經 濟 統 計
ECONOMIC FACTS

圖例 LEGEND

田地 LAND 　　　 種子 SEEDS
房舍 BUILDINGS 　 軋花 GINNING
農具 IMPLEMENTS 　 曬場,畜工與肥料
工資 WAGES 　　　 THRESHING FLOOR,
　　　　　　　　　 ANIMAL LABOR
　　　　　　　　　 & FERTILIZERS

第一圖　湖北省光化縣四一棉農
生產每市斤皮花各種費
用所佔總費用之百分率

FIGURE 1.—PER CENT OF EACH KIND OF ESTIMATED COST IN TOTAL COSTS OF PRODUCING ONE SHIH CATTY OF COTTON BY 41 COTTON FARMS IN KWANGHWA, HUPEH, IN A NORMAL YEAR.

湖北省光化縣棉花生產成本費用

本系曾於民國廿六年九月間與湖北棉市塲管理處及棉花摻水摻雜取締所兩機關，訂立合作辦法，進行小規模之棉花生產成本研究，目的在決定植棉事業之比較利益，及湖北棉農應得之所謂公允價格。根據各國已往經驗，深知保証或穩定棉花價格之企圖，旣感困難，且鮮效力。故作者之所以樂於担任此種工作者，蓋以之探求成本研究之技術，同時貢献正確之事實於大衆也。於此項調查計劃決定時，當地政府官員，遇有兩個迫切問題：（一）如何脫售行將收獲之豐產棉花；（二）用何種方法以挽救棉花價格之跌落。當時湖北棉價之所以低者，當有兩種原因：（甲）全世界各地之棉價均見低落，及（乙）因中國抗戰以來，漢口與其他各埠，中國及日本所經營之紡織工廠相繼關閉，棉花消費量因而減少。若非於收花之前，遭遇水災，則當年棉花之豐收，固毫無疑問。根據所有材料，調查年內棉花平均產量，僅及通常年產量百分之二〇稍強[1]。因此單位成本費用特高，而不足以代表通常情形。故又加添一二補充問題，以便探討通常年之大概。

研 究 方 法

直至今日，研究生產費用惟一之方法，厥爲記賬。惟記賬則有數弊：（甲）費用過大，（乙）所費時間過長，（丙）記賬須有知識及訓練，故難以普遍採用（丁）結果易於偏誤，因抽樣過小，代表性遂不充足。以目前中國農民知識之缺乏，記賬方法，決難普遍推行。因此應用其他方法，以代記賬，實爲吾國研究生產成本所急需者也。

本研究係採用調查方法。因經費有限（不及國幣二〇〇〇元），故祇在鄂北調查棉農一五〇家。計光化縣五〇家，襄陽縣五〇家及棗陽縣五〇家。以下所討論者，爲光化縣結果之一部。

田 塲 大 小 及 土 地 利 用

光化縣之田塲面積平均爲二一‧三市畝[2]。五〇家棉農中，約有三分之二之田塲，在二五市畝以下；其中約三分之一稍強，係在五至一五市畝之間。

農作物爲中國農民主要之收入來源，畜牧及造林不過其副業耳。光化農民，自難例外。作物面積，竟佔田塲面積百分之九二（第四九一頁第一表）。田塲總面積二一‧三市畝中，作物面積，佔一九‧六市畝。每田塲之不生產面積，爲一‧七市畝，約佔田塲總面積百分之七‧九。不生產面積中之重要者，厥爲農舍，竟佔田塲總面積百分之四‧四。

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1 民國二十六年平均每市畝產皮棉四‧五市斤，通常年爲二一‧八市斤。

2 一市畝＝〇‧一六四四英畝＝六‧六六六七公畝。

COST OF PRODUCING COTTON IN KWANGHWA, HUPEH

Arrangements for cooperative work were made in September, 1937 between the Department of Agricultural Economics of the University of Nanking and two government institutions in Hupeh, the Cotton Market Administration and the Bureau of Cotton Anti-adulteration, to make a study of the cost of cotton production on a small scale. The purpose of this study is to determine the relative profitableness of the cotton industry and the so called "fair price" of cotton that should be paid to the cotton growers in Hupeh. Being aware of the impossibility and difficulty of guaranteeing and stabilizing cotton prices, as experienced by some other countries, the writers were interested in taking up this project for the purpose of determining the technique of cost studies and presenting some outstanding facts on this subject to the general public. At the time when this plan was made, the local government officials were facing two imminent problems: (1) how would they be able to dispose of the bumper cotton crop in prospect? (2) what should be done to cope with the then prevailing downward movement of the price of cotton? Evidently the price of cotton was very low in Hankow at that time for two reasons: (a) the price of cotton all over the world was declining and (b) domestic consumption of cotton had dwindled because of the closing down of Japanese and Chinese spinning and weaving factories in Shanghai, Hankow, and other ports caused by the Sino-Japanese hostilities. It was also apparent that the production of the coming cotton crop would be excellent, were it not damaged by flood just before the picking season began. Available information indicates that the average cotton yield in 1937 amounted to only a little more than 20 per cent of normal.[1] Consequently, the unit costs were unreasonably high and cannot be considered as representative of normal conditions. A few supplementary questions were, however, asked in order to throw some light on conditions in normal years.

Method of Study

Book-keeping has been the only method used in making cost studies up to the present time. This method has several disadvantages: (a) the cost of obtaining a record is too high, (b) the time required for making such a study is too long, (c) the education or training necessary for keeping such farm records prevents its general application, and (d) the results are usually biased because of a small or unrepresentative sample. In China, book-keeping cannot become popular, because most of our farm folk are illiterate. It is therefore very desirable to employ some method other than book-keeping.

The survey method was used in making this study. Since we had only a very small fund at our disposal, less than 2,000 yuan, only 150 cotton farms were studied in Northern Hupeh: 50 farms in Kwanghwa Hsien, 50 in Siangyang Hsien, and another 50 in Tsaoyang Hsien. The following are some results from Kwanghwa Hsien.

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1   Average yield of cotton per shih mow is 21.8 shih catties in a normal year and 4.5 in 1937.

第一表　民國廿六年湖北省光化縣五〇棉農平均田塲大小及田塲土地利用

TABLE 1.—AVERAGE SIZE OF FARM AND UTILIZATION OF FARM LAND
50 farms, Kwanghwa Hsien, Hupeh, 1937

	田 塲 土 地 之 利 用 Use of farm land	面積　市畝 Area (Shih mow)	百分率 Per cent
作　　物	Crop...	19.6	92.1
農　　舍	Farmstead.....................................	0.9	4.4
晒　　塲	Threshing floor..............................	0.5	2.4
墳　　地	Grave land	0.2	0.8
道路及堤壩	Path and dike...............................	0.1	0.3
池塘及溝渠	Pond and ditch	nil	nil
總　　計	Total	21.3	100.0

田　塲　佈　置

　　每田塲平均有田地四坵。 五〇棉農中之半數，祇有二坵至三坵。其中之一田塲，竟有一九坵之多。田塲愈大，則每一田塲之坵數愈多。 每一田塲之坵數與田塲大小之相關係，數竟達＋〇·七四。

　　田坵最小者，爲〇·六市畝；最大者爲二四·二市畝，平均每坵爲四·八市畝。二市畝之田坵，則爲光化最普通之田坵大小。 每棉農之田塲大小與其田坵大小亦有相當之關係。其關係數爲＋〇·五三。 惟不若田塲大小與田坵數目關係之顯著。

　　農舍與田坵間之距離， 乃農民開始任何生產工作前，必須實行之不生產工作。因地勢平坦，耕種集約，及田塲狹小， 光化農舍與田坵間之距離，較華北爲小。平均距離爲〇·七里 [3]。最遠者亦不過二里。

作　物

　　光化之五〇棉農，共栽培九種農作物。小麥爲最重要之一， 佔作物面積百分之六九，及作物畝面積百分之三四·九（第四九三頁第二表）。玉蜀黍居第二位，佔作物面積百分之四〇。 其次爲棉花，佔作物面積百分之三三或作物畝面積百分之一六·四。 各種作物之佔作物面積百分之二〇以上者，除小麥，棉花，及玉蜀黍外，爲蠶豆及小米。 至其他作物，則所佔之作物面積，均在百分之五以下。 各種作物所佔作物面積之總百分率，爲一九七·八。此即農塲管理學上所謂之複種指數也。

　　九種作物中，四種係冬季作物：如小麥，蠶豆， 豌豆及大麥。其他五種，則栽種於冬季作物之後：如玉蜀黍，棉花，小米， 高粱及芝蘇等是。因棉花之生長季過長，故於小麥未收獲前，即將棉子播種於麥地中。

3　一華里＝〇·三五七九英里。

Size of Farm and Land Utilization

The average size of farm in Kwanghwa is 21.3 shih mow.[2] Two-thirds of these fifty farms had below 25 shih mow, and over one-third of them between 5 to 15 shih mow.

Field crops are the main source of income of Chinese farmers, while animal husbandry and forestry are only sidelines, and Kwanghwa farmers are no exception to the general rule. The crop area, which was devoted chiefly to field crops, amounted to over 92 per cent of the farm area. (Table 1, page 491). Out of the total farm area of 21.3 shih mow, the crop area amounts to as much as 19.6 shih mow. The size of the non-productive area per farm was 1.7 shih mow, which represented 7.9 per cent of the total farm area. The largest area for non-productive purposes was occupied by farmsteads, which represented 4.4 per cent of the total farm land area.

Farm Layout

On the average, there were four fields per farm. Half of these 50 farms had only 2 to 3 fields; one farm had as many as 19 fields. The larger the farm, the greater the number of fields in each farm. The correlation coefficient between the number of fields in each farm and size of farm reached + 0.74.

The smallest field was only 0.6 shih mow in size and the largest 24.2 shih mow. The average size per field was 4.3 shih mow. Two shih mow, however, represented the most usual size of field in Kwanghwa. There was also a moderate relationship between the size of farm and the size of fields in each farm. Their correlation coefficient reached + 0.53, which was not so marked as that between the size of farm and number of fields.

