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Economic Facts (Dept. of  
Agricultural Economics)  
1944-1946

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49 WEST 49TH STREET  
NEW YORK 20, N. Y.

December 2, 1944

Dear Mr. Evans:

These figures, received by me on  
November 30th, are the facts to which I referred  
yesterday.

Yours truly,

*E. C. Lobenstine*  
*ECL*

Mr. C. A. Evans  
Associated Boards for Christian Colleges in China  
150 Fifth Avenue  
New York 11, New York

ECL:ms  
Enc. U. of Nanking Economic Facts

## ECONOMIC FACTS

Rec'd  
NOV 30 44

## DEPARTMENT OF AGRICULTURAL ECONOMICS

College of Agriculture and Forestry  
University of Nanking  
Chengtu, China

SEP 1944

No. 36

MAJOR PRICE RELATIONS  
(January to June 1937=100)

Items	Number of items	Index numbers		Date		Place
		Prev- ious month	Latest month	Latest month No.	Yr.	
1. Wholesale prices of domestic commodities	58	52379	52020	8	44	Chengtu
2. Prices received by farmers (1937=100)	9-13	44546	43669	6	44	Szechwan
3. Cost of living	76	51466	50429	8	44	Chengtu
4. City wages	12	44082	45722	8	44	Chengtu
5. Farm wages (1937=100)	8	35848	36239	6	44	Szechwan
6. Salaries, professors	10	5637	5817	8	44	Chengtu
7. Soldiers' cash allowances	6	4455	4455	8	44	Chengtu
8. Land taxes (1937=100) (b)		5689	10297	10	43	Szechwan
9. Wholesale prices of domestic commodities in terms of silver	38	221	195	8	44	Chengtu
10. Wholesale prices of domestic commodities in terms of gold	38	276	254	8	44	Chengtu
11. Wholesale prices of domestic commodities in terms of US\$ at official exchange rate	38	6908	6760	8	44	Chengtu
12. Wholesale prices in U. S. A. (Statist index)	-	122	124	5	44	U.S.A.
13. Wholesale prices in England (Statist index)	-	149	149	3	44	England
14. Purchasing power of farmers	-	133	132	6	44	Szechwan
15. Purchasing power of rice (a)	-	75	70	8	44	Chengtu
16. Freight rates (truck)	1	9964	9964	8	44	Szechwan
17. Monthly commercial loan interest rate per \$1000	1	692	577	8	44	Chengtu

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

(b) The index in column of previous month is for October 1942.

The comparison of planted area of important crops in fifteen provinces of China in the pre-war (1931-37) and war Periods (1938-1942)

Crops	Planted area (1000 shih mow) in		% of increase or decrease
	1931-37	1938-42	
Wheat	110023	120626	109.6
Barley	51604	51419	99.6
Rapeseed	42494	51421	121.0
Rice	210668	202610	96.1
Kaoliang	16491	15749	95.5
Millet	17283	14995	86.7
Corn	29065	34204	117.7
Soybeans	23818	22729	95.4
Sweet potatoes	22314	27404	122.8
Cotton	18169	19737	108.6
Peanuts	9247	9828	106.3

INDEX NUMBERS OF COST OF LIVING IN CHENG TU GROUPED BY ITEMS,  
1937 - AUG. 1944

February 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	15	2	12	21	
1937	98	98	104	100	97	100	101.6
1938	100	92	141	102	97	114	100.4
1939	137	118	260	109	154	179	72.8
1940	402	387	779	117	566	370	24.9
1941	1468	1705	1751	164	1568	1156	6.8
1942	3343	3280	5846	421	4562	3485	2.9
1943	10574	10141	22140	2110	13880	10519	0.9
1944							
Jan.	22691	22034	45600	3986	30645	21538	0.4
Feb.	30488	28617	58759	4407	53556	25133	0.3
Mar.	33668	30509	65497	4450	66429	30184	0.3
Apr.	38867	36115	68853	5767	69927	36123	0.3
May.	49419	46442	92512	5991	80947	49599	0.2
June	54585	49956	90265	6224	85396	62767	0.2
July	51466	44296	94956	6224	85510	64704	0.2
Aug.	50429	43857	88744	6224	82172	65984	0.2

INDICATORS OF PRICE CHANGES  
(January to June 1957=100)

Items	Number of items or observa- tions	Index numbers		Date		-Place
		Previous month	Latest Month	Latest Month	Mo. Yr.	
Retail prices for 10 cities in Free China (c)						
(a) Highest: Yaan, Sikong	25	45887	47110	6	44	
(b) Lowest: Lanchow, Kensu	25	14270	14364	6	44	
(1) Yaan, Sikong	25	45887	49110	6	44	
(2) Kweiyang, Kweichow	25	40605	45494	6	44	
(3) Yunyang, Hupeh	25	43725	45217	6	44	
(4) Kweilin, Kwangsi	25	38845	41168	6	44	
(5) Chengtu, Szechwan	25	25192	41154	6	44	
(6) Sian, Shensi	25	33973	35470	6	44	
(7) Chukiang, Kwangtung	25	29289	32165	6	44	
(8) Sining, Chinghai	25	25278	27690	6	44	
(9) Kanchow, Kiangsi	25	22272	24192	6	44	
(10) Lanchow, Kensu	25	14270	14364	6	44	
Rent, city residences	100	5991	6224	6	44	Chengtu
School tuition (h)						
(1) Primary school	1	2500	11000	3	44	Chengtu
(2) Middle school	1	450	450	3	44	Chengtu
(3) University	1	300	300	3	44	Chengtu
City wages (e)						
(including the value of board)	12	44082	45722	8	44	Chengtu
(1) Carpenters	1	42000	42000	8	44	Chengtu
(2) Masons	1	42000	42000	8	44	Chengtu
(3) Cotton weavers	1	77273	77273	8	44	Chengtu
(4) Silk weavers	1	23333	23333	8	44	Chengtu
(5) Tailors	1	40555	40555	8	44	Chengtu
(6) Barbers	1	61111	72222	8	44	Chengtu
(7) Blacksmiths	3	25714	25714	8	44	Chengtu
(8) Coppersmiths	3	25262	25262	8	44	Chengtu
(9) Maidservants	8	38368	48961	8	44	Chengtu
(excluding the value of board)						
Salaries						
(1) Professors' salaries (f)	10	5837	5817	8	44	Chengtu
(2) Clerks (f)	10	15755	15314	8	44	Chengtu
(3) Soldiers' cash allowances	6	4435	4435	8	44	Chengtu
Chinese currency						
(1) Purchasing power of yuan in terms of cost of living	-	0.2	0.2	8	44	Chengtu
(2) Purchasing power of yuan in terms of wholesale prices of domestic commodities -	-	0.2	0.2	8	44	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	594	8	44	Chengtu
(2) Calculated 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. (i) (a) actual	-US\$	0.0008	0.0008	5	44	Chengtu
(b) estimated (g)	-US\$	0.0006	0.0006	8	44	Chengtu

INDICATORS OF PRICE CHANGES (con't.)  
(January to June 1957=100)

- (d) Data from Farmers' Bank of China.
- (e) 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, copper-smiths 2.5. The data on wages were supplied by the union or by individuals.
- (f) From one organization.
- (g) Preliminary estimate based on the rate of increase in prices.
- (h) The index in column of previous month is for autumn 1943.
- (i) The close relation between purchasing power parity rates and actual exchange rates under normal conditions in a free exchange market have been shown in chart form in Economic Facts No. 23 under the title "The official exchange rate and price relationships" pp. 212-221. No attempt is made here to predict what the exchange rate would be under present blockade conditions if the foreign exchange market were a free one or what it should be under at a pegged rate.

# ECONOMIC FACTS

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

No. 47

Aug. 1945

## MAJOR PRICE RELATIONS (January to June 1937=100)

Items	Number Index numbers			Date		Place
	of items	Prev-ious month	Latest month	Latest month	Mo. Yr.	
1. Wholesale prices of domestic commodities	38	173016	216880	7 45		Chengtu
2. Prices received by farmers (1937=100)	9-13	100188	115221	5 45		Szechwan
3. Cost of living	76	146040	169388	7 45		Chengtu
City wages	12	154031	158433	7 45		Chengtu
Farm wages (1937=100)	87	73445	88940	5 45		Szechwan
6. Salaries, professors	10	17476	18382	7 45		Chengtu
7. Soldiers' cash allowances	6	46251	39870	7 45		Chengtu
8. Land taxes (1937=100) (b)		10297	31352	10 44		Szechwan
9. Wholesale prices of domestic commodities in terms of silver	38	168	158	7 45		Chengtu
10. Wholesale prices of domestic commodities in terms of gold	38	131	113	7 45		Chengtu
11. Wholesale prices of domestic commodities in terms of US\$						
(1) at official exchange rate	38	29137	36524	7 45		Chengtu
(2) at black market rate	38	377	782	7 45		Chengtu
12. Wholesale prices in U. S. A. (Statist index)	-	122	124	5 44		U.S.A.
13. Wholesale prices in England (Statist index)	-	149	149	3 44		England
14. Purchasing power of farmers	-	94	87	5 45		Szechwan
Purchasing power of rice (a)	-	40	35	7 45		Chengtu
15. Freight rates (truck)	1	12476	12476	7 45		Szechwan
17. Monthly commercial loan interest rate per \$1000	1	692	692	7 45		Chengtu

(a) Calculated in terms of wholesale prices of 57 commodities.  
(b) The index in column of previous month is for October 1943.



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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.

SUMMARY OF A FARM BUSINESS STUDY  
 IN WU LUNG, SZECHWAN 1943-44

A farm business study was made in Wulung County, Eastern Szechwan Province for the year 1943-44. Wulung, a mountainous county, is located on the right bank of the Yangtze River. The crop year was normal and the prices were favorable to the farmers because of the rapidly rising price level.

Sixty-six farms were studied, among which 30 farms were located on the mountain foot slope land, 18 farms on mountain top slope land and 18 farms on bottom land. Bottom land farms are good farms but they are few in this county. Foot slope farms are typical farms while top slope farms are poor farms.

Rice is the main crop for the bottom land farms. Sweet potato, Irish potato and corn are main crops for foot slope and top slope farms. A summary of the farm business study for these 66 farms follows:

A. *Size of Farm Business*

Farm area referred to the total land area of the farm. Bottom land farms had a farm area of 52.8 *shih mow* (see table 1); foot slope farms, 26.2 *shih mow* and top slope farms, 82.1 *shih mow*. Bottom land farms and top slope farms greatly exceeded the foot slope farms in area, and the top slope farms had the largest farm area.

Table 1. Size of farm business  
 66 farms, Wulung, Szechwan 1943-44

	Bottom land farm	Foot slope farm	Top slope farm
No. of farms	18	30	18
Farm area ( <i>shih mow</i> )	52.8	26.2	82.1
Crop area ( " " )	50.7	23.4	51.1
Crop <i>mow</i> area ( " " )	68.9	29.1	54.0
Average capital ( <i>yuan</i> )	265,841	111,064	51,277
Man work units (number)	648	183	293
Man equivalent ( " )	3.5	2.3	1.9
Animal work units ( " )	226	76	64
Animal units ( " )	3.1	1.8	1.1

The proportion of productive use of farm land area was highest on bottom land farms, averaging 90% and lowest on top slope farms, 62%. For the foot slope farms, the productive use of farm land was about 89%. This indicates that the higher the location of the farm on the mountain, the lower is the percentage of land in productive uses.

The capital investment amounted to 265,841 *yuan* for bottom land farms, 111,064 *yuan* for foot slope farms and 51,277 *yuan* for top slope farms. The top slope farm had the largest size of farm area but the smallest amount of capital invested.

The productive man-work-unit per farm was highest on bottom land farms and lowest on foot slope farms, 648 and 183 respectively, and they were coordinated with the size of farm area.

The number of man-equivalent amounted to 3.5 for bottom land farms, 2.3 for foot slope farms and 1.9 for top slope farms. Animal-work-units amounted to 226, 76 and 64 for bottom land, foot slope and top slope farms respectively. Animal units amounted to 3.1, 1.8 and 1.1 for bottom land, foot slope and top slope farms respectively. The better land farms evidently have the larger number of man-equivalent, of animal-work-units and of animal units.

### B. Farm Receipts, Expenses and Profits

There are four sources of farm receipts, namely: the sale of farm products, capital increase, value of home consumed products and house rent. The total farm receipts per farm averaged 233,095 *yuan* for bottom land farms, 66,340 *yuan* for foot slope farms and 39,693 *yuan* for top slope farms (see table 2). The total farm expenses per farm averaged 118,221 *yuan* for bottom land farms, 45,602 *yuan* for foot slope farms and 27,590 *yuan* for top slope farms. Both the farm receipts and the farm expenses were higher on bottom land farms and lower on top slope farms.

Farm profits were calculated on farm earning, operator's labor earning, interest earned on 100 *yuan* capital and farm net profit. The farm earning per farm averaged 114,874 *yuan* for bottom land farms, 20,738 *yuan* for foot slope farms and 12,103 *yuan* for top slope farms. The operator's labor earnings averaged 88,290 *yuan*, 9,632 *yuan* and 6,976 *yuan*; the farm net profits averaged 76,696 *yuan*, -2,821 *yuan* and

-2,812 *yuan*; interest earned on 100 *yuan* capital averaged 38.9 *yuan*, 7.5 *yuan* and 4.5 *yuan* for bottom land farms, foot slope farms and top slope farms respectively. There was no positive relationship found between farm profits and size of farm area, but the farm profits had a definite relationship with the quality of farm land. The bottom land farms had good quality of land, so all the profits were higher than those of other farms, and the top slope farms had poor quality of land, so all kinds of profits were lower than those of other farms.

### C. Farm Efficiency

Only man labor and animal labor efficiency were studied. The productive man-work-units per man-equivalent averaged 185.2 for bottom land farms, 78.5 for foot slope farms and 156.9 for top slope farms (see table 3). Crop *mow* per man-equivalent averaged 19.7 for bottom land farms, 12.5 for foot slope farms and 28.9 for top slope farms. These both show that the man labor was more efficiently used on top slope farms than on foot slope farms. If we compare the bottom

Table 2. Farm Receipts, Expenses and Profits  
66 farms, Wulung, Szechwan 1943-44

	Bottom land farm	Foot slope farm	Top slope farm
Number of farms	18	30	18
	<i>yuan</i>	<i>yuan</i>	<i>yuan</i>
Sale of farm products	84,184	19,720	9,794
Capital increase	65,969	20,426	12,434
Value of home consumed products	79,540	24,559	15,679
House rent	3,402	1,635	1,786
Total receipts	233,095	66,340	39,693
Hired labor cost	5,635	4,209	400
Other expenses	65,085	18,092	7,350
Unpaid family labor	47,481	23,301	17,840
Total expenses	118,221	45,602	27,590
Farm earning	114,874	20,738	12,103
Interest on capital	26,584	11,106	5,127
Operator's labor earning	88,290	9,632	6,976
Value of operator's labor	11,594	12,453	9,788
Farm net profit	76,696	-2,821	-2,812
Interest earned on 100 <i>yuan</i> capital	38.9	7.5	4.5

land farms and top slope farms, it is found that the man-work-units per man equivalent were higher and crop *mow* per man-equivalent was lower on bottom land farms.

Table 3. Farm Efficiency  
66 farms, Wulung, Szechwan, 1943-44

	Bottom land farms	Foot slope farms	Top slope farms
Man-work-unit per man-equivalent (number)	185.2	78.5	156.9
Crop <i>mow</i> per man-equivalent ( <i>shih mow</i> )	19.7	12.5	28.9
Animal-work-units per labor animal-unit (number)	73.7	43.1	56.4
Crop <i>mow</i> per labor animal-unit ( <i>shih mow</i> )	22.5	16.5	48.0

The productive animal-work-units per labor animal-unit averaged 73.7 for bottom land farms, 43.1 for foot slope farms and 56.4 for top slope farms. Crop *mow* per labor animal-unit averaged 22.5 for bottom land farms, 16.5 for foot slope farms and 48 for top slope farms. Both show the same relation as was the case in man labor efficiency.

In conclusion, it should be pointed out that both the foot slope farms and top slope farms were less profitable than bottom land farms. On the slope farms, even although the size of farm was larger and the man-labor and animal-labor efficiency were greater, the farm profits were especially low. From the farm management point of view, it is better for the farmers to have a reasonable size of bottom land farm rather than a large sized top slope farm in Wulung.

Ruh-tsun Tsui

INDICATORS OF PRICE CHANGES<sup>1</sup>  
(January to June 1937=100)

Items	Number of items or observations	Index numbers		Date Latest month Mo. Yr.	Place
		or Previous month	Latest month		
<i>Wholesale prices and cost of living:</i>					
1. Wholesale prices of all commodities	57	195063	252277	7 45	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	173016	216880	7 45	Chengtu
3. Wholesale prices of imported goods	9	625786	837220	7 45	Chengtu
4. Wholesale prices of exported goods	10	107775	152234	7 45	Chengtu
5. Wholesale prices of raw materials	30	142790	179450	7 45	Chengtu
6. Wholesale prices of manufactured producers' goods	11	207152	269594	7 45	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	207910	284694	7 45	Chengtu
8. Wholesale prices in important cities, Free China					
(1) Kunming, Yunnan (Aug. 1937=100)(a)	141	214208	264269	3 45	
(2) Sian, Shensi (June 1937=100)(b)	70	108407	123915	3 45	
(3) Chungking, Szechwan(c)	94	90399	125003	3 45	
(4) Chengtu, Szechwan	57	108158	122742	3 45	
9. Cost of living	76	146040	169388	7 45	Chengtu
10. Retail prices of seven commodities commonly used	7	153020	203351	7 45	Chengtu
11. Retail prices for 8 cities in Free China(d)					
(a) Highest: Kunming, Yunnan	25	411525	523595	5 45	
(b) Lowest: Lanchow, Kansu	25	79335	93116	5 45	
(1) Kunming, Yunnan	25	411525	523595	5 45	
(2) Kweiyang, Kweichow	25	309815	340285	5 45	
(3) Sian, Shensi	25	158825	226695	5 45	
(4) Yaan, Sikong	25	160752	208227	5 45	
(5) Chengtu, Szechwan	25	152242	175747	5 45	
(6) Chungking Szechwan	25	151970	166297	5 45	
(7) Sining, Chinghai	25	85373	95454	5 45	
(8) Lanchow, Kansu	25	79335	93116	5 45	

Items	Number of items or observations	Index numbers Previous month	Index numbers Latest month	Date Latest month Mo. Yr.	Place
12. Rent, city residences	100	16918	17406	5 45	Chengtu
13. School tuition (h)					
(1) Primary school	1	20000	20000	3 45	Chengtu
(2) Middle school	1	450	450	3 45	Chengtu
(3) University	1	1000	1000	3 45	Chengtu
<i>City wages (e)</i> (including the value of board)	12	154031	158433	7 45	Chengtu
1. Carpenters	1	160000	160000	7 45	Chengtu
2. Masons	1	160000	160000	7 45	Chengtu
3. Cotton weavers	1	118182	118182	7 45	Chengtu
4. Silk weavers	1	71905	73810	7 45	Chengtu
5. Tailors	1	183333	183333	7 45	Chengtu
6. Barbers	1	277778	300000	7 45	Chengtu
7. Blacksmiths	3	65714	77381	7 45	Chengtu
8. Coppersmiths	3	66717	78461	7 45	Chengtu
9. Maidservants (excluding the value of board)	8	269288	328309	7 45	Chengtu
<i>Salaries:</i>					
1. Professors' salaries (f)	10	17476	18382	7 45	Chengtu
2. Clerks (f)	10	54713	54782	7 45	Chengtu
3. Soldiers' cash allowances	6	46251	39870	7 45	Chengtu
<i>Chinese currency</i>					
1. Purchasing power of <i>yan</i> in terms of cost of living	-	0.07	0.06	7 45	Chengtu
2. Purchasing power of <i>yan</i> in terms of wholesale prices of domestic commodities	-	0.06	0.05	7 45	Chengtu
<i>U.S.A. currency</i>					
1. Increase in number of <i>yan</i> for one US\$ at buying official exchange rate of 20 <i>yan</i> to one US dollar	-	594	594	7 45	Chengtu
2. Calculated rate of <i>yan</i> /US\$ exchange (purchasing power parity) on basis of prices of domestic commodities at Chengtu and Statist Index of wholesale prices in U.S.A. (i) (a) actual	- US\$	0.0009	0.0006	5 44	Chengtu
(b) estimated (g)	- US\$	0.0003	0.0002	7 45	Chengtu

Items	Number of items or observations	Index numbers Previous month	Index numbers Latest month	Date Latest month Mo. Yr.	Place
3. Purchasing power of US\$					
(a) at official exchange rate in China	-	0.3	0.3	7 45	Chengtu
(b) actual in U.S.A.	-	82	81	5 44	U.S.A.
4. Wholesale prices of domestic commodities in terms of US\$ at official exchange rate	-	29137	36524	7 45	Chengtu
5. Wholesale prices in U.S.A.	-	122	124	5 44	U.S.A.
<i>Sterling currency:</i>					
1. Increase in number of <i>yan</i> for one pound sterling	-	483	483	7 45	Chengtu
2. Calculated <i>yan</i> /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 (i)	-	0.06d	0.06d	3 44	Chengtu
(a) Actual	-	0.01d	0.01d	7 45	Chengtu
(b) Estimated (g)	-				
3. Purchasing power of pound sterling					
(a) at official buying rate in China	-	0.3	0.2	7 45	Chengtu
(b) actual in England	-	67	67	3 44	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the official exchange rate	-	35777	44847	7 45	Chengtu
5. Wholesale prices in England	-	149	149	3 44	England
<i>Gold and silver:</i>					
1. Price of gold (open market)	1	131707	191219	7 45	Chengtu
2. Price of silver (open market)	1	103257	137676	7 45	Chengtu
3. Wholesale prices of domestic commodities in terms of gold	-	131	113	7 45	Chengtu
4. Wholesale prices of domestic commodities in terms of silver	-	168	158	7 45	Chengtu
<i>Farm prices (4 hsien):</i>					
1. Prices received by farmers (1937=100)	16-22	100186	115221	5 45	Szechwan
2. Farmers' cost of production	-	91867	109295	5 45	Szechwan
3. Prices paid by farmers for					

Items	Number of items or observation	Index numbers		Date		Place
		Previous month	Latest month	Latest month	Mo. Yr.	
producers' and consumers' goods (1937=100)	17-31	119970	152904	5	45	Szechwan
4. Prices paid by farmers for producers' goods	16-22	105588	130994	5	45	Szechwan
5. Prices paid by farmers for consumers' goods	17-29	136316	178484	5	45	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)	-	94	87	5	45	Szechwan
7. Crop rent	-					
(a) paid Oct. '43 and '44	-	14171	39721	10	44	Szechwan
(b) if paid current month	-	98706	113518	5	45	Szechwan
8. Land taxes	-					
(a) paid Oct. '43 and '44	-	10297	31352	10	44	Szechwan
(b) if paid current month	-	73156	77459	5	45	Szechwan
9. Farm land value (8 hsien)	-	66080	73284	5	45	Szechwan
10. Farm year labor (8 hsien)	-	71082	76518	5	45	Szechwan
11. Farm day labor (8 hsien)	-	79267	126346	5	45	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) Data from Farmers' Bank of China.  
(e) 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, copper-smiths 2.5. The data on wages were supplied by the union or by individuals.  
(f) From one organization.  
(g) Preliminary estimate based on the rate of increase in prices.  
(h) The index in column of previous month is for Autumn 1944.  
(i) The close relation between purchasing power parity rates and actual exchange rates under normal conditions in a free exchange market have been shown in chart form in *Economic Facts* No. 23 under the title "The official exchange rate and price relationships" pp. 212-221. No attempt is made here to predict what the exchange rate would be under present blockade conditions if the foreign exchange market were a free one or what it should be under at a pegged rate.

