simple geometric average)

Period	Raw materials			Manufactured goods		
	Producers' goods	Consumers' goods	All	Producers' goods	Consumers' goods	All
Number of commodities	18	12	30	11	9	20
1937	97	96	96	102	98	100
1938	97	95	96	134	114	125
1939	188	160	176	244	206	226
1940	628	447	548	637	648	642
1941	1498	1216	1377	1360	1623	1473
1942	3660	3538	3607	4469	4678	4548
1943						
Jan.	5865	5204	5591	7930	7037	7515
Feb.	6383	5970	6215	8490	8242	8377
Mar.	7068	6657	6901	9992	8924	9496
Apr.	8229	7136	7773	10966	10141	10587
May	9453	8206	8932	12631	11866	12281
June	11274	8942	10276	14550	15042	14769
July	15289	10973	13389	16850	19443	17971
Aug.	16492	11385	14220	17580	20033	18644

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-AUG. 1943

Feb. to June 1937=100 (weighted aggregative)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	102	105	100
1939	126	148	157	140
1940	435	448	444	442
1941	1661	1464	1391	1524
1942	3274	3560	3738	3473
1943				
Jan.	4450	5111	5744	4948
Feb.	5301	5804	6476	5723
Mar.	5742	6422	7230	6289
Apr.	7000	7434	8118	7389
May	8909	8711	9207	8898
June	10959	10575	11125	10850
July	15811	14546*	14244*	14990*
Aug.	14833	15178	15150	15028

*Revised.

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-AUG. 1943

Feb. to June 1937=100 (weighted geometric average)

Period	General index	Food	Clothing	Rent	Fuel and lighting	Miscellaneous	Purchasing power of *yuan*
Number of commodities	76	28	13	2	2	21	
1937	98	98	104	100	97	100	101.6
1938	100	92	142	103	97	115	100.4
1939	140	120	267	109	163	182	71.3
1940	442	441	852	117	304	387	22.7
1941	1524	1786	1787	185	1670	1171	6.6
1942	3473	3376	6409	462	4829	3621	2.9
1943							
Jan.	4948	4413	10835	1006	7451	5599	2.0
Feb.	5723	5398	11739	1006	7999	6099	1.7
Mar.	6289	5834	13810	1222	8524	6854	1.6
Apr.	7389	7080	16223	1525	9003	7602	1.4
May	8898	8842	19297	1816	10242	8269	1.1
June	10850	10600	23280	2440	13512	9701	0.9
July	14990*	15669*	29381	2505*	18422*	11109	0.7
Aug.	15028	15363	29012	2846	19457	12491	0.7

*Revised.

ECONOMIC FACTS

DEPARTMENT OF AGRICULTURAL ECONOMICS

COLLEGE OF AGRICULTURE AND FORESTRY

UNIVERSITY OF NANKING

CHENGTU, CHINA

No. 25 October 1943

MAJOR PRICE RELATIONS

(January to June 1937=100)

Items	Number of items	Index numbers	Date	Place
1. Wholesale prices of domestic commodities	38	18072	Sept. 1943	Chengtu
2. Prices received by farmers (1937=100)	9-13	13285	Aug. 1943	Szechwan
3. Cost of living	76	15189	Sept. 1943	Chengtu
4. City wages	12	12262	Sept. 1943	Chengtu
5. Farm wages (1937=180	8	10195	Aug. 1943	Szechwan
6. Salaries-, professors	10	1820	Sept. 1943	Chengtu
7. Soldiers' cash allowances	6	699	Sept. 1943	Chengtu
8. Land taxes (1937=100		3689	Oct. 1942	Szechwan
9. Wholesale prices of domestic commodities in terms of silver	38	247	Sept. 1943	Chengtu
10. Wholesale prices of domestic commodities in terms of gold	38	172	Sept. 1943	Chengtu
11. Wholesale prices of domestic commodities in terms of US$ at official exchange rate	38	3043	Sept. 1943	Chengtu
12. Wholesale prices in U. S. A. (Statist index)	-	123	June 1943	U.S.A.
13. Wholesale prices in England (Statist index)	-	149	Apr. 1943	England
14. Purchasing power of farmers	-	96	Aug. 1943	Szechwan
15. Purchasing power of rice (a)	-	74	Sept. 1943	Chengtu
16. Freight rates (truck)	1	6818	Sept. 1943	Szechwan
17. Monthly commercial loan interest rate per $1000	1	308	Sept. 1943	Chengtu

(a) Calculated in terms of wholesale prices of 57 commodities.

CONTENTS

WEIGHTS AND MEASURES

One *li* is equivalent to one-third of an English mile

One *shih tan* is equivalent to 100 liters or 2.8378 American bushels.

One *shih tou* is one-tenth of a *shih tan.*

One *shih shen* is one-tenth of a *shih tan.*

One *shih picul* is equivalent to 110.23 pounds avoirdupois.

One *shih chin* (catty) is equivalent to 1.1 pounds avoirdupois.

The *yuan* is the Chinese unit of currency. The exchange rate is pegged at 20 *yuan* to one U.S. dollar and 80 *yuan* to one pound sterling. The rate has no relation to the price level in China.

THE DILEMMA OF SALARIED CLASSES

As a rule, during a rising price level, salary earners and people of other fixed income groups suffer a lowering of their purchasing power. One of the most unfortunate things in the war against Japanese invasion has been the increasing gap between the earnings and the cost of living of fixed income earners, essentially governmental officials and school teachers. The gap was bridged by these salaried classes in part by contracting family consumption and by resorting to other possible sources of income. As inflation continues, the gap becomes wider and wider until bridging it becomes impossible. Then such salary earners must leave their profession or starve to death.

For illustration, of this situation, data are taken for salary incomes of 30 staff members of the University of Nanking and for family expenditure of 57 families in the military-official-educational class in Chengtu. These data show the extent of the discrepancy between necessary expenditure and salary income. However, in 1937 the staff members of the University of Nanking were in a higher income group (144.60 *yuan* per month) than the average income for the military-official and educational class (107.60 *yuan* per month).