The distance between crop fields and farmsteads indicates the amount of non-productive work which farmers have to perform before they can start any productive work. Because of a level topography, intensive cultivation, and the small size of farm, the distance between crop fields and farmsteads in Kwanghwa is less than that in North China. The furthest distance was 2 li,[3] and the average was 0.7 li.

Crops

Nine different field crops were grown by these 50 cotton farms in Kwanghwa. Of these wheat was by far the most important and occupied 69 per cent of the crop area and 34.9 per cent of the crop mow area (Table 2, page 493). Corn ranked next occupying 40 per cent of crop area. Cotton came third in importance; it was planted in about 33 per cent of the crop area or 16.4 per cent of the crop mow area. Besides wheat, corn and cotton, broad beans and millet were crops that occupied over 20 per cent of the crop area. All other crops amounted to less than 5 per cent each of the crop area. The total percentage of crop area devoted to various crops was 197.8, which is the index of double cropping.

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2 1 shih mow = 0.1644 acres = 6.6667 ares
3 1 li = 0.3579 miles

第二表　民國二十六年湖北省光化縣五〇棉農所種各種作物之面積其所佔之百分率

TABLE 2.—AREA AND PERCENTAGE OF AREA DEVOTED TO VARIOUS CROPS GROWN BY 50 FARMS IN KWANGHWA, HUPEH, 1937

作物種類 Kind of crop		面積（市畝） Area (shih mow)	所佔百分率 Percentage in	
			作物畝面積中 Crop mow area	作物面積中 Crop area
小	麥 Wheat................	13.52	34.9	69.0
玉　蜀	黍 Corn..................	7.91	20.4	40.4
棉	花 Cotton...............	6.38	16.4	32.6
蠶	豆 Broad Beans........	4.94	12.4	25.2
小	米 Millet...............	3.92	10.1	20.0
豌	豆 Field peas..........	0.73	1.9	3.7
高	梁 Kaoliang...........	0.57	1.5	2.9
芝	蔴 Sesame.............	0.51	1.3	2.6
大	麥 Barley..............	0.15	0.4	0.7
小麥及豌豆	Wheat and peas	0.15	0.4	0.7
總	計 Total	38.78	100.0	197.8

通常年之生產成本

民國廿六年棉花生產量之極低微，前已討論之矣。因此其每單位之生產成本特高，遂不得不用估計及修正方法，以探求此問題之真相。因有九家之材料殘缺不全，故此項分析僅包括棉農四一家。

光化棉花生產之平均淨費用，每市斤[4]爲〇·五四元。（第四九四頁第三表）因此光化棉農所得之棉花價格，即在高價及豐產年份，亦不足以彌補其成本費用。因每市擔五四元之棉價，不但在鄉村爲少有之現象，即在消費中心，如漢口，天津及上海等地，亦屬罕見。棉花係世界市場上之商品，其價格之決定，大部繫於全世界之供求情形，及各國關稅與幣制政策。少數農民或小地區之影響，實無足輕重。因中國田塲企業之小，生產效率之低，及鄉村利率之高，故棉農之生產成本，必較其他國家爲大。經濟學說中，有謂物品之價格，係由成本所支配者，其謬誤固不言而喩。每市斤最高之成本爲一·二〇元。苟一種商品之市價，係由其限際成本所決定，則光化之棉花價格，每市擔當在一二〇元左右矣。事實上則民國廿六年六月間，漢口棉花最高價格僅爲四六·五元。至同年九，十月間，竟跌落至二〇元左右。

平均栽種每市畝棉花之總費用，爲一〇·六九元。淨費用爲九·四七元。其一·二二元之差數，乃出售棉稈及棉子每市畝所得之收入。

4　一市斤＝〇·五公斤＝一·一〇二三磅

Among these nine crops, four are winter crops: wheat, broad beans, field peas and barley; five crops are grown after the winter crops, corn, cotton, millet, kaoliang and sesame. Cotton is usually planted in the wheat fields before the latter is harvested because of cotton's longer growing season.

Costs of Production in Normal Years

It has been shown that the cotton yield was unusually poor in 1937, hence the unit cost of production would be extremely high. Estimation and adjustments had to be made in order to give a fairly representative picture on this subject. Due to the incompleteness of the desired information from nine of the farms, only forty-one farms have been included in this analysis.

The average net cost of producing cotton in Kwanghwa was 0.54 yuan per shih catty[4] (Table 3, page 494). Therefore, cotton prices received by Kwanghwa farmers were not high enough to compensate for the outlay necessary to produce this crop, even in years of high price and normal yield. A market price of 0.54 yuan per shih catty would be uncommon even in consuming centers such as Hankow, Tientsin and Shanghai. Since cotton is a commodity with a worldwide market, its price is determined mainly by the supply and demand situation of the whole world, and tariff and monetary policies of the particular country concerned. The influence of a few farmers or of a small district on its price cannot be signigicant. On account of the diminutive size of farm business in China, production is not efficient, and with the high interest rates prevailing in rural districts, the cost of production would be unquestionably higher in China than in some other countries. This reveals the absurdity and ridiculousness of the theory that cost determines price. The highest cost per shih catty was 1.20 yuan. If the market price of any commodity were determined by the marginal costs, the farm price of cotton in

第三表　湖北省光化縣四一棉農通常年平均棉花生產成本之估計

TABLE 3.—ESTIMATED AVERAGE COSTS OF COTTON PRODUCTION, 41 COTTON FARMS IN KWANGHWA, HUPEH, IN A NORMAL YEAR

	平 均 數 種 類 Type of average	總 費 用 Gross costs	淨 費 用 （減去副產物之值） Net costs (value of by-products deducted)
		元 yuan	元 yuan
每 市 斤 成 本 Costs per shih catty	中 位 數 Median	0.58	0.52
	算術平均 Simple arithmetic...	0.61	0.54
	加權平均 Weighted	0.49	0.44
每 市 畝 成 本 Costs per shih mow	加權平均 Weighted..............	10.69	9.47

4　1 shih catty = 0.5 kilogram = 1.1023 lbs.

土地使用，佔總費用之半數以上（第四九五頁第四表及第四八八頁第一圖）。每生產皮花一市斤，其地租，投資利息，田賦等，須○‧二五元。人工工資，連家工及僱工在內，佔總費用百分之三六稍強。每市斤爲○‧一八元。房屋與農具之使用，佔總費用百分之三‧八及三‧三。平均每軋棉花一市斤，約須費用一分。其淨費用佔總費用百分之八八‧六，此乃表示副產物之收入，如棉稈及棉子等，約佔總費用百分之一一‧四。

　　如生產成本專指現金支付，則每市斤皮花之成本祇爲○‧○八元。除去副產物之收入外，則每市斤之現金費用僅爲○‧○七元，佔總費用百分之一五；而非現金費用佔百分之八五，幾較前者多五倍有半（第四九六頁第五表）。非現金費用所佔成數之高，可視爲一安全限際，賴以抵補經濟及天然災害，如水災虫害，或價格低落之損失，此中國農民所以能繼續其業，歷久不敗之原因也。至商人及他國農民。則因其現欵支出較大，故一遇風險，即行破產。吾國農民，則雖處逆境，亦不過使其勞力與投資所得減少，而降低其生活程度，或減少其儲蓄，以應付此種環境。非長期之逆境，不易使中國農民破產。

　　各種費用中，現金及非現金項目之重要性，變化甚大。軋棉費用中，百分之七○須付現金。肥料百分之五○。工資之現金支付佔百分之三○稍強。畜工與種子，則無現金支付。光化棉農普通均用自留種子。有自養役畜者，亦有用人工交換役畜者。

第四表　湖北省光化縣四一棉農通常年每市斤皮花生產費用
（加權平均）之類別

TABLE 4.—CLASSIFICATION OF ESTIMATED COSTS OF PRODUCING ONE SHIH CATTY OF COTTON (WEIGHTED AVERAGE) BY 41 COTTON FARMS IN KWANGHWA, HUPEH, IN A NORMAL YEAR.

費 用 種 類 Kind of costs	每 市 斤 費 用 Costs per shih catty			所佔總費用 中之成數 Per cent of each kind in total costs
	現 金 Cash	非現金 Non-cash	總 計 Total	
	元 yuan	元 yuan	元 yuan	百分率 %
田 地 Land	0.01	0.24	0.25	51.4
房 舍 Buildings	—	0.02	0.02	3.8
囷 場 Threshing floor	—	—	—	0.5
農 具 Implements	—	0.02	0.02	3.3
工 資 Wages	0.06	0.12	0.18	36.2
畜 工 Animal labor	0	—	—	0.3
種 子 Seeds	0	0.01	0.01	1.5
肥 料 Fertilizers	—	—	—	0.1
軋 花 Ginning	0.01	—	0.01	2.9
總費用 Gross costs	0.08	0.41	0.49	100.0
淨費用 Net costs	0.07	0.37	0.44	88.6

— 極小 nil

— 495 —

Kwanghwa would be around 120 yuan per shih picul. In 1937, the highest price of cotton in Hankow was 46.5 yuan in June; it sagged thereafter to around 20 yuan in September and October.

The average gross cost for growing one shih mow of cotton was 10.69 yuan, and the net cost 9.47 yuan. This difference of 1.22 yuan represented the receipts obtained from cotton seeds and stalks per shih mow.

The use of land accounted for over half of the total cost (Table 4, page 495, figure 1, page 488). It would require 0.25 yuan for land rental, interest on investment, land taxes, etc. to produce one shih catty of cotton. Compensations for human labor, both paid and unpaid, amounted to a little over 36 per cent of the total, which was 0.18 yuan per shih catty. The use of buildings and implements represented 3.8 and 3.3 per cent of the total respectively. On the average, about one cent was paid for ginning one shih catty of cotton. The total net cost was 88.6 per cent of the total gross cost, which indicates that the value of by-products, such as cotton seeds and stalks, made up about 11.4 per cent of the total gross cost.