APPENDIX  
TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES  
IN CHENG TU, 1937-JULY 1945  
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							
Years:								
1937	99	98	102	97	106	99	94	101.1
1938	115	95	136	103	169	106	105	87.0
1939	211	142	290	206	387	200	184	47.4
1940	620	489	806	793	1216	423	478	16.1
1941	1545	1748	1570	2017	2839	1197	952	6.5
1942	4571	3992	5366	5669	9988	3206	3153	2.2
1943	13945	12100	22440	16918	26394	8770	9132	0.7
1944	51468	45929	68965	87422	93140	39510	32141	0.2
1945								
Jan.	92074	77970	123260	180252	148555	54658	68141	0.11
Feb.	108158	99790	144550	186443	163274	71015	76558	0.09
Mar.	122742	117797	157529	208729	194022	81686	83165	0.08
Apr.	149966	147323	224780	229342	246361	95814	92166	0.07
May	185974	166981	264912	281940	306871	126544	126200	0.05
June	195063	160607	244028	296487	353750	138930	145243	0.05
July	252277	195341	369828	313564	445978	141072	210762	0.04

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-JULY 1945  
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	109	89
1938	115	109	208	86
1939	211	193	462	161
1940	620	595	1314	386
1941	1545	1599	3309	687
1942	4571	4196	14902	2190
1943	13945	13053	45398	6197
1944	51468	48991	180817	20031
1945				
Jan.	92074	82168	337910	44037
Feb.	108158	99288	360650	50647
Mar.	122742	113921	398127	56510
Apr.	149966	138955	534950	63794
May	185974	168908	614143	91496
June	195063	173016	625786	107775
July	252277	216880	837220	152234

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-JULY 1945  
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	130	114	121
1939	179	156	169	240	199	221
1940	599	425	522	609	598	604
1941	1448	1154	1322	1318	1555	1420
1942	3468	3391	3437	4115	4526	4295
1943	11658	9110	10563	13775	14571	14120
1944	42770	35397	39653	45283	52576	48431
1945						
Jan.	79542	68040	74726	83556	88024	85538
Feb.	85268	78752	82600	95032	108765	100984
Mar.	96070	87590	92585	106398	129321	116161
Apr.	115345	100607	109208	140686	170542	153411
May	138486	131861	135794	189485	211510	199096
June	146047	138042	142790	207152	207910	207490
July	188074	167242	179450	269594	284694	276288

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-JULY 1945

Feb. to June 1937=100 (weighted aggregative by individual classes and weighted geometric average for combined three classes)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	101	105	100
1939	123	145	154	137
1940	388	411	412	402
1941	1594	1410	1341	1468
1942	3164	3422	3570	3343
1943	10019	10752	11402	10574
1944	42018	48053	50296	45898
1945				
Jan.	71996	86580	95770	81958
Feb.	92044	110188	116638	103519
Mar.	101733	133603	133819	119369
Apr.	113046	146816	150784	132488
May	122479	166331	173356	147813
June	115592	168047	180135	146040
July	133172	197133	207475	169388

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-JULY 1945

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	141	103	97	114	100.4
1939	137	118	260	109	154	179	72.8
1940	402	387	779	117	586	370	24.9
1941	1468	1705	1751	184	1538	1136	6.8
1942	3343	3280	5846	421	4562	3483	2.9
1943	10574	10141	22140	2110	13830	10519	0.9
1944	45898	41107	83352	6571	77803	50020	0.2
1945							
Jan.	81958	69492	153790	13002	165534	89636	0.12
Feb.	103519	95135	176250	14603	181138	111577	0.10
Mar.	119369	100981	191448	15345	257424	129342	0.08
Apr.	132488	112377	240095	16918	267813	146683	0.08
May	147813	122383	279681	17406	282681	182100	0.07
June	146040	112326	272300	17406	298807	200738	0.07
July	169388	128035	410064	17406	324779	222405	0.06

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# ECONOMIC FACTS

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

No. 48

Sept. 1945

## MAJOR PRICE RELATIONS (January to June 1937=100)

Items	Number of items	Index numbers		Date		Place
		Prev-ious month	Latest month	Latest month	Mo. Yr.	
1. Wholesale prices of domestic commodities	38	216880	239217	8 45		Chengtu
2. Prices received by farmers (1937=100)	9-13	115221	122275	6 45		Szechwan
3. Cost of living	76	169388	177762	8 45		Chengtu
4. City wages	12	158433	172424	8 45		Chengtu
5. Farm wages (1937=100)	87	88940	107015	6 45		Szechwan
6. Salaries, professors	10	18382	21139	8 45		Chengtu
7. Soldiers' cash allowances	6	39870	39870	8 45		Chengtu
8. Land taxes (1937=100) (b)		10297	31352	10 44		Szechwan
9. Wholesale prices of domestic commodities in terms of silver	38	158	270	8 45		Chengtu
10. Wholesale prices of domestic commodities in terms of gold	38	113	207	8 45		Chengtu
11. Wholesale prices of domestic commodities in terms of US\$						
(1) at official exchange rate	38	36524	40286	8 45		Chengtu
(2) at black market rate	38	782	477	8 45		Chengtu
12. Wholesale prices in U. S. A. (Statist index)	-	122	124	5 44		U.S.A.
13. Wholesale prices in England (Statist index)	-	149	149	3 44		England
14. Purchasing power of farmers	-	87	90	6 45		Szechwan
15. Purchasing power of rice (a)	-	35	32	8 45		Chengtu
16. Freight rates (truck)	1	20547	20547	8 45		Szechwan
17. Monthly commercial loan interest rate per \$1000	1	692	692	8 45		Chengtu

(a) Calculated in terms of wholesale prices of 57 commodities.  
(b) The index in column of previous month is for October 1943.



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

## THE RATE OF CHANGE OF WHOLESALE PRICES IN CHENGTU

The depreciation in the Chinese *yan* has exerted a direct influence upon prices. As a result there has been an upward tendency of prices in practically all parts of the country. In considering long-term movements of prices the rate of change is the point of major interest.

The wholesale prices in Chengtu during the period 1937-1944 rose at an average annual rate of 73.4 per cent. The rate of increase is accelerated with each year, as is

Table 1. The index of wholesale prices in Chengtu, preceding year = 100

Years	Index numbers
1937	100
38	116
39	183
40	294
41	249
42	296
43	305
44	369

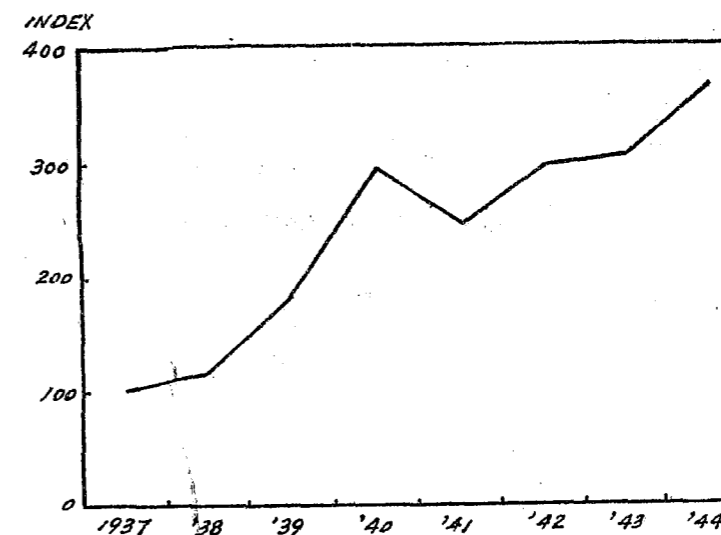


Chart 1:—The index of wholesale prices in Chengtu, preceding year = 100

shown by the above figures and an accompanying chart. The only exception is that during 1941 it advanced to a lesser degree than in the previous year. From this we may see that the variations in prices have cumulative effects, an increase in prices tends to bring about further increases.

During the period 1937-1940 the wholesale prices in Chengtu rose at an average monthly rate of 7.5 per cent. The average rate of monthly increase from 1937 to 1944 also showed a somewhat upward trend but this is not so significant as that of the yearly increase (table 2).

Table 2—The index of wholesale prices in Chengtu, preceding month = 100

Years	Index numbers
1937	100
38	103
39	107
40	110
41	109
42	107
43	110
44	111

Table 3. Recent changes in wholesale prices in Chengtu July 2 to Sept. 10, 1945

Date	Weekly index of wholesale prices	
	Jan.—June 1937 = 100	Preceding week = 100
July 2	217859	—
9	236874	109
16	253806	107
23	268806	106
30	277325	103
Aug. 6	296639	107
13	286589	97
20	265908	93
27	210238	79
Sept. 3	199373	95
10	194110	97

It is a well established fact that inflation is usually followed by deflation. Since Japan announced her acceptance of unconditional surrender on August 10th, 1945, the tide has turned, prices have declined abruptly as shown in the following figures. Those prices which rose most rapidly have also dropped more quickly.

Both the violent inflation and deflation are not beneficial to society as a whole. Anyone who has been interested during past decades in China will realize the serious consequences that follow deflation or inflation. When prices fall rapidly, as they did from 1931-1934, or when they rise rapidly as from 1937 to the present, all classes of society are vitally affected in one way or another. "If all classes of prices advanced at the same rate during inflation there would be no harmful effects 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 without great social unrest, often a change in government and even a revolution."<sup>1</sup>

"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

<sup>1</sup> As shown by the major price relations on the outer cover of this journal.

<sup>2</sup> Extract from an article by John Lossing Buck and Yin-yuen Wang in *Economic Facts*, No. 22, July 1943, p. 196.

units of currency paid or received is in equilibrium between the different groups of commodities and services."<sup>3</sup>

*Yin-yuen Wang*

<sup>3</sup> Extract from an article by *John Lossing Buck* in *Economic Facts* No. 24, Sept. 1943, p. 246.

INDICATORS OF PRICE CHANGES<sup>1</sup>

(January to June 1937=100)

Items	Number of items or observations	Index numbers		Date		Place
		or Previous month	Latest month	Latest month	Mo. Yr.	
<i>Wholesale prices and cost of living:</i>						
1. Wholesale prices of all commodities	57	252277	268529	8	45	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	216880	239217	8	45	Chengtu
3. Wholesale prices of imported goods	9	837220	733900	8	45	Chengtu
4. Wholesale prices of exported goods	10	152234	169196	8	45	Chengtu
5. Wholesale prices of raw materials	30	179450	223768	8	45	Chengtu
6. Wholesale prices of manufactured producers' goods	11	269594	256594	8	45	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	284694	297173	8	45	Chengtu
8. Wholesale prices in important cities, Free China						
(1) Kunming, Yunnan (Aug. 1937=100)(a)	141	214208	264269	3	45	
(2) Sian, Shensi (June 1937=100)(b)	70	108407	123915	3	45	
(3) Chungking, Szechwan(c)	94	90399	125003	3	45	
(4) Chengtu, Szechwan	57	108158	122742	3	45	
9. Cost of living	76	169388	177762	8	45	Chengtu
10. Retail prices of seven commodities commonly used	7	203351	191982	8	45	Chengtu
11. Retail prices for 8 cities in Free China(d)						
(a) Highest: Kunming, Yunnan	25	523595	595037	6	45	
(b) Lowest: Sining, Chinghai	25	95454	107944	6	45	
(1) Kunming, Yunnan	25	523595	595037	6	45	
(2) Kweiyang, Kweichow	25	340285	360016	6	45	
(3) Sian, Shensi	25	226695	267148	6	45	
(4) Yaan, Sikong	25	208227	213456	6	45	
(5) Chungking Szechwan	25	166297	176279	6	45	
(6) Chengtu, Szechwan	25	175747	170452	6	45	
(7) Lanchow, Kansu	25	93116	122270	6	45	
(8) Sining, Chinghai	25	95454	107944	6	45	

Items	Number of items	Index numbers		Date		Place
		or Previous observa- tions	Latest month	Latest month	Mo. Yr.	
12. Rent, city residences	100	16918	17406	5	45	Chengtu
13. School tuition (h)						
(1) Primary school	1	20000	70000	9	45	Chengtu
(2) Middle school	1	450	450	9	45	Chengtu
(3) University	1	1000	6000	9	45	Chengtu
<i>City wages (e)</i> (including the value of board)	12	158433	172424	8	45	Chengtu
1. Carpenters	1	160000	160000	8	45	Chengtu
2. Masons	1	160000	160000	8	45	Chengtu
3. Cotton weavers	1	118182	172727	8	45	Chengtu
4. Silk weavers	1	73810	83333	8	45	Chengtu
5. Tailors	1	183333	183333	8	45	Chengtu
6. Barbers	1	300000	311111	8	45	Chengtu
7. Blacksmiths	3	77381	159524	8	45	Chengtu
8. Coppersmiths	3	78461	85207	8	45	Chengtu
9. Maidservants (excluding the value of board)	8	328309	253709	8	45	Chengtu
<i>Salaries:</i>						
1. Professors' salaries (f)	10	18382	21139	8	45	Chengtu
2. Clerks (f)	10	54782	59250	8	45	Chengtu
3. Soldiers' cash allowances	6	39870	39870	8	45	Chengtu
<i>Chinese currency</i>						
1. Purchasing power of <i> yuan</i> in terms of cost of living	-	0.06	0.06	8	45	Chengtu
2. Purchasing power of <i> yuan</i> in terms of wholesale prices of domestic commodities	-	0.05	0.04	8	45	Chengtu
<i>U.S.A. currency</i>						
1. Increase in number of <i> yuan</i> for one US\$ at buying official exchange rate of 20 <i> yuan</i> to one US dollar	-	594	594	8	45	Chengtu
2. Calculated rate of <i> yuan</i> / US\$ exchange (purchasing power parity) on basis of prices of domestic commodi- ties at Chengtu and Statist Index of wholesale prices in U.S.A. (i) (a) actual	- US\$	0.0009	0.0006	5	44	Chengtu
(b) estimated (g)	- US\$	0.0002	0.0001	8	45	Chengtu

Items	Number of items or observa- tions	Index numbers		Date		Place
		Previous month	Latest month	Latest month	Mo. Yr.	
3. Purchasing power of US\$ (a) at official exchange rate in China		0.3	0.2	8	45	Chengtu
(b) actual in U.S.A.	-	82	81	5	44	U.S.A.
4. Wholesale prices of domestic commodities in terms of US\$ at official exchange rate		36524	40286	8	45	Chengtu
5. Wholesale prices in U.S.A.	-	122	124	5	44	U.S.A.
<i>Sterling currency:</i>						
1. Increase in number of <i> yuan</i> for one pound sterling	-	483	483	8	45	Chengtu
2. Calculated <i> yuan</i> / pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Cheng- tu and Statist Index of whole- sale prices in England (i) (a) Actual	-	0.06d	0.06d	3	44	Chengtu
(b) Estimated (g)	-	0.01d	0.01d	8	45	Chengtu
3. Purchasing power of pound sterling (a) at official buying rate in China	-	0.2	0.2	8	45	Chengtu
(b) actual in England	-	67	67	3	44	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the official ex- change rate	-	44847	49466	8	45	Chengtu
5. Wholesale prices in England	-	149	149	8	44	England
<i>Gold and silver:</i>						
1. Price of gold (open market)	1	191219	115447	8	45	Chengtu
2. Price of silver (open market)	1	137676	88426	8	45	Chengtu
3. Wholesale prices of domestic commodities in terms of gold	-	113	207	8	45	Chengtu
4. Wholesale prices of domestic commodities in terms of silver	-	158	270	8	45	Chengtu
<i>Farm prices (4 hsien):</i>						
1. Prices received by farmers (1937=100)	16-22	115221	122275	6	45	Szechwan
2. Farmers' cost of production	-	109295	114502	6	45	Szechwan
3. Prices paid by farmers for						

Items	Number of items or observation	Index numbers		Date Latest month		Place
		Previous month	Latest month	Mo.	Yr.	
producers' and consumers' goods (1937=100)	17-51	152904	147045	6	45	Szechwan
4. Prices paid by farmers for producers' goods	16-22	130994	121537	6	45	Szechwan
5. Prices paid by farmers for consumers' goods	17-29	178484	177904	6	45	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)	-	87	90	6	45	Szechwan
7. Crop rent	-					
(a) paid Oct. '43 and '44	-	14171	39721	10	44	Szechwan
(b) if paid current month	-	113518	120468	6	45	Szechwan
8. Land taxes	-					
(a) paid Oct. '43 and '44	-	10297	31352	10	44	Szechwan
(b) if paid current month	-	77459	66086	6	45	Szechwan
9. Farm land value (8 hsien)	-	73284	72075	6	45	Szechwan
10. Farm year labor (8 hsien)	-	76518	90032	6	45	Szechwan
11. Farm day labor (8 hsien)	-	126346	160159	6	45	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) Data from Farmers' Bank of China.  
(e) 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, copper-smiths 2.5. The data on wages were supplied by the union or by individuals.  
(f) From one organization.  
(g) Preliminary estimate based on the rate of increase in prices.  
(h) The index in column of previous month is for Autumn 1944.  
(i) The close relation between purchasing power parity rates and actual exchange rates under normal conditions in a free exchange market have been shown in chart form in *Economic Facts* No. 23 under the title "The official exchange rate and price relationships" pp. 212-221. No attempt is made here to predict what the exchange rate would be under present blockade conditions if the foreign exchange market were a free one or what it should be under at a pegged rate.

APPENDIX  
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IN CHENGTU, 1937-A. UG. 1945  
Jan. to June 1937=100 (simple geometric average)

Period	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of yuan
1937	57							101.1
1938	99	98	102	97	106	99	94	87.0
1939	115	95	136	103	169	106	105	47.4
1940	211	142	290	206	387	200	184	16.1
1941	620	489	806	793	1216	423	478	6.5
1942	1545	1748	1570	2017	2839	1197	952	2.2
1943	4571	3992	5366	5669	9988	3206	3153	6.7
1944	13945	12100	22440	16918	26394	8770	9132	0.2
1945	51468	45929	68965	87422	93140	39510	32141	0.11
Jan.	92074	77970	123260	180252	148555	54658	68141	0.09
Feb.	108158	99790	144550	186443	163274	71015	76558	0.08
Mar.	122742	117797	157529	208729	194022	81686	83165	0.07
Apr.	149966	147323	224780	229342	246361	95814	92166	0.05
May	185974	166981	264912	281940	306871	126544	126200	0.05
June	195063	160607	244028	295487	353750	138930	145243	0.04
July	252277	195341	369828	313564	445978	141072	210762	0.04
Aug.	268529	205300	320629	364992	475667	184739	233879	0.04

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-AUG. 1945  
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	109	89
1938	115	109	208	86
1939	211	193	462	161
1940	620	595	1314	386
1941	1545	1599	3309	687
1942	4571	4196	14902	2190
1943	13945	13053	45398	6197
1944	51468	48991	180817	20031
1945				
Jan.	92074	82168	337910	44037
Feb.	108158	99288	360650	50647
Mar.	122742	113921	398127	56510
Apr.	149966	138955	534950	63794
May	185974	168908	614143	91496
June	195063	173016	625786	107775
July	252277	216880	837220	152234
Aug.	268529	239217	733900	169196

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-AUG. 1945

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	130	114	121
1939	179	156	169	240	199	221
1940	599	425	522	609	598	604
1941	1448	1154	1322	1318	1555	1420
1942	3468	3391	3437	4115	4526	4295
1943	11658	9110	10563	13775	14571	14120
1944	42770	35397	39653	45283	52576	48431
1945						
Jan.	79542	68040	74726	83556	88024	85538
Feb.	85268	78752	82600	95032	108765	100984
Mar.	96070	87590	92585	106398	129321	116161
Apr.	115345	100607	109208	140686	170542	153411
May	138486	131861	135794	189485	211510	199096
June	146047	138042	142790	207152	207910	207490
July	188074	167242	179450	269594	284694	276288
Aug.	214476	238472	223768	256594	297173	274125

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-AUG. 1945

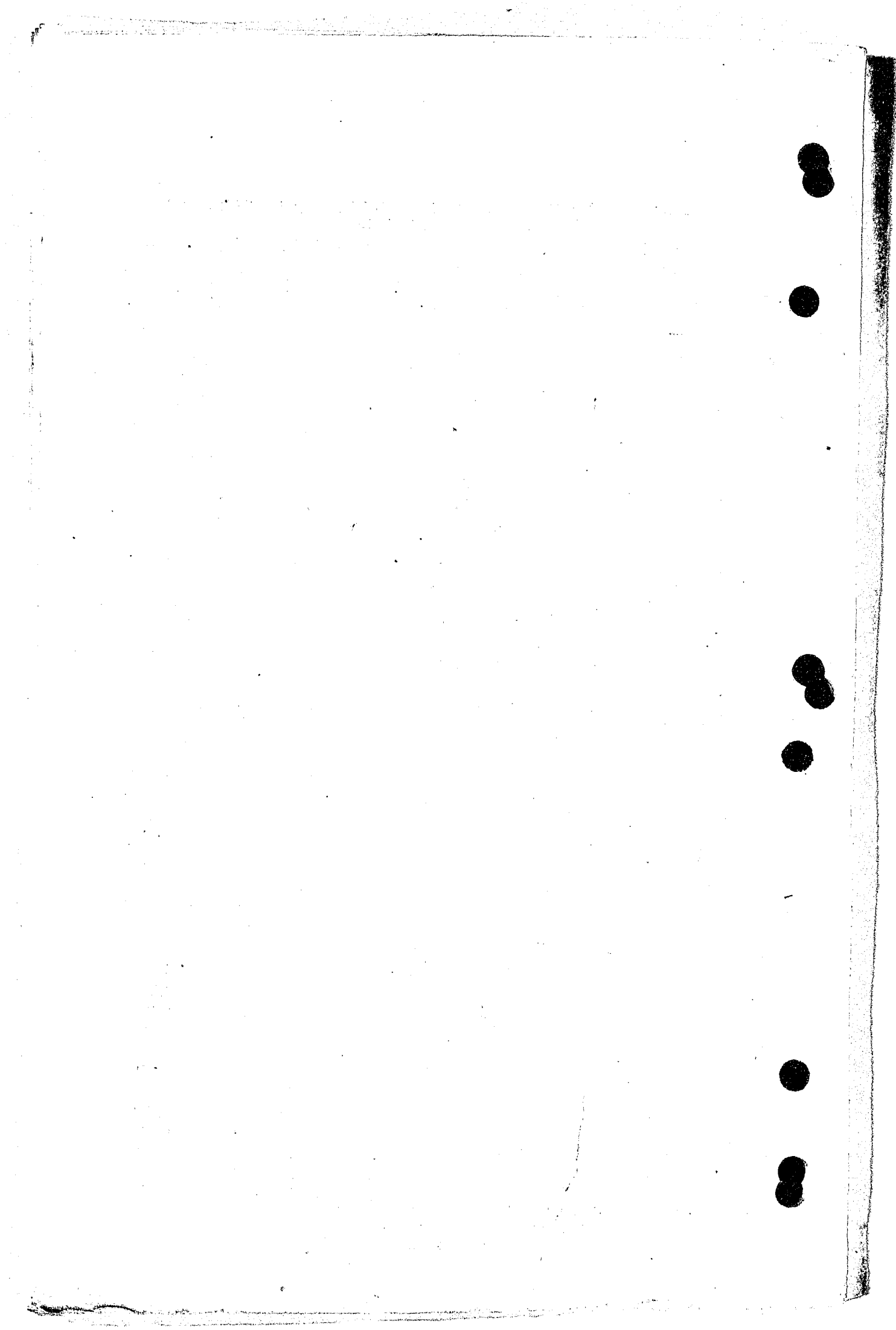
Feb. to June 1937=100 (weighted aggregative by individual classes and weighted geometric average for combined three classes)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	101	105	100
1939	123	145	154	137
1940	388	411	412	402
1941	1594	1410	1341	1468
1942	3164	3422	3570	3343
1943	10019	10752	11402	10574
1944	42018	48053	50296	45898
1945				
Jan.	71996	86580	95770	81958
Feb.	92044	110188	116638	103519
Mar.	101733	133603	133819	119369
Apr.	113046	146816	150784	132488
May	122479	166331	173356	147813
June	115592	168047	180135	146040
July	133172	197133	207475	169388
Aug.	143821	201702	215248	177762

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-AUG. 1945

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	141	103	97	114	100.4
1939	137	118	260	109	154	179	72.8
1940	402	387	779	117	566	370	24.9
1941	1468	1705	1751	184	1588	1136	6.8
1942	3343	3280	5846	421	4562	3483	2.9
1943	10574	10141	22140	2110	13830	10519	0.9
1944	45898	41107	83352	6571	77803	50020	0.2
1945							
Jan.	81958	69492	153790	13002	165534	89636	0.12
Feb.	103519	93135	176250	14603	181138	111577	0.10
Mar.	119369	100981	191448	15345	257424	129342	0.08
Apr.	132488	112377	240095	16918	267813	146683	0.08
May	147813	122383	279681	17406	282681	182100	0.07
June	146040	112326	272300	17406	298807	200738	0.07
July	169388	128035	410064	17406	324779	222405	0.06
Aug.	177762	146381	367930	17406	334423	232778	0.06



# ECONOMIC FACTS

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

No. 49

Oct, 1945

## MAJOR PRICE RELATIONS (January to June 1937=100)

Items	Number Index numbers			Date		Place
	of items	Prev-ious month	Latest month	Latest month	Mo. Yr.	
1. Wholesale prices of domestic commodities	38	239217	182150	9 45		Chengtu
2. Prices received by farmers (1937=100)	9-13	124417	134850	8 45		Szechwan
3. Cost of living	76	178128	151520	9 45		Chengtu
4. City wages	12	172424	162735	9 45		Chengtu
5. Farm wages (1937=100)	87	114913	134372	8 45		Szechwan
6. Salaries, professors	10	21139	24361	9 45		Chengtu
7. Soldiers' cash allowances	6	39870	64963	9 45		Chengtu
8. Land taxes (1937=100) (b)		10297	31352	10 44		Szechwan
9. Wholesale prices of domestic commodities in terms of silver	38	270	210	9 45		Chengtu
10. Wholesale prices of domestic commodities in terms of gold	38	207	283	9 45		Chengtu
11. Wholesale prices of domestic commodities in terms of US\$						
(1) at official exchange rate	38	40286	30675	9 45		Chengtu
(2) at black market rate	38	502	648	9 45		Chengtu
12. Wholesale prices in U. S. A. (Statist index)	-	122	124	5 44		U.S.A.
13. Wholesale prices in England (Statist index)	-	149	149	3 44		England
14. Purchasing power of farmers	-	85	79	8 45		Szechwan
15. Purchasing power of rice (a)	-	32	35	9 45		Chengtu
16. Freight rates (truck)	1	20547	20547	9 45		Szechwan
17. Monthly commercial loan interest rate per \$1000	1	692	692	9 45		Chengtu

(a) Calculated in terms of wholesale prices of 57 commodities.  
(b) The index in column of previous month is for October 1943.