In 1937, both the salaries and the cost of living were quite stable and salaries were much greater than cost of living (figure 1). The University staff when living on pre-war level could have large savings. Beginning from the winter of 1938, the cost of living increased steadily, while the salary income remained almost unchanged. The surplus, then, became less and less, until March 1940 cost of living rose above salary incomes. The University staff members then began to have a deficit in income instead of a surplus. Beginning from November 1940, rice subsidy was granted, and consequently, the monthly salary income advanced quickly with the rise in the price of rice[1]. However, the salary income remained far below the total cost of living. In November 1942, the index subsidy was begun, by increasing four percent of the basic salary at the same

[1]Staff members and their direct kinship, namely: parents, wife or husband and children were given two *shih tou* of rice per adult and one *shih tou* per child per month by deducting from one's salary 5 *yuan* per *shih tou* of rice.

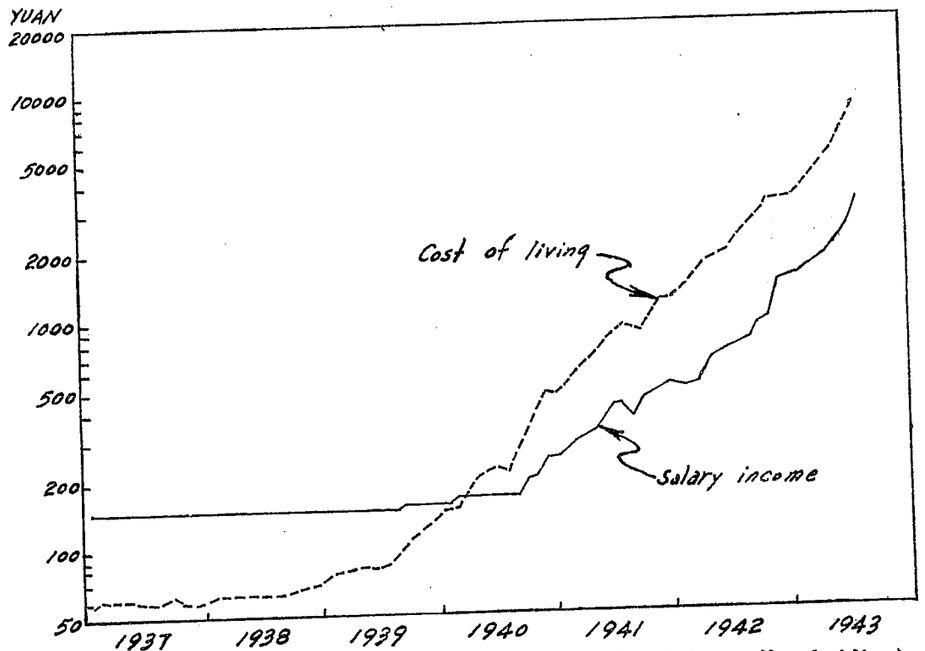


Fig. 1. The average monthly salary income (including all subsidies) of University of Nanking staff members and the monthly cost of living of military-official-educational class in Chengtu.

rate as the increase in cost of living[1]. There was still left a major portion of income which did not rise with the cost of living. Therefore the amount of deficit becomes greater and greater.

By dividing the cost of living into the salary income a series is obtained showing the changing financial situation of educational workers from pre-war to the present (fig. 2).

Prior to the war a University staff member could support his family and himself by only one-half a year's earnings. / Beginning with the winter of 1938, the purchasing power of his a salary dropped precipitatously until 1942. By that time the monthly earnings of a University staff member could only support the family for one-third of a month. The addition of index subsidy, raised the purchasing power by 15 percent for October and November 1942. Since then, purchasing power has continued to drop.

[1]The monthly index subsidy was determined by multiplying four percent of one's basic salary by the index number of cost of living of the military-offical-educational class iu Chengtu.

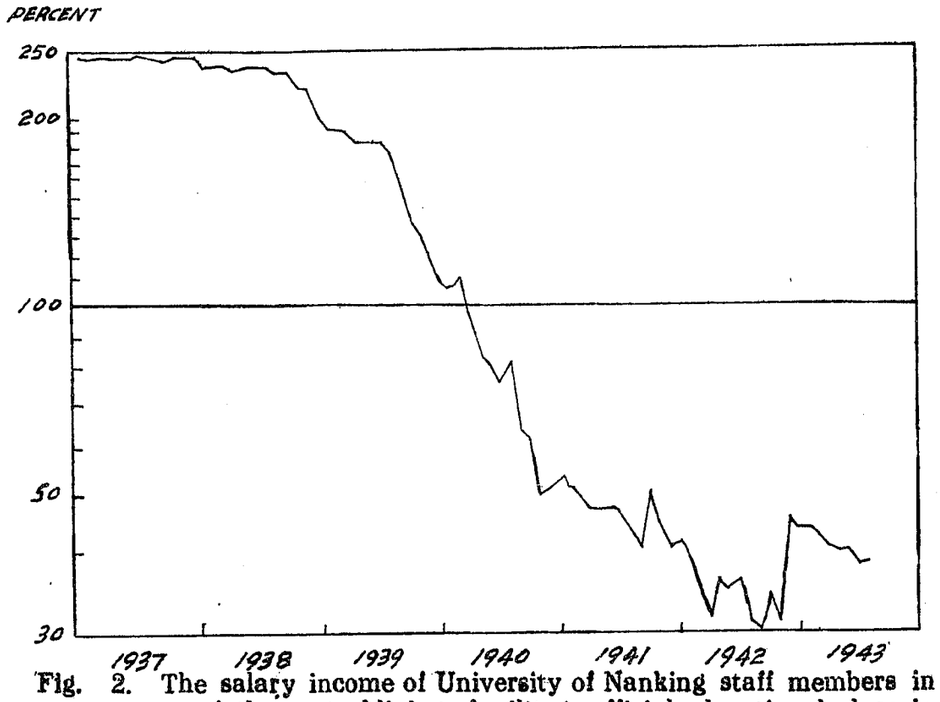


Fig. 2. The salary income of University of Nanking staff members in percent of the cost of living of military-official-educational class in Chengtu.