If cash outlay only were considered as cost, the gross production cost of cotton per shih catty would amount to 0.08 yuan. After cash receipts from by-products had been deducted, cash expenditure amounted only to 0.07 yuan per shih catty. The total cash cost represent only 15 per cent of the total cost, while the non-cash cost aggregated 85 per cent – about 5.5 times as much as the former (Table 5, page 496). This high percentage of the non-cash cost serves as a buffer or margin of safety against natural and economic calamaties such as floods, insects, or falling

第五表　湖北省光化縣四一棉農通常年生產皮花所需之各種現金及非現金費用百分率

TABLE 5.—PERCENTAGES OF CASH AND NON-CASH COSTS IN DIFFERENT KINDS OF PRODUCTION COSTS OF COTTON IN A NORMAL YEAR, 41 COTTON FARMS, KWANGHWA, HUPEH.

費　用　種　類 Kind of costs	各種費用中所佔之百分率 Percentage in each kind of costs		
	現　金 Cash	非現金 Non-cash	總　計 Total
	百分數 %	百分數 %	百分數 %
田　地　Land	3.8	96.2	100.0
房　舍　Buildings	3.4	96.6	100.0
晒　塲　Threshing floor	1.7	98.3	100.0
農　具　Implements	4.3	95.7	100.0
資　工　Wages	30.5	69.5	100.0
畜　工　Animal labor	0	100.0	100.0
種　子　Seeds	0	100.0	100.0
肥　料　Fertilizers	50.0	50.0	100.0
軋　花　Ginning	70.4	29.6	100.0
總費用　Total costs	15.3	84.7	100.0
淨費用　Net costs	14.6	85.4	100.0

民國廿六年（棉花產量特低之年）之生產成本

民國廿六年內，每市畝之棉花產量，僅及通常年五分之一，因此該年每單位之生產費用特高。其中有一棉農所報告者，較其他棉農特高，故在費用分析中，將此一家刪去。

民國廿六年，光化四九田塲之平均，每市斤皮花之生產淨成本費用，為一‧六九元（第四九七頁第六表）。其中祇有〇‧二七元，係付現金者。其他一‧四二元，均不付現金。四九家中，七家之棉花，完全無收。因之每單位之生產成本，為無限大。簡單算術平均數，遂無法計算。

總費用於未除去副產物之收入時，每市斤為一‧八五元。當年每栽種一市畝之棉花，須費八‧四二元。如與通常年之一〇‧六九元比較，相差僅二‧二七元。惟當年產量，則較之通常年，竟減少五分之四。此民國廿六年，每市斤棉花生產成本所以特高之原因也。

田地使用費，約佔總費用百分之五〇。每市斤之總費用一‧八五元中，田地費用佔〇‧九二元。每市畝之總費用八‧四二元中，田地費佔四‧一九元（第四九九頁第七表）。總費用中三分之一，係工資。房舍及農具，約佔總費用百分之四。軋花費用，係按斤計算，故其費用在通常年佔百以之二‧九，至民國廿六年，則減至百分之〇‧八。蓋因每市畝之其他費用伸縮性較小，而軋花費用，則遂產量以增減也。肥料費用，則不足輕重。因光化棉農，於棉田內施用肥料者，極不普通。

現金支付與非現金費用之比較重要性，民國廿六年內與通常年相彷，前已討論之矣，茲不贅述。

第六表　民國二十六年湖北省光化縣四九棉農之生產成本
TABLE 6.—COSTS OF COTTON PRODUCTION, 49 FARMS IN KWANGHWA, HUPEH, 1937

平均數種類 Types of averages	現金 Cash	非現金 Non-cash	總計 Total
	元 yuan	元 yuan	元 yuan
每市斤費用Costs per shih catty..			
淨　Net ……………中位數Median ……	0.21	2.16	2.31
加權平均Weighted ….	0.27	1.42	1.69
總　Gross …………中位數Median ……	0.21	2.36	2.48
加權平均Weighted ….	0.29	1.56	1.85
每市畝費用Costs per shih mow..			
淨　Net ……………加權平均Weighted ….	1.24	6.46	7.70
總　Gross …………加權平均Weighted ….	1.30	7.11	8.42

prices. For this reason Chinese farmers can stay in their business much longer than can business men and even farmers in some other countries. When conditions are unfavorable, the distributive shares for their labor and investments reduce. Farmers can adjust this situation by lowering their standard of living or cutting down their savings. It would take a long time for Chinese farmers to become bankrupt.

Among the different kinds of costs, the relative importance of the cash or non-cash item varies greatly. Seventy per cent of the ginning costs had to be paid in cash form; fifty per cent for fertilizers; and cash disbursements for wages represented little more than thirty per cent of the labor cost. There was no cash disbursement for either animal labor or seeds. Cotton farmers in Kwanghwa usually used their own seeds and some farmers kept their own animals, while others hired animals in exchange for their man labor.

Costs of Production in 1938 – A Year of Low Cotton Yield

Cotton yields per shih mow in 1937 amounted to only one fifth of normal yield, hence the cost of production per unit was extremely high in that year. Reports made by one farmer were found to be unreasonably high as compared with the others,' so this one record was excluded from the cost analysis.

The average cost of production of forty-nine farms in Kwanghwa indicates that the net costs of producing one shih catty of cotton in 1937 were as high as 1.69 yuan (Table 6, page 497). Only 0.27 yuan of these costs occurred in cash form and the remaining 1.42 yuan in non-cash expenses. Seven out of these forty-nine farms did not have any yield of cotton. The unit costs of production were, therefore, indefinite. This prevents the use of simple arithmetic mean.

Gross costs, from which the receipts from by-products had not been deducted, were 1.85 yuan per shih catty. It costed 8.42 yuan to grow one mow of cotton in 1937; as compared with 10.69 yuan in a normal year, the difference being only 2.27 yuan. The average yield in that year, however, was four-fifths less than a normal crop. This accounts for the high costs of producing one shih catty of cotton in 1937.

The use of land accounted for about 50 per cent of the gross costs, 0.92 out of 1.85 yuan per shih catty and 4.19 out of 8.42 yuan per shih mow (Table 7, page 499). Wages were responsible for over one-third of the gross costs. Buildings and implements constituted roughly 4 per cent of the gross cost. Since ginning is charged on a per-catty basis, its costs decreased from 2.9 per cent of the gross costs in a normal year to 0.8 per cent in 1937, due to the relative inflexibility of other costs per mow and of ginning costs per shih catty. The cost of fertilizers was trifling, as the application of fertilizers in Kwanghwa was very uncommon.

The relative importance of cash outlays and non-cash charges was approximately the same in 1937 as in a normal year, as has been discussed previously. No repetition seems necessary here.

第七表 民國二十六年湖北省光化縣四九棉農各種棉花生產成本之數量
及百分率

TABLE 7.—AMOUNT AND PERCENTAGE OF VARIOUS KINDS OF
PRODUCTION COSTS OF COTTON, 49 COTTON FARMS, KWANGHWA,
HUPEH, 1937

費 用 種 類 Kind of costs	每市畝費用 Costs per shih mow	每市斤費用 Costs per shih catty	佔總費用 之百分 Percent in gross costs
	元 yuan	元 yuan	百分率 per cent
田 堆 Land	4.19	0.92	49.7
房 舍 Buildings	0.37	0.08	4.4
晒 場 Threshing floor	0.05	0.01	0.6
農 具 Implements	0.34	0.07	4.0
工 資 Wages	3.22	0.70	38.2
畜 工 Animal labor	0.02	0.01	0.3
種 子 Seeds	0.16	0.04	1.9
肥 料 Fertilizers	0.01	—	0.1
軋 花 Ginning	0.06	0.01	0.8
總費用 Gross costs	8.42	1.85	100.0
淨費用 Net costs	7.70	1.69	91.5

影響每市斤棉花生產成本之因素

按田坵分派費用，爲本研究特点之一。 如塲主栽種二坵棉花時，各種
費用，均按合理之方法，分派於各坵。蓋因若干因素，如土壤，地勢， 所
有權，地價，農舍之距離，及田坵大小等，均爲每坵田地之特点， 而不能
以整個田塲槪論之。欲明瞭此等因素對生產成本之影響， 勢不能不分坵而
研究之。

（一）田塲大小　田塲大小，與生產成本，有極密切之關係。 如田塲大
＊則每單位之費用減少（第五〇〇頁第八表）。民國廿六年，係湖北棉產歉
收之年。如平均田塲大小爲八・〇六市畝， 則每市斤棉花之生產淨費用爲
二・三七元。如平均田塲大小增至二一・三一市畝時， 則每市斤淨費用減
至一・九四元，田塲大小，如再增至五五・六四畝， 則每市斤淨費用爲一
・二四元，此種關係，乃表示大田塲在市塲競爭上所佔之優勢。 其原因所
在，亦極顯明。大田塲之產物較小田塲爲多， 而其費用則不依此遞增，因
此大田塲之單位成本較低。

田塲大小與每畝之總費用，亦有同樣之關係存在。 小田塲生產每畝棉
花所負担之費用較大田塲爲多。 因後者使用土地人工及資本之效率較前者
爲高。 此可由田塲大小與每市畝所需人工之間接關係証明之。

Factors Affecting the Unit Costs of Cotton Production

One peculiarity introduced in this study is the allocation of costs on a field basis. If cotton was grown in two fields by one operator, all kinds of costs were alloted to these two fields according to logical reasons with the idea that the relationships between costs and some factors pertaining to each field such as soil, topography, ownership, land value, distance to farmstead and size of field might be found, in addition to factors concerning the farm as a whole.