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## 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.

## PRICE CHANGES AND FARM BUSINESS IN SZECHWAN

During the years since the outbreak of Sino-Japanese hostilities, prices have altered rapidly in China, causing a big change in social economy. Expansion of the currency has also produced violent fluctuations in the prices of articles bought and sold by farmers, which has resulted in yearly variations in the incomes of farmers. As we know, the profit of farm business is determined by three factors: output, prices and the cost of production. The change in prices is the most important factor. If farm wages, land taxes, crop rent and the prices of producer's goods purchased by farmers and other costs fluctuated in close relation to the changes in prices of farm products, and if all individual commodity prices rose or fell together, the farmer would not be particularly concerned with the changes in these prices. But these prices do not move together. It is the disparity in the upward and downward movements of prices and costs which affects the farmer's income.

### *Changes in relation to farm prices received and cash costs of production*

A complete picture of the effect of the violent variation in commodity prices on farm incomes is best obtained by showing changes in farm prices received at time of sale and all costs of production at time of expenditure. This is brought out by a comparison of the two indexes prepared by the Department of Agricultural Economics, University of Nanking, as table 1.

"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 on 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." (1) For in these crop years (except 1938-39), prices received were higher than costs of production. In 1943-44 prices received were at an index of 30578, which

Table 1. Index numbers of prices received by farmers, cash farm costs of production and their ratio (by crop years) for 4 *hsien*, Szechwan, 1937-38 to 1944-45 (1937-38 = 100)

Crop year	Prices received (a)	Cash farm costs of production (b)	Ratio of prices received to costs paid
1937-38	100	100	100
1938-39	119	125	95
1939-40	282	196	144
1940-41	1158	742	156
1941-42	2885	2133	135
1942-43	7097	4561	156
1943-44	30578	16722	183
1944-45	85400	56722	151

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

(b) Costs are for the crop year (May-April) and weighted: 30.8 percent for farm labor, 4.0 percent for owner's taxes, 39.0 percent for tenant's rent, and 26.7 percent for producer's goods.

is significantly higher than costs of production at an index of 16722. "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 a period of rising prices expense items are incurred before receipt items and at a lower price level than when receipts occur" (1) (It must be remembered that this index of cash farm costs of production paid by farmers does not include the item of interest.)

#### *Changes in actual farm cash receipts, cash expenses and profits by crop years (May-April)*

For the crop year 1943-44, prices of cash farm receipt items increased by an index of 30578 (1937-38=100), whereas prices of cash farm expense items were at an index of 16722. The farm cash income of the farms averaged 4844 *yuan*. In terms of the 1937-38 crop year

(1) Extract from an article by J. Lossing buck and Kwok-hwa Hu in *Economic Facts* No. 16, January 1943, pp. 11-12

purchasing power of *yuan*, the farm cash income for 1943-44 was 30 *yuan* or 23 *yuan* greater than for the crop year 1937-38 (table 2):

Table 2. Estimates of actual farm cash receipts, cash expenses, and farm income per farm (from an actual study of 180 farms for the crop year, May 1940-April 1941) for 4 *hsien*, Szechwan, 1937-38 to 1944-45.

Crop year	Amounts per farm ( <i>yuan</i> )			
	Cash receipts	Cash expenses	Farm cash income	Adjusted farm cash income (a)
1937-38	137	130	7	7
1938-39	150	164	-14	-11
1939-40	259	252	7	4
1940-41	1015	969	46	6
1941-42	3142	2711	431	21
1942-43	6498	5849	649	14
1943-44	25973	21129	4844	30
1944-45	80031	71862	8169	15

(a) Based on purchasing power of *yuan* (1937-38 = 100) in terms of farm cash expenses.

#### *Relation of price changes to farm cash income*

The ratio of "prices received by farmers" to farm costs of production gives a composite picture of the price relationships with which farmers have been confronted. A comparison of this ratio with farm cash incomes on surveyed farms in four *hsien*, Szechwan is shown in figure 1. Since farmers' incomes are dependent on yields as well as prices, a perfect correlation between the two series would not be expected. The close relationship indicates that the price ratio is one of the most important factors causing year-to-year variations in farm incomes.

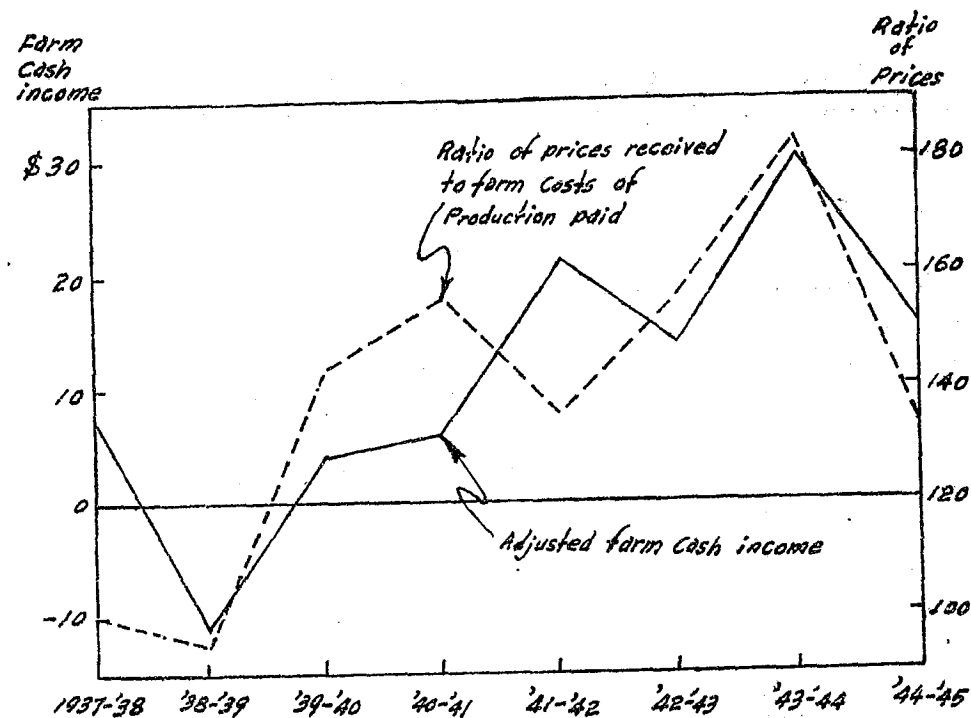


Fig. 1. - Adjusted farm cash income and ratio of prices received by farmers to farm costs of production paid by farmers in 4 hsien, Szechwan (1937-38 = 100).

### Conclusion

At the present time, one of the outstanding needs of Chinese agriculture is better trained extension workers and farm leaders to help farmers to identify properly the price trends to which they are subjected, so that they can make the correct decisions concerning the organization and operation of their business.

Yin-yuen Wang

### INDICATORS OF PRICE CHANGES<sup>1</sup>

(January to June 1937 = 100)

Items	Number of items or observations	Index numbers		Date Latest month	Place
		Previous month	Latest month		
				Mo. Yr.	
<i>Wholesale prices and cost of living:</i>					
1. Wholesale prices of all commodities	57	268529	192035	9 45	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	239217	182150	9 45	Chengtu
3. Wholesale prices of imported goods	9	733900	502778	9 45	Chengtu
4. Wholesale prices of exported goods	10	169196	98712	9 45	Chengtu
5. Wholesale prices of raw materials	30	223768	150286	9 45	Chengtu
6. Wholesale prices of manufactured producers' goods	11	256594	173020	9 45	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	297173	210724	9 45	Chengtu
8. Wholesale prices in important cities, Free China					
(1) Kunming, Yunnan (Aug. 1937 = 100)(a)	141	214208	264269	3 45	
(2) Sian, Shensi (June 1937 = 100)(b)	70	108407	123915	3 45	
(3) Chungking, Szechwan(c)	94	90399	125003	3 45	
(4) Chengtu, Szechwan	57	108158	122742	3 45	
9. Cost of living	76	178128	151520	9 45	Chengtu
10. Retail prices of seven commodities commonly used	7	191982	136100	9 45	Chengtu
11. Retail prices for 8 cities in Free China(d)					
(a) Highest: Kunming, Yunnan	25	595037	689372	7 45	
(b) Lowest: Sining, Chinghai	25	107944	148884	7 45	
(1) Kunming, Yunnan	25	595037	689372	7 45	
(2) Kweiyang, Kweichow	25	360016	374461	7 45	
(3) Sian, Shensi	25	287148	300049	7 45	
(4) Yaan, Sikong	25	213456	229818	7 45	
(5) Chungking Szechwan	25	176279	216257	7 45	
(6) Chengtu, Szechwan	25	170452	212995	7 45	
(7) Lanchow, Kansu	25	122270	167154	7 45	
(8) Sining, Chinghai	25	107944	148884	7 45	

Items	Number of items or observa- tions	Index numbers		Date		Place
		Previous month	Latest month	Latest month	Mo. Yr.	
12. Rent, city residences	100	21412	20656	9 45		Chengtu
13. School tuition (h)						
(1) Primary school	1	20000	70000	9 45		Chengtu
(2) Middle school	1	450	450	9 45		Chengtu
(3) University	1	1000	6000	9 45		Chengtu
<i>City wages (e)</i> (including the value of board)	12	172424	162735	9 45		Chengtu
1. Carpenters	1	160000	160000	9 45		Chengtu
2. Masons	1	160000	160000	9 45		Chengtu
3. Cotton weavers	1	172727	172727	9 45		Chengtu
4. Silk weavers	1	83333	83333	9 45		Chengtu
5. Tailors	1	183333	183333	9 45		Chengtu
6. Barbers	1	311111	238889	9 45		Chengtu
7. Blacksmiths	3	159524	159524	9 45		Chengtu
8. Coppersmiths	3	85207	85207	9 45		Chengtu
9. Maidservants (excluding the value of board)	8	253709	261543	9 45		Chengtu
<i>Salaries:</i>						
1. Professors' salaries (f)	10	21139	24361	9 45		Chengtu
2. Clerks (f)	10	59250	73249	9 45		Chengtu
3. Soldiers' cash allowances	6	39870	64963	9 45		Chengtu
<i>Chinese currency</i>						
1. Purchasing power of <i>yan</i> in terms of cost of living	-	0.06	0.07	9 45		Chengtu
2. Purchasing power of <i>yan</i> in terms of wholesale prices of domestic commodities	-	0.04	0.05	9 45		Chengtu
<i>U.S.A. currency</i>						
1. Increase in number of <i>yan</i> for one US\$ at buying official exchange rate of 20 <i>yan</i> to one US dollar	-	594	594	9 45		Chengtu
2. Calculated rate of <i>yan</i> / US\$ exchange (purchasing power parity) on basis of prices of domestic commodi- ties at Chengtu and Statist Index of wholesale prices in U.S.A. (i) (a) actual	- US\$	0.0009	0.0006	5 44		Chengtu
(b) estimated (g)	- US\$	0.0001	0.0002	9 45		Chengtu

Items	Number of items or observa- tions	Index numbers		Date		Place
		Previous month	Latest month	Latest month	Mo. Yr.	
3. Purchasing power of US\$ (a) at official exchange rate in China	-	0.2	0.3	9 45		Chengtu
(b) actual in U.S.A.	-	82	81	5 44		U.S.A.
4. Wholesale prices of domestic commodities in terms of US\$ at official exchange rate	-	40286	30675	9 45		Chengtu
5. Wholesale prices in U.S.A.	-	122	124	5 44		U.S.A.
<i>Sterling currency:</i>						
1. Increase in number of <i>yan</i> for one pound sterling	-	483	483	9 45		Chengtu
2. Calculated <i>yan</i> / pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Cheng- tu and Statist Index of whole- sale prices in England (i)	-	0.06d	0.06d	9 44		Chengtu
(b) Estimated (g)	-	0.01d	0.01d	9 45		Chengtu
3. Purchasing power of pound sterling						
(a) at official buying rate in China	-	0.2	0.3	9 45		Chengtu
(b) actual in England	-	67	67	3 44		England
4. Wholesale prices of domestic commodities in terms of pound sterling at the official ex- change rate	-	49466	37665	9 45		Chengtu
5. Wholesale prices in England	-	149	149	3 44		England
<i>Gold and silver:</i>						
1. Price of gold (open market)	1	115447	64268	9 45		Chengtu
2. Price of silver (open market)	1	88426	86803	9 45		Chengtu
3. Wholesale prices of domestic commodities in terms of gold	-	207	283	9 45		Chengtu
4. Wholesale prices of domestic commodities in terms of silver	-	270	210	9 45		Chengtu
<i>Farm prices (4 hsien):</i>						
1. Prices received by farmers (1937=100)	16-22	124417	134850	8 45		Szechwan
2. Farmers' cost of production	-	120189	134512	8 45		Szechwan
3. Prices paid by farmers for						

Items	Number of items		Index numbers		Date Latest		Place
	or observation	Previous month	Latest month	Mo.	Yr.		
producers' and consumers' goods (1937=100)	17-31	160037	187913	8	45	Szechwan	
4. Prices paid by farmers for producers' goods	16-22	128950	147340	8	45	Szechwan	
5. Prices paid by farmers for consumers' goods	17-29	198618	239667	8	45	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	79	8	45	Szechwan	
7. Crop rent							
(a) paid Oct. '43 and '44	-	14171	39721	10	44	Szechwan	
(b) if paid current month	-	122578	132857	8	45	Szechwan	
8. Land taxes							
(a) paid Oct. '43 and '44	-	10297	31352	10	44	Szechwan	
(b) if paid current month	-	78385	66086	8	45	Szechwan	
9. Farm land value (8 hsien)	-	70033	77132	8	45	Szechwan	
10. Farm year labor (8 hsien)	-	99390	110172	8	45	Szechwan	
11. Farm day labor (8 hsien)	-	161231	213575	8	45	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) Data from Farmers' Bank of China.  
(e) 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, copper-smiths 2.5. The data on wages were supplied by the union or by individuals.  
(f) From one organization.  
(g) Preliminary estimate based on the rate of increase in prices.  
(h) The index in column of previous month is for Autumn 1944.  
(i) The close relation between purchasing power parity rates and actual exchange rates under normal conditions in a free exchange market have been shown in chart form in *Economic Facts* No. 23 under the title "The official exchange rate and price relationships" pp. 212-221. No attempt is made here to predict what the exchange rate would be under present blockade conditions if the foreign exchange market were a free one or what it should be under at a pegged rate.

APPENDIX  
TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES  
IN CHENG TU, 1937-SEPT., 1945  
Jan. to June 1937=100 (simple geometric average)

Period	Number of commodities	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of yuan
1937	57	99	98	102	97	106	99	94	101.1
1938		115	95	136	103	169	106	105	87.0
1939		211	142	290	206	387	200	184	47.4
1940		620	489	806	793	1216	423	478	16.1
1941		1545	1748	1570	2017	2839	1197	952	6.5
1942		4571	3992	5366	5669	9988	3206	3153	2.2
1943		13945	12100	22440	16918	26394	8770	9132	0.7
1944		51468	45929	68965	87422	93140	39510	32141	0.2
1945									
Jan.		92074	77970	123260	180252	148555	54658	68141	0.11
Feb.		108158	99790	144550	186443	163274	71015	76558	0.09
Mar.		122742	117797	157529	208729	194022	81686	83165	0.08
Apr.		149966	147323	224780	229342	246361	95814	92166	0.07
May		185974	166981	264912	281940	306871	126544	126200	0.05
June		195063	160607	244028	295487	353750	138930	145243	0.05
July		252277	195341	369828	313564	445978	141072	210762	0.04
Aug.		268529	205300	320629	364992	475667	184739	233879	0.04
Sept.		192035	146473	183758	303414	355883	173436	163485	0.05

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-SEPT. 1945  
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	109	89
1938	115	109	208	86
1939	211	193	462	161
1940	620	595	1314	386
1941	1545	1599	3309	687
1942	4571	4196	14902	2190
1943	13945	13053	45398	6197
1944	51468	48991	180817	20031
1945				
Jan.	92074	82168	337910	44037
Feb.	108158	99288	360650	50647
Mar.	122742	113921	398127	56510
Apr.	149966	138955	534950	63794
May	185974	168908	614143	91496
June	195063	173016	625786	107775
July	252277	216880	837220	152234
Aug.	268529	239217	733900	169196
Sept.	192035	182150	502778	98712

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-SEPT. 1945  
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	130	114	121
1939	179	156	169	240	199	221
1940	599	425	522	609	598	604
1941	1448	1154	1322	1318	1555	1420
1942	3468	3391	3437	4115	4526	4295
1943	11658	9110	10563	13775	14571	14120
1944	42770	35397	39653	45283	52576	48431
1945						
Jan.	79542	68040	74726	83556	88024	85538
Feb.	85268	78752	82600	95032	108765	100984
Mar.	96070	87590	92585	106398	129321	116161
Apr.	115345	100607	109208	140686	170542	153411
May	138486	131861	135794	189485	211510	199096
June	146047	138042	142790	207152	207910	207490
July	188074	167242	179450	269594	284694	276288
Aug.	214476	238472	223768	256594	297173	274125
Sept.	146862	155568	150286	173020	210724	189070

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TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-SEPT. 1945  
Feb. to June 1937=100 (weighted aggregative by individual classes and weighted geometric average for combined three classes)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	101	105	100
1939	123	145	154	137
1940	388	411	412	402
1941	1594	1410	1341	1468
1942	3164	3422	3570	3343
1943	10019	10752	11402	10574
1944	42018	48053	50296	45898
1945				
Jan.	71996	86580	95770	81958
Feb.	92044	110188	116638	103519
Mar.	101733	133603	133819	119369
Apr.	113046	146816	150784	132488
May	122479	166331	173356	147813
June *	115710	168461	180344	146283
July *	133300	197754	207769	169731
Aug. *	144003	202391	215543	178128
Sept.	121903	174186	181346	151520

\*Revised

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-SEPT. 1945  
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	141	103	97	114	100.4
1939	137	118	260	109	134	179	72.8
1940	402	387	779	117	566	370	24.9
1941	1468	1705	1731	184	1588	1136	6.8
1942	3343	3280	5846	421	4562	3483	2.9
1943	10574	10141	22140	2110	13830	10519	0.9
1944	45898	41107	83352	6571	77803	50020	0.2
1945							
Jan.	81958	69492	153790	13002	165534	89636	0.12
Feb.	103519	95135	176250	14603	181138	111577	0.10
Mar.	119369	100981	191448	15345	257424	129342	0.08
Apr.	132488	112377	240095	16918	267813	146683	0.08
May	147813	122383	279681	17406	282681	182100	0.07
June	146283*	112326	272300	20118*	298807	200738	0.07
July	169731*	128035	410064	20971*	324779	222405	0.06
Aug.	178128*	146381	367930	21412*	334423	232778	0.06
Sept.	151520	131288	244117	20656	278625	203527	0.07

\*Revised

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# ECONOMIC FACTS

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

No. 50

Nov. 1945

## MAJOR PRICE RELATIONS

(January to June 1937=100)

Items	Number of items	Index numbers		Date		Place
		Prev-ious month	Latest month	Latest month	Mo. Yr.	
1. Wholesale prices of domestic commodities	38	182150	194191	10 45		Chengtu
2. Prices received by farmers (1937=100)	9-13	124417	134850	8 45		Szechwan
3. Cost of living	76	151520	171700	10 45		Chengtu
4. City wages	12	162735	204714	10 45		Chengtu
5. Farm wages (1937=100)	87	114913	134872	8 45		Szechwan
6. Salaries, professors	10	24361	22685	10 45		Chengtu
7. Soldiers' cash allowances	6	64963	64963	10 45		Chengtu
8. Land taxes (1937=100) (b)		10297	31352	10 44		Szechwan
9. Wholesale prices of domestic commodities in terms of silver	38	210	217	10 45		Chengtu
10. Wholesale prices of domestic commodities in terms of gold	38	283	235	10 45		Chengtu
11. Wholesale prices of domestic commodities in terms of US\$						
(1) at official exchange rate	38	30675	32703	10 45		Chengtu
(2) at black market rate	38	648	426	10 45		Chengtu
12. Wholesale prices in U. S. A. (Statist index)	-	122	124	5 44		U.S.A.
13. Wholesale prices in England (Statist index)	-	149	149	3 44		England
14. Purchasing power of farmers	-	85	79	8 45		Szechwan
15. Purchasing power of rice (a)	-	35	35	10 45		Chengtu
16. Freight rates (truck)	1	20547	20547	10 45		Szechwan
17. Monthly commercial loan interest rate per \$1000	1	692	554	10 45		Chengtu

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

(b) The index in column of previous month is for October 1943.



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WEIGHTS AND MEASURES

One *li* is equivalent to one-third of an English mile.  
 One *shih tan* is equivalent to 100 liters or 2,837.8 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.

FARM IMPLEMENTS AND MACHINERY FOR CHINA

*By J. Lossing Buck*

June 1945

Farm tools, machinery and equipment are used in order to do farm work better, more cheaply, more easily and more quickly, and to do work that cannot be done with human muscular effort. The extent to which the farmer should use equipment depends chiefly upon whether or not its use increases profits. Its use increases the area that can be cultivated by one farmer and increases per capita production.

Farm equipment may be classified as follows:

- (1) Tillage, fertilizer and seeding equipment
- (2) Harvesting equipment
- (3) Processing equipment (shelling, husking, picking, threshing, baling, ginning, cleaning, outting, and milling)
- (4) Power equipment, including electric
- (5) Transportation equipment
- (6) Water control equipment
- (7) Horticultural equipment
- (8) Spraying equipment
- (9) Animal and poultry equipment
- (10) Farm structures
- (11) Farm shop equipment
- (12) Household equipment
- (13) Other equipment

Tillage, fertilizer and seeding equipment are classified together because there are few implements combining the three processes. Harvesting equipment includes combines, which do the threshing as well as the harvesting. Water control equipment includes pumps of all kinds, earth-moving equipment and soil conservation equipment.

The amount of work done by an implement or machine per unit of time (usually one day of 10 hours) is called the "rate of work." The "duty of implements and of machinery" is the amount of work done per foot width of the implement or per horse power for pumps and mills, or amount of grain threshed per inch of cylinder. Both vary with the type and size of implement, quality of work done, type and condition

of the soil, obstructions in the field, amount and kind of power, size and shape of field, and distance from the farmstead to the fields.

In the United States, one to three acres, or 6 to 18 *shih mow*, per day are worked for each foot of width of the implement or machine used. A rapid rate of work is there acres, or 18 *shih mow* per day and is usually by tractor power only. A slow rate of work is one acre or less. In the United States, most machines do more than one foot of work per operation. In China, with the exception of the harrow, most implements do less than a foot width of work per operation. Chinese implements are small, light in construction and other than hand tools, are of a one-horse type. The animal power is chiefly a water buffalo in south China and oxen, cows, donkeys, mules, and even horses in north China. No information exists on duty of implements and machinery in China. A comparison of rate of work shows that one man with one implement and one or more animals for each operation does more work in the United States than in China. In China, rates of work for the same operation vary with the type of implement. For instance, a man with a Chinese cradle which cuts a width of 9 to 10 rows of grain each stroke can cut 1.7 acres, or 10.2 *shih mow* per day, whereas a man with a sickle can cut only 0.46 acres or 2.9 *shih mow* per day. A cultivator pulled by an animal cultivates a much wider strip than a hoe, and it does the work more quickly. It does 1.7 acres, or 11.4 *shih mow* per day, but a man with a hoe can cultivate only 0.4 of an acre, or 2.5 *shih mow* per day.

The cradle, compared with the sickle, and the cultivator, as compared with the hoe, are labor-saving implements. Labor-saving implements, machinery and equipment have the advantage of more timely work and often a cheaper cost for the work done. They make it possible to do the work when it should be done: that is, when the soil is in the right condition, when the crop should be planted, when the weeds should be destroyed (before they grow large) and when the crop should be harvested (before grain becomes too ripe or before it is damaged by unfavorable weather). Sometimes labor-saving implements have disadvantages, as in the case of the cradle which cannot cut a crop that has been blown down by wind (lodged). The Chinese cradle is also too light to

harvest a heavy crop, it wastes grain which shatters easily, and it tangles the straw.

The Chinese, to a large degree, have adapted their farm implements to suit their conditions, but improvements are both possible and desirable.

The average farm has 26 important pieces of equipment. There are at least 60,000,000 farms, and the the essential equipment totals 1,680,000,000 pieces. The average value of this equipment is about \$2.50 per acre, or approximately one-third of the value of farm machinery per acre in the United States.