How these University teachers and other staff members bridged this financial gap in order to survive is a question hard to answer. Methods differ in many ways. Some might work part time in government organizations or in other schools. Some mighs devote a part of their time to business. Some might be subsidised by their estates and savings. According to the study of cost of living in Chengtu in 1941-42, for the military-official-educational class, the actual monthly family expenditure was 932.90 *yuan* for June 1941-May 1942, while the cost of living for normal expenditure would be 1235.30 *yuan* for the same period studied. The former is nearly 25 percent lower than the latter. The salary income of the military-official-educational class was 535 *yuan* per month or 57 percent of the actual family expenditure in 1941-42. That is, 43 percent of the family expenditure had to be supported by incomes outside of one's major vocation.

From 1941-42 to August 1943 the cost of living advanced almost 7 times. / The salary income increased at a much slower rate and by August 1943 was 38 percent of cost

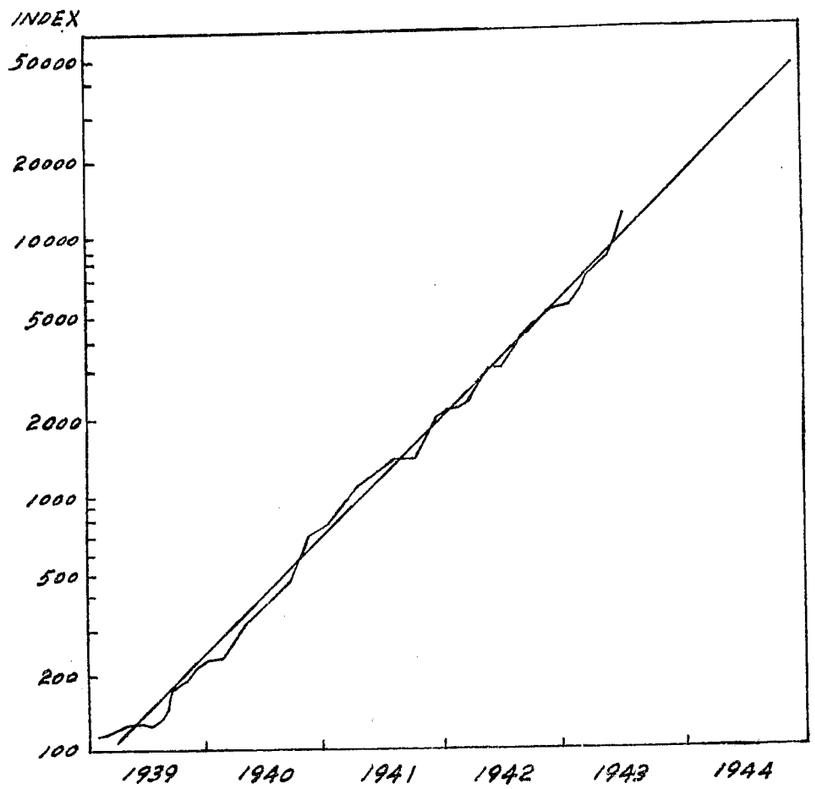


Fig. 3. General index numbers of cost of living for military-official-educational classes in Chengtu.

of living. Expenditures amounting to 62 percent had to be obtained from other than salary income. So far as income is concerned, University education seems no longer a major vocation of staff members. The index subsidy so planned has not solved the living problem of educationalists. From 1941-42 to August 1943 the deficit, which has to be bridged by the reduction of cost of living and the increase of other incomes, has risen by more than seven times. This can only be counterbalanced (1) by proportional and simultaneous reduction in living expenditures at expense of health and education of family members and (2) by proportional outside incomes.

Prices, however, are still rising ceaselessly. No matter how bad it is now, it will be worse later. The cost of living index during the past 4 years advanced at a commpound rate of 9.6 percent per month; that is, it doubled every 7.6 months. The logarithmic trend of the general index of cost of living

Table 1. Monthly cost of living (family of 3.83 adult-male units), actual expenditure, salary and other incomes of University staff members in Chengtu during June 1941-May 1942.

Items	Yuan	Yuan
Cost of living	1,235.20	
Actual expenditure	932.90	
Reduction in cost of living		302.30
Salary income		535.10
Other receipts*		446.50
Total receipts		1283.90

*Other receipts include outside work, loans, selling of belongings and gifts.

for the military-offical-educational class from September 1939 to July 1943 is shown in fig. 3. The equation is log $Y=4.22478+0.03966\times$ (for August 1941, $\times=0$). The deviations of the actual index from the trend are small. By extrapolation. the estimates for monthly index numbers of cost of living of military-official-educational class from August 1943 to December 1944 are shown in table 2.

Table 2, Estimated index numbers of cost of living, Chengtu, Szechwan (August 1943 to December, 1944)

Period	Estimated index (3 significant numbers only
1943	
Aug.	15000
Sept.	16500
Oct.	18000
Nov.	19800
Dec.	21600
1944	
Jan.	23700
Feb.	26000
Mar.	28500
Apr.	31200
May	34200
June	37400
July	41000
Aug.	44900
Sept.	49200
Oct.	53900
Nov.	59100
Dec.	64700

If there are no convincing signs before Decembr 1944 of an early end to World War II; and if there are no changes in currency policy to increase confidence in the currency; cost of living by December 1944 will be approximately 600 times the prewar cost. Institutions and staff members should make their plans accordingly.

Kwoh-hwa Hu

THE VALUE OF GOLD

At Chengtu, for September 1943, the value of gold was the lowest it has been any time since the outbreak of Sino-Japanese hostilities. True, by September 1943, the price of gold per *shih liang* (Chinese standard ounce of 30.7356 grains) had advanced to 105 times prewar, but it had not advanced as rapidly as domestic commodities which were 181 times prewar prices. Therefore, the value of gold (purchasing power of gold) decreased considerably and by September 1943 was the lowest since 1937 (figures 1 and 2, and tables 1 and 2). There has been no appreciable increase in supply of gold, so the decrease in the purchasing power of gold may be attributed to a greater demand for other commodities than for gold.