1. Size of Farm.—The size of farm has a very close relationship to the cost of production. As the size of farm becomes larger, the unit cost decreases (Table 8, 500, figure 2, page 500). In 1937, a year of poor cotton crop in Hupeh, net costs of producing one shih catty of cotton on an average sized farm of 8.06 shih mow was 2.37 yuan. If the average size of farm increased to 21.31 shih mow, the net costs per catty decreased to 1.94 yuan. As the size of farm increased further to 55.64 mow, net costs fell to 1.24 yuan per shih catty. This relationship indicates the competitive advantage of large farms. The reason for this relationship is obvious. Large farms produced more than small ones while expenses did not increase proportionately, hence the unit costs for large farms were lower.

第八表　民國二十六年湖北省光化縣田塲大小與棉花生產成本之關係

TABLE 8.—RELATIONSHIP BETWEEN SIZE OF FARM AND COSTS OF COTTON PRODUCTION, KWANGHWA, HUPEH, 1937

| 平均田塲大小（市畝）	Average size of farm (shih mow)..		8.06	21.31	55.64
棉花之坵數	Number of fields in cotton		22	23	22
每市畝之皮棉產量（市斤）	Yield of cotton lint per shih mow (shih catty)		3.92	4.45	4.92
每市畝之人工日數	Number of days of human labor per shih mow		7.43	6.83	6.41
每市斤淨費用　元 Net cost per shih catty (yuan) ...	現　金Cash		0.10	0.28	0.32
	非現金Non-cash		2.27	1.66	0.92
	總　計Total		2.37	1.94	1.24
每市畝總費用　元 Gross costs per shih mow (yuan) ...	現　金Cash		0.42	1.31	1.64
	非現金Non-cash		9.60	8.06	5.20
	總　計Total		10.02	9.37	6.84

第二圖　湖北省光化縣通常年田塲大小與每市斤淨費用之關係

市畝
SHIH MOW
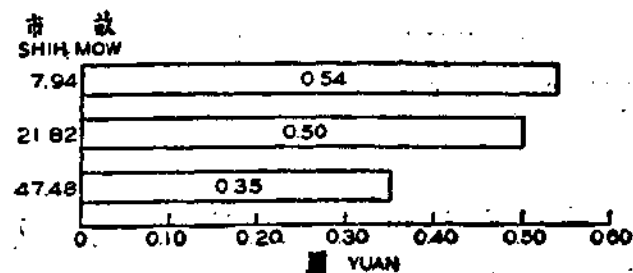
FIGURE 2.—RELATIONSHIP BETWEEN SIZE OF FARM AND NET COST PER SHIH CATTY, KWANGHWA, HUPEH, IN A NORMAL YEAR.

常人以爲小田塲之產量，必較大田塲爲高。因小田塲之塲主，必將多加人工及肥料，故其耕種較大者爲集約。其實亦不盡然。因小田塲在每單位之士地上，少用人工及少施肥料者，亦極普通，因（一）小田塲資本不足，及（二）田塲小者須恃其他活動以維持其生活，故田塲工作，每易忽略。
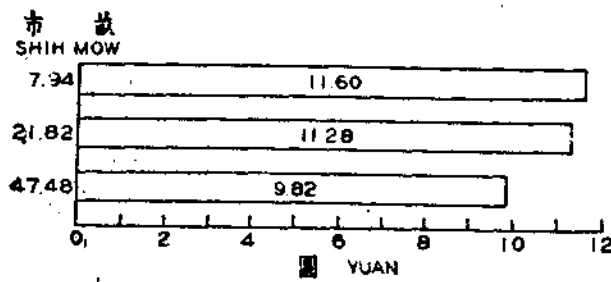
第三圖　湖北省光化縣通常年田塲大小與每市畝總費用之關係

FIGURE 3.—RELATIONSHIP BE-TWEEN SIZE OF FARM AND GROSS COSTS PER SHIH MOW, KWANGHWA, HUPEH, IN A NORMAL YEAR.

大田塲之弱点，亦極可注意。大田塲之現金支付，無論絕對或相對兩方面，均較小田塲爲多。小田塲之現金支付，佔生產淨費用百以之四‧二

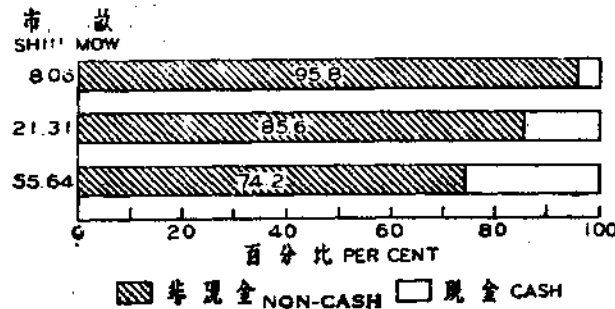第四圖　民國二十六年湖北省光化縣田塲大小與每市斤淨費用中現金與非現金百分率之關係

FIGURE 4.—RELATIONSHIP BE-TWEEN SIZE OF FARM AND THE PROPORTIONS OF CASH AND NON-CASH EXPENDI-TURES OF NET COST PER SHIH CATTY, KWANGHWA, HUPEH, 1937.

，中等田塲佔百分之一四‧四，大田塲則佔百分之二五‧八。在此物價水準不斷漲落之情況下，大田塲所受之影響亦較小田塲爲嚴重。如棉花價格趨漲，則大田塲於小田塲未得任何利益前已有盈利可獲。反之，如遇價格跌落時，大田塲因現金支付較多，故所受損失亦較重。至小田塲則不過減少其人工及投資方面之收入而已。因小田塲，中等田塲，及大田塲，每市斤棉花淨現金費用爲〇‧一〇元，〇‧二八元，及〇‧三二元也。

通常年內田塲大小與單位棉花生產成本之關係，與民國廿六年同（第五〇〇頁第二圖第五〇一頁第三圖及第五〇二頁第九表），小田塲與每市斤及每市畝之高費用相聯繫。

通常年間，田塲大小，與每畝之生產量爲正相關。但田塲大小與每畝所需之人工則成反相關。此與民國廿六年同，勿庸贅述。

TABLE 9.—RELATIONSHIP BETWEEN SIZE OF FARM AND COSTS OF COTTON PRODUCTION, KWANGHWA, HUPEH, IN A NORMAL YEAR

平 均 田 場 大 小 （市畝）	Average size of farm (shih mow)..	7.94	21.82	47.48
棉 花 之 坵 數	Number of fields in cotton	15	19	17
每市畝之皮棉產量 （市斤）	Yield of cotton lint per shih mow (shih catty)	18.96	20.15	24.32
每市畝人工之日數	Number of days of human labor per shih mow	7.98	6.99	6.58
每市斤淨費用　（元）	Net costs per shih catty (yuan)..	0.54	0.50	0.35
每市畝總費用　（元）	Gross costs per shih mow (yuan)..	11.60	11.28	9.82

The same relationship existed between the size of farm and gross costs per mow. Small farms incurred more expenses for growing one mow of cotton than large ones, because land, labor, and capital could be utilized more efficiently by the latter than by the former. This is well illustrated by the negative association between the average size of farm and the number of days of human labor required for growing one shih mow of cotton (Table 8, page 500).

Incidently, many people have a mistaken idea about the relationship between size of farm and crop yields. They think that the crop yield must be higher on small farms than on large ones because small operators cultivate their land more intensively, applying more labor, fertilizers, etc. than large ones. In some cases, this may be true. Nevertheless, it is not uncommon for small operators to apply less labor and fertilizers to each unit of land area, because (1) small farms have less available capital and (2) there is a tendency to skimp farm work when farms are small, because the operators are obliged to have subsidiary occupations in order to make a living.

It is also very interesting to note one disadvantage of large farms. Relatively speaking, large farms have more cash disbursements, than small ones even though their total costs are less. Cash outlays represented 4.2 per cent of the net production costs for small farms, 14.4 per cent for median sized farms, and 25.8 per cent for large farms. This discloses the vulnerability of large farms toward the ever changing price level. When the price of cotton is high, large farms will make a profit before small farms can possibly do so. On the other hand, large farms would have to lose money, i.e. cash in this case, while small farms would just receive less for their own labor and investments if the cotton price is low, because net cash costs per shih catty of cotton were 0.10 yuan, 0.28 yuan and 0.32 yuan for small, medium and large farms respectively.

This negative relationship between the size of farm and unit cost of cotton production holds true in a normal year as well as it did in 1937 (Table 9, page 502, figures 2 and 3, pp. 500, 501). A small farm is associated with high costs per catty and per mow.

（二）田坵大小　田坵大小，與人工之效率，有直接之關係，而尤以採用農業機械以耕作時，其影響更為嚴重。田坵大則所需之人工較少（第五〇四頁第十表）。且因大田坵較小田坵之產量略高，故田坵之大小，與單位生產成本之高低，亦逐成負相關。

　　產量豐穩之年份，亦以小田坵之成本較高；而以大田坵之成本較低（第五〇四頁第十一表及第五〇三頁第五，六圖）。平均最大之田坵，其每市斤
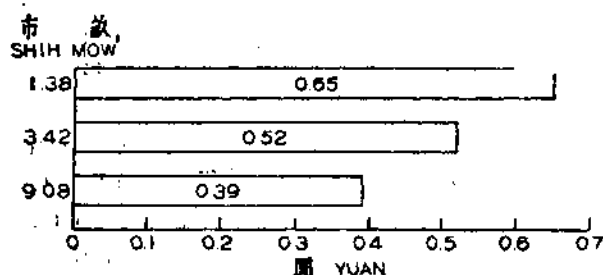
第五圖　湖北省光化縣通常年田坵大小與每市斤淨費用之關係

FIGURE 5.—RELATIONSHIP BETWEEN SIZE OF FIELD AND NET COST PER SHIH CATTY IN A NORMAL YEAR, KWANGHWA, HUPEH.