Cast and wrought iron and wood are the chief materials used in manufacture. The Chinese used a plow with an iron share and mouldboard some 2000 years before Newbold, about 150 years ago, invented his cast iron plow in the United States and farmers were afraid to use it for fear the iron would poison the soil and make the weeds grow.

Although China designed her implements many centuries ago, she has not made many improvements. For instance, it is estimated that a better metal in the hoe to keep the edge sharp and to decrease the amount of sharpening necessary would decrease the labor of hoeing by 15-20%.

Present manufacture of agricultural implements is chiefly by artisan families, small foundries for castings, blacksmith shops for wrought iron parts, and carpenters for wooden parts.

Modern techniques should produce better implements at the same cost or, if at higher cost, with enough improvement to enable the farmer to pay for the higher-priced implements because of the decreased labor cost in using them and/or because of increased production.

#### *Number of Implements Per Farm*

The number of implements per farm depends upon the area to be worked and the number of days in which the work must be done. For instance, if after wheat harvest, plowing for transplanting of rice must be done within a ten-day period, and if 3 *mow* can be plowed per day, 30 *mow* can be plowed. If the farmer has 40 *mow* to be planted to rice, one plow is not enough, but two plows are too many. The farmer has several choices. He might hire the additional ten *mow* plowed, but often this is not easy because other farmers want to

plow at the same time. Because other farmers are also busy with plowing, the cost of hiring is high. Another way is to plow before or after the best period at the risk of a low yield. Still another method is to increase the size of farm by buying or renting another 20 *mow*. If the land is best adapted to rice, probably it would not be wise to attempt to distribute labor by planting part of the land to other crops. Another method, probably the best, is to use a larger plow and a heavier animal or two animals, making the plowing of 4 *mow* a day possible. On a farm, there is a combination of number of implements, work animals, men and kind of crops which will give the most efficient use of implements, animals and men.

The cost of using an implement of a certain efficiency varies with the number of days it is used per year. The cost includes interest on capital invested in the implement, depreciation, storage, repairs and operating expenses (such as lubricating oil for machinery and fuel oil for engines). These costs in China for 1935 averaged 0.365 *yuan* per crop *shih mow*, or U.S. \$0.60 per acre) for all types of implements. The total cost per farm was 41 percent of the inventory value of the implements (market value at the time of the computation). This is twice as high as in the United States where cost of using implements and machines averages about 20 percent of the inventory value. Interest rates on capital are much higher in China than in the United States, and the implements are not as strong. The interest rate used in computing the above figures for China was 20 percent, or a little less than the current local rates. The cost per *mow* is influenced by the number of *mow* worked.

A practical short-cut method of computing the cost of using implements on a farm is to multiply the market value of the implement by the current rate of interest on loans for productive purposes. Percentage depreciation in value of the implements may be computed by taking the reciprocal of the number of years of life of the implement. For instance, if the life is 20 years, 1 divided by 20 equals 5 percent, then all repairs for one year and all other expenses for operating (such as oil) are added together to compute operating expenses. When these three items, interest on capital, depreciation cost, and operating expense, are added together, the result is the cost of using implements. The cost per crop *mow* is obtained by dividing the cost by the number of crop

*mow* (table 1). If part of the implements are borrowed, hired or loaned, the number of crop *mow* on which they are used must be added or subtracted from the total crop *mow* of the farm.

TABLE 1. AVERAGE ANNUAL COST OF USING IMPLEMENTS PER FARM, 1426 Farms, East Central China (1935) (a)

	Yuan
Inventory value of implements (27.70 <i>yuan</i> )	5.54
Depreciation (5%)	2.40
Operating expense (including repairs)	3.45
	11.39
Total cost of using implements per farm	
Cost of using implements per crop <i>shih mow</i> (11.39 <i>yuan</i> divided by crop <i>shih mow</i> of 31.2)	0.365
Inventory value of implements per crop <i>shih mow</i> (27.70 <i>yuan</i> divided by 31.2 crop <i>shih mow</i> )	0.89
Percent of total cost of using implements to inventory value (0.365 <i>yuan</i> divided by 0.89 <i>yuan</i> )	41 percent

(a) King, T. Ogden, Farm Implements in East Central China, University of Nanking, College of Agriculture and Forestry, Bulletin No. 53, February, 1938.

The comparative cost of using different kinds of implements or machinery may be computed by this method. To obtain the complete cost of any farm operation, such as plowing, one must add the costs of man labor and of power (animal or mechanical). A comparative study of different implements used in China for the same operation shows relative advantages of each in terms of cost, when man and animal labor are included in the costs. In 1935, cultivating with a hoe cost 0.26 *yuan* per *shih mow* and with a cultivator only 0.07 *yuan* per *shih mow*. Cutting grain with a sickle cost 0.19 *yuan* per *shih mow* and with a cradle 0.06 *yuan* per *shih mow*.

#### Modern Machinery

Computations have been made for farm conditions near Nanking to compare (1) the cost of plowing with a water buffalo and with a tractor, and (2) the cost of threshing with a flail and with a threshing machine (table 2). Based on these data, tractor plowing is over twice as expensive as water buffalo plowing. If plowing with a tractor prepares soil better and yields are increased then the rates of the

Table 2.—COMPARATIVE COSTS OF PLOWING WITH A WATER BUFFALO AND A TRACTOR

A. COST OF PLOWING WITH WATER BUFFALO AT NANKING (1925)

Buffalo: (based on 3 <i>shih mow</i> (0.5 acres) plowed per day and 30 days of plowing on 90 <i>shih mow</i> (15 acres))			
Interest on investment in water buffalo (Costing 100 yuan) at 12% and use one-half time for plowing	Yuan	6.00	
Depreciation of water buffalo 6% (One-half)		3.00	
Housing (one-half)		5.00	
Feed per year (one-half)		12.00	
Total.....			26.00
Plow:			
Interest on plow at 12% (costing 4 yuan)		0.48	
Depreciation of plow at 4.8%		4.80	
Repairs on plow at 10%		0.50	
Total.....			5.78
Labor:			
One laborer, 30 days at 30c per day		9.00	9.00
GRAND TOTAL.....			40.78
Less value of water buffalo manure	8.00	8.00	
NET COST			32.78
Cost per <i>shih mow</i> for 90 <i>shih mow</i>		.36	
Cost per acre for 15 acres		2.16 or	US 0.64

B. COST OF TRACTOR PLOWING AT NANKING (1925)

Tractor: (based on 30 <i>shih mow</i> , 5 acres, plowed per day and 30 days of plowing on 900 <i>shih mow</i> , 150 acres)			
Interest on investment in tractor (costing 2300 yuan) at 12% and used for plowing (one-half of all its uses)	Yuan	138.00	
Depreciation of tractor at 20% of cost, (less one-half charged to other use)		230.00	
Repairs of tractor at 5% of cost (less one-half charges to uses other than plowing)		57.50	
Kerosene for fuel (one-half gallon per <i>shih mow</i> or 3 gallons per acre)		81.00	
Lubricating oil (.03 of gallon per <i>shih mow</i> , .18 gallons per acre)		29.70	
Risk on tractor at 2% (less one-half charged to uses other than plowing)		23.00	
Total.....			559.20

Plow:

Interest on investment in gang plow (costing 300 yuan) at 12%	36.00
Depreciation of two gang plow at 10%	30.00
Repairs on two gang plow at 2%	6.00
Total.....	72.00

Labor:

One operator, 30 days @ \$1.50	45.00
--------------------------------	-------

Housing:

Plow and one-half-time for tractor	13.00
------------------------------------	-------

Total.....	58.00
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GRAND TOTAL..... 689.20

Cost per *shih mow* for 900 *shih mow* 0.76

Cost per acre for 150 acres 4.69 or

US \$1.37

increased yields minus the extra cost of the additional labor for handling larger yields should be subtracted from the estimated cost of tractor plowing.

The threshing machine has a better chance of success than the tractor even though the machine is used only fifteen days in the year. Cost data on the small machine used at the University of Nanking show that it can thresh as cheaply as the flail and at the same time turn out a clean product. The cost is 0.54 yuan per 133-1/3 pounds compared with 0.55 yuan for a flail. But as with so many new machines a difficulty arises in that the straw, which is much used for thatching, is not kept straight and stiff as with a flail. In South China, roads are also needed to move the thresher from one place to another. The threshing machine, however, saves labor at a time when needed for other work. The combine which cuts and threshes in one operation might be more economical than the thresher since it would also save labor needed in cutting with a sickle and in preventing some of the present losses of grain in harvesting.

The combustion engine is an example of a machine successfully and increasingly used in the lower Yangtze valley for irrigation and sometimes for drainage purposes. The water requirements for rice are so great that for those regions where water is not near the field level, human power is not enough.

The extent to which modern farm machinery can be used depends not only upon its cost but also upon the farm

layout. If the fields are too small or too irregular; or paths too narrow, machines cannot be used to advantage. With consolidation of holdings, larger fields are possible. Recently, in the United States, machinery has been made in smaller sizes, and, if it can be produced cheaply enough, some of it may be practical for use in China.

In China, machine methods at present are not as important as in the United States because labor in China is cheaper and more plentiful. When China develops her industry, transportation and professions, farm people will leave the farm for these occupations. At that time, farm labor will decrease, will be more expensive, and farmers will have to use more labor saving machines and can afford to do so. The manufacture of machines in China with cheap labor and local materials should make machines cheaper than imported ones. If so, farmers could use more machines than at present.

Certain types of small machinery and improved implements should be used but large machinery appears impractical for general use in China at present. If farms were made large enough for large machines, many farmers would be thrown out of work, unless there are other occupations created, such as manufacturing, transportation and professions. Another disadvantage of power machinery is that fuel oil must be bought and it is very expensive in China. A cheap source of fuel will hasten mechanization. Still another disadvantage of machinery is delay in work caused by its breaking. On the other hand, farmers should be quick to use machinery when it will give them a greater net income.

Farmers should not use power machinery only because it is considered "modern." Farmers cannot afford to gain "face" by using machines if this means increasing expenses greater than the saving in labor costs. By doing this, the farmer will soon lose his farm.

At present, the improved or new types of implements and machines which might prove profitable are as follows. Many other labor-saving devices might be listed.

#### *Preparation of soil*

Improved and larger plows

- (a) Use more and stronger animals per plow and per man
- (b) Better design
- (c) Better wearing quality

- (d) Adaption to kind of soil
- Improved and larger harrows
- (a) More and stronger animals
  - (b) More teeth
  - (c) Longer teeth
  - (d) Teeth adjusted to proper angle

#### *Planting*

Drills (more, better and larger)

#### *Cultivating*

Cultivators (pulled by animals)

Hoes

- (a) With better iron to give a sharper edge
- (b) A longer wearing quality
- (c) Special types better adapted to special uses

#### *Irrigation*

Engines for pumping water (where labor is scarce or where water must be pumped to high levels)

Pumps for hand, animal and mechanical power

#### *Harvesting*

Cradles and simple reapers

Combines should be tried

#### *Threshing and cleaning*

Threshing machines—simple

Corn shellers

Better seed cleaners and graders

#### *Control of insects and diseases*

Simple sprayers and dusters

#### *Processing machines*

Cotton gins

Mills

Oil presses

Tea processing

Power units to operate

The principle to remember is that labor is plentiful in China. The chief need for machinery is (1) to do work that man cannot do, (2) to do work that can be done more cheaply by machinery, (3) to do work more quickly, and (4) to do it sufficiently better to pay for the cost.

### Mechanization of Chinese Agriculture

Some people think that any great immediate improvement in Chinese Agriculture depends upon use of large machinery. Such an idea is a mistake. Because China has a large number of farmers in comparison with the amount of land, labor is cheaper than capital for investment in machines. Use of machinery on most farms in China would increase national production only slightly, or not at all. Large-scale farming with machinery would mean a complete change in the size of farms and in their management. Large-scale farming has so many disadvantages that the cost of production is usually greater than on family-sized farms. Only when China develops her industry, transportation and professions will the farm population decrease. Such a change will take place slowly. This change has begun; and as it develops there will be an increasing labor shortage for some farm operations and a need for labor-saving implements and machinery. Machinery makes possible a large production per capita. A high production per capita increases the farmer's income and raises his standard of living. In a country of dense population, other than farm work must be found to employ farmers who are thrown out of work by the use of machines. It is doubtful if thickly populated countries can use as much farm machinery profitably as can thinly populated countries.

It is advisable for agricultural institutions and manufacturers to study the problem thoroughly and to manufacture and introduce improved types of implements and machinery as rapidly as the farmer can obtain a profit by using them.

### INDICATORS OF PRICE CHANGES<sup>1</sup>

(January to June 1937 = 100)

Items	Number of items or observations	Index numbers		Date Latest month Mo. Yr.	Place
		Previous month	Latest month		
<i>Wholesale prices and cost of living:</i>					
1. Wholesale prices of all commodities	57	192035	205229	10 45	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	182150	194191	10 45	Chengtu
3. Wholesale prices of imported goods	9	502778	580912	10 45	Chengtu
4. Wholesale prices of exported goods	10	98712	99262	10 45	Chengtu
5. Wholesale prices of raw materials	30	150286	152845	10 45	Chengtu
6. Wholesale prices of manufactured producers' goods	11	173020	194495	10 45	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	210724	254600	10 45	Chengtu
8. Wholesale prices in important cities, China					
(1) Kunming, Yunnan (Aug. 1937=100)(a)	141	214208	264269	3 45	
(2) Sian, Shensi (June 1937=100)(b)	70	108407	123915	3 45	
(3) Chungking, Szechwan(c)	94	90399	125003	3 45	
(4) Chengtu, Szechwan	57	108158	122742	3 45	
9. Cost of living	76	151520	171700	10 45	Chengtu
10. Retail prices of seven commodities commonly used	7	136060	175379	10 45	Chengtu
11. Retail prices for 8 cities in China(d)					
(a) Highest: Kunming, Yunnan	25	595037	689372	7 45	
(b) Lowest: Sining, Chinghai	25	107944	148884	7 45	
(1) Kunming, Yunnan	25	595037	689372	7 45	
(2) Kweiyang, Kweichow	25	360016	374461	7 45	
(3) Sian, Shensi	25	267148	300049	7 45	
(4) Yaan, Sikong	25	213456	229818	7 45	
(5) Chungking, Szechwan	25	176279	216257	7 45	
(6) Chengtu, Szechwan	25	170452	212995	7 45	
(7) Lanchow, Kansu	25	122270	167154	7 45	
(8) Sining, Chinghai	25	107944	148884	7 45	

Items	Number of items or observa- tions	Index numbers		Date		Place
		Previous month	Latest month	Latest month	Mo. Yr.	
12. Rent, city residences	100	21412	20656	9	45	Chengtu
13. School tuition (h)						
(1) Primary school	1	20000	70000	9	45	Chengtu
(2) Middle school	1	450	450	9	45	Chengtu
(3) University	1	1000	6000	9	45	Chengtu
<i>City wages (e)</i> (including the value of board)	12	162735	204714	10	45	Chengtu
1. Carpenters	1	160000	180000	10	45	Chengtu
2. Masons	1	160000	180000	10	45	Chengtu
3. Cotton weavers	1	172727	218182	10	45	Chengtu
4. Silk weavers	1	83333	102381	10	45	Chengtu
5. Tailors	1	183333	216667	10	45	Chengtu
6. Barbers	1	238889	400000	10	45	Chengtu
7. Blacksmiths	3	159524	159524	10	45	Chengtu
8. Coppersmiths	3	85207	88956	10	45	Chengtu
9. Maidservants (excluding the value of board)	8	261543	372819	10	45	Chengtu
<i>Salaries:</i>						
1. Professors' salaries (f)	10	24361	22685	10	45	Chengtu
2. Clerks (f)	10	73249	66350	10	45	Chengtu
3. Soldiers' cash allowances	6	64963	64963	10	45	Chengtu
<i>Chinese currency</i>						
1. Purchasing power of <i> yuan</i> in terms of cost of living	-	0.07	0.06	10	45	Chengtu
2. Purchasing power of <i> yuan</i> in terms of wholesale prices of domestic commodities	-	0.05	0.05	10	45	Chengtu
<i>U.S.A. currency</i>						
1. Increase in number of <i> yuan</i> for one US\$ at buying official exchange rate of 20 <i> yuan</i> to one US dollar	-	594	594	10	45	Chengtu
2. Calculated rate of <i> yuan</i> / US\$ exchange (purchasing power parity) on basis of prices of domestic commodi- ties at Chengtu and Statist Index of wholesale prices in U.S.A. (i) (a) actual	- US\$	0.0009	0.0006	5	44	Chengtu
(b) estimated (g)	- US\$	0.0002	0.0002	10	45	Chengtu

Items	Number of items or observa- tions	Index numbers		Date		Place
		Previous month	Latest month	Latest month	Mo. Yr.	
3. Purchasing power of US\$ (a) at official exchange rate in China		0.3	0.3	10	45	Chengtu
(b) actual in U.S.A.	-	82	81	5	44	U.S.A.
4. Wholesale prices of domestic commodities in terms of US\$ at official exchange rate		30675	32703	10	45	Chengtu
5. Wholesale prices in U.S.A.	-	122	124	5	44	U.S.A.
<i>Sterling currency:</i>						
1. Increase in number of <i> yuan</i> for one pound sterling	-	483	483	10	45	Chengtu
2. Calculated <i> yuan</i> / pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Cheng- tu and Statist Index of whole- sale prices in England (i)	-	0.06d	0.06d	3	44	Chengtu
(b) Estimated (g)	-	0.01d	0.01d	10	45	Chengtu
3. Purchasing power of pound sterling (a) at official buying rate in China	-	0.3	0.2	10	45	Chengtu
(b) actual in England	-	67	67	3	44	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the official ex- change rate	-	37665	40155	10	45	Chengtu
5. Wholesale prices in England	-	149	149	3	44	England
<i>Gold and silver:</i>						
1. Price of gold (open market)	1	64268	82732	10	45	Chengtu
2. Price of silver (open market)	1	86803	89322	10	45	Chengtu
3. Wholesale prices of domestic commodities in terms of gold	-	283	235	10	45	Chengtu
4. Wholesale prices of domestic commodities in terms of silver	-	210	217	10	45	Chengtu
<i>Farm prices (4 hsien):</i>						
1. Prices received by farmers (1937=100)	16-22	124417	134850	8	45	Szechwan
2. Farmers' cost of production	-	120189	134512	8	45	Szechwan
3. Prices paid by farmers for						

Items	Number of items or observations		Index numbers		Date Latest month or Mo. Yr.		Place
	or	Previous month	Latest month	Latest month	Mo.	Yr.	
producers' and consumers' goods (1937=100)	17-51	160037	187913	8	45	Szechwan	
4. Prices paid by farmers for producers' goods	16-22	128950	147340	8	45	Szechwan	
5. Prices paid by farmers for consumers' goods	17-29	198618	239667	8	45	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	79	8	45	Szechwan	
7. Crop rent							
(a) paid Oct. '43 and '44	-	14171	39721	10	44	Szechwan	
(b) if paid current month	-	122578	132857	8	45	Szechwan	
8. Land taxes							
(a) paid Oct. '43 and '44	-	10297	31352	10	44	Szechwan	
(b) if paid current month	-	78385	66086	8	45	Szechwan	
9. Farm land value (8 <i>hsien</i> )	-	70033	77132	8	45	Szechwan	
10. Farm year labor (8 <i>hsien</i> )	-	99390	110172	8	45	Szechwan	
11. Farm day labor (8 <i>hsien</i> )	-	161231	213573	8	45	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) Data from Farmers' Bank of China.  
(e) 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, copper-smiths 2.5. The data on wages were supplied by the union or by individuals.  
(f) From one organization.  
(g) Preliminary estimate based on the rate of increase in prices.  
(h) The index in column of previous month is for Autumn 1944.  
(i) The close relation between purchasing power parity rates and actual exchange rates under normal conditions in a free exchange market have been shown in chart form in *Economic Facts* No. 23 under the title "The official exchange rate and price relationships" pp. 212-221. No attempt is made here to predict what the exchange rate would be under present blockade conditions if the foreign exchange market were a free one or what it should be under a pegged rate.

APPENDIX  
TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES  
IN CHENG TU, 1937-OCT. 1945  
Jan. to June 1937=100 (simple geometric average)

Period	Number of commodities	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of <i>yuán</i>
Years:									
1937	57	99	98	102	97	106	99	94	101.1
1938		115	95	136	103	169	106	105	87.0
1939		211	142	290	206	387	200	184	47.4
1940		621	490	806	793	1216	423	478	16.1
1941		1545	1748	1570	2017	2839	1197	952	6.5
1942		4571	3992	5366	5669	9988	3206	3153	2.2
1943		13945	12100	22440	16918	26394	8770	9132	0.7
1944		51468	45929	68965	87422	93140	39510	32141	0.2
1945									
Jan.		92074	77970	123260	180252	148555	54658	68141	0.11
Feb.		108158	99790	144550	186443	163274	71015	76558	0.09
Mar.		122742	117797	157529	208729	194022	81686	83165	0.08
Apr.		149966	147323	224780	229342	246361	95814	92166	0.07
May		185974	166981	264912	281940	306871	126544	126200	0.05
June		195063	160607	244028	295487	353750	138930	145243	0.05
July		252277	195341	369828	313564	445978	141072	210762	0.04
Aug.		268529	205300	320629	364992	475667	184739	233879	0.04
Sept.		192035	146473	183758	303414	355883	173436	163485	0.05
Oct.		205229	171581	246911	336146	315014	153289	164158	0.05



TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-OCT. 1945  
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	109	89
1938	115	109	208	86
1939	211	193	462	161
1940	621	596	1314	386
1941	1545	1599	3309	687
1942	4571	4196	14902	2190
1943	13945	13053	45398	6197
1944	51468	48991	180817	20031
1945				
Jan.	92074	82168	337910	44037
Feb.	108158	99288	360650	50647
Mar.	122742	113921	398127	56510
Apr.	149966	138955	534950	63794
May	185974	168908	614143	91496
June	195063	173016	625786	107775
July	252277	216880	837220	152234
Aug.	268529	239217	733900	169196
Sept.	192035	182150	502778	98712
Oct.	205229	194191	580912	99262

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-OCT. 1945  
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	130	114	121
1939	179	156	169	240	199	221
1940	601	425	523	609	598	604
1941	1448	1154	1322	1318	1555	1420
1942	3468	3391	3437	4115	4526	4295
1943	11658	9110	10563	13775	14571	14120
1944	42770	35397	39653	45283	52576	48431
1945						
Jan.	79542	68040	74726	83556	88024	85538
Feb.	85268	78752	82600	95032	108765	100984
Mar.	96070	87590	92585	106398	129321	116161
Apr.	115345	100607	109208	140686	170542	153411
May	138486	131861	135794	189485	211510	199096
June	146047	138042	142790	207152	207910	207490
July	188074	167242	179450	269594	284694	276288
Aug.	214476	238472	223768	256594	297173	274125
Sept.	146862	155568	150286	173020	210724	189070
Oct.	153317	152143	152845	194495	254600	219550

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-OCT. 1945  
Feb. to June 1937=100 (weighted aggregative by individual classes and weighted geometric average for combined three classes)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	101	105	100
1939	123	145	154	137
1940	388	411	412	402
1941	1594	1410	1341	1468
1942	3164	3422	3570	3343
1943	10019	10752	11402	10574
1944	42018	48053	50296	45898
1945				
Jan.	71996	86580	95770	81958
Feb.	92044	110188	116638	103519
Mar.	101733	133603	133819	119369
Apr.	113046	146816	150784	132488
May	122479	166331	173356	147813
June	115710	168461	180344	146283
July	133300	197754	207769	169527
Aug.	144003	202391	215543	178128
Sept.	121903	174186	181348	151520
Oct.	135065	203996	202624	171700

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-OCT. 1945  
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	141	103	97	114	100.4
1939	137	118	260	109	154	179	72.8
1940	402	387	779	117	566	370	24.9
1941	1468	1705	1731	184	1588	1136	6.8
1942	3143	3280	5846	421	4562	3483	2.9
1943	10574	10141	22140	2110	13829	10457	0.9
1944	45898	41107	83352	6570	77803	50020	0.2
1945							
Jan.	81958	69492	153790	13002	165534	89636	0.12
Feb.	103519	95135	176250	14603	181138	111577	0.10
Mar.	119369	100981	191448	15345	257424	129342	0.08
Apr.	132488	112377	240095	16918	267813	146683	0.08
May	147813	122383	279681	17406	282681	182100	0.07
June	146283	112326	272300	20118	298807	200738	0.07
July	169527	128035	410064	20971	324779	222405	0.06
Aug.	178128	146381	367960	21412	334423	232778	0.06
Sept.	151520	131467	244117	20656	278625	203527	0.07
Oct.	171700	137234	321831	20656	360467	225379	0.06

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHICAGO  
 BY SOCIAL CLASS, 1907-1937  
 (Weighted geometric averages, 1937=100)

Period	Number of commodities	Index	Period	Number of commodities	Index
Oct. 1937	1200	100	Oct. 1907	1170	100
Sept. 1937	1200	100	Sept. 1907	1170	100
Aug. 1937	1200	100	Aug. 1907	1170	100
July 1937	1200	100	July 1907	1170	100
June 1937	1200	100	June 1907	1170	100
May 1937	1200	100	May 1907	1170	100
Apr. 1937	1200	100	Apr. 1907	1170	100
Mar. 1937	1200	100	Mar. 1907	1170	100
Feb. 1937	1200	100	Feb. 1907	1170	100
Jan. 1937	1200	100	Jan. 1907	1170	100

TABLE 3. INDEX NUMBERS OF COST OF LIVING IN CHICAGO  
 GROUPED BY ITEMS, 1907-1937  
 (Weighted geometric averages, 1937=100)

Period	Index	Food	Clothing	Rent	Lighting	Fuel and Miscellaneous	Number of commodities
Oct. 1937	100	100	100	100	100	100	100
Jan. 1937	100	100	100	100	100	100	100
Feb. 1937	100	100	100	100	100	100	100
Mar. 1937	100	100	100	100	100	100	100
Apr. 1937	100	100	100	100	100	100	100
May 1937	100	100	100	100	100	100	100
June 1937	100	100	100	100	100	100	100
July 1937	100	100	100	100	100	100	100
Aug. 1937	100	100	100	100	100	100	100
Sept. 1937	100	100	100	100	100	100	100
Oct. 1907	100	100	100	100	100	100	100
Jan. 1907	100	100	100	100	100	100	100
Feb. 1907	100	100	100	100	100	100	100
Mar. 1907	100	100	100	100	100	100	100
Apr. 1907	100	100	100	100	100	100	100
May 1907	100	100	100	100	100	100	100
June 1907	100	100	100	100	100	100	100
July 1907	100	100	100	100	100	100	100
Aug. 1907	100	100	100	100	100	100	100
Sept. 1907	100	100	100	100	100	100	100
Oct. 1907	100	100	100	100	100	100	100

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# ECONOMIC FACTS

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

No. 51

December 1945

## MAJOR PRICE RELATIONS

(January to June 1937=100)

Items	Number of items	Index numbers		Date		Place
		Prev-ious month	Latest month	Latest month	Mo. Yr.	
1. Wholesale prices of domestic commodities	38	194191	234806	11 45		Chengtu
2. Prices received by farmers (1937=100)	9-13	134850	107615	9 45		Szechwan
3. Cost of living	76	171700	210514	11 45		Chengtu
4. City wages	12	204714	219974	11 45		Chengtu
5. Farm wages (1937=100)	87	134372	126171	9 45		Szechwan
6. Salaries, professors	10	22685	26218	11 45		Chengtu
7. Soldiers' cash allowances	6	64963	64963	11 45		Chengtu
8. Land taxes (1937=100) (b)		10297	31352	10 44		Szechwan
9. Wholesale prices of domestic commodities in terms of silver	38	217	240	11 45		Chengtu
10. Wholesale prices of domestic commodities in terms of gold	38	235	250	11 45		Chengtu
11. Wholesale prices of domestic commodities in terms of US\$						
(1) at official exchange rate	38	32703	39543	11 45		Chengtu
(2) at black market rate	38	426	417	11 45		Chengtu
12. Wholesale prices in U. S. A. (Statist index)	-	122	124	5 44		U.S.A.
13. Wholesale prices in England (Statist index)	-	149	149	3 44		England
14. Purchasing power of farmers	-	79	76	9 45		Szechwan
15. Purchasing power of rice (a)	-	35	38	11 45		Chengtu
16. Freight rates (truck)	1	20547	20547	11 45		Szechwan
17. Monthly commercial loan interest rate per \$1000	1	554	577	11 45		Chengtu

(a) Calculated in terms of wholesale prices of 57 commodities.  
 (b) The index in column of previous month is for October 1943.