In Shanghai, in 1939, the purchasing power of gold likewise begin to decline from its highest peak of an index of 167 (Feb. 1913=100) (figure 3, table 2) until by January to June 1941 the index was 92.6 (the latest date for which data are available). In the United States gold has also declined in purchasing power beginning with 1938 but for the first quarter of 1943, still was greater than the average of other commodities (an index of 107.5 when 1913=100) figure 4, table 2).

The nationalization of gold by the Chinese government on August 29, 1939 and the later regulation on June 4, 1943 permitting free trade of gold in China, but prohibiting its export, did not in any way change the downward trend of the purchasing power of gold.

Unless the demand for gold changes, the increase in its supply by placing large quantities of it for sale in the free markets of China will cause the purchasing power of gold to decline still further. If the price of gold should become very low in comparison with other commodities a point might be reached where people would begin to think that the hoarding of gold would be a good bargain. There is evidence of this psychology in the latter half of 1940 when the downward trend in the value of gold was broken. By the end of 1941 the value of gold had advanced to the equivalent in value of other commodities and the purchasing power of gold was at par with other commodities. But it fell rapidly and by late spring of 1942 was slightly lower than its lowest point in 1940. It again advanced to par with other commodities by

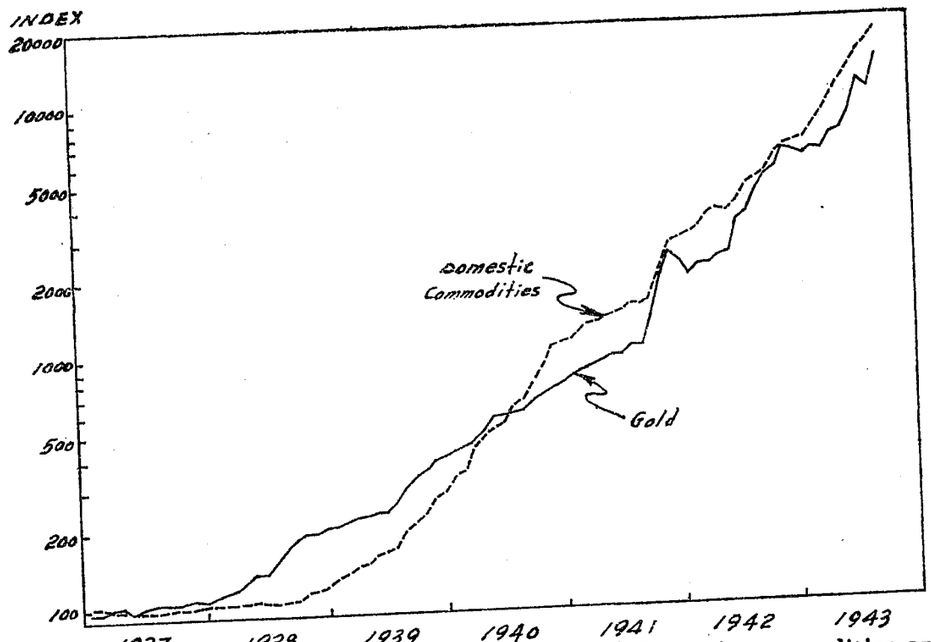


Figure 1 - Index numbers of wholesale prices of domestic commodities and gold at Chengtu, Jan. 1937-Sept. 1943 (Jan.-June 1937=100)

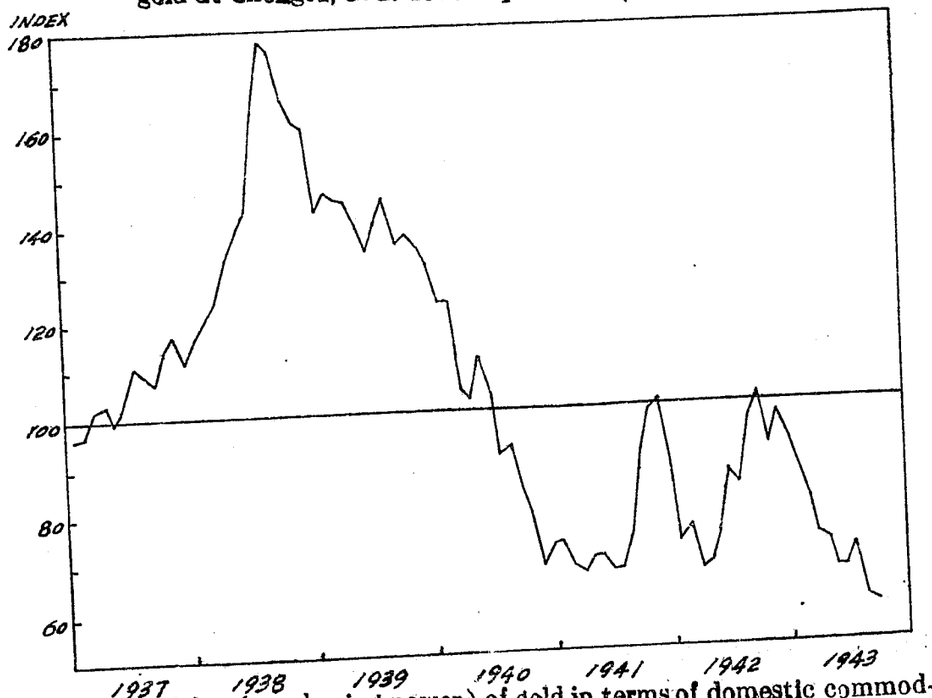


Figure 2 - Value (purchasing power) of gold in terms of domestic commodities at Chengtu, Jan. 1937-Sept. 1943 (Jan.-June 1943=100)