棉花之淨費用為〇・三九元；中等大小之田坵，每市斤之淨費用為〇・五二元；最小之田坵為〇・六五元。田坵大小，與每市畝總費用之關係亦然。最小田坵每市畝之總費用，約較最大者高百分之五〇。每市畝棉花所需之人工日數，亦以田坵大者為少。但田坵大小，與每市畝棉花之產量，則無一定之關係。
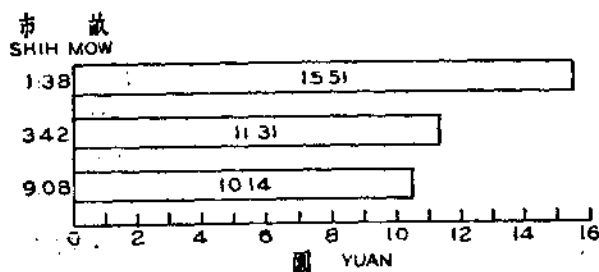
第六圖　湖北省光化縣通常年田坵大小與每市畝總費用之關係

FIGURE 6.—RELATIONSHIP BETWEEN SIZE OF FIELD AND GROSS COST PER SHIH MOW IN A NORMAL YEAR, KWANGHWA, HUPEH.

　　（三）棉花產量　較其他因素尤堪注意者，即產量對於每市斤棉花生產成本之影響是也（第五〇五頁第十二表）。民國廿六年產量最高之棉田二二坵，其每畝平均之皮棉產量，約六倍於產量，最低之二四坵。而前者每市畝之總費用較後者不過多出百分之二〇弱。因之產量最高之棉田二二坵，其每市斤之淨費用，僅及產量最低之二四坵之五分之一。
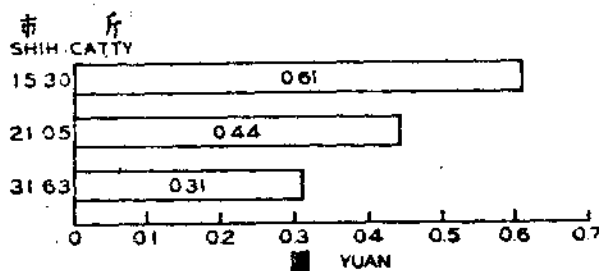
第七圖　湖北省光化縣通常年每市畝棉花產量與每市斤淨費用之關係

FIGURE 7.—RELATIONSHIP BETWEEN COTTON YIELD PER SHIH MOW AND NET COST PER SHIH CATTY IN A NORMAL YEAR, KWANGHWA, HUPEH.

As in 1937, a direct relationship occurs between the size of farm and yields per mow in a normal year, and an inverse one between the size of farm and number of days of human labor required to grow one mow of cotton.

2. Size of Field.—The size of field has a direct bearing on the problem of labor efficiency. This point is particularly important if farm machineries are used. The number of days of human labor tends to decrease as the size of fields becomes bigger (Table 10, page 504). In addition, the cotton yield per mow

第十表　民國二十六年湖北省光化縣田坵大小與棉花生產成本之關係

TABLE 10.—RELATIONSHIP BETWEEN THE SIZE OF FIELD AND COSTS OF COTTON PRODUCTION, KWANGHWA, HUPEH, 1937

平　均　田　坵　大　小 （市畝）	Average size of field (shih mow)..		1.32	3.27	9.10
棉　田　坵　數	Number of fields in cotton		17	28	22
每市畝皮棉產量 （市斤）	Yield of cotton lint per shih mow (shih catty)		3.22	3.93	5.01
每市畝人工日數	Number of days of human labor per shih mow		7.49	7.47	6.35
每市斤淨費用（元） Net cost per shih catty (yuan) ...	現　金 Cash .... 非現金 Non-cash .... 總　計 Total		0.23 2.94 3.17	0.27 1.87 2.14	0.28 1.14 1.42
每市畝總費用（元） Gross cost per shih mow (yuan) ...	現　金 Cash .... 非現金 Non-cash .... 總　計 Total		0.75 10.11 10.86	1.07 8.03 9.10	1.47 6.36 7.83

was higher on large fields than on small ones. Accordingly, lower unit costs of production were associated with larger fields.

In a normal year, the same phenomena are noticed (Table 11, page 504 figures 5 and 6, page 503). Net costs per shih catty

第十一表　湖北省光化縣通常年田坵大小與棉花生產成本之關係

TABLE 11.—RELATIONSHIP BETWEEN THE SIZE OF FIELD AND COSTS OF COTTON PRODUCTION IN A NORMAL YEAR, KWANGHWA, HUPEH

平均田坵大小（市畝）	Average size of field (shih mow)..	1.38	3.42	9.08
棉　田　坵　數	Number of fields in cotton	9	21	21
每市畝皮棉產量 （市斤）	Yield of cotton lint per shih mow (shih catty)	21.72	19.43	22.68
每市畝人工日數	Number of days of human labor per shih mow	9.88	8.12	6.34
每市斤淨費用（元）	Net costs per shih catty (yuan)..	0.65	0.52	0.39
每市畝總費用（元）	Gross costs per shih mow (yuan)..	15.51	11.31	10.14

棉花產量，與總費用中現金及非現金之比較重要性，則無顯著一致之關係。惟生產每畝棉花所需之人工日數則與棉花產量成正相關。 此点似與以前所討論者，不相符合。產量與人工之間接負相關， 乃因二者與企業大小成正比例故也。至民國廿六年，產量與人工之直接正相關， 則可以該年特殊情形解釋之。凡無收成或產量低微之田坵， 其所需收花及收棉稈之人工自可減少。如稍有產量，則需較多之額外人工也。
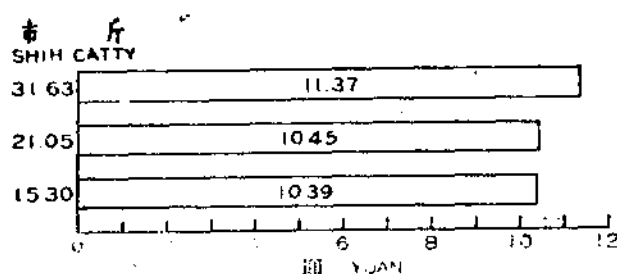
第八圖　湖北省光化縣通常年每市畝棉花產量與每市畝總費用之關係

FIGURE 8.—RELATIONSHIP BE-TWEEN COTTON YIELD PER SHIH MOW AND GROSS COST PER SHIH MOW IN A NORMAL YEAR, KWANGHWA, HUPEH.

第十二表　民國二十六年湖北省光化縣每市畝棉花產量與生產成本之關係

TABLE 12.—RELATIONSHIP BETWEEN COTTON YIELD PER SHIH MOW AND COSTS OF PRODUCTION, KWANGHWA, HUPEH, 1937

平均每市畝皮棉產量（市斤）Average yield of cotton lint per shih mow (shih catty)		1.34	4.09	7.41
棉田坵數 Number of fields in cotton		24	21	22
每市畝人工日數 Number of days of human labor per shih mow		5.75	6.92	7.31
每市斤淨費用　（元）Net cost per shih catty (yuan) ...	現金 Cash	0.97	0.36	0.13
	非現金 Non-cash	4.51	1.37	1.04
	總計 Total	5.48	1.73	1.17
每市畝總費用　（元）Gross costs per shih mow (yuan) ...	現金 Cash	1.34	1.50	1.07
	非現金 Non-cash	6.60	6.29	8.39
	總計 Total	7.94	7.79	9.46

第十三表　湖北省光化縣通常年每市畝棉花產量與生產成本之關係

TABLE 13.—RELATIONSHIP BETWEEN COTTON YIELD PER SHIH MOW AND COSTS OF PRODUCTION IN A NORMAL YEAR, KWANGHWA, HUPEH

平均每市畝皮棉產量（市斤）Average yield of cotton lint per shih mow (shih catty)	15.30	21.05	31.63
棉田坵數 Number of fields in cotton	19	19	13
每市畝人工日數 Number of days of human labor per shih mow	7.09	6.89	6.86
每市斤淨費用(元) Net costs per shih catty (yuan)..	0.61	0.44	0.31
每市畝總費用(元) Gross costs per shih mow (yuan)..	10.39	10.45	11.37

were 0.39 yuan for the biggest fields, 0.52 yuan for the medium ones, and 0.65 yuan for the smallest. Likewise, gross costs per shih mow were about 50 per cent higher for the smallest fields than for the largest ones. The number of days of human labor required per shih mow of cotton was also smaller for large fields, but there was no consistent relationship between the size of the field and the cotton yield per shih mow.

3. Cotton Yields.—More striking than that of any other factors was the effect of yield on the net costs of cotton production per shih catty (Table 12, page 505). The average cotton yield per shih mow on the twenty-two fields which had the highest yields in 1937 was about six times as much as that of the twenty-four fields which had the lowest yields in the same year, while the gross costs per shih mow for the former only increased by less than 20 per cent. Hence the net costs per shih catty of cotton for the 22 fields with the highest yields was only about one-fifth of that for the 24 fields with the lowest yields.

There was no noticeable and consistent relationship between the cotton yields and the relative importance of cash and non-cash expenses in total costs, but the number of days of human labor required to grow one shih mow of cotton varied proportionately with cotton yields. This seems to contradict what has been discussed before. The indirect inverse association between yields and labor was caused by their direct relationships with the size of business. This direct relationship which existed between yield and labor in 1937 may be explained by the abnormal conditions prevailing in that year. For fields which had no yield or very low yields, the labor required for picking cotton and collecting stalks would be saved. If there were some yield, a great deal of extra labor would be necessary for these purposes.

In a normal year, the cotton yield per mow has no significant effect on the number of days of human labor required per shih mow (Table 13, page 505), because it cannot be saved even if the yield per mow is comparatively lower for some fields than for others. The labor requirement for picking 15, 21, and 32 catties of cotton per shih mow is practically the same. On the contrary, a slight inverse relationship seems present between these two factors, yield and human labor requirement, due to the inter-relationship of the size of business to both labor efficiency and cotton yield which has been discussed above.