ECONOMIC FACTS  
CONTENT

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WEIGHTS AND MEASURES		
One <i>shih</i>	is equivalent to one-third of an English mile	3
One <i>shih tan</i>	is equivalent to 100 liters or 2.8378 American bushels.	3
One <i>shih tou</i>	is one-tenth of a <i>shih tan</i> .	3
One <i>shih shen</i>	is one-tenth of a <i>shih tou</i> .	3
One <i>shih picul</i>	is equivalent to 110.23 pounds avoirdupois.	3
One <i>shih chin</i> (catty)	is equivalent to 11 pounds avoirdupois.	3
The <i>yuán</i> is the Chinese unit of currency. The exchange rate is pegged at 20 <i>yuán</i> to one U.S. dollar and 80 <i>yuán</i> to one pound sterling. The rate has no relation to the price level in China.		

AGRICULTURAL MARKETING IN CHINA

W. M. Curtiss

The Department of Agricultural Economics at the University of Nanking has made notable progress in the fields of farm management, prices, and land economics during the past 25 years. Looking toward the future, it would appear that an increasing amount of attention could well be directed to the field of the marketing of agricultural products.

The history of agricultural education and research in the United States indicates that production has received the greatest amount of attention. This is as it should be. In recent years, more and more attention has been given to distribution. In the United States, when the consumer purchases an agricultural commodity in the market place, half of her dollar goes to the producer of that product and half goes for distribution. The more industrialized a nation becomes, the more important becomes the job of distributing food products.

In a nation which is primarily agricultural, and whose farms are largely of a self-sufficient type, the problems of distribution are of minor importance, but when 20 per cent of a nation's population produces the food for the entire nation, distribution is of paramount importance and the welfare of producers and consumers alike is at stake.

As urbanization and industrialization in a country increase, the reduced farm population is more and more at the mercy of the distribution system. As the economic conditions of the country rise and fall, the farmer's income rises and falls to a much greater extent because the costs of distribution lie between him and the consumer and are relatively fixed. Thus, during a severe depression, the share of the consumer's dollar which the farmer receives may fall from an average of 60 per cent to 30 per cent and result in bankruptcy to the farmer.

The objective of market research should be to improve the welfare of the producer and consumer alike. This can come about, not through the producer getting more of the consumer's dollar at the expense of the distribution agencies, but rather by improving the efficiencies of distribution so that all benefit. The objective should be to eliminate the

waste of human effort and resources to the extent that those in production, distribution and consumption can have more.

As China becomes more highly industrialized and as agricultural production becomes a smaller part of the national economy, distribution of agricultural products will become more and more important; ~~research~~ in marketing should then assume a place of greater importance in the work of a progressive department of agricultural economics.

### INDICATORS OF PRICE CHANGES<sup>1</sup>

(January to June 1937 = 100)

Items	Number of items or observations	Index numbers		Date Latest month		Place
		Previous month	Latest month	Mo.	Yr.	
<i>Wholesale prices and cost of living:</i>						
1. Wholesale prices of all commodities	57	205229	246871	11	45	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	194191	234806	11	45	Chengtu
3. Wholesale prices of imported goods	9	580912	695843	11	45	Chengtu
4. Wholesale prices of exported goods	10	99262	117524	11	45	Chengtu
5. Wholesale prices of raw materials	30	152845	187426	11	45	Chengtu
6. Wholesale prices of manufactured producers' goods	11	194495	224895	11	45	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	254600	296867	11	45	Chengtu
8. Wholesale prices in important cities, China						
(1) Kunming, Yunnan (Aug. 1937 = 100)(a)	141	214208	264269	3	45	
(2) Sian, Shensi (June 1937 = 100)(b)	70	108407	123915	3	45	
(3) Chungking, Szechwan(c)	94	90399	125003	3	45	
(4) Chengtu, Szechwan	57	108158	122742	3	45	
9. Cost of living	76	171700	210514	11	45	Chengtu
10. Retail prices of seven commodities commonly used	7	175379	218606	11	45	Chengtu
11. Retail prices for 7 cities in China(d)						
(a) Highest: Kunming, Yunnan	25	689372	745324	8	45	
(b) Lowest: Sining, Chinghai	25	148884	124306	8	45	
(1) Kunming, Yunnan	25	689372	745324	8	45	
(2) Sian, Shensi	25	300049	281744	8	45	
(3) Yaan, Sikong	25	229818	268461	8	45	
(4) Chungking, Szechwan	25	216257	241638	8	45	
(5) Chengtu, Szechwan	25	212995	226732	8	45	
(6) Lanchow, Kansu	25	167154	161760	8	45	
(7) Sining, Chinghai	25	148884	124306	8	45	

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(3) University	1	1000	6000	9 45		Chengtu
<i>City wages (e)</i> (including the value of board)	12	204714	219974	11 45		Chengtu
1. Carpenters	1	180000	180000	11 45		Chengtu
2. Masons	1	180000	180000	11 45		Chengtu
3. Cotton weavers	1	218182	218182	11 45		Chengtu
4. Silk weavers	1	102381	142857	11 45		Chengtu
5. Tailors	1	216667	233333	11 45		Chengtu
6. Barbers	1	400000	422222	11 45		Chengtu
7. Blacksmiths	3	159524	180952	11 45		Chengtu
8. Coppersmiths	3	88956	119940	11 45		Chengtu
9. Maidservants (excluding the value of board)	8	372819	433976	11 45		Chengtu
<i>Salaries:</i>						
1. Professors' salaries (f)	10	22685	26218	11 45		Chengtu
2. Clerks (f)	10	66550	75302	11 45		Chengtu
3. Soldiers' cash allowances	6	64963	64963	11 45		Chengtu
<i>Chinese currency</i>						
1. Purchasing power of <i>yuan</i> in terms of cost of living	-	0.06	0.05	11 45		Chengtu
2. Purchasing power of <i>yuan</i> in terms of wholesale prices of domestic commodities	-	0.05	0.04	11 45		Chengtu
<i>U.S.A. currency</i>						
1. Increase in number of <i>yuan</i> for one US\$ at buying official exchange rate of 20 <i>yuan</i> to one US dollar	-	594	594	11 45		Chengtu
2. Calculated rate of <i>yuan</i> / US\$ exchange (purchasing power parity) on basis of prices of domestic commodi- ties at Chengtu and Statist Index of wholesale prices in U.S.A. (i) (a) actual	- US\$	0.0009	0.0006	5 44		Chengtu
(b) estimated (g) - US\$		0.0002	0.0002	11 45		Chengtu

Items	Number of items or observa- tions	Index numbers		Date		Place
		Previous month	Latest month	Latest month	Mo. Yr.	
3. Purchasing power of US\$ (a) at official exchange rate in China	-	0.3	0.3	11 45		Chengtu
(b) actual in U.S.A.	-	82	81	5 44		U.S.A.
4. Wholesale prices of domestic commodities in terms of US\$ at official exchange rate	-	32703	39543	11 45		Chengtu
5. Wholesale prices in U.S.A.	-	122	124	5 44		U.S.A.
<i>Sterling currency:</i>						
1. Increase in number of <i>yuan</i> for one pound sterling	-	483	483	11 45		Chengtu
2. Calculated <i>yuan</i> / pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Cheng- tu and Statist Index of whole- sale prices in England (i) (a) Actual	-	0.06d	0.06d	3 44		Chengtu
(b) Estimated (g)	-	0.01d	0.01d	11 45		Chengtu
3. Purchasing power of pound sterling (a) at official buying rate in China	-	0.2	0.2	11 45		Chengtu
(b) actual in England	-	67	67	3 44		England
4. Wholesale prices of domestic commodities in terms of pound sterling at the official ex- change rate	-	40155	48554	11 45		Chengtu
5. Wholesale prices in England	-	149	149	3 44		England
<i>Gold and silver:</i>						
1. Price of gold (open market)	1	82732	93976	11 45		Chengtu
2. Price of silver (open market)	1	89322	98153	11 45		Chengtu
3. Wholesale prices of domestic commodities in terms of gold	-	235	250	11 45		Chengtu
4. Wholesale prices of domestic commodities in terms of silver	-	217	240	11 45		Chengtu
<i>Farm prices (4 hsien):</i>						
1. Prices received by farmers (1937=100)	16-22	134850	107615	9 45		Szechwan
2. Farmers' cost of production	-	134512	115878	9 45		Szechwan
3. Prices paid by farmers for						

Items	Number of items or observations		Index numbers		Date		Place
	or	Previous month	Latest month	Latest month	Mo.	Yr.	
producers' and consumers' goods (1937=100)	17-31	187913	157957	9	45	Szechwan	
4. Prices paid by farmers for producers' goods	16-22	147340	129733	9	45	Szechwan	
5. Prices paid by farmers for consumers' goods	17-29	239667	192317	9	45	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)		79	76	9	45	Szechwan	
7. Crop rent							
(a) paid Oct. '43 and '44	-	14171	39721	10	44	Szechwan	
(b) if paid current month	-	132857	106025	9	45	Szechwan	
8. Land taxes							
(a) paid Oct. '43 and '44	-	10297	31352	10	44	Szechwan	
(b) if paid current month	-	66086	41496	9	45	Szechwan	
9. Farm land value (8 hsien)	-	77132	75497	9	45	Szechwan	
10. Farm year labor (8 hsien)	-	110172	106798	9	45	Szechwan	
11. Farm day labor (8 hsien)	-	213575	186170	9	45	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) Data from Farmers' Bank of China.  
(e) 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, copper-smiths 2.5. The data on wages were supplied by the union or by individuals.  
(f) From one organization.  
(g) Preliminary estimate based on the rate of increase in prices.  
(h) The index in column of previous month is for Autumn 1944.  
(i) The close relation between purchasing power parity rates and actual exchange rates under normal conditions in a free exchange market have been shown in chart form in *Economic Facts* No. 23 under the title "The official exchange rate and price relationships" pp. 212-221. No attempt is made here to predict what the exchange rate would be under present blockade conditions if the foreign exchange market were a free one or what it should be under a pegged rate.

APPENDIX  
TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES  
IN CHENGTU, 1937-NOV. 1945  
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							
Years:								
1937	99	98	102	97	106	99	94	101.1
1938	115	95	136	103	169	106	105	87.0
1939	211	142	290	206	387	200	184	47.4
1940	621	490	806	793	1216	423	478	16.1
1941	1545	1748	1570	2017	2839	1197	952	6.5
1942	4571	3992	5366	5669	9988	3206	3153	2.2
1943	13945	12100	22440	16918	26394	8770	9132	0.7
1944	51468	45929	68965	87422	93140	39510	32141	0.2
1945								
Jan.	92074	77970	123260	180252	148555	54658	68141	0.11
Feb.	108158	99790	144550	186443	163274	71015	76558	0.09
Mar.	122742	117797	157529	208729	194022	81686	83165	0.08
Apr.	149966	147323	224780	229342	246361	95814	92166	0.07
May	185974	166981	264912	281940	306871	126544	126200	0.05
June	195063	160607	244028	295487	353750	138930	145243	0.05
July	252277	195341	369828	313564	445978	141072	210762	0.04
Aug.	268529	205300	320629	364992	475667	184739	23879	0.04
Sept.	192035	146473	183758	303414	355883	173436	163485	0.05
Oct.	205229	171581	246911	336146	315014	153289	164158	0.05
Nov.	246871	217640	308950	432860	376167	165954	186835	0.04

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU  
CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT  
COMMODITIES, 1937-NOV. 1945  
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	109	89
1938	115	109	208	86
1939	211	193	462	161
1940	621	596	1314	386
1941	1545	1599	3309	687
1942	4571	4196	14902	2190
1943	13945	13053	45398	6197
1944	51468	48991	180817	20031
1945				
Jan.	92074	82168	337910	44037
Feb.	108158	99288	360650	50647
Mar.	122742	113921	398127	56510
Apr.	149966	138955	534950	63794
May	185974	168908	614143	91496
June	195063	173016	625786	107775
July	252277	216880	837220	152234
Aug.	268529	239217	733900	169196
Sept.	192035	182150	502778	98712
Oct.	205229	194191	580912	99262
Nov.	246871	234806	695843	117524

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50  
COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION  
IN CHENGTU, 1937-NOV. 1945

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	130	114	121
1939	179	156	169	240	199	221
1940	601	425	523	609	598	604
1941	1448	1154	1322	1318	1555	1420
1942	3468	3391	3437	4115	4526	4295
1943	11658	9110	10563	13775	14571	14120
1944	42770	35397	39653	45283	52576	48431
1945						
Jan.	79542	68040	74726	83556	88024	85538
Feb.	85268	78752	82600	95032	108765	100984
Mar.	96070	87590	92585	106398	129321	116161
Apr.	115345	100607	109208	140686	170542	153411
May	138486	131861	135794	189485	211510	199096
June	146047	138042	142790	207152	207910	207490
July	188074	167242	179450	269594	284694	276288
Aug.	214476	238472	223768	256594	297173	274125
Sept.	146862	155568	150286	173020	210724	189070
Oct.	153317	152143	152845	194495	254600	219550
Nov.	190169	183379	187426	224895	296867	254824

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU  
BY SOCIAL CLASSES, 1937-NOV. 1945  
Feb. to June 1937=100 (weighted aggregative by individual classes and  
weighted geometric average for combined three classes)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	101	105	100
1939	123	145	154	137
1940	388	411	412	402
1941	1594	1410	1341	1468
1942	3164	3422	3570	3343
1943	10019	10752	11402	10574
1944	42018	48053	50296	45898
1945				
Jan.	71996	86580	95770	81958
Feb.	92044	110188	116638	103519
Mar.	101733	133603	133819	119369
Apr.	113046	146816	150784	132488
May	122479	166331	173356	147813
June	115710	168461	180344	146283
July	133300	197754	207769	169527
Aug.	144003	202391	215543	178128
Sept.	121903	174186	181345	151520
Oct.	135065	203996	202624	171700
Nov.	167003	250026	244672	210514

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU  
GROUPED BY ITEMS, 1937-NOV. 1945

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	141	103	97	114	100.4
1939	137	118	260	109	154	179	72.8
1940	402	387	779	117	566	370	24.9
1941	1468	1705	1751	184	1588	1136	6.8
1942	3343	3280	5846	421	4562	3483	2.9
1943	10574	10141	22140	2110	13829	10457	0.9
1944	45898	41107	83352	6570	77803	50020	0.2
1945							
Jan.	81958	69492	153790	13002	165534	89636	0.12
Feb.	103519	95135	176250	14603	181138	111577	0.10
Mar.	119369	100981	191448	15345	257424	129342	0.08
Apr.	132488	112377	240095	16918	267813	146683	0.08
May	147813	122383	279681	17406	282681	182100	0.07
June	146283	112326	272300	20118	298807	200738	0.07
July	169527	128035	410064	20971	324779	222405	0.06
Aug.	178128	146381	367960	21412	334423	232778	0.06
Sept.	151520	131288	244117	20656	278625	203527	0.07
Oct.	171700	137234	321831	20656	360469	225379	0.06
Nov.	210514	161052	407773	20656	517075	242029	0.05



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# ECONOMIC FACTS

DEPARTMENT OF AGRICULTURAL ECONOMICS  
COLLEGE OF AGRICULTURE AND FORESTRY  
UNIVERSITY OF NANKING

CHENG TU, CHINA

No. 52

Jan. 1946

## MAJOR PRICE RELATIONS

(January to June 1937=100)

Items	Number Index numbers				Date	Place
	of items	Prev-ious month	Latest month	Latest month		
1. Wholesale prices of domestic commodities	38	234806	241272	12 45	Chengtu	
2. Prices received by farmers (1937=100)	9-13	107615	117465	10 45	Szechwan	
3. Cost of living	76	210885	202105	12 45	Chengtu	
4. City wages	12	219974	249735	12 45	Chengtu	
5. Farm wages (1937=100)	87	126171	121883	10 45	Szechwan	
6. Salaries, professors	10	26615	29253	12 45	Chengtu	
7. Soldiers' cash allowances	6	64963	64963	12 45	Chengtu	
8. Land taxes (1937=100) (b)		31352	56865	10 45	Szechwan	
9. Wholesale prices of domestic commodities in terms of silver	38	240	292	12 45	Chengtu	
10. Wholesale prices of domestic commodities in terms of gold	38	250	286	12 45	Chengtu	
11. Wholesale prices of domestic commodities in terms of US\$						
(1) at official exchange rate	38	39543	40632	12 45	Chengtu	
(2) at black market rate	38	417	606	12 45	Chengtu	
12. Wholesale prices in U. S. A. (Statist index)	-	122	124	5 44	U.S.A.	
13. Wholesale prices in England (Statist index)	-	149	149	3 44	England	
14. Purchasing power of farmers	-	76	87	10 45	Szechwan	
15. Purchasing power of rice (a)	-	38	37	12 45	Chengtu	
16. Freight rates (truck)	1	20547	20547	12 45	Szechwan	
17. Monthly commercial loan interest rate per \$1000	1	577	577	12 45	Chengtu	

- (a) Calculated in terms of wholesale prices of 57 commodities.  
(b) The index in column of previous month is for October 1944.

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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.

INEQUALITY OF PERSONAL INCOME AND THE TAX POLICY

Inequality of personal income arises from differences between people as to (1) wages and salaries received for their services, (2) the prices received for the land and commodities they sell, (3) the quantity of land, labor and commodities they own, and (4) the rate of appreciation of (1), (2) and (3). In the long run the most important of these causes of inequality is the last named one. During these years of rapid inflation in China, there is great discrepancy between the rate of advance in the prices for commodities and the wages and salaries paid for services. The rate of profit multiplied by the amount of capital owned by an individual gives his profit in *yuan* per year, and that variation in profits is the chief cause of personal inequality at any given time may be seen clearly from the following table:

Table 1. — Percentage Distribution of Total Income by Sources and by Income Classes in Chengtu, June 1941 to May 1942\*

Income classes ( <i>yuan</i> )	Wages and salaries	Profits from business and real estate and interests	Other
1560-2364.9	63	21	16
2365-2502.9	58	30	12
2503-5434.9	67	21	12
5435-8238.9	56	37	7
8239-12489.9	41	48	11
12490-18929.9	23	64	13
18930-28699.9	23	62	15
28700-43509.9	7	91	2
43510-65959.9	4	79	17
65960-99999.9		100	

\*The data were collected by the Department of Agricultural Economics, for a study of cost of living of 347 families in Chengtu. The figures for "Wages and Salaries" include the wartime subsidy, rice subsidy and the value of board and room and bonuses provided by the employer. The gifts from relatives and friends, loans, selling and pawning of belongings, and pensions are grouped under the column of "Other"

With the exception of the lowest income groups, of under 3503 *yuan*, and the highest group, above 43510 *yuan*, included in this table there was a distinct tendency for the percentage of income arising from wages and salaries to fall as the income increased.

The second column in the table represents unearned income, that is to say, the part not coming from personal effort in the form of physical and mental labor. These items under the second column all represent net interest of capital, or profits. Ignoring the lowest income class, the figures in the second column reflect a very pronounced tendency for the percentage of income contributed by profits to increase as the size of income increases. This means that big incomes would not be possible without the private receipt of interest on capital. For example, ninety-one percent of the income of individuals receiving 36105 *yuan* (eighth group) came from profits, which tells one that if profits were eliminated on the average 36105 *yuan* income, that income would be reduced to a mere 3249 *yuan*.

Strictly speaking, wages and salaries are gross incomes because they include cost of production, i.e., necessary living expenses. The income from wages and salaries is designated as earned income in contradistinction to interest and profits which are called unearned income. The tax on earned income should be made lighter than that on unearned income, which is indeed logical because the unearned income is a true net income over and above cost of production; and a tax of a given rate on gross income may be equivalent to a much higher rate on net income. So the more progressive income tax should be adopted to take away income where it is out of all proportion to the effort expended and the services rendered to society by those who receive it.