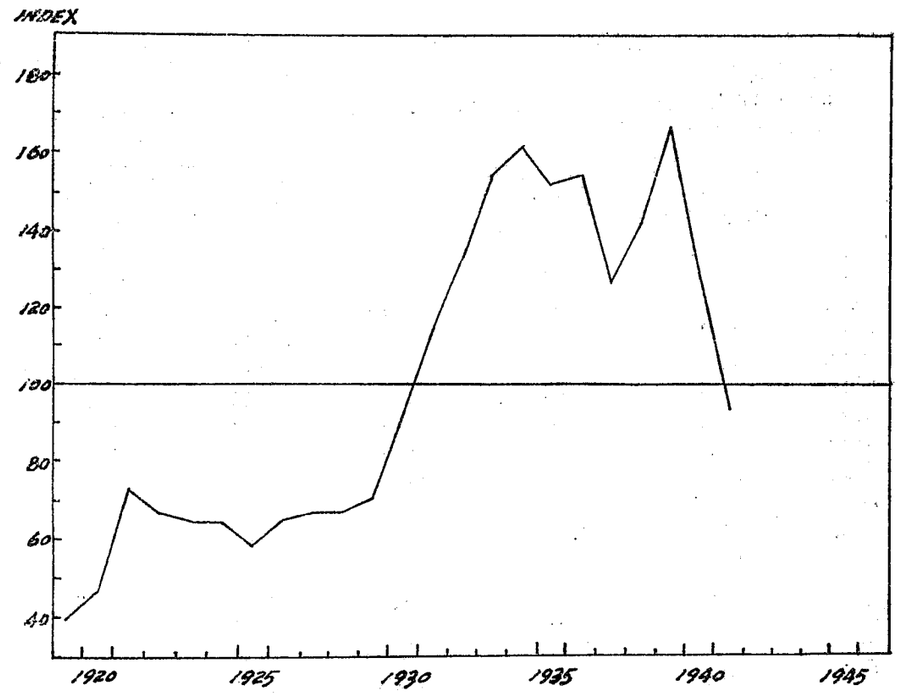


Figure 3 - Value (purchasing power) of gold in terms of basic commodities in Shanghai, 1919-1941 (Feb. 1913=100)

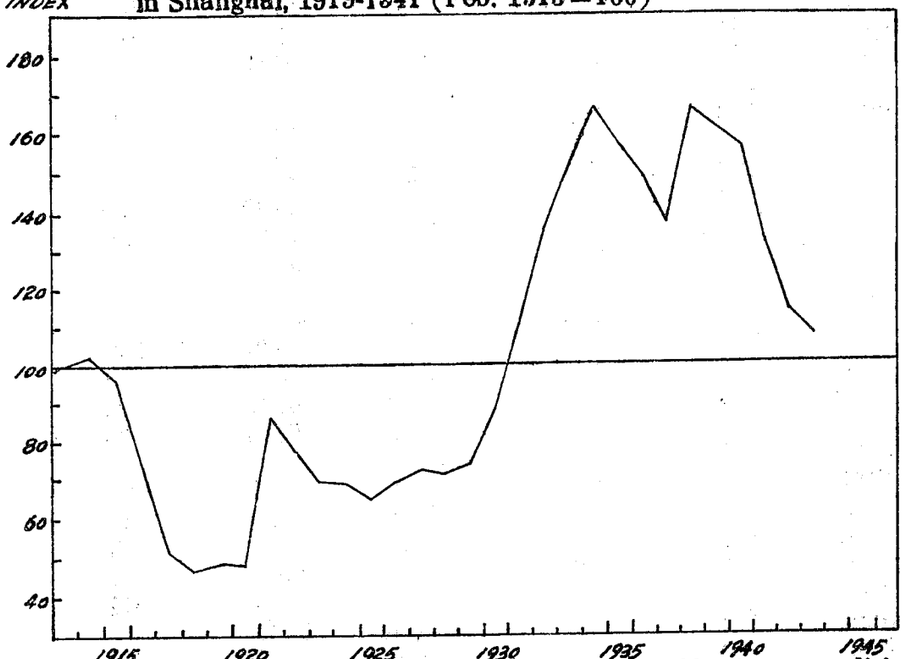


Figure 4 - Value (purchasing power) of gold in terms of basic commodities in the United States, 1913-1943* (1913=100)

*For 1943, average of Jan.-June

TABLE 1. INDEX NUMBERS OF PRICES OF GOLD AND PURCHASING POWER OF GOLD IN TERMS OF WHOLESALE PRICES OF DOMESTIC COMMODITIES FOR JANUARY 1937 TO SEPTEMBER 1943 IN CHENGTU (JAN.-JUNE 1937=100)

Year	Index numbers of prices of gold	Purchasing power of gold	Year	Index numbers of prices of gold	Purchasing power of gold
1937			1940		
Jan.	98	96	June	566	104
Feb.	98	97	July	576	91
Mar.	102	102	Aug.	585	91
Apr.	102	103	Sept;	634	84
May	98	99	Oct.	663	78
June	102	104	Nov.	683	67
July	107	110	Dec.	732	72
Aug.	107	109	1941		
Sept.	107	107	Jan.	780	72
Oct.	112	114	Feb.	829	67
Nov.	117	117	Mar.	878	66
Dec.	112	111	Apr.	927	69
1938			May	976	69
Jan.	117	116	June	976	66
Feb.	122	120	July	1073	67
Mar.	127	124	Aug.	1171	73
Apr.	137	132	Sept.	1463	89
May	146	138	Oct	1951	100
June	146	143	Nov.	2537	101
July	166	162	Dec.	2342	88
Aug.	185	178	1942		
Sept.	190	175	Jan.	1951	72
Oct.	195	166	Feb.	2244	76
Nov.	195	161	Mar.	2244	65
Dec.	205	159	Apr.	2439	68
1939			May	2537	72
Jan.	205	142	June	3317	86
Feb.	215	146	Junly	3512	83
Mar.	224	145	Aug.	4260	96
Apr.	224	144	Sept.	5073	102
May	234	140	Oct.	5293	90
June	234	134	Nov	6107	98
July	254	140	Dec.	6000	93
Aug.	293	145	1943		
Sept.	312	135	Jan.	5780	86
Oct.	342	137	Feb.	6098	80
Nov.	380	134	Mar.	6000	72
Dec.	390	129	Apr.	7000	72
1940			May	7220	65
Jan.	420	122	June	8463	65
Feb.	429	123	July	11585	70
Mar.	449	104	Aug.	10342	59
Apr.	507	102	Sept.	10486	58
May	576	111			

the Autumn of 1942 and then declined until, in September 1943, its purchasing power was 58 percent of its purchasing power in 1937, the lowest it has been anytime during the war.