4. Type of Soil.—No scientific study was made on soil types for these 50 cotton farms in Kwanghwa, Hupeh. Reports made by farmers on soil classes are usually not accurate and scientific. The results thus obtained were, nevertheless, surprisingly significant. It has been commonly noticed that cotton is specially adapted to loam and sandy soil. Clay soil is unsuitable for the growing of cotton. Cotton yield on loam ranked highest, on sandy soil next, and it was lowest on clay (Table 14, page 507).

通常年間，則每市畝所需之人工日數，與每畝之棉花產量，無顯著之關係（第五〇五頁第十三表）。因每市畝產量低微之田坵，其所用之人工，未必能較其他田坵節省。每市畝一五斤二一斤及三二斤之產量，其摘花等所需之人工幾完全相同。反之此兩因素，似有少許之反相關。此種關係，蓋因企業大小，與人工效率，及棉花產量之間接關係所致。前已詳論，茲不重複。

（四）土壤種類　湖北光化五〇家棉農之土壤種類，未經科學之研究；而農民所報告之土壤種類與等級每不真確，且不科學化；但所得結果，其價值竟出人意表。據普通觀察，棉花所適應之土壤爲壤質及砂質土。至粘質土壤，則對於棉花生長，不甚適宜。光化調查結果，壤土之棉花產量列第一位，砂土次之，粘土最低（第五〇七頁第十四表）。

第十四表　民國二十六年湖北省光化縣土壤種類與生產成本之關係
TABLE 14.—RELATIONSHIP BETWEEN SOIL TYPE AND COSTS OF
PRODUCTION OF COTTON, KWANGHWA, HUPEH, 1937

				壤土 Loam	砂土 Sanly	粘土 Clay
土　壤　種　類		Type of soil				
棉　田　坵　數		Number of fields in cotton		18	36	13
每市畝皮棉產量（市斤）		Yield of cotton lint per shih mow (shih catty)		5.35	4.65	3.78
每市畝人工日數		Number of days of human labor per shih mow		6.96	6.99	6.21
每市斤淨費用　（元）Net costs per shih catty (yuan) ...	現　金	Cash		0.22	0.26	0.36
	非現金	Non-cash		1.25	1.34	1.77
	總　計	Total		1.47	1.60	2.13
每市畝總費用　（元）Gross costs per shih mow (yuan) ...	現　金	Cash		1.30	1.23	1.43
	非現金	Non-cash		7.17	6.98	7.29
	計　總	Total		8.47	8.21	8.72

民國廿六年，生產每市斤棉花之淨費用，以粘土爲最高，達二•一三元。至壤土則僅一•四七元。蓋因壤土及砂土之產量，較粘土爲高。每市畝之總費用，則各種土壤之差別，殊屬微小。且土壤種類，與每畝人工之需要，無顯著之關係也。至粘土每市畝需要人工之所以特少者，因粘土產量甚低，故收花所人用工較少也。

（五）自有土地之價值　土地價值，對於棉花生產成本之影響，亦爲一極有趣味之問題。美國農業經濟學家，常鼓勵農民，購買價值最高之田地。蓋因上等地之價格雖高，苟由其生產力而評定之，則其估價常失之過低；而下等地之估價，則失之過高。光化於民國廿六年土地價值高者，其棉

The net cost of producing cotton per shih catty was highest on clay soil, 2.13 yuan in 1937, while on loam it was only 1.47 yuan. The higher yield on loam and sandy soil and the insignificant variation in the gross costs per shih mow accounted for this relationship. There was not much association between type of soil and labor requirements; the smallest number of days of human labor required per shih mow of clay soil must be due to the lowest yield being on this type of soil which saved the labor of picking.

5. Value of Owned Land.—It would be very interesting to know what effect the value of land has on the costs of producing cotton. In the United States, agricultural economists frequently urge the farmers to buy the most expensive land, because good land is usually undervalued and poor land overvalued, when judged from the viewpoint of its earning power, even though the good land costs more than the poor. It is true that in Kwanghwa, land of higher value produced more cotton per mow than land of lower value in 1937 (Table 15, page 508), but this increase in yield did not counter-balance other unfavorable factors; therefore, the net costs of producing one shih catty of cotton were higher on good land than on poor land. In the first place, expensive land did not save much labor, represented more than one-third of the total costs. Secondly, the interest rate on investments was too high in China as compared with Western countries. Hence the increase in cotton yield on good land did not correspond with the increase of gross costs per shih mow, caused by the additional capital costs.

A rough check has been made from the information available for a normal year and the same result has been found. On land of lowest average value, net costs per shih catty were approximately 40 cents, while on that of medium value, they were 60 to 70 cents.

第十五表　民國廿六年湖北省光化縣自有田地之價值與棉花生產成本關係
TABLE 15.—RELATIONSHIP BETWEEN VALUE OF OWNED LAND AND COSTS OF PRODUCTION OF COTTON, KWANGHWA, HUPEH, 1937

自有田地每市畝之平均價值（元）Average value of owned land per shih mow (yuan)		28.28	41.32	52.64
棉田坵數 Number of fields in cotton		18	12	9
每市畝皮棉產量 Yield of cotton lint per shih mow（市斤）(shih catty)		4.09	4.32	5.22
每市畝人工日數 Number of days of human labor per shih mow		7.28	7.16	7.51
每市斤淨費用（元）Net costs per shih catty (yuan) ...	現金 Cash	0.23	0.33	0.29
	非現金 Non-cash	1.97	2.44	2.54
	總計 Total	2.20	2.77	2.83
每市畝總費用（元）Gross costs per shih mow (yuan) ...	現金 Cash	1.01	1.49	1.57
	非現金 Non-cash	8.68	11.07	13.89
	總計 Total	9.69	12.56	15.46

花產量固較土地價值低者為高（第五〇八頁第十五表），但產量之增加，不足以平衡其他不利之連帶因素，故價值較高之土地，其每市斤棉花之生產費用，較價值低者之費用為高。 第一，昂貴之土地，並未節省極多之人工；而人工費用，則佔總費用三分之一以上。 第二，中國投資利率，較之西洋各國，殊屬過高，因之上等地所增加之棉花產量，尚不足以補償其因資本費用增加後，每市畝所增之總費用。
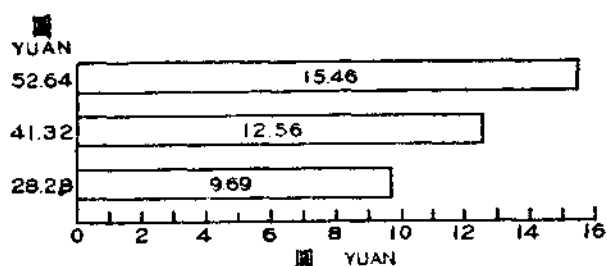
第九圖　　民國廿六年湖北省光化縣自有田地之價值與每市畝總費用之關係

YUAN

圓 YUAN	
52.64	15.46
41.32	12.56
28.28	9.69

圓 YUAN

FIGURE 9.—RELATIONSHIP BE-TWEEN VALUE OF OWNED LAND AND GROSS COST PER SHIH MOW, KWANGHWA, HUPEH, 1937.

　　通常年之結果如何，亦曾根據已有材料，加以簡單之估計。 其結果則與民國廿六年同。土地平均價值之最低者，其每市斤之淨費用，約為四〇分；而平均價值中等或最高者，為六〇分至七〇分。

　　作者不願予讀者留一印象，以為作者乃鼓勵吾國農民，設法購買廉價土地。蓋對任何投資，均應按科學方法，以分析其收入之多寡，然後再定投資之可否。光化之棉花生產，按其所得之報酬而論，似不應投資於上等之田地。

　　（六）田地所有權　初步統計時，曾發現租進之田地價值，平均較自有者為高：前者每市畝為四七·八八元，後者為四一·〇九元。 當時即推想租進之田地，其生產量亦必較高。試觀第十六表，租進田地每市畝之棉花產量，與自有田地相比較，則二者相差約百分之七（第五一〇頁第十六表）。故知以前之推論，亦頗正確。此外租進田地所需之人工，較自有者為少；故自有田地每市畝之總費用，較租進者大二·二倍，自有田地每市斤之棉花生產淨費用，較租進者大二·六倍。
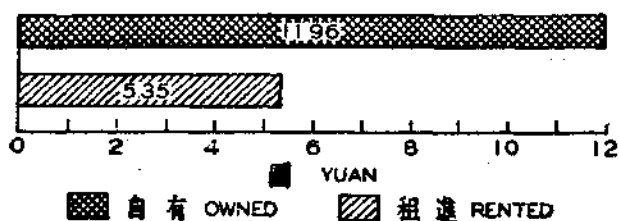
第十圖　　民國廿六年田地所有權與每市畝總費用之關係

11.96	
5.35	

YUAN

自有 OWNED　　　租進 RENTED

FIGURE 10.—RELATIONSHIP BE-TWEEN LAND OWNERSHIP AND GROSS COST PER SHIH MOW, KWANGHWA, HUPEH, 1937.

The writers do not want to leave the impression with readers that farmers should try to get cheap land. Any investment should be analyzed scientifically by its earnings. For cotton growing in Kwanghwa, the investment in good land was not justified by its returns.

6. Land Ownership.—It was found that the value of rented land had a higher average than owned land: 47.88 yuan per shih mow for the former and 41.09 for the latter. A tentative assumption was made that the productivity of rented land must be greater also. This assumption becomes cogent if cotton yields per shih mow of rented land are compared with those of owned land. The difference was about 7 per cent (Table 16, page 510). In addition, labor requirement was less for rented than for owned land. Correspondingly, gross costs per shih mow for owned land were 2.2 times as much as those for rented land and net costs per shih catty of cotton on owned land were 2.6 times as much (figure 10, page 509).