*Yin-yuen Wang*

## INDICATORS OF PRICE CHANGES

(January to June 1937 = 100)

Items	Number of items or observations	Index numbers		Date Latest month Mo. Yr.	Place
		Previous month	Latest month		
<i>Wholesale prices and cost of living:</i>					
1. Wholesale prices of all commodities	57	246871	245931	12 45	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	234806	241272	12 45	Chengtu
3. Wholesale prices of imported goods	9	695843	578975	12 45	Chengtu
4. Wholesale prices of exported goods	10	117524	120714	12 45	Chengtu
5. Wholesale prices of raw materials	30	187426	197991	12 45	Chengtu
6. Wholesale prices of manufactured producers' goods	11	224895	209252	12 45	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	296867	295286	12 45	Chengtu
8. Wholesale prices in important cities, China					
(1) Kunming, Yunnan (Aug. 1937=100)(a)	141	214208	261269	3 45	
(2) Sian, Shensi (June 1937=100)(b)	70	108407	123915	3 45	
(3) Chungking, Szechwan(c)	94	90399	125003	3 45	
(4) Chengtu, Szechwan	57	108158	122742	3 45	
9. Cost of living	76	210885	202105	12 45	Chengtu
10. Retail prices of seven commodities commonly used	7	218606	203552	12 45	Chengtu
11. Retail prices for 7 cities in China(d)					
(a) Highest: Kunming, Yunnan	25	745324	394271	9 45	
(b) Lowest: Sining, Chinghai	25	124306	64833	9 45	
(1) Kunming, Yunnan	25	745324	394271	9 45	
(2) Yaan, Sikong	25	268461	257177	9 45	
(3) Chungking, Szechwan	25	24168	202702	9 45	
(4) Sian, Shensi	25	281744	190765	9 45	
(5) Chengtu, Szechwan	25	226732	179562	9 45	
(6) Lanchow, Kansu	25	161760	95869	9 45	
(7) Sining, Chinghai	25	124306	64833	9 45	

Items	Number of items	Index numbers		Date		Place
		or Previous observa- tions	Latest month	Latest month	Mo. Yr.	
12. Rent, city residences	100	24039	23903	12	45	Chengtu
13. School tuition (h)						
(1) Primary school	1	20000	70000	9	45	Chengtu
(2) Middle school	1	450	450	9	45	Chengtu
(3) University	1	1000	6000	9	45	Chengtu
<i>City wages (e)</i> (including the value of board)	12	219974	249735	12	45	Chengtu
1. Carpenters	1	180000	200000	12	45	Chengtu
2. Masons	1	180000	200000	12	45	Chengtu
3. Cotton weavers	1	218182	318182	12	45	Chengtu
4. Silk weavers	1	142857	142857	12	45	Chengtu
5. Tailors	1	233333	250000	12	45	Chengtu
6. Barbers	1	422222	466667	12	45	Chengtu
7. Blacksmiths	3	180952	230952	12	45	Chengtu
8. Coppermiths	3	119940	172414	12	45	Chengtu
9. Maidservants (excluding the value of board)	8	433976	453623	12	45	Chengtu
<i>Salaries:</i>						
1. Professors' salaries (f)	10	26615	29253	12	45	Chengtu
2. Clerks (f)	10	83273	87253	12	45	Chengtu
3. Soldiers' cash allowances	6	64963	64963	12	45	Chengtu
<i>Chinese currency</i>						
1. Purchasing power of <i> yuan</i> in terms of cost of living	-	0.05	0.05	12	45	Chengtu
2. Purchasing power of <i> yuan</i> in terms of wholesale prices of domestic commodities	-	0.04	0.04	12	45	Chengtu
<i>U.S.A. currency</i>						
1. Increase in number of <i> yuan</i> for one US\$ at buying official exchange rate of 20 <i> yuan</i> to one US dollar	-	594	594	12	45	Chengtu
2. Calculated rate of <i> yuan</i> / US\$ exchange (purchasing power parity) on basis of prices of domestic commodi- ties at Chengtu and Statist Index of wholesale prices in U.S.A. (i) (a) actual	- US\$	0.0009	0.0006	5	44	Chengtu
(b) estimated (g) - US\$		0.0002	0.0001	12	45	Chengtu

Items	Number of items or observa- tions	Index numbers		Date		Place
		Previous month	Latest month	Latest month	Mo. Yr.	
3. Purchasing power of US\$ (a) at official exchange rate in China	-	0.3	0.2	12	45	Chengtu
(b) actual in U.S.A.	-	82	81	5	44	U.S.A.
4. Wholesale prices of domestic commodities in terms of US\$ at official exchange rate	-	39543	40632	12	45	Chengtu
5. Wholesale prices in U.S.A.	-	122	124	5	44	U.S.A.
<i>Sterling currency:</i>						
1. Increase in number of <i> yuan</i> for one pound sterling	-	483	483	12	45	Chengtu
2. Calculated <i> yuan</i> / pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Cheng- tu and Statist Index of whole- sale prices in England (i)						
(a) Actual	-	0.06d	0.06d	3	44	Chengtu
(b) Estimated (g)	-	0.01d	0.01d	12	45	Chengtu
3. Purchasing power of pound sterling (a) at official buying rate in China	-	0.2	0.2	12	45	Chengtu
(b) actual in England	-	67	67	3	44	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the official ex- change rate	-	48554	49891	12	45	Chengtu
5. Wholesale prices in England	-	149	149	3	44	England
<i>Gold and silver:</i>						
1. Price of gold (open market)	1	93976	84449	12	45	Chengtu
2. Price of silver (open market)	1	93153	82606	12	45	Chengtu
3. Wholesale prices of domestic commodities in terms of gold	-	250	286	12	45	Chengtu
4. Wholesale prices of domestic commodities in terms of silver	-	240	292	12	45	Chengtu
<i>Farm prices (4 hsien):</i>						
1. Prices received by farmers (1937=100)	16-22	107615	117465	10	45	Szechwan
2. Farmers' cost of production	-	115878	125828	10	45	Szechwan
3. Prices paid by farmers for						

Items	Number of items or observation	Index numbers		Date		Place
		Previous month	Latest month	Latest month	Mo. Yr.	
producers' and consumers' goods (1937=100)	17-51	157957	134036	10	45	Szechwan
4. Prices paid by farmers for producers' goods	16-22	129733	155339	10	45	Szechwan
5. Prices paid by farmers for consumers' goods	17-29	192317	152697	10	45	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)		76	87	10	45	Szechwan
7. Crop rent						
(a) paid Oct. '44 and '45		39721	115729	10	45	Szechwan
(b) if paid current month		106025	115729	10	45	Szechwan
8. Land taxes						
(a) paid Oct. '44 and '45		31352	56865	10	45	Szechwan
(b) if paid current month		41498	56865	10	45	Szechwan
9. Farm land value (8 hsien)		75497	100141	10	45	Szechwan
10. Farm year labor (8 hsien)		106798	107625	10	45	Szechwan
11. Farm day labor (8 hsien)		188170	162919	10	45	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) Data from Farmers' Bank of China.  
(e) 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, copper-smiths 2.5. The data on wages were supplied by the union or by individuals.  
(f) From one organization.  
(g) Preliminary estimate based on the rate of increase in prices.  
(h) The index in column of previous month is for Autumn 1944.  
(i) The close relation between purchasing power parity rates and actual exchange rates under normal conditions in a free exchange market have been shown in chart form in *Economic Facts* No. 23 under the title "The official exchange rate and price relationships" pp. 212-221. No attempt is made here to predict what the exchange rate would be under present blockade conditions if the foreign exchange market were a free one or what it should be under a pegged rate.

APPENDIX  
TABLE I. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES  
IN CHENG TU, 1937-DEC. 1945  
Jan. to June 1937=100 (simple geometric average)

Period	Number of commodities	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of yuan
Years:									
1937		99	98	102	97	106	99	94	101.1
1938		115	95	136	103	169	106	105	87.0
1939		211	142	290	206	387	200	184	47.4
1940		621	450	806	793	1216	423	478	16.1
1941		1545	1748	1570	2017	2839	1197	952	6.5
1942		4571	3992	5366	5669	9988	3206	3153	2.2
1943		13945	12100	22440	16918	26394	8770	9132	0.7
1944		51468	45929	68965	87422	93140	39510	32141	0.2
1945		178950	154168	227247	289173	293853	121874	193641	0.06
Jan.		92074	77970	123260	180252	148555	54658	68141	0.11
Feb.		108158	99790	144550	186443	163274	71015	76558	0.09
Mar.		122742	117797	157529	208729	194022	81686	83165	0.08
Apr.		149966	147323	224780	229342	246361	95814	92166	0.07
May		185974	166981	264912	281940	306871	126544	126200	0.05
June		195063	160607	244028	295487	353750	138930	145243	0.05
July		252277	195341	369828	313564	445978	141072	210762	0.04
Aug.		268529	205300	320629	364992	475667	184739	233879	0.04
Sept.		192035	146473	183758	303414	355883	173436	163485	0.05
Oct.		205229	171581	246911	336146	315014	153289	164158	0.05
Nov.		246871	217649	308950	432860	376167	165954	188835	0.04
Dec.		245938	226895	279763	504822	368269	174856	179146	0.04

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU  
CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT  
COMMODITIES, 1937-DEC. 1945  
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	109	89
1938	115	109	208	86
1939	211	193	462	161
1940	621	596	1314	386
1941	1545	1599	3309	687
1942	4571	4196	14902	2190
1943	13945	13053	45398	6197
1944	51468	48991	180817	20031
1945	178950	164489	547213	90038
Jan.	92074	82168	337910	44037
Feb.	108158	99288	360650	50647
Mar.	122742	113921	398127	56510
Apr.	149966	138955	534950	63794
May	185974	168908	614143	91496
June	195063	173016	625786	107775
July	252277	216880	837220	152234
Aug.	268529	239217	733900	169196
Sept.	192035	182150	502778	98712
Oct.	205229	194191	580912	99262
Nov.	240871	234806	695843	117524
Dec.	245938	241272	578975	120714

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50  
COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION  
IN CHENGTU, 1937-DEC. 1945  
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	130	114	121
1939	179	156	169	240	199	221
1940	601	425	523	609	598	604
1941	1448	1154	1322	1318	1555	1420
1942	3468	3391	3437	4115	4526	4295
1943	11658	9110	10563	13775	14571	14120
1944	42770	35397	39653	45283	52576	48431
1945	138977	132587	136387	168154	197905	180946
Jan.	79542	68040	74726	83556	88024	85538
Feb.	85268	78752	82600	95032	108765	100984
Mar.	96070	87590	92585	106398	129321	116161
Apr.	115345	100607	109208	140686	170542	153411
May	138486	131861	135794	189485	211510	199096
June	146047	138042	142790	207152	207910	207490
July	188074	167242	179450	269594	284694	276288
Aug.	214476	238472	223768	256594	297173	274125
Sept.	146862	155568	150286	173020	210724	189070
Oct.	153317	152143	152845	194495	254600	219550
Nov.	190169	183379	187426	224895	296867	254824
Dec.	197727	198391	197991	209252	295286	241811

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU  
BY SOCIAL CLASSES, 1937-DEC. 1945  
Feb. to June 1937=100 (weighted aggregative by individual classes and  
weighted geometric average for combined three classes)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	101	105	100
1939	123	145	154	137
1940	388	411	412	402
1941	1594	1410	1341	1468
1942	3164	3422	3570	3343
1943	10019	10752	11402	10574
1944	42018	48053	50296	45898
1945	120358	166235	171932	146503
Jan.	71996	86580	95770	81958
Feb.	92044	110188	116638	103519
Mar.	101733	133603	133819	119369
Apr.	113046	146816	150784	132488
May	122479	166331	173356	147813
June	115710	168461	180344	146283
July	133300	197754	207769	169527
Aug.	144003	202391	215543	178128
Sept.	121903	174186	181345	151520
Oct.	135251*	204224*	202765*	172612*
Nov.	167523*	250344*	244813*	210885*
Dec.	161413	238153	235017	202150

\*Revised

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU  
GROUPED BY ITEMS, 1937-DEC. 1945  
Feb. to June 1937=100 (weighted geometric average)

Period	General index	Food	Cloth-ing	Rent	Fuel and lighting	Miscel-laneous	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	141	103	97	114	100.4
1939	137	118	260	109	154	179	72.8
1940	402	387	779	117	566	370	24.9
1941	1468	1705	1751	184	1588	1136	6.8
1942	3343	3280	5846	421	4562	3483	2.9
1943	10574	10141	22140	2110	13829	10457	0.9
1944	45898	41107	83352	6570	77803	50020	0.2
1945	146503	119522	271306	18895	300143	176552	0.07
Jan.	81958	69492	153790	13002	165534	89636	0.12
Feb.	103519	95135	176250	14603	181138	111577	0.10
Mar.	119369	100981	191448	15345	257424	129342	0.08
Apr.	132488	112377	240095	16918	267813	146683	0.08
May	147813	122383	279681	17406	282681	182100	0.07
June	146283	112326	272300	20118	298807	200738	0.07
July	169527	128035	410064	20971	324779	222405	0.06
Aug.	178128	146381	367960	21412	334423	232778	0.06
Sept.	151520	131288	244117	20656	278625	203527	0.07
Oct.	172612*	137234	321831	22510*	360469	225379	0.06
Nov.	210885*	161052	407773	24039*	517075	242029	0.05
Dec.	202105	151317	346792	23903	542750	230047	0.05

\*Revised

TABLE 1. INDEX NUMBERS OF COPIES OF LIVING IN CHINA BY SOCIAL CLASS, 1945-1946

Year	Peasants	Workers	Students	Others	Total
1945	100	100	100	100	400
1946	105	105	105	105	420
1947	110	110	110	110	440
1948	115	115	115	115	460
1949	120	120	120	120	480
1950	125	125	125	125	500
1951	130	130	130	130	520
1952	135	135	135	135	540
1953	140	140	140	140	560
1954	145	145	145	145	580
1955	150	150	150	150	600
1956	155	155	155	155	620
1957	160	160	160	160	640
1958	165	165	165	165	660
1959	170	170	170	170	680
1960	175	175	175	175	700
1961	180	180	180	180	720
1962	185	185	185	185	740
1963	190	190	190	190	760
1964	195	195	195	195	780
1965	200	200	200	200	800
1966	205	205	205	205	820
1967	210	210	210	210	840
1968	215	215	215	215	860
1969	220	220	220	220	880
1970	225	225	225	225	900
1971	230	230	230	230	920
1972	235	235	235	235	940
1973	240	240	240	240	960
1974	245	245	245	245	980
1975	250	250	250	250	1000

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Year	Peasants	Workers	Students	Others	Total
1945	100	100	100	100	400
1946	105	105	105	105	420
1947	110	110	110	110	440
1948	115	115	115	115	460
1949	120	120	120	120	480
1950	125	125	125	125	500
1951	130	130	130	130	520
1952	135	135	135	135	540
1953	140	140	140	140	560
1954	145	145	145	145	580
1955	150	150	150	150	600
1956	155	155	155	155	620
1957	160	160	160	160	640
1958	165	165	165	165	660
1959	170	170	170	170	680
1960	175	175	175	175	700
1961	180	180	180	180	720
1962	185	185	185	185	740
1963	190	190	190	190	760
1964	195	195	195	195	780
1965	200	200	200	200	800
1966	205	205	205	205	820
1967	210	210	210	210	840
1968	215	215	215	215	860
1969	220	220	220	220	880
1970	225	225	225	225	900
1971	230	230	230	230	920
1972	235	235	235	235	940
1973	240	240	240	240	960
1974	245	245	245	245	980
1975	250	250	250	250	1000



# ECONOMIC FACTS

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

No. 53

Feb. 1946

## MAJOR PRICE RELATIONS (January to June 1937=100).

Items	Number of items	Index numbers		Date		Place
		Prev- ious month	Latest month	Latest month Mo.	Latest month Yr.	
1. Wholesale prices of domestic commodities	38	241272	240756	1	46	Chengtu
2. Prices received by farmers (1937=100)	9-13	117465	128603	11	45	Szechwan
3. Cost of living	76	202257	203209	1	46	Chengtu
4. City wages	12	229925	223925	1	46	Chengtu
5. Farm wages (1937=100)	87	121883	134112	11	45	Szechwan
6. Salaries, professors	10	29253	28821	1	46	Chengtu
7. Soldiers' cash allowances	6	64963	64963	1	46	Chengtu
8. Land taxes (1937=100) (b)		31352	56865	10	45	Szechwan
9. Wholesale prices of domestic commodities in terms of silver	38	292	290	1	46	Chengtu
10. Wholesale prices of domestic commodities in terms of gold	38	286	283	1	46	Chengtu
11. Wholesale prices of domestic commodities in terms of US\$						
(1) at official exchange rate	38	40632	40545	1	46	Chengtu
(2) at black market rate	38	666	564	1	46	Chengtu
12. Wholesale prices in U. S. A. (Statist index)	-	122	124	5	44	U.S.A.
13. Wholesale prices in England (Statist index)	-	149	149	3	44	England
14. Purchasing power of farmers	-	87	86	11	45	Szechwan
15. Purchasing power of rice (a)	-	37	40	1	45	Chengtu
16. Freight rates (truck)	1	20547	30546	1	46	Szechwan
17. Monthly commercial loan interest rate per \$1000	1	577	385	1	46	Chengtu

- (a) Calculated in terms of wholesale prices of 57 commodities.  
(b) The index in column of previous month is for October 1944.

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## 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.

## CORRELATION ANALYSIS ON FACTORS AFFECTING FARM PROFITS

A farm management survey was made on 37 member-farms of the Shuang Peh Farm Management Association of Hwayang Hsien, Szechwan in the summer of 1945. After a careful analysis of the data obtained the following general description of the farm business and the relationship between various factors and farm profits was apparent.

### *Description of farm studied*

Shuang Peh, a farm village, is located in the hilly area of Hwayang Hsien. Compared with farms on the Chengtu plain the farm in Shuang Peh has a smaller percentage of crop area in rice culture. As Shuang Peh is only two and half miles away from the city of Chengtu, vegetables are extensively grown in this area.

The size of farm area for this study averaged 19 *shih mow* and the cultivated area (crop area) averaged 16 *shih mow* (table 1). A little less than 70 percent of the cultivated area was double cropped. There were 2.5 man workers on each farm, while they worked for a total of 261 ten-hour days. Both work and productive livestock numbered 1.1 animal units and there were 44 animal work units per farm.

The average capital amounted to 788,603 *yuan*. Due to the rapid rise of farm prices, the total farm receipt averaged 998,602 *yuan* and total farm expenses averaged 406,393 *yuan*. The average labor earning for the year studied was 483,348 *yuan*.

Table 1. Size of Farm Business and Profits Per farm, 37 member-farms, Shuang Peh Farm Management Association, Hwayang, 1944-45

Farm area ( <i>Shih mow</i> )	19
Crop area ( " " )	16
Crop <i>mow</i> ( " " )	27
Man-equivalent (Number)	2.5
Man work unit ( " )	261
Animal unit ( " )	1.1
Animal work unit ( " )	44
Average capital ( <i>yuan</i> )	788,603
Farm receipt ( <i>yuan</i> )	998,602
Farm expense ( <i>yuan</i> )	406,393
Labor earning ( <i>yuan</i> )	483,348

Table 2. Coefficient of Correlation, 37 member-farms, Shuang Peh Farm Management Association, Hwayang, 1944-45

a = farm profit (labor earning) b = size of farm (farm area) c = labor efficiency (crop <i>mu</i> per man worker) d = yield of crops (crop index)			
Partial correlation			
Coefficient of zero order	Coefficient of first order	Coefficient of second order	
$r_{ab} = 0.58112$	$r_{ab,c} = 0.57947$ $r_{ab,d} = 0.65216$	$r_{ab,cd} = 0.65097$	
$r_{ac} = 0.08453$	$r_{ac,d} = 0.09395$ $r_{bc,b} = 0.06231$	$r_{ac,bd} = 0.06436$	
$r_{ad} = 0.15813$	$r_{ad,c} = 0.16352$ $r_{ad,b} = 0.39320$	$r_{ad,bc} = 0.39430$	
$r_{bc} = 0.23122$	$r_{bc,d} = 0.22546$ $r_{bc,a} = 0.22466$	$r_{bc,ad} = 0.21736$	
$r_{bd} = -0.25889$	$r_{bd,a} = -0.43653$ $r_{bd,c} = -0.25394$	$r_{bd,ac} = -0.42734$	
$r_{cd} = -0.05311$	$r_{cd,a} = -0.06760$ $r_{cd,b} = 0.00717$	$r_{cd,ab} = 0.03468$	
Multiple correlation			
$R_{a,bc} = 0.58333$ $R_{a,bd} = 0.64885$ $R_{a,cd} = 0.18368$		$R_{a,bcd} = 0.94743$	
$R_{b,cd} = 0.33838$ $R_{b,ac} = 0.60920$ $R_{b,ad} = 0.68111$		$R_{b,acd} = 0.69712$	
$R_{c,ab} = 0.23929$ $R_{c,ad} = 0.10812$ $R_{c,bd} = 0.23132$		$R_{c,abd} = 0.24164$	
$R_{d,ab} = 0.45913$ $R_{d,ac} = 0.17167$ $R_{d,bc} = 0.15898$		$R_{d,abc} = 0.46016$	

*Relation between farm profits and other factors*

1. Partial correlation

a) The coefficient of  $r_{ab} = 0.58112$  indicates that there is a considerable correlation between "a" and "b" variables and there is no such high correlation between "a" and other

variables. In farming if one wants to get the greatest profit one has to increase the size of farm area first.

b)  $r_{ab} < r_{ab,d}$ . This indicates that if "d" variable is eliminated or kept constant the correlation between "a" and "b" will be higher. Variable "a" has a positive correlation with other variables and the coefficient of  $r_{ab}$  should be larger than the coefficient of  $r_{ab,d}$ , but in fact "d" has a negative correlation with "b", as "d" influences the relationship between "a" and "b", so the coefficient of  $r_{ab}$  is smaller than the coefficient of  $r_{ab,d}$ . In other words, the yield of crops accounts for decreasing the relationship between farm profit and size of farm area.

c)  $r_{ac} = 0.08453$  which indicates "a" and "c" has no correlation, or we may say the correlation between farm profit and labor efficiency is indifferent. Even when "b" and "d" are eliminated, the correlation is still low. In a subsistence agricultural country like China, where the size of farm is small, man labor is always wasteful and inefficiently used. To get the greatest profit in farming, labor efficiency is least important.

d)  $r_{ad} = 0.15813$  indicates that there is no correlation between "a" and "d" variables, but judging from  $r_{ad,b} = 0.39430$ , when the factor of farm area is eliminated or kept constant, crop yield has a low positive correlation with farm profit.

2. Multiple correlation

a)  $R_{a,bcd} = 0.94743$  tells that a combination of large farm area, high labor efficiency and high crop yield will result in a high profit in farming. In comparing the coefficients of  $R_{a,bc}$ ,  $R_{a,bd}$ , and  $R_{a,cd}$ , it is clearly understood that a combination of large size and high yield is better than a combination of large size and high labor efficiency, because the former has a higher correlation with farm profit than the latter. A high labor efficiency and high crop yield may result in a higher farm profit in other localities or other countries, but it is not true for the farms in Shuang Peh.

In conclusion, among the three independent factors (variables) which affect farm profit, size of farm is the most important of all and crop yield is next, while labor efficiency is least important. One must realize that to increase the size of farm area is most profitable and most important at the present time in China.

A small farm can not use the farm labor more efficiently. High crop yield will be beneficial to the large farms much

more than to small farms. In order to get high profits in farming, a large size of farm area, with high crop yield and high labor efficiency are necessary.