TABLE 2. INDEX NUMBERS OF PURCHASING POWER OF GOLD IN SHANGHAI AND U.S.A. FOR 1913-1943

Year	Shanghai (Feb.1913=100)	U. S. A. (1913=100)	Shanghai (Feb.1913=100	U.S.A. (1913=100)
1913	-	100.0	1931	116.3	111.1
4	-	102.0	2	131.6	135.1
5	-	96.2	3	153.8	151.5
6	-	73.5	4	161.3	166.7
7	-	51.6	5	151.5	156.3
8	-	46.7	6	153.8	149.3
9	39.8	47.9	7	126.6	137.0
1920	43.1	47.6	8	138.9	166.7
1	73.5	82.0	9	166.7	161.3
2	67.1	75.2	1940	128.2	156.3
3	63.7	69.9	1	92.6*	131.6
4	63.7	69.4	2	-	113.6
5	58.1	64.9	3	-	107.5
6	64.5	68.5			
7	67.1	71.9			
8	67.1	70.9			
9	72.5	73.5			
1930	91.7	87.7			

*Jan. - June

The supply of gold in China is not great and during the war has been largely dependent upon the placer gold of West China. Since the supply has been comparatively low and the demand for it has decreased in relation to supply one should be cautious of too much optimism about the public changing its ideas on the value of gold as a commodity for hoarding.

Apparently, opinion is universal in expecting a drop in commodity prices when victory is considered imminent. Buying of commodities not urgently needed will then cease and this will include gold if gold is still a commodity. Providing there is no change in currency policy, currency then will be increasing in value and people, for hoarding purpose, will not give up a currency that is increasing in

value for a commodity that is decreasing in value. There will then be a hoarding of currency, bank deposits will increase but business will stagnate and bankruptcies will be frequent.

Briefly stated, there are no clear indications that the public is interested in buying gold as a store of value. On the contrary, the low value of gold in relation to other commodities and the comparative inactivity of existing gold markets indicates a definite lack of interest in gold as a store of value.

John Lossing Buck
Yin-yuen Wang

THE CONSUMER'S SOAP

When purchasing commodities the consumer is constantly on the alert to obtain the value of each *yuan* spent. Cheap soap may be expensive and expensive soap may be cheap, according to the percent of fatty acid contained in each catty (500 grams) of soap. A collection and analysis of six samples of household soap purchased in January 1943 at market prices shows that the percentage of fatty acids in these samples varied from 35 to 46 percent and the market price of the fatty acid varied from 28 to 53 *yuan* (table 1).

Later, on September 23, 1943, another five samples of other brands of soap were purchased at market prices and the fatty content analyzed. The variation in fatty content was from 39.5 percent to 5 percent; in cost per catty of fatty acid from 70.30 to 99.60 *yuan*. (table 1)[1].

These brands of soap have no label showing the percentage of fatty acid. Therefore, the buyer has no way of knowing,

Table 1. Analyses of 8 brands of soap, Chengtu, 1943

	Source Type of cake	Price per cake at wholesale (*yuan*)	Weight (grams)	Percent fatty acid	Solidifying point of fatty acid (°C)	Price per catty of fatty acid (*yuan*)
	Three brands purchased January, 1943					
1	Single cake white	4.50	210	36.6	41/41.5	28.00
2	Single cake white	5.00	184	35.0	41	39.00
3	Yellow double bar	11.00	232	46.0	44/42	53.00
	Five brands of soap purchased September 23, 1943					
4	Yellow double bar	22.10	279	41.0	43.5	99.60
5	White double bar	18.00	270	40.0	43.5	83.30
6	Oval brown cake	16.00	188	50.0	42/40	85.10
7	White oval	12.50	170	40.0	42	92.00
8	White oval	10.00	180	39.5	41.5	70.30

[1]Collection and analyses by Norman Glass, Chemical Laboratory of Association for Advancement of Chinese Industrial Co-operatives, Chengtu.

except by trial and error, as to which soap gives him greatest value for his money.

Table 2. Prices and index numbers of soap and its raw materials at Chengtu for July 1937 and July 1943

Commodities	*Units*	Prices (*yuan*) July 1737	July 1943	Price relative (July 1947=100)
Soaps:				
Asia	Piece	0.142	1S.00	12676
Lion ball	100 pieces	16.00	1206.67	7542
Raw materials:				
Kien	100 shih catties	14.00	2691.82	19227
Animal tallow:				
Cow	Shih catty	0.249	38.00	15261
Sheep	"	0.285	40.00	14035

Soap like so many other consumers' articles should have on its label the amount, kind, quality and quantity of imporant raw materials entering its manufacture. A government regulatory bureau should test articles for their stated content and should prosecute those manufacturers making false statementt regarding their products.

The extent to which the amount of fatty acid in soaps has changed during these years of rapidly rising prices is not known. However, records of prices of soap and the raw materials entering the manufacture of soap show that raw materials have increased in price at a much more rapid rate the various brands of soap (table 2). The less rapid rise in soap prices probably is caused chiefly by (1) the time lag in advance of wages and (2) the purchase of raw materials at a price level considerable lower than the price level at the time manufactured soap is sold.

In seeking a low priced household soap the consumer should base his judgement on the cost of the fatty acid in the soap rather than on the cost of size or weight of a cake of soap.