第十六表　民國二十六年湖北省光化縣田地所有權與生產成本之關係
TABLE 16.—RELATIONSHIP BETWEEN LAND OWNERSHIP AND COSTS OF PRODUCTION OF COTTON, KWANGHWA, HUPTH, 1937

田地所有權 Land ownership			自有 Owned	租進 Rented
棉　田　坵　量 Number of fields in cotton			39	28
每市畝皮棉產量（市斤）Yield of cotton lint per shih mow (shih catty)			4.40	4.70
每市畝人工日數 Number of days of human labor per shih mow			7.28	6.31
每市斤淨費用（元）Net costs per shih catty (yuan) ...	現　金	Cash	0.28	0.26
	非現金	Non-cash	2.28	0.71
	總　計	Total	2.56	0.97
每市畝總費用（元）Gross costs per shih mow (yuan) ...	現　金	Cash	1.31	1.30
	非現金	Non-cash	10.65	4.05
	總　計	Total	11.96	5.35

The fact that the labor requirement for owned land was more than for rented land may have two explanations: (1) rented land was usually associated with farms of a large size, therefore labor could be employed efficiently, and (2) the labor spent on rented land was usually less than on owned land because of the selfish proclivity of human beings. The first reasoning seems more valid than the second.

A rough estimate shows that 58 cents and 31 cents would be required in order to produce one shih catty of cotton on owned and rented land respectively in a normal year.

自有田地所需之人工，較租進田地爲多，其原因或有兩種：（一）租進田地大概屬於大田塲，（二）因人類自私之性，租進田地，每較自有田地少下人工。第一原因，似較第二原因，尤爲眞確。

大概估計，則通常年間， 自有田地每市斤皮花之生產淨費爲五角八分，租進田地爲每市斤三角一分。

（七）棉田與農舍間之距離 自理論上言之， 距農舍遠之田坵，需用人工必較距農舍近之田坵爲多。因有其他相互關係因素之存在， 其每市畝人工日數最少者，乃平均距農舍〇‧五七里之田坵。至平均距農舍僅〇‧二二里之田坵，則所需之人工反較多。此種現象，或因田坵數目，與田塲大小之密切相關（相關係數＝＋〇‧七四）所致。大田塲之田坵數目旣多，則其中必有數坵田地，距農舍較遠者。但因大田塲利用人工效率較高， 故每

第十七表 民國廿六年湖北省光化縣棉田距農舍距離與棉花生產成本關係
TABLE 17.—RELATIONSHIP BETWEEN DISTANCE OF COTTON FIELD
FROM FARMSTEAD AND COSTS OF PRODUCTION OF COTTON,
KWANGHWA, HUPEH, 1937

平 均 棉 田 距 農 舍 之 距 離	Average distance of cotton field from farmstead	0.22	0.57	1.10
棉 田 坵 數	Number of fields in cotton	13	31	23
每市畝皮棉產量（市斤）	Yield of cotton lint per shih mow (shih catty)	4.83	5.26	3.69
每市畝人工日數	Number of days of human labor per shih mow	6.72	6.53	7.02
每市斤淨費用 （元） Net costs per shih catty (yuan) ...	現 金 Cash	0.21	0.18	0.46
	非現金 Non-cash	1.22	1.30	1.73
	總 計 Total	1.43	1.48	2.19
每市畝總費用 （元） Gross costs per shih mow (yuan) ...	現 金 Cash	1.12	0.99	1.74
	非現金 Non-cash	6.94	7.49	6.82
	總 計 Total	8.06	8.48	8.56

畝需用之人工日數自必較少。如田坵與農舍之距離超過一里以上時， 則人工需要之增加益顯。田坵距離最遠者，產量最低， 因之田坵平均距離〇‧二二里與〇‧五七里者，其每市斤皮棉之淨費用，兩者無大差別，前者爲一‧四三元。後者爲四八元，惟距農舍最遠之田坵，則每市斤皮棉之生產成本爲二‧一九元。

田坵之距農舍愈遠者，其每市畝之總費用亦愈高。 惟此不得專以人工需要之差別而解釋之。 他如田塲大小，產量，土地價值等之連合相關，均應考慮及之。

（八）每畝所需之人工日數 民國廿六年， 光化棉花生產之總費用中，人工佔百分之三八。由此推測每市畝所需之人工日數， 對於每市斤及每市

7. Distance of Cotton Field from Farmstead.—Theoretically, more labor would be required on a field which is far from the farmstead than on a field which is near. Due to the presence of other interrelating factors, the number of days of human labor per shih mow was smallest for those fields which, on the average, were 0.57 li from the farmstead, and more labor was spent for fields averaging only 0.22 li from the farmsteads. This might be caused by the close relationship between the number of fields and the size of farm (r = + 0.74). Since large farms were associated with a greater number of fields, there must be some fields on large farms which are not very close to the farmsteads. Because a large farm could utilize labor efficiently, the number of days of human labor required per mow would naturally be less. If, however, the distance of the field from the farmstead exceeded one li, the labor requirement would be noticeably increased. Yields were lowest on fields that were furthest away from the farmstead. Accordingly, net costs per shih catty of cotton did not show much difference for fields averaging 0.22 li and those averaging 0.57 li, 1.43 yuan for the former and 1.48 yuan for the latter; while for fields which were furthest from farmsteads, they were 2.19 yuan per shih catty.

Gross costs per shih mow increased the further the fields were from the farmsteads, but this could not be explained by the difference in their labor requirements only. The joint relationship of the size of farm, yields, land value etc. should all be taken into consideration.

8. Number of Days of Human Labor Required per Mow.— Labor represented 38 per cent of the total costs of cotton production in Kwangswa, in 1937. Presumably, the number of days of human labor required per mow would have a very important effect on the costs of production per shih catty of cotton and per shih mow. An analysis of 67 fields indicates that the greater number of days of labor required per shih mow was associated with higher costs per shih catty and per shih mow (Table 18, page 513). Its effect on the latter was still more striking. In 1937, as we have pointed out, a higher cotton yield required more labor, therefore the average number of days of human labor required per shih mow was associated with increased yields. The augmentation of cotton yields, however, did not counter-balance the increase in the gross

第十九表 湖北省光化縣通常年每市畝所需入工日數與棉花生產成本關係

TABLE 19.—RELATIONSHIP BETWEEN THE NUMBER OF DAYS OF HUMAN LABOR REQUIRED PER SHIH MOW AND COSTS OF COTTON PRODUCTION, KWANGHWA, HUPEH, IN A NORMAL YEAR

平 均 每 市 畝 需 要 之 人 工 日 數 Average number of days of human labor required per shih mow..	4.40	6.61	10.06
棉 田 坵 數 Number of fields in cotton	11	19	21
每 市 畝 皮 棉 產 量 (市斤) Yield of cotton lint per shih mow (shih catty)	23.88	21.76	19.76
每市斤淨費用(元) Net costs per shih catty (yuan)..	0.35	0.43	0.55
每市畝總費用(元) Gross costs per shih mow (yuan)..	9.81	10.41	12.00

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畝棉花之生產成本，應有重要之影響。 由六七坵棉田材料之分析，証明每市畝需用人工日數較多者，每市斤與每市畝之費用亦較高（第五一三頁第十八表）。而於每市畝總費之影響，更屬顯著。 根據以前討論，於民國廿六年，棉花產量較高者，需用人工亦較多。 但由人工增加所連帶之產量增加，不足以補償每市畝棉花生產總費用之增加， 故人工需要較多者，則每市斤棉花淨費用亦稍高。

通常年間，每市畝之人工日數，與棉花產量，無直接之關係。 故人工之增加，使每市斤之淨費用， 與每市畝之總費用增加，亦極顯著（第五一二頁第十九表）。

若市畝所需人工日數，平均爲四‧四， 則每市畝總費用僅爲九‧八一元，每市斤淨費用僅爲〇‧三五元。如人工需要爲六‧六一日， 則每市畝總費用增至一〇‧四一元，每市斤淨費用增至〇‧四三元。 如每市畝人工需要增至一〇‧〇六日時， 則每市畝總費用與每市斤淨費用，增至一二‧〇〇元與〇‧五五元。

第十八表　民國廿六年湖北省光化縣每市畝所需人工日數與棉花生產成本之關係

TABLE 18.—RELATIONSHIP BETWEEN THE NUMBER OF DAYS OF HUMAN LABOR REQUIRED PER SHIH MOW AND COSTS OF COTTON PRODUCTION, KWANGHWA, HUPEH, 1937

平均每市畝需要之人工日數 Average number of days of human labor required per shih mow ..		4.31	6.62	10.09
棉田坵數 Number of fields in cotton		23	22	22
每市畝皮棉產量（市斤）Yield of cotton lint per shih mow (shih catty)		3.89	4.60	5.33
每市斤淨費用（元）Net costs per shih catty (yuan) ...	現金 Cash	0.20	0.35	0.22
	非現金 Non-cash	1.09	1.40	1.75
	總計 Total	1.29	1.75	1.97
每市畝總費用（元）Gross costs per shih mow (yuan) ...	現金 Cash	0.83	1.65	1.27
	非現金 Non-cash	4.94	7.08	9.92
	總計 Total	5.77	8.73	11.19

（九）農具投資　光化農具之費用， 僅佔棉花生產總費用中百分之四，因之農具投資，對於生產費用應無顯著之影響。 但因其他相互關係因素之存在，農具投資對於生產成本之影響，亦不應忽視。 農具投資之數量，與田塲大小有關：大田塲之使用農具， 其他資本及人工，其效率自較小田塲爲高。且民國廿六年，棉花產量與田塲大小，却有直接關係； 因之生產費用及農具投資，發生相反之關係（第五一四頁第二十表）。

至通常年，則每市斤淨費用最低者， 乃發現於農具投資之中等組內。因該組內之棉花產量較高故也。 因此棉花產量之影響於單位費用，較農具投資爲重要也。

costs of cotton production per shih mow, hence the net costs per shih catty of cotton became slightly higher as the labor requirements increased.