R. T. Tsui

INDICATORS OF PRICE CHANGES

(January to June 1937 = 100)

Items	Number of items or observations	Index numbers		Date Latest month Mo. Yr.	Place
		Previous month	Latest month		
<i>Wholesale prices and cost of living:</i>					
1. Wholesale prices of all commodities	57	245938	249861	1 46	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	241272	240756	1 46	Chengtu
3. Wholesale prices of imported goods	9	578975	562457	1 46	Chengtu
4. Wholesale prices of exported goods	10	120714	138622	1 46	Chengtu
5. Wholesale prices of raw materials	30	197991	198968	1 46	Chengtu
6. Wholesale prices of manufactured producers' goods	11	209252	217340	1 46	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	295286	304041	1 46	Chengtu
8. Wholesale prices in important cities, China					
(1) Kunming, Yunnan (Aug. 1937=100)(a)	141	214208	264269	3 45	
(2) Sian, Shensi (June 1937=100)(b)	70	108407	123915	3 45	
(3) Chungking, Szechwan(c)	94	90399	125003	3 45	
(4) Chengtu, Szechwan	57	108158	122742	3 45	
9. Cost of living	76	202257	203209	1 46	Chengtu
10. Retail prices of seven commodities commonly used	7	203552	219213	1 46	Chengtu
11. Retail prices for 7 cities in China(d)					
(a) Highest: Kunming, Yunnan	25	394271	454765	10 45	
(b) Lowest: Sining, Chinghai	25	64833	96172	10 45	
(1) Kunming, Yunnan	25	394271	454765	10 45	
(2) Yaan, Sikong	25	257177	250447	10 45	
(3) Chungking, Szechwan	25	202702	210667	10 45	
(4) Chengtu, Szechwan	25	179562	208490	10 45	
(5) Sian, Shensi	25	190765	192949	10 45	
(6) Lanchow, Kansu	25	95869	104633	10 45	
(7) Sining, Chinghai	25	64833	96172	10 45	

Items	Number of items or observa- tions	Index numbers		Date		Place
		Previous month	Latest month	Latest month	Mo. Yr.	
12. Rent, city residences	100	24039	23903	12	45	Chengtu
13. School tuition (h)						
(1) Primary school	1	20000	70000	9	45	Chengtu
(2) Middle school	1	450	450	9	45	Chengtu
(3) University	1	1000	6000	9	45	Chengtu
<i>City wages (e)</i> (including the value of board)	12	223925*	223925	1	46	Chengtu
1. Carpenters	1	200000	200000	1	46	Chengtu
2. Masons	1	200000	200000	1	46	Chengtu
3. Cotton weavers	1	172727	172727	1	46	Chengtu
4. Silk weavers	1	130952	130952	1	46	Chengtu
5. Tailors	1	233333	233333	1	46	Chengtu
6. Barbers	1	433333	433333	1	46	Chengtu
7. Blacksmiths	3	192857	192857	1	46	Chengtu
8. Coppersmiths	3	157421	157421	1	46	Chengtu
9. Maidservants (excluding the value of board)	8	450623	534125	1	46	Chengtu
<i>Salaries:</i>						
1. Professors' salaries (f)	10	29253	28821	1	46	Chengtu
2. Clerks (f)	10	87255	89997	1	46	Chengtu
3. Soldiers' cash allowances	6	64963	64963	1	46	Chengtu
<i>Chinese currency</i>						
1. Purchasing power of <i> yuan</i> in terms of cost of living	-	0.05	0.05	1	46	Chengtu
2. Purchasing power of <i> yuan</i> in terms of wholesale prices of domestic commodities	-	0.04	0.04	1	46	Chengtu
<i>U.S.A. currency</i>						
1. Increase in number of <i> yuan</i> for one US\$ at buying official exchange rate of 20 <i> yuan</i> to one US dollar	-	594	594	1	46	Chengtu
2. Calculated rate of <i> yuan</i> / US\$ exchange (purchasing power parity) on basis of prices of domestic commodi- ties at Chengtu and Statist Index of wholesale prices in U.S.A. (i) (a) actual	- US\$	0.0009	0.0006	5	44	Chengtu
(b) estimated (g)	- US\$	0.0001	0.0001	1	46	Chengtu

\*Revised

Items	Number of items or observa- tions	Index numbers		Date		Place
		Previous month	Latest month	Latest month	Mo. Yr.	
3. Purchasing power of US\$ (a) at official exchange rate in China	-	0.2	0.2	1	46	Chengtu
(b) actual in U.S.A.	-	82	81	5	44	U.S.A.
4. Wholesale prices of domestic commodities in terms of US\$ at official exchange rate	-	40632	40545	1	46	Chengtu
5. Wholesale prices in U.S.A.	-	122	124	5	44	U.S.A.
<i>Sterling currency:</i>						
1. Increase in number of <i> yuan</i> for one pound sterling	-	483	483	1	46	Chengtu
2. Calculated <i> yuan</i> / pound sterling rate of exchange (purchasing power parity) on basis of prices of domestic commodities at Cheng- tu and Statist Index of whole- sale prices in England (i)	-					
(a) Actual	-	0.06d	0.06d	3	44	Chengtu
(b) Estimated (g)	-	0.01d	0.01d	1	46	Chengtu
3. Purchasing power of pound sterling						
(a) at official buying rate in China	-	0.2	0.2	1	46	Chengtu
(b) actual in England	-	67	67	3	44	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the official ex- change rate	-	49891	49784	1	46	Chengtu
5. Wholesale prices in England	-	149	149	3	44	England
<i>Gold and silver:</i>						
1. Price of gold (open market)	1	81449	85122	1	46	Chengtu
2. Price of silver (open market)	1	82608	83110	1	46	Chengtu
3. Wholesale prices of domestic commodities in terms of gold	-	286	283	1	46	Chengtu
4. Wholesale prices of domestic commodities in terms of silver	-	292	290	1	46	Chengtu
<i>Farm prices (4 hsien):</i>						
1. Prices received by farmers (1937=100)	16-22	117465	128603	11	45	Szechwan
2. Farmers' cost of production	-	125828	136531	11	45	Szechwan
3. Prices paid by farmers for						

Items	Number of items	Index numbers		Date Latest		Place
		or Previous month	Latest month	Mo.	Yr.	
producers' and consumers' goods (1937=100)	17-51	134038	170335	11	45	Szechwan
4. Prices paid by farmers for producers' goods	16-22	155389	163265	11	45	Szechwan
5. Prices paid by farmers for consumers' goods	17-29	152697	177710	11	45	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)	-	87	86	11	45	Szechwan
7. Crop rent	-					
(a) paid Oct. '44 and '45	-	39721	115729	10	45	Szechwan
(b) if paid current month	-	115729	126702	11	45	Szechwan
8. Land taxes	-					
(a) paid Oct. '44 and '45	-	31352	56865	10	45	Szechwan
(b) if paid current month	-	56865	72234	11	45	Szechwan
9. Farm land value (8 hsien)	-	100141	100141	11	45	Szechwan
10. Farm year labor (8 hsien)	-	107625	118962	11	45	Szechwan
11. Farm day labor (8 hsien)	-	162919	177396	11	45	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) Data from Farmers' Bank of China.  
(e) 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, copper-smiths 2.5. The data on wages were supplied by the union or by individuals.  
(f) From one organization.  
(g) Preliminary estimate based on the rate of increase in prices.  
(h) The index in column of previous month is for Autumn 1944.  
(i) The close relation between purchasing power parity rates and actual exchange rates under normal conditions in a free exchange market have been shown in chart form in *Economic Facts* No. 23 under the title "The official exchange rate and price relationships" pp. 212-221. No attempt is made here to predict what the exchange rate would be under present blockade conditions if the foreign exchange market were a free one or what it should be under a pegged rate.

APPENDIX  
TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES  
IN CHENGTU, 1937-JAN. 1946  
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	98	102	97	106	99	94	101.1
1938	115	95	136	103	169	106	105	87.0
1939	211	142	290	206	387	200	184	47.4
1940	621	450	806	793	1216	423	478	16.1
1941	1545	1748	1570	2017	2839	1197	952	6.5
1942	4571	3992	5366	5669	9988	3206	3153	2.2
1943	13945	12100	22440	16918	26394	8770	9132	0.7
1944	51468	45929	68965	87422	93140	39510	92141	0.2
1945	178950	154168	227247	289173	293853	121874	133641	0.06
1946								
Jan.	249861	233353	283810	456960	338277	177563	197196	0.04

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-JAN. 1946

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	109	89
1938	115	109	208	86
1939	211	193	462	161
1940	621	596	1314	386
1941	1545	1599	3309	687
1942	4571	4196	14902	2190
1943	13945	13053	45398	6197
1944	51468	48991	180817	20031
1945	178950	164489	547213	90038
1946				
Jan.	249861	240756	562457	138622

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-JAN. 1946

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	130	114	121
1939	179	156	169	240	199	221
1940	601	425	523	609	598	604
1941	1448	1154	1322	1318	1555	1420
1942	3468	3391	3437	4115	4526	4295
1943	11658	9110	10563	13775	14571	14120
1944	42770	35397	39653	45283	52576	48431
1945	138977	132587	136387	168154	197905	180946
1946						
Jan.	195030	205023	198968	217340	304041	252782

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-JAN. 1946

Feb. to June 1937=100 (weighted aggregative by individual classes and weighted geometric average for combined three classes)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	101	105	100
1939	123	145	154	137
1940	388	411	412	402
1941	1594	1410	1341	1468
1942	3164	3422	3570	3343
1943	10019	10752	11402	10574
1944	42018	48053	50296	45898
1945	120372*	166242*	171940*	146514*
1946				
Jan.	165206	237509	231585	203209

\*Revised.

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-JAN. 1946

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	141	103	97	114	100.4
1939	137	118	260	109	154	179	72.8
1940	402	387	779	117	566	370	24.9
1941	1468	1705	1751	184	1588	1136	6.8
1942	3343	3280	5846	421	4562	3483	2.9
1943	10574	10141	22140	2110	13829	10457	0.9
1944	45898	41107	83352	6570	77803	50020	0.2
1945	146514*	119522	271306	18895	300143	176648*	0.07
1946							
Jan.	203209	154564	357350	23903	535200	227637	0.05

\*Revised.

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# ECONOMIC FACTS

DEPARTMENT OF AGRICULTURAL ECONOMICS

COLLEGE OF AGRICULTURE AND FORESTRY

UNIVERSITY OF NANKING

CHENGTU, CHINA

No. 54.

Mar. 1946

## MAJOR PRICE RELATIONS (January to June 1937=100)

Items	Number of items	Index numbers		Date		Place
		Prev-ious month	Latest month	Latest month	Mo. Yr.	
1. Wholesale prices of domestic commodities	38	240756	279898	2 46		Chengtu
2. Prices received by farmers (1937=100)	9-13	128603	132834	12 45		Szechwan
3. Cost of living	76	203209	230300	2 46		Chengtu
4. City wages	12	223925	218795	2 46		Chengtu
5. Farm wages (1937=100)	87	137177	143777	12 45		Szechwan
6. Salaries, professors	10	28821	30419	2 46		Chengtu
7. Soldiers' cash allowances	6	64963	64963	2 46		Chengtu
8. Land taxes (1937=100) (b)		31352	56865	10 45		Szechwan
9. Wholesale prices of domestic commodities in terms of silver	38	290	284	2 46		Chengtu
10. Wholesale prices of domestic commodities in terms of gold	38	283	216	2 46		Chengtu
11. Wholesale prices of domestic commodities in terms of US\$	38	504	508	2 46		Chengtu
12. Wholesale prices in U. S. A. (Statist index)	-	122	124	5 44		U.S.A.
13. Wholesale prices in England (Statist index)	-	149	149	3 44		England
14. Purchasing power of farmers	-	85	84	12 45		Szechwan
15. Purchasing power of rice (a)	-	40	42	2 46		Chengtu
16. Freight rates (truck)	1	30546	30546	2 46		Szechwan
17. Monthly commercial loan interest rate per \$1000	1	385	538	2 46		Chengtu

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

(b) The index in column of previous month is for October 1944.

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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.

LAND CLASSIFICATION IN SHUANG-LIU HSIEN,  
SZECHWAN

Shuang-liu Hsien is located on the Chengtu plain with the neighboring *hsien* of Tsung Ching to the west, Hwa Yang to the east, Hsin Tsin to the south and Wenkiang and Chengtu to the north. It resembles a rectangle in shape as the distance from north to south is relatively longer than from east to west. The whole area is covered by rivers and streams which greatly facilitate irrigation of agricultural lands and transshipping for farm products.

1. *Definition of terms and the classification of land in Shuang-liu.*

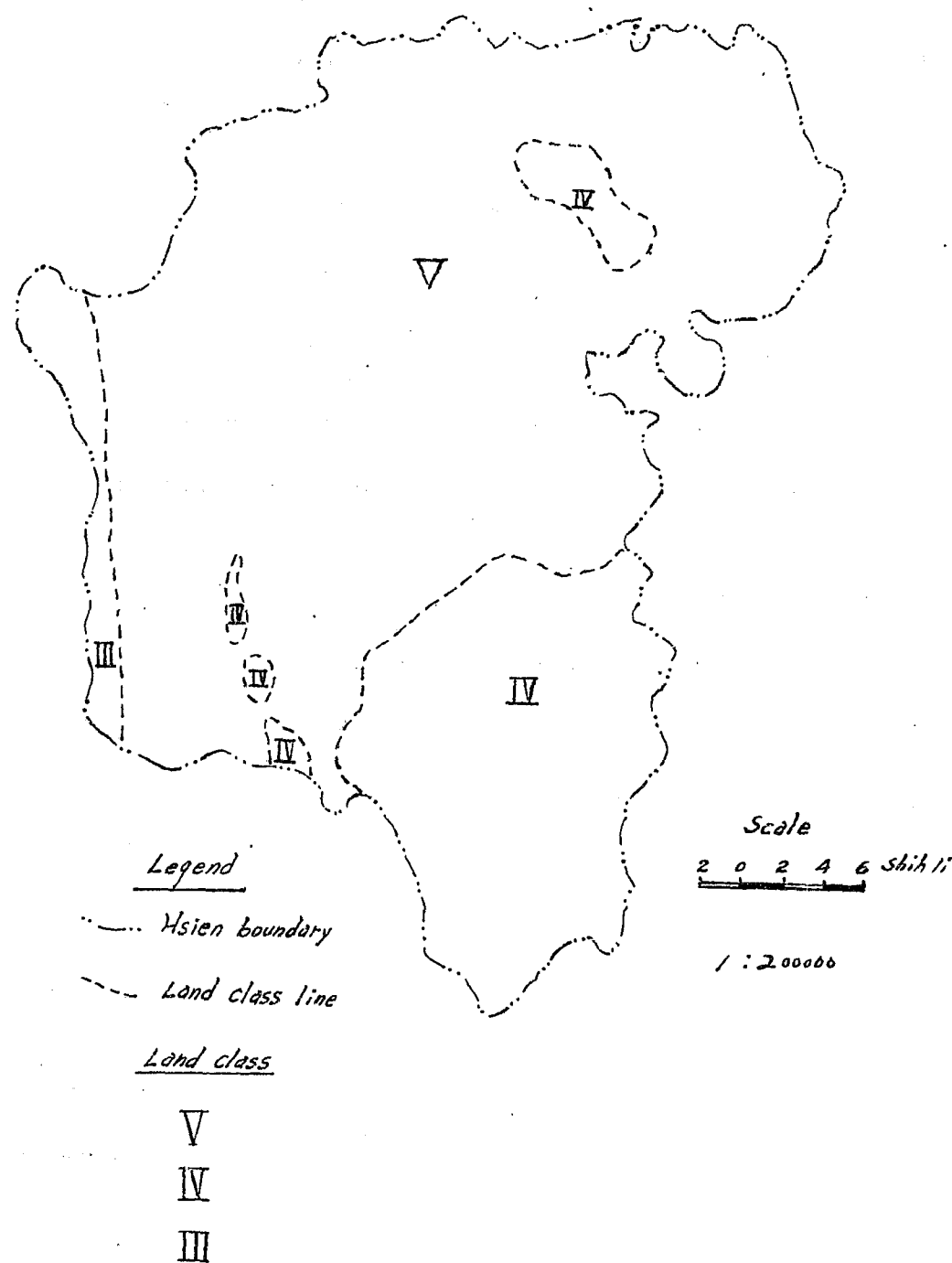
In the land classification study of Szechwan, all lands are supposed to be classified into seven groups, namely I, II, III, IV, V, O and X. Class I land is used primarily for growing grass and trees, being best adapted to forests. Class II land is poor farming area with a large proportion of the land lying idle; it is better suited to the growing of forests than to agriculture. Class III, IV and V land are areas utilized for farming, but the highest productivity is found on class V, class IV being next in this respect and class III the least productive of the three kinds of land. Class O land is low and wet and is often submerged. If it is without artificial improvement such as ditching and drainage, it can not be used either for growing forests or farming, but only for weeds and rushes. Class X land is any area such as bare rock and sand dune which can not be utilized at all.

The land of Shuang-liu was classified into three groups, namely classes V, IV and III. The area of class V land amounts to 71.7% of the total land area, about 880 square *shih li*; that of class IV land 306 square *shih li*, and class III land 40 square *shih li*.

2. *General characteristics of the three classes of land.*

(1) Soils—The soils of Shuang-liu Hsien were classified into seven types, namely: clay, clay loam, loamy clay, silty clay loam, silt loam, loam and sandy loam. Among these, silty clay loam and loamy clay are the most fertile soils and suitable for growing rice; the sandy loam is the poorest soil. There is 39 per cent of the land class V area is loamy clay,

Land Classes in Shuang-liu Hsien, Szechwan



while 76.7 per cent of the area in land class IV is loamy clay. In land class III the whole area is sandy loam.

According to the farmers, soils were classified in four groups, namely: *Yu-sha* soil, *Ni* soil, *Sha* soil and *Sha-sha* soil. In most cases, *Yu-sha* soil consists of loamy clay and silty clay loam, *Ni* soil consists of clay and clay loam, *Sha* soil consists of loam and loam clay, and *Sha-sha* soil is mostly sandy loam.

(2) Land Utilization

a) Uncultivated land—The total uncultivated land amounts to 20.3% of the entire *Hsien* area. The percentage varies from 14.5% in class IV land, and 22.2% in class V land to 67.2% in class III land. Fifteen per cent of the whole uncultivated land area is estimated to be cultivable. Most of the uncultivated land is used for growing trees and shrubs, and other purposes such as graves, rivers, roads, ditches and farmsteads.

b) Cultivated land—Most of the cultivated land in Shuang-liu is used for growing field crops. The percentage of crop area is greatest for winter crops, being 84.1%, and for spring crops 15.9%, fall crops 0.1%. Summer crops have the same percentage as winter crops. The index of double cropping offers a good measure of the efficiency of land utilization. The said index for class V land is 192.3 as compared to 170.7 per cent in class IV and 110.6 per cent in class III. The higher the land class, the larger is the index of double cropping.

Taking the *Hsien* as a whole, rapeseed, field pea, broad bean, wheat and vetch are the important winter crops, but in class V land, rapeseed is the most important of all, and in class IV land wheat is the important winter crop. Class III land is less productive and the percentage of crop area for winter crops is very low.

Rice is the only important spring crop in land class V and III, while in land class IV, peanuts occupies the largest area, corn the next, and rice has the smallest area of all.

Summer crops are numerous, namely rice, corn, sweet potato, cotton, soybean, *kaoliang* and other vegetable crops. In land class V, rice is the only important summer crop

while in land class IV and III, corn is the most important crop. The fall crop in land class V and IV is buckwheat.

(3) Crop yield—Crop yield is an important indicator of quality of land, since in fact the higher the crop yield, the better is the land. The yield of different crops varies according to the class of land. The yield of wheat per *shih mow* amounted to 177 *shih* catties in land class V as compared with 130 *shih* catties in land class IV. The yield of rapeseed is high in land class V and lower in class III. Other crops show the same relationship as wheat and rapeseed.

#### (4) Factors influencing the crop yield

a) Use of fertilizer—The kind of fertilizer used for different crops does not differ widely. Rapeseed cakes, night soil, and ashes are commonly used for wheat and rapeseed, and stable manure is used for rice in addition to the above mentioned kinds. The amount of fertilizer applied to the crop is increased with the grade of land. That is the higher the class of land, the larger is the amount of fertilizer used. The fertilizers used for wheat in class V land per *mow* are 264 catties of night soil, 1,345 catties of ashes, and 5 catties of rapeseed cakes; for class IV land only 195 catties of night soil, and 1,186 catties of ashes. Fertilizers for other crops also show the same relationship.

b) Irrigation—Land in Shuang-liu is classified according to the condition of irrigation; namely irrigated land, irrigated terraced land, non-irrigated land, and non-irrigated terraced land. In land class V there is 81.2 per cent of land area of irrigated land, 18.9 per cent of irrigated terraced land and only 0.5 per cent of non-irrigated land. In land class IV, 41.8 per cent is irrigated land, 39.2 per cent irrigated terraced land, 15.2 per cent non-irrigated land and 3.8 per cent non-irrigated terraced sloping land. While in land class III 25 per cent of the land area is irrigated land and 75 per cent is non-irrigated land.

In irrigating the land, farmers only open a small hole of the field ditch and the water flows naturally into the field. When water is sufficient the farmers may stop the hole. This is the most convenient method of irrigating on the Chengtu plain.

c) Crop Failure—Natural calamities influence greatly the crop yield. Due to the good irrigation and drainage system of Shuang-liu, the area can easily avoid either flood or drought. Class IV land is more hilly and drought sometimes does a little harm. Class III land was sometimes flooded because of the sudden rise of the river water level in the summer, but the damage is insignificant.

(5) Land Value—The land value per *shih mow* for the year 1939 is highest for irrigated land, being 151.4 *yuan*; as compared to 110.9 *yuan* for irrigated terraced land, 29.5 *yuan* for non-irrigated land, and 35.6 *yuan* for non-irrigated terraced land. Comparing the land value in different land classes, the land value per *shih mow* in the spring of 1939 amounted to 149.3 *yuan* in land class V, 85.9 *yuan* in land class IV and 46.9 *yuan* in land class III. The higher the class of land, the higher is the land value.

(6) Land Tax—Land tax in Shuang-liu is calculated in terms of present currency per tael. It is levied four times in a year. For the year 1938, land tax of irrigated land per *shih mow* for class V land was 2.6 *yuan*; class IV 1.22 *yuan* and class III 1.88 *yuan*. The average land tax was 2.24 *yuan*.

(7) Percentage of Tenants—Land tenancy is still related to the fertility of land, for the better and fertile land does not only support the tenant who farms the land, but also can support the landlord who owns the land. In most cases the larger percentage of tenants is always on the better and fertile land area. In Shuang-liu the farmers who are owners constitute about 19 per cent of the total farmers, part owner 19.9 per cent and tenant 61.6 per cent. There are 70 per cent of the farmers who are tenants in land class V as compared with 45 per cent in land class IV and 21.9 per cent in land class III.

(8) Wealth of Farmers The scope of wealth here quoted includes such items as farm building, farm implements, household implements, livestock and clothes. Land value is excluded because much of the land belongs to the land lord.

The wealth of farms for the spring of 1939 was 450 *yuan* for the *Hsien* average, and it varies from 509 *yuan* in

class V land to 328 yuan in class IV land and 78 yuan in class III land.

### 3. Summary and Recommendations

Shuang-liu Hsien may be considered a typical area adapted to agricultural production due to its convenient system of irrigation, topography, and suitable climate. The land was divided into three classes namely III, IV and V in accordance with its differential degree of fertility and social economic conditions. The percentage of uncultivated land is higher in the low land class, while the index of double cropping is higher in the higher class of land.

The main crops of Shuang-liu are rice, rapeseed, wheat, and corn.

Many economic conditions vary in accordance with grades of land. The amount of rent, land value, land tax, crop yield, per cent of irrigated land, wealth of farmers and so on were all higher in class V land than in class IV, and in class IV than in class III.

For the future economic improvements, such as road construction, utilization of water power, development of weaving industry, and other rural reconstruction should be emphasized and started first in the higher class of land since it will easily bring good results. As to tax revision on land, the rate should be so adjusted as to fit the grade of land. The higher class of land should bear a higher rate of land tax due to the greater income derived from it. If stated in local names of soil, the tax rate should follow the given order—*Yu-sha* soil, *Ni* soil, *Sha* soil and *Sha-sha* soil. Irrigated land should pay higher tax than non-irrigated or terraced land. Such is the way that land classification may lead to a reasonable adjustment of land taxation under study.

R.T. Tsui Written about March 1940

## INDICATORS OF PRICE CHANGES

(January to June 1937 = 100)

Items	Number of items or observations	Index numbers		Date Latest month Mo. Yr.	Place
		Previous month	Latest month		
<i>Wholesale prices and cost of living:</i>					
1. Wholesale prices of all commodities	57	249861	287900	2 46	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	33	240756	273838	2 46	Chengtu
3. Wholesale prices of imported goods	9	562457	635571	2 46	Chengtu
4. Wholesale prices of exported goods	10	138622	163736	2 46	Chengtu
5. Wholesale prices of raw materials	30	198968	229953	2 46	Chengtu
6. Wholesale prices of manufactured producers' goods	11	217340	242018	2 46	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	301041	366475	2 46	Chengtu
8. Wholesale prices in important cities, China					
(1) Kunming, Yunnan (Aug. 1937=100)(a)	141	214208	264269	3 45	
(2) Sian, Shensi (June 1937=100)(b)	70	108407	123915	3 45	
(3) Chungking, Szechwan(c)	94	90399	125023	3 45	
(4) Chengtu, Szechwan	57	108158	122742	3 45	
9. Cost of living	76	203209	230300	2 46	Chengtu
10. Retail prices of seven commodities commonly used	7	219213	254130	2 46	Chengtu
11. Retail prices for 7 cities in China(d)					
(a) Highest: Kunming, Yunnan	25	394271	454765	10 45	
(b) Lowest: Sining, Chinghai	25	64833	96172	10 45	
(1) Kunming, Yunnan	25	394271	454765	10 45	
(2) Yaan, Sikong	25	257177	250447	10 45	
(3) Chungking, Szechwan	25	202702	210667	10 45	
(4) Chengtu, Szechwan	25	179562	208490	10 45	
(5) Sian, Shensi	25	190765	192949	10 45	
(6) Lanchow, Kansu	25	95869	104633	10 45	
(7) Sining, Chinghai	25	64833	96172	10 45	

Items	Number of items or observations	Index numbers		Date Latest month		Place
		or Previous month	Latest month	Mo.	Yr.	
12. Rent, city residences	100	24039	23903	12	45	Chengtu
13. School tuition (h)						
(1) Primary school	1	20000	70000	9	45	Chengtu
(2) Middle school	1	450	450	9	45	Chengtu
(3) University	1	1000	6000	9	45	Chengtu
City wages (e)	12	223925	218795	2	46	Chengtu
(including the value of board)						
1. Carpenters	1	200000	180000	2	46	Chengtu
2. Masons	1	200000	180000	2	46	Chengtu
3. Cotton weavers	1	172727	200000	2	46	Chengtu
4. Silk weavers	1	130952	114288	2	46	Chengtu
5. Tailors	1	233333	233333	2	46	Chengtu
6. Barbers	1	433333	466667	2	46	Chengtu
7. Blacksmiths	3	192857	192857	2	46	Chengtu
8. Coppermiths	3	157421	164918	2	46	Chengtu
9. Maidservants	8	534125	422849	2	46	Chengtu
(excluding the value of board)						
Salaries:						
1. Professors' salaries (f)	10	28821	30419	2	46	Chengtu
2. Clerks (f)	10	89997	95395	2	46	Chengtu
3. Soldiers' cash allowances	6	64963	64963	2	46	Chengtu
Chinese currency						
1. Purchasing power of yuan in terms of cost of living	-	0.05	0.04	2	46	Chengtu
2. Purchasing power of yuan in terms of wholesale prices of domestic commodities	-	0.04	0.04	2	46	Chengtu
U.S.A. currency						
1. Increase in number of yuan for one US\$ at buying market exchange rate	-	42653	53907	2	46	Chengtu
2. Calculated 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. (i) (a) actual	- US\$	0.0009	0.0006	5	44	Chengtu
(b) estimated (g) - US\$	0.0001	0.0001	2	46	Chengtu	

Items	Number of items or observations	Index numbers		Date Latest month		Place
		or Previous month	Latest month	Mo.	Yr.	
3. Purchasing power of US\$ (a) at market exchange rate in China	-	18	20	2	46	Chengtu
(b) actual in U.S.A.	-	82	81	5	44	U.S.A.
4. Wholesale prices of domestic commodities in terms of US\$ at market exchange rate	-	564	508	2	46	Chengtu
5. Wholesale prices in U.S.A.	-	122	124	5	44	U.S.A.
Sterling currency:						
1. Increase in number of yuan for one pound sterling (i)	-	31750	<sup>23</sup> 34915	2	46	Chengtu
2. Calculated 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	-	0.06d	0.06d	3	44	Chengtu
(a) Actual	-	0.01d	0.01d	2	46	Chengtu
(b) Estimated (g)	-	0.01d	0.01d	2	46	Chengtu
3. Purchasing power of pound sterling (a) at market exchange rate in China	-	14	16	2	46	Chengtu
(b) actual in England	-	67	67	3	44	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the market exchange rate	-	693	624	2	46	Chengtu
5. Wholesale prices in England	-	149	149	3	44	England
Gold and silver:						
1. Price of gold (open market)	1	85122	126992	2	46	Chengtu
2. Price of silver (open market)	1	83110	96261	2	46	Chengtu
3. Wholesale prices of domestic commodities in terms of gold	-	283	216	2	46	Chengtu
4. Wholesale prices of domestic commodities in terms of silver	-	290	284	2	46	Chengtu
Farm prices (4 hsien):						
1. Prices received by farmers (1937=100)	16-22	128603	132834	12	45	Szechwan
2. Farmers' cost of production	-	137460*	145786	12	45	Szechwan
3. Prices paid by farmers for						

\*Revised

Items	Number of items	Index numbers		Date Latest month		Place
		or Previous month	Latest month	Mo.	Yr.	
producers' and consumers' goods (1937=100)	17-51	170335	183129	12	45	Szechwan
4. Prices paid by farmers for producers' goods	16-22	163265	180179	12	45	Szechwan
5. Prices paid by farmers for consumers' goods	17-29	177710	180062	12	45	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)	-	83*	84	12	45	Szechwan
7. Crop rent	-					
(a) paid Oct. '44 and '45	-	39721	115729	10	45	Szechwan
(b) if paid current month	-	126702	130871	12	45	Szechwan
8. Land taxes	-					
(a) paid Oct. '44 and '45	-	31352	56865	10	45	Szechwan
(b) if paid current month	-	72234	76844	12	45	Szechwan
9. Farm land value (8 <i>hsien</i> )	-	87430*	87520	12	45	Szechwan
10. Farm year labor (8 <i>hsien</i> )	-	123331*	126918	12	45	Szechwan
11. Farm day labor (8 <i>hsien</i> )	-	175828*	192348	12	45	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) Data from Farmers' Bank of China.  
(e) 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, copper-smiths 2.5. The data on wages were supplied by the union or by individuals.  
(f) From one organization.  
(g) Preliminary estimate based on the rate of increase in prices.  
(h) The index in column of previous month is for Autumn 1944.  
(i) The exchange rate of *yuán* to pound sterling is estimated about four times that of *yuán* to U.S. dollar.