John Lossing Buck
Norman Glass

INDICATORS OF PRICE CHANGES[1]

(January to June 1937=100)

Items	Number of items or observations	Index numbers	Date	Place
Wholesale prices and cost of living:				
1. Wholesale prices of all commodities	57	19044	Sept. 1943	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	18072	Sept. 1943	Chengtu
3. Wholesale prices of imported goods	9	63953	Sept. 1943	Chengtu
4. Wholesale prices of exported goods	10	7811	Sept. 1943	Chengtu
5. Wholesale prices of raw materials	30	14528	Sept. 1943	Chengtu
6. Wholesale prices of manufactured producers' goods	11	17865	Sept. 1943	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	20276	Sept. 1943	Chengtu
8. Wholesale prices in important cities, Free China				
(a)Highest: Kunming, Yunnan		28795	Aug. 1943	
(b)Lowest: Kweilin, Kwangsi		10489	June 1943	
(1) Kunming, Yunnan (Aug. 1937=100)(a)	141	28795	Aug. 1943	
(2) Sian, Shensi (June 1937=100)(b)		28437	Aug. 1943	
(3) Chungking, Szechwan(c)	94	15976	Aug. 1943	
(4) Chengtu, Szechwan	57	18539	Aug. 1943	
(5) Kweilin, Kwangsi(d)	48	10489	June 1943	
9. Cost of living	76	15189	Sept. 1943	Chengtu
10. Retail prices of seven commodities commonly used	7	16288	Sept. 1943	Chengtu
11. Retail prices for 14 cities in Free China(e)				
(a)Highest: Loyang, Honan	25	25165	July 1943	
(b)Lowest: Lanchow, Kansu	25	7181	July 1943	
(1) Loyang, Honan	25	25165	July 1943	
(2) Sian, Shensi	25	19236	July 1943	
(3) Kunming, Yunnan	25	18966	July 1943	
(4) Yunyang, Hupeh	25	16313	July 1943	
(5) Kweilin, Kwangsi	25	15655	July 1943	
(6) Yaan, Sikong	25	15545	July 1943	

Items	Number of items or observations	Index numbers	Date	Place
(7) Hengyang, Hunan	25	13362	July 1943	
(8) Kweiyang Kweichow	25	13182	July 1943	
(9) Chengtu, Szechwan	25	11987	July 1943	
(10) Chungking, Szechwan	25	11686	July 1943	
(11) Chukiang. Kwangtung	25	11335	July 1943	
(12) Kanchow, Kiangsi	25	9977	July 1943	
(13) Sining, Chinghai	25	7918	July 1943	
(14) Lanchow, Kansu	25	7181	July 1943	
12. Rent, city residences	100	2962	Sept. 1943	Chengtu
13. School tuition				
(1) Primary school	1	2500	Sept. 1943	Chengtu
(2) Middle school	1	450	Sept. 1943	Chengtu
(3) University	1	300	Sept. 1943	Chengtu
City wages (f) (including the value of board, beginning with this issue)	12	12262	Sept. 1943	Chengtu
1. Carpenters	1	16000	Sept. 1943	Chengtu
2. Masons	1	16000	Sept. 1943	Chengtu
3. Cotton weavers	1	13000	Sept. 1943	Chengtu
4. Silk weavers	1	5818	Sept. 1943	Chengtu
5. Tailors	1	10550	Sept. 1943	Chengtu
6. Barbers	1	13333	Sept. 1943	Chengtu
7. Blacksmiths	3	8809	Sept. 1943	Chengtu
8. Coppersmiths	3	8627	Sept. 1943	Chengtu
9. Maidservants (excluding the value of board)	8	12018	Sept. 1943	Chengtu
Salaries:				
1. Professors' salaries (g)	10	1820	Sept. 1943	Chengtu
2. Clerks (g)	10	4078	Sept. 1943	Chengtu
3. Soldiers' cash allowances	6	699	Sept. 1943	Chengtu
Chinese currency				
1. Purchasing power of *yuan* in terms of cost of living	-	0.7	Sept. 1943	Chengtu
2. Purchasing power of *yuan* in terms of wholesale prices of domestic commodities	-	0.5	Sept. 1943	Chengtu
U.S.A. currency				
1. Increase in number of *yuan* for one US$ at buying official exchange rate of 20 *yuan* to one US dollar	-	594	Sept. 1943	Chengtu

Items	Number of items or observations	Index numbers	Date	Place
2. Calculated expected rate of *yuan*/US$ exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in U.S.A. (a) actual	-	US$ 0.0030	June 1943	Chengtu
(b) estimated (h)	-	US$ 0.0021	Sept. 1943	Chengtu
3. Purchasing power of US$ (a) at official exchange rate in China		3.3	Sept. 1943	Chengtu
(b) actual in U.S.A.	-	81	June 1943	U.S.A.
4. Wholesale prices of domestic commodities in terms of US$ at official exchange rate		3043	Sept. 1943	Chengtu
5. Wholesale prices in U.S.A.	-	123	June 1943	U.S.A.
Sterling currency:				
1. Increase in number of *yuan* for one pound sterling	-	483	Sept. 1943	Chengtu
2. Calculated expected *yuan*/pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in England				
(a) Actual	-	0.22d	Apr. 1943	Chengtu
(b) Estimated (h)	-	0.13d	Sept. 1943	Chengtu
3. Purchasing power of pound sterling (a) at official buying rate in China	-	2.7	Sept. 1943	Chengtu
(b) actual in England	-	67	Apr. 1943	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the official exchange rate	-	3737	Sept. 1943	Chengtu
5. Wholesale prices in England	-	149	Apr. 1943	England
Gold and silver:				
1. Price of gold (open market)	1	10488	Sept. 1943	Chengtu
2. Price of silver (open market)	1	7312	Sept. 1943	Chengtu
3. Wholesale prices of domestic commodities in terms of gold	-	172	Sept. 1943	Chengtu

Items	Number of items or observation	Index numbers	Date	Place
4. Wholesale prices of domestic commodities in terms of silver	-	247	Sept. 1943	Chengtu
Farm prices (4 *hsien*):				
1. Prices received by farmers (1937=100)	16-22	13285	Aug. 1943	Szechwan
2. Farmers' cost of production	-	12118	Aug. 1943	Szechwan
3. Prices paid by farmers for producers' and consumers' goods (1937=100)	17-51	14855	Aug. 1943	Szechwan
4. Prices paid by farmers for producers' goods	16-22	12810	Aug. 1943	Szechwan
5. Prices paid by farmers for consumers' goods	17-29	17228	Aug. 1943	Szechwan
6. Purchasing power of farmers (ratio of prices received by farmers to prices paid by farmers including all costs of production and prices paid for consumers' goods)	-	96	Aug. 1943	Szechwan
7. Crop rent				
(a) paid last year	-	4345	Oct. 1942	Szechwan
(b) if paid current month	-	13089	Aug. 1942	Szechwan
8. Land taxes				
(a) paid last year	-	3639	Oct. 1942	Szechwan
(b) if paid current month	-	12602	Aug. 1943	Szechwan
9. Farm land value (8 *hsien*)	-	7997	Aug. 1943	Szechwan
10. Farm year labor (8 *hsien*)	-	9185	Aug. 1943	Szechwan
11. Farm day labor (8 *hsien*)	-	13005	Aug. 1943	Szechwan