\* Revised

APPENDIX  
TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES  
IN CHENG TU, 1937-FEB. 1946  
Jan. to June 1937=100 (simple geometric average)

Period	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of <i>yuán</i>
Number of commodities	57							
Years:								
1937	99	98	102	97	106	99	94	101.1
1938	115	95	136	103	169	106	105	87.0
1939	211	142	290	206	387	200	184	47.4
1940	621	490	806	793	1216	423	478	16.1
1941	1545	1748	1570	2017	2839	1197	952	6.5
1942	4571	3992	5366	5669	9983	3206	3153	2.2
1943	13945	12100	22440	16918	26394	8770	9132	0.7
1944	51468	45929	68965	87422	93140	39510	32141	0.2
1945	178950	154168	227247	289173	293853	121874	193641	0.08
1946								
Jan.	249861	233353	283810	456960	338277	177563	197196	0.04
Feb.	287300	289307	338385	438750	358962	201510	235105	0.03

TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-FEB. 1946

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	109	89
1938	115	109	208	86
1939	211	193	462	161
1940	621	596	1314	388
1941	1545	1599	3309	687
1942	4571	4196	14902	2190
1943	13945	13053	45398	6197
1944	51468	48991	180817	20031
1945	178950	164489	547213	90038
1946				
Jan.	249861	240756	562457	138622
Feb.	287300	273838	635571	168736

TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-FEB. 1946

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	130	114	121
1939	179	156	169	240	199	221
1940	601	425	529	609	598	604
1941	1448	1154	1322	1318	1555	1420
1942	3468	3391	3437	4115	4526	4295
1943	11658	9110	10563	13775	14571	14120
1944	42770	35397	39653	45283	52576	48431
1945	138977	132587	136387	168154	197905	180946
1946						
Jan.	195030	205023	198968	217340	304041	252782
Feb.	227001	234439	229953	242018	366475	291827

TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-FEB. 1946

Feb. to June 1937=100 (weighted aggregative by individual classes and weighted geometric average for combined three classes)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	101	105	100
1939	123	145	154	137
1940	388	411	412	402
1941	1594	1410	1341	1468
1942	3164	3422	3570	3343
1943	10019	10752	11402	10574
1944	42018	48053	50296	45898
1945	120372	166242	171940	146514
1946				
Jan.	165206	237509	231585	203209
Feb.	189398	269968	255346	230300

TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-FEB. 1946

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	141	103	97	114	100.4
1939	137	118	260	109	154	179	72.8
1940	402	387	779	117	566	370	24.9
1941	1468	1703	1751	184	1588	1136	6.8
1942	3343	3280	5846	421	4562	3483	2.9
1943	10574	10141	22140	2110	13829	10457	0.9
1944	45898	41107	83352	6570	77803	50020	0.2
1945	146514	119522	271306	18895	300143	176648	0.07
1946							
Jan.	203209	134564	357350	23903	535200	227637	0.05
Feb.	230300	176383	409200	23903	607257	248067	0.04



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# ECONOMIC FACTS

DEPARTMENT OF AGRICULTURAL ECONOMICS

COLLEGE OF AGRICULTURE AND FORESTRY

UNIVERSITY OF NANKING

CHENG TU, CHINA

No. 55

Apr. 1946

## MAJOR PRICE RELATIONS

(January to June 1937=100)

Items	Number of items	Index numbers		Date	Place
		Prev. month	Latest month		
1. Wholesale prices of domestic commodities	38	273839	295486	3 46	Chengtu
2. Prices received by farmers (1937=100)	9-13	132884	137955	1 46	Szechwan
3. Cost of living	76	230416*	238417	3 46	Chengtu
4. City wages	12	218795	223205	3 46	Chengtu
5. Farm wages (1937=100)	87	143777	208181	1 46	Szechwan
6. Salaries, professors	10	30419	32680	3 46	Chengtu
7. Soldiers' cash allowances	6	64963	64963	3 46	Chengtu
8. Land taxes (1937=100) (b)	1	31352	56865	10 45	Szechwan
9. Wholesale prices of domestic commodities in terms of silver	38	284	276	3 46	Chengtu
10. Wholesale prices of domestic commodities in terms of gold	38	216	203	3 46	Chengtu
11. Wholesale prices of domestic commodities in terms of US\$	38	508	520	3 46	Chengtu
12. Wholesale prices in U. S. A. (Statist index)	-	123	122	9 45	U.S.A.
13. Wholesale prices in England (Statist index)	-	157	157	8 45	England
14. Purchasing power of farmers	-	84	79	1 46	Szechwan
15. Purchasing power of rice (a)	-	42	39	3 46	Chengtu
16. Freight rates (truck)	1	36256*	36256	3 46	Szechwan
17. Monthly commercial loan interest rate per \$1000	1	538	538	3 46	Chengtu

(a) Calculated in terms of wholesale prices of 57 commodities.  
 (b) The index in column of previous month is for October 1944.

\*Revised

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## 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.

## TRENDS OF COMMODITY PRICES AND EARNINGS IN SZECHWAN, 1937-1945

During these years of rising prices notable differences between the rates at which the commodity prices, salaries and wages have been increasing have been observed. Moreover, there is no uniformity in the movements of individual commodities. Some are moving at a higher rate, some at a lower rate. Those commodity groups which are increasing in price at a greater average rate than the general index are increasing in purchasing power; those which are increasing at a lower rate are declining in purchasing power. Comparable measures of trend may be used to trace accurately such long-term shifts in relationship.

### Price trends

The long-term shifts in the relation between different commodity groups which took place during this period represent changes due to the effect of war, currency and the action of general forces which were shaping the economic development during the stage of blockade and instability. In order to study the changes which have been taking place during these years, we may measure the trends of most price series.

A suitable measure for the trends of prices is to get the rate of change, i.e., the ratio of the price index for each year to the price index of the preceeding year. Then the geometric mean of these ratios is used for the average for the period from 1937 to 1945. For the general index of wholesale prices of fifty-seven commodities in Chengtu, Szechwan, this ratio has a value of 234, which means that the price for each year exceeds the price of the preceeding year by 134 per cent. In other words, the average annual rate of increase of the prices in Chengtu has been 134 per cent when all variations in different years are smoothed out and the trend alone is considered. This measure has been used throughout the present study in measuring rates of change for different groups of commodities.

The measures for the selected groups of commodities appear in column (3) of Table 1. Here they are classified by their usage, by the source of origin, and by the stages of production, each group being ranked in the order of magnitude of their rate of increase. The outstanding differences

between these measures indicate the degree of change which was taking place in the relative positions of different commodities. The greatest rate of increase in price during the period 1937-1945 was seen in import goods, which rose at an average annual rate of 185 per cent. Next in rank stood metals and electric materials, with a rate of 162 per cent. At the other extreme was export goods, with a rate of 84 per cent per year.

Table 1  
Average Annual Rates of Change in Prices and Purchasing Power of Commodity Groups at Wholesale in Chengtu, 1937-1945

(1) Commodity group	(2) No. of commodities	(3) Rate of change in price 1937-1945 percent	(4) Rate of change in purchasing power 1937-1945 percent
Export goods	10	84	-21.4
Raw materials	30	92	-18.0
Food	15	95	-17.1
Building materials	5	113	- 9.0
Domestic goods	38	124	- 4.3
Fuel	4	132	- 0.9
All commodities	57	134	
Manufactured goods	20	137	1.3
Clothing	9	148	6.0
Metals & electric materials	9	162	12.0
Import goods	9	185	21.7

*Trends in purchasing power of commodities*

If interest is in the relations between commodities, rather than in the absolute rates of increase in given prices during this period, the figures given in column (3) of Table 1 must be interpreted in their relation to the average annual rate of increase in the index number for all commodities during this period. For it is not the absolute rate of increase which is important, but whether the commodity in question is increasing in price more or less rapidly than the average for all commodities. It is, therefore, the rate of change in

purchasing power, or the change in value in terms of other commodities, which is the point of major interest in considering long-term movements such as these.

The average annual rate of change in the purchasing power of any group of commodities may be derived directly from the figures for the rates of change in the general index and in the price of a specific group of commodities. If we divide the rate of the specific commodity group by the rate of the general price index (the rates for this purpose must be expressed in full, i.e., as 2.34 not as 134) we secure as quotient the rate for the commodity group which measures the purchasing power of that group. Thus in the case of manufactured goods, as listed in table 1, we have the rate of change in purchasing power =  $\frac{2.37}{2.34} = 1.013$ . This represents an average annual increase in purchasing power of 1.3 per cent. The figures for the rate of change in purchasing power of different commodity groups are presented in column (4) of Table 1.

*Trends of earnings*

The methods used above may be applied to advantage in the study of changes in the relative position of different

Table 2  
Average Annual Rates of Change in Nominal Earnings and Real Earnings of Employed Workers in Szechwan, 1937-1945

(1) Group	(2) Locality	(3) Rate of increase in nominal earnings percent	(4) Rate of change in real earnings* percent
Professors	Chengtu	34	-87.1
Soldiers	Chengtu	37	-35.7
University clerks	Chengtu	62	-24.0
Farm laborers	Szechwan (8 hsien)	120	- 2.2
City laborers	Chengtu	136	29.0

\* The rate of change in real earnings is secured by dividing the rate of increase in nominal wages or salaries of different workers by the rate of increase in their respective living costs. The rate of increase in living costs is 113 per cent for the military-official-educational class, 83 per cent for the laborer-pedlar class, and the rate of increase in prices paid by farmers for consumers' goods in 4 hsien of Szechwan is 125 per cent.

salary of social classes or wage-earners. The average annual rates of change in the earnings of these workers during the period 1937-1945 are given in column (3) of Table 2. In column (4) of this table the rates of change in real earnings of these workers are shown. These values have been secured by dividing the rate of increase in nominal wages or salaries by the rate of increase in their respective living costs.

Of the five groups of workers only the city laborers showed an increase in real wages during the period 1937-1945. The other four groups had declining salaries or wages.

### Conclusion

It is pointed out that the degree or rapidity of change has altered the price relations. From this viewpoint the re-attainment of a normal relation would involve a decrease in the average of all prices or an increase in the price of the given commodity and increase in the salaries and wages of certain classes.

*Yin-yuen Wang*

## INDICATORS OF PRICE CHANGES

(January to June 1937 = 100)

Items	Number of items or observations	Index numbers		Date Latest month	Place
		or Previous month	Latest month		
				Mo. Yr.	
<i>Wholesale prices and cost of living:</i>					
1. Wholesale prices of all commodities	57	287300	311836	3 40	Chengtu
2. Wholesale prices of domestic products (excluding exported goods)	38	273838	295486	3 46	Chengtu
3. Wholesale prices of imported goods	9	635571	579029	3 46	Chengtu
4. Wholesale prices of exported goods	10	168736	198573	3 46	Chengtu
5. Wholesale prices of raw materials	30	229953	251618	3 46	Chengtu
6. Wholesale prices of manufactured producers' goods	11	242018	280888	3 46	Chengtu
7. Wholesale prices of manufactured consumers' goods	9	366475	377800	3 46	Chengtu
8. Wholesale prices in important cities, China					
(1) Kunming, Yunnan (Aug. 1937=100)(a)	141	214208	264269	3 45	
(2) Sian, Shensi (June 1937=100)(b)	70	108407	123915	3 45	
(3) Chungking, Szechwan(c)	94	90399	125003	3 45	
(4) Chengtu, Szechwan	57	108158	122742	3 45	
9. Cost of living	76	230416*	238417	3 46	Chengtu
10. Retail prices of seven commodities commonly used	7	254430	264615	3 46	Chengtu
11. Retail prices for 7 cities in China(d)					
(a) Highest: Kunming, Yunnan	25	394271	454765	10 45	
(b) Lowest: Sining, Chinghai	25	64833	96172	10 45	
(1) Kunming, Yunnan	25	394271	454765	10 45	
(2) Yaan, Sikong	25	257177	250447	10 45	
(3) Chungking, Szechwan	25	262702	210667	10 45	
(4) Chengtu, Szechwan	25	179562	208490	10 45	
(5) Sian, Shensi	25	190765	192949	10 45	
(6) Lanchow, Kansu	25	95869	104633	10 45	
(7) Sining, Chinghai	25	64833	96172	10 45	

\*Revised

Items	Number of items	Index numbers		Date		Place
		or Previous observa- tions	Latest month	Latest month	Mo. Yr.	
12. Rent, city residences	100	25198*	26724	3	46	Chengtu
13. School tuition (h)						
(1) Primary school	1	10000	80000	3	46	Chengtu
(2) Middle school	1	450	450	3	46	Chengtu
(3) University	1	1000	6000	3	46	Chengtu
<i>City wages (e)</i>	12	218795	223205	3	46	Chengtu
(including the value of board)						
1. Carpenters	1	180000	184000	3	46	Chengtu
2. Masons	1	180000	184000	3	46	Chengtu
3. Cotton weavers	1	200000	205454	3	46	Chengtu
4. Silk weavers	1	114286	116667	3	46	Chengtu
5. Tailors	1	233333	236667	3	46	Chengtu
6. Barbers	1	466667	473333	3	46	Chengtu
7. Blacksmiths	3	192857	197143	3	46	Chengtu
8. Coppersmiths	3	164918	169415	3	46	Chengtu
9. Maidservants	8	422849	433976	3	46	Chengtu
(excluding the value of board)						
<i>Salaries:</i>						
1. Professors' salaries (f)	10	30419	32680	3	46	Chengtu
2. Clerks (f)	10	95395	101402	3	46	Chengtu
3. Soldiers' cash allowances	6	64963	64963	3	46	Chengtu
<i>Chinese currency</i>						
1. Purchasing power of yuan in terms of cost of living	-	0.04	0.04	3	46	Chengtu
2. Purchasing power of yuan in terms of wholesale prices of domestic commodities	-	0.04	0.03	3	46	Chengtu
<i>U.S.A. currency</i>						
1. Increase in number of yuan for one US\$ at buying market exchange rate	-	53907	56862	3	46	Chengtu
2. Calculated 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. (i) (a) actual	-	US\$ 0.0001	0.0002	9	45	Chengtu
(b) estimated (g)	-	US\$ 0.0001	0.0001	3	46	Chengtu

\*Revised

Items	Number of items	Index numbers		Date		Place
		or Previous observa- tions	Latest month	Latest month	Mo. Yr.	
3. Purchasing power of US\$ (a) at market exchange rate in China	-	20	19	3	46	Chengtu
(b) actual in U.S.A.	-	81	82	9	45	U.S.A.
4. Wholesale prices of domestic commodities in terms of US\$ at market exchange rate	-	508	520	3	46	Chengtu
5. Wholesale prices in U.S.A.	-	123	122	9	45	U.S.A.
<i>Sterling currency:</i>						
1. Increase in number of yuan for one pound sterling (i)	-	43915	46323	3	46	Chengtu
2. Calculated 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	-	0.01d	0.01d	8	45	Chengtu
(b) Estimated (g)	-	0.01d	0.01d	3	46	Chengtu
3. Purchasing power of pound sterling (a) at market exchange rate in China	-	16	16	3	46	Chengtu
(b) actual in England	-	64	64	8	45	England
4. Wholesale prices of domestic commodities in terms of pound sterling at the market exchange rate	-	624	638	3	46	Chengtu
5. Wholesale prices in England	-	157	157	8	45	England
<i>Gold and silver:</i>						
1. Price of gold (open market)	1	123992	145610	3	46	Chengtu
2. Price of silver (open market)	1	96261	106951	3	46	Chengtu
3. Wholesale prices of domestic commodities in terms of gold	-	210	203	3	46	Chengtu
4. Wholesale prices of domestic commodities in terms of silver	-	284	276	3	46	Chengtu
<i>Farm prices (4 hsien):</i>						
1. Prices received by farmers (1937=100)	10-22	132834	137955	1	46	Szechwan
2. Farmers' cost of production	-	145786	170218	1	46	Szechwan
3. Prices paid by farmers for						

Items	Number of items	Index numbers		Date Latest		Place
		or Previous month	Latest month	Mo.	Yr.	
producers' and consumers' goods (1937=100)	17-51	183129	187956	1	46	Szechwan
4. Prices paid by farmers for producers' goods	16-22	180179	191227	1	46	Szechwan
5. Prices paid by farmers for consumers' goods	17-29	180062	184758	1	46	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)	-	84	79	1	46	Szechwan
7. Crop rent	-					
(a) paid Oct. '44 and '45	-	39721	115729	10	45	Szechwan
(b) if paid current month	-	130871	133910	1	46	Szechwan
8. Land taxes	-					
(a) paid Oct. '44 and '45	-	31352	58865	10	45	Szechwan
(b) if paid current month	-	76844	76844	1	46	Szechwan
9. Farm land value (8 <i>hsien</i> )	-	87520	101649	1	46	Szechwan
10. Farm year labor (8 <i>hsien</i> )	-	126918	215357	1	46	Szechwan
11. Farm day labor (8 <i>hsien</i> )	-	192348	192348	1	46	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) Data from Farmers' Bank of China.  
(e) 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, copper-smiths 2.5. The data on wages were supplied by the union or by individuals.  
(f) From one organization.  
(g) Preliminary estimate based on the rate of increase in prices.  
(h) The index in column of previous month is for Spring 1945.  
(i) The exchange rate of *yan* to pound sterling is estimated about four times that of *yan* to U.S. dollar.

APPENDIX  
TABLE 1. INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES  
IN CHENGTU, 1937-MAR. 1946  
Jan. to June 1937=100 (simple geometric average)

Period	General index	Food	Clothing	Fuel	Metals & electric materials	Building materials	Miscellaneous	Purchasing power of <i>yan</i>
Years:								
1937	99	98	102	97	106	99	94	101.1
1938	115	95	136	108	169	106	105	87.0
1939	211	142	290	206	387	200	184	47.4
1940	621	450	806	793	1216	423	478	16.1
1941	1545	1748	1570	2017	2839	1197	952	6.5
1942	4571	3992	5366	5669	9988	3206	3153	2.2
1943	13945	12100	22440	16918	26394	8770	9132	0.7
1944	51468	45929	68965	87422	93140	39510	32141	0.2
1945	178950	154168	227247	289173	293653	121874	183641	0.06
1946								
Jan.	249861	233353	283810	456980	338277	177563	197196	0.04
Feb.	287300	280807	336885	433750	356942	201510	235103	0.03
Mar.	311836	296171	372950	446820	371092	220255	271031	0.03

**TABLE 2. INDEX NUMBERS OF WHOLESALE PRICES IN CHENGTU CLASSIFIED BY DOMESTIC, IMPORT AND EXPORT COMMODITIES, 1937-MAR. 1946**

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	109	89
1938	115	109	208	86
1939	211	193	462	161
1940	621	596	1314	386
1941	1545	1599	3309	687
1942	4571	4196	14902	2190
1943	13945	13053	45398	6197
1944	51468	48991	180817	20031
1945	178950	164489	547213	90038
1946				
Jan.	249861	240756	562457	138622
Feb.	287300	273838	635571	168736
Mar.	311836	295486	579029	198573

**TABLE 3. INDEX NUMBERS OF WHOLESALE PRICES OF 50 COMMODITIES CLASSIFIED BY STAGES OF PRODUCTION IN CHENGTU, 1937-MAR. 1946**

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	130	114	121
1939	179	156	169	240	199	221
1940	601	425	523	609	598	604
1941	1448	1154	1322	1318	1555	1420
1942	3468	3391	3437	4115	4526	4295
1943	11658	9110	10563	13775	14571	14120
1944	42770	35397	39653	45283	52576	48431
1945	138977	132587	136387	168154	197905	180946
1946						
Jan.	195030	205023	198968	217340	304041	252782
Feb.	227001	234439	229953	242018	366475	291327
Mar.	254217	247741	251618	280888	377800	320962

**TABLE 4. INDEX NUMBERS OF COST OF LIVING IN CHENGTU BY SOCIAL CLASSES, 1937-MAR. 1946**

Feb. to June 1937=100 (weighted aggregative by individual classes and weighted geometric average for combined three classes)

Period	Laborer pedlar	Merchant storekeeper	Military-official-educational	Three classes
Number of commodities	53	66	70	76
1937	97	99	100	98
1938	95	101	105	100
1939	123	145	154	137
1940	388	411	412	402
1941	1594	1410	1341	1468
1942	3164	3422	3570	3343
1943	10019	10752	11402	10574
1944	42018	48053	50296	45898
1945	120372	166242	171940	146514
1946				
Jan.	165206	237509	231585	203209
Feb.	189515*	270205*	255346	230410*
Mar.	190782	284407	270406	238417

\*Revised

**TABLE 5. INDEX NUMBERS OF COST OF LIVING IN CHENGTU GROUPED BY ITEMS, 1937-MAR. 1946**

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	141	103	97	114	100.4
1939	137	118	260	109	154	179	72.8
1940	402	387	779	117	568	370	24.9
1941	1468	1705	1731	184	1588	1136	6.8
1942	3343	3280	5846	421	4562	3483	2.9
1943	10574	10141	22140	2110	13829	10457	0.9
1944	45898	41107	83352	6570	77803	50020	0.2
1945	146514	119522	271306	18895	300143	176648	0.07
1946							
Jan.	203209	154564	357350	23903	535200	227637	0.05
Feb.	230416*	176383	409200	25198*	607257	248667	0.04
Mar.	238417	189187	420155	23724	613700	273653	0.04

\*Revised



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Serial	Initials	Signature	Rank	Branch
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102	...	...	...	...
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DEPARTMENT OF AGRICULTURAL ECONOMICS

College of Agriculture and Forestry

University of Nanking

Chengtu, Szechwan

ECONOMIC FACTS

The University is returning to Nanking and will be moving during this month and the following two months or so. The publication of "Economic Facts" is therefore suspended and it will no longer be published in Chengtu.

It is our hope that "Economic Facts" will be published regularly in Nanking as soon as possible. We trust that our readers will excuse this temporary interruption in publication.

April 15, 1946

*J. Lossing Buck*  
EDITOR

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