(a) Statistical Department of Municipal Government of Kunming.
(b) Economic Research Department of Provincial Bank of Shensi.
(c) Central Bureau of Survey and Statistics, Commission of Military Affairs, Chungking, Szechwan.
(d) Department of Economic Survey of Sin-chung Corporation, Kweilin, Kwangsi.
(e) Data from Farmers' Bank of China.
(f) The general index of city wages is the weighted geometric average of all groups, excluding maid-servants. The weights used are as follows: carpenters 22.2, masons 15.8, cotton weavers 11.0, silk weavers 12.2, tailors 11.9, barbers 21.9, blacksmiths 2.5, coppersmiths 2.5. The data on wages were supplied by the union or by individuals.
(g) From one organization.
(h) Preliminary estimate based on the rate of increase in prices.

APPENDIX I

TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES IN CHENGTU, 1937-SEPT. 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of *yuan*
Number of commodities	57	15	9	4	9	5	15	
Years:								
1937	99	99	102	98	106	100	94	101.1
1938	116	95	139	104	173	106	106	86.5
1939	219	147	298	232	398	208	193	45.7
1940	653	533	841	847	1282	454	491	15.3
1941	1616	1830	1637	2119	3059	1223	999	6.2
1942	4771	4084	5862	5974	10254	3408	3315	2.1
1943								
Jan.	7458	5666	10915	9602	15332	5758	5165	1.3
Feb.	8328*	6757	11983	10597*	17002	5986	5629	1.2
Mar.	9254*	7204	14273	11992*	18708	6449	6324	1.1
Apr.	10311*	8256	16830	12939*	21341	6890	6678	1.0
May	11683	9678	20136	15111	22402	7187	7555	0.9
June	13690	12038	24255	16166	24117	7974	9007	0.7
July	17159	16627	31184	19998	27386	9919	11121	0.6
Aug.	18559	16981	31353	21192	34004	10625	11964	0.5
Sept.	19044	17335	31570	20919	36430	11472	12088	0.5

*Revised.

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-SEPT. 1943

Jan. to June 1937=100 (simple geometric average)

Period	General index	Domestic commodities	Import commodities	Export commodities
Number of commodities	57	38	9	10
1937	99	100	110	90
1938	116	108	212	87
1939	219	199	486	163
1940	653	633	1396	397
1941	1616	1658	3658	721
1942	4771	4358	15528	2349
1943				
Jan.	7458	6698	25308	3734
Feb.	8328*	7590*	28392	3928
Mar.	9254*	8384*	29967	4676
Apr.	10311*	9697*	31160	4812
May	11683	11097	33892	5446
June	13690	12947	41502	6237
July	17159	16456	48572	7887
Aug.	18539	17422	59917	8213
Sept.	19044	18072	63953	7811

*Revised.

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-SEPT. 1943

Jan. to June 1937=100 (Simple geometric average)

Period	Raw materials			Manufactured goods		
	Producers' goods	Consumers' goods	All	Producers' goods	Consumers' goods	All
Number of commodities	18	12	30	11	9	20
1937	97	96	96	102	98	100
1938	97	95	96	134	114	125
1939	188	160	176	244	206	226
1940	628	447	548	637	648	642
1941	1498	1216	1377	1360	1623	1473
1942	3660	3538	3607	4469	4678	4548
1943						
Jan.	5865	5204	5591	7930	7037	7515
Feb.	6400*	5970	6225*	8490	8242	8377
Mar.	7123*	6657	6933*	9992	8924	9496
Apr.	8324*	7136	7821*	10966	10141	10587
May	9453	8206	8932	12631	11866	12281
June	11274	8942	10276	14550	15042	14769
July	15289	10973	13389	16850	19443	17971
Aug.	16492	11385	14220	17580	20033	18644
Sept.	16774	11710	14528	17869	20276	18912

*Revised.

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-SEPT. 1943

Feb. to June 1937=100 (weighted aggregative)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	102	105	100
1939	126	148	157	140
1940	435	448	444	442
1941	1661	1464	1391	1524
1942	3274	3560	3738	3473
1943				
Jan.	4450	5111	5744	4948
Feb.	5301	5806*	6476	5724*
Mar.	5744*	6427*	7231*	6291*
Apr.	7002*	7441*	8119*	7392*
May	8910*	8715*	9207	8900*
June	10959	10575	11125	10850
July	15811	14546*	14244*	14990*
Aug.	14833	15178	15150	15028
Sept.	14153	15809	16248	15189

*Revised.

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-SEPT. 1943

Feb. to June 1937=100 (weighted geometric average)

Period	General index	Food	Clothing	Rent	Fuel and lighting	Miscellaneous	Purchasing power of *yuan*
Number of commodities	76	28	13	2	12	21	
1937	98	98	104	100	97	100	101.6
1938	100	92	142	103	97	115	100.4
1939	140	120	267	109	183	182	71.3
1940	442	441	852	117	304	387	22.7
1941	1524	1786	1787	183	1670	1171	6.6
1942	3473	3376	6409	462	4829	3621	2.9
1943							
Jan.	4948	4413	10835	1006	7451	5691*	2.0
Feb.	5724*	5396*	11739	1006	8006*	6099	1.7
Mar.	6291*	5834	13810	1222	8547*	6354	1.6
Apr.	7392*	7080	16224*	1525	9035*	7602	1.4
May	8900*	8842	19297	1816	10260*	8269	1.1
June	10350	10600	23281*	2440	13683*	9701	0.9
July	14990*	15669*	29381	2505*	18422*	11109	0.7
Aug.	15028	15363	29012	2846	19457	12491	0.7
Sept.	15189	14971	29957	2962	19637	14557	0.7

*Revised.