The number of days of human labor do not have a direct relationship to the cotton yield per mow in a normal year, but the increases of both net costs per shih catty and gross costs per shih mow caused by the increase of human labor becomes very noticeable (Table 19, page 512).

When the average number of days of human labor required per shih mow is 4.4, gross costs per shih mow are only 9.81 yuan and net costs per shih catty only 0.35. As the labor requirement increases to 6.61 days, gross costs per shih mow advance to 10.41 yuan and net costs per shih catty to 0.43. If the labor requirement per shih mow reaches 10.06 days, gross costs per shih mow and net costs per shih catty advance to 12.00 and 0.55 yuan respectively.

9. Investment on Implements.—Expenses on implements accounted for only 4 per cent of the total gross costs of producing cotton in Kwanghwa. The investment on implements should not have a conspicuous effect on the variation of the production cost. Due to the presence of other inter-relating factors, this effect should not be overlooked either. The amount of investment on implements would naturally be related to the size of farm. It would be easier for large farms to use their implements, other capital investments and labor more efficiently than small farms. It happened that cotton yields and size of farm were directly associated in 1937. Correspondingly, low production costs and high investments were related (Table 20, page 514).

第二十表　民國廿六年湖北省光化縣每田塲農具投資與棉花生產成本關係
TABLE 20.—RELATIONSHIP BETWEEN THE INVESTMENT ON IMPLE-MENTS PER FARM AND COSTS OF COTTON PRODUCTION, KWANGHWA, HUPEH, 1937

每 田 塲 平 均 農具價值（元）Average value of implements per farm (yuan)	7.24	17.60	61.34
棉 田 坵 數 Number of fields in cotton	21	24	22
每市畝皮棉產量（市斤）Yield of cotton lint per shih mow (shih catty)	3.33	4.52	5.08
每市畝人工日數 Number of days of human labor per shih mow	7.05	6.88	6.51
每市斤淨費用 （元）Net costs per shih catty (yuan)　現 金 Cash	0.22	0.31	0.25
非現金 Non-cash	2.64	1.35	1.17
總 計 Total	2.86	1.66	1.42
每市畝總費用 （元）Gross costs per shih mow (yuan)　現 金 Cash	0.75	1.46	1.36
非現金 Non-cash	9.42	6.80	6.56
總 計 Total	10.17	8.26	7.92

In a normal year, the lowest net costs per shih catty occur in the medium group of implement-investment, because the average cotton yield is the highest for that group. Therefore, cotton yield is the important factor determining the unit cost of cotton production rather than the investment in implements.

（十）農舍投資及所有權　因中國田塲範圍太小，即使多數農民，不能享受其適當之居處，然其農舍投資，亦每屬過高。　農舍投資較少之田塲，其棉花生產費用，常較投資多者爲低（第五一五頁第二十一表及第二十二表）。惟因民國廿六年內，有其他滋擾因素之存在，故其關係亦不顯著。

第二十一表　民國廿六年湖北省光化縣農舍投資及所有權與棉花生產成本之關係

TABLE 21.—RELATIONSHIP BETWEEN THE INVESTMENT ON AND OWNERSHIP OF FARMSTEADS AND COSTS OF COTTON PRODUCTION, KWANGHWA, HUPEH, 1937

農 舍 所 有 權 Ownership of farmsteads		自 有 Owned				租 進 Rented
平均農舍價值　（元）Average value of farmsteads (yuan)	56.82	115.19	398.06	188.39	—
棉　田　坵　數 Number of fields in cotton	17	21	18	56	11
每市畝皮棉產量 Yield of cotton lint per shih mow （市斤）　(shih catty)	4.63	4.42	4.93	4.68	3.73
每市畝人工日數 Number of days of human labor per shih mow	6.10	8.01	6.34	6.88	5.82
每市斤淨費用　（元） 現　金 Cash	0.12	0.32	0.31	0.27	0.32
Net costs per shih 非現金 Non-cash	1.25	1.58	1.56	1.50	0.65
catty (yuan) ... 總　計 Total	1.37	1.90	1.87	1.77	0.97
每市畝總費用　（元） 現　金 Cash	0.58	1.44	1.60	1.31	1.21
Gross costs per shih 非現金 Non-cash	6.58	7.49	8.38	7.66	3.12
mow (yuan) ... 總　計 Total	7.16	8.93	9.98	8.97	4.33

因中國利率之高，故由經濟之立塲言之，農民是否值得置備農舍，尚屬疑問，不論在通常年或荒年，農民之無農舍者，其棉花生產費用均較低。民國廿六年，自有農舍之田塲，每市斤棉花之淨費用爲一•七七元而租進者爲○•九七元。同年前者每市畝之總費用爲八•九七元，後者僅爲四•三三元。通常產量年內，自有農舍之田塲，平均每市斤棉花之淨費用爲○•四四元，每市畝之總費用爲一一•○二元；與租進農舍之田塲之每市斤○•三八元，每市畝七•四○元相較，眞有天壤之別。　在目前中國之情形下，如農人能向地主取得相當之期限，及訂立有保障之合同，吾人似不應勸告農民設法購買田地及農舍，政府應扶助佃農，取得較長之佃期，及訂立確定之合同，至於貸款佃農，以購買田地及農舍，則對於貸款機關及農民兩者之風險，均屬極大。因中國借款之利率過高，而田地投資之報酬過低也。

結　論

（一）因中國田塲企業之過小，生產效率之低微，農村利率之高昂，故生產成本，實係極高。光化通常年每市斤棉花生產淨費用。平均爲○•五四元，每市畝總費用平均爲一○•六九元。

10. Investment in and Ownership of Farmstead.—Since the size of farm business in China is very small, the investment in farmsteads is often excessive, even though the dwelling house of most farmers does not permit a decent living. For farms having small investments in farmsteads, the cost of cotton production was usually lower than for those having large investments (Tables 21, and 22, pages 515 and 516). This relationship was, however, obscured to a certain extent by the presence of other disturbing factors in 1937.

第廿二表 湖北省光化縣通常年農舍投資及所有權與棉花生產成本之關係

TABLE 22.—RELATIONSHIP BETWEEN THE INVESTMENT ON AND OWNERSHIP OF FARMSTEADS AND COSTS OF COTTON PRODUCTION, KWANGHWA, HUPEH, IN A NORMAL YEAR

農 舍 所 有 權 Ownership of farmsteads				自　有 Owned		租　進 Rented
平均農舍價值 （元）Average value of farmsteads (yuan)	53.83	113.06	398.06	209.13	—	
棉　田　坵　數 Number of fields in cotton	12	16	18	46	5	
每市畝皮棉產量 Yield of cotton lint per shih mow （市斤）　(shih catty)	18.78	21.89	24.37	22.35	16.27	
每市畝人工日數 Number of days of human labor per shih mow	6.37	8.36	6.34	6.98	6.74	
每市斤淨費用（元） Net costs per shih catty (yuan)..	0.41	0.44	0.45	0.44	0.38	
每市畝總費用（元） Gross costs per shih mow (yuan)..	9.05	10.60	12.26	11.02	7.40	

Owing to the high interest rate in China, the desirability for farmers themselves to possess farmsteads from a business viewpoint becomes doubtful. In all circumstances, the costs of producing cotton were lower for farmers who did not own their farmsteads (Tables 21 and 22, pages 515 and 516). Net costs per shih catty were 1.77 yuan for farms with owned farmsteads, and only 0.97 yuan for those with rented ones in 1937. In the same year, the gross costs per shih mow were 8.97 for the former and 4.33 for the latter. Average costs were 0.44 yuan per shih catty and 11.02 per shih mow for farms with owned farmsteads as compared with only 0.38 yuan per shih catty and 7.40 per shih mow for those without owned farmsteads in a year of normal yield. In the present situation, it is, therefore, not advisable for farmers in China to try to own their land and farmsteads if they can get reasonable terms and secured contracts from their landlords. The government should help tenant farmers to get better terms and secured contracts. To lend money to tenants for the purpose of purchasing land and farmsteads is too risky for both the lending institutions and the farmers, as the interest rate prevailing in China is too high and the earning power of the land is too low in relation to its capital investments.

Summary

1. Due to the diminutive size of farm business in China, hence a low efficiency of production, and high interest rates prevailing in rural districts, costs of production were very high.

（二）通常產量年內，田地使用費，佔總費用百分之五一·四。人工之支付，連僱工與家工在內，佔百分之三六稍強。其他費用，如房舍，晒場，農具，畜工，種子，肥料及軋花等，僅佔總數百分之一二。

（三）除去副產物之現金收入後，每市斤現金費用，僅〇·〇七元。總現金費用，約佔總費用百分之一五；而非現金費用，竟佔百分之八五。此高成分之非現金費用，可視為吾國農民之安全限際，賴以保障自然及經濟災害，如水災虫害或價格低落時之破產。

（四）民國廿六年內，棉花產量，僅及通常年五分之一；因此該年每單位之生產成本特高。據該年光化四九田場之平均數，每市斤棉花之生產淨費用，竟高至一·六九元。其中僅〇·二七元係現金，其餘一·四二元，則屬非現金。至各種費用之相對重要性，則廿六年與通常年相似，惟工資，房舍，及農具之百分率署高，而田地使用費及軋花費則署低耳。

（五）如田場增大，則單位費用減少。此種關係，乃表示大田場在市場上所處之優越地位。惟大田場現金支付較小田場為多。小田場之現金支付，佔生產淨費用百分之四·二；在中等田場者，佔百分之一四·四；在大田場者，佔百分之二五·八。如遇價格水準一有變動時，則大田場所受之影響最為嚴重。不論通常年或民國廿六年，田場大小與每單位棉花之生產費用均係負相關。

（六）田坵之大小，與棉花之生產成本，成相反之關係。田坵愈大，其每單位之生產成本愈小。於通常年份，田坵之最大者，其每市斤皮棉之平均淨費用為〇·三九元；而田坵之最小者，則為〇·六五元。其於每市畝總費用之關係亦然。田坵最小者，每市畝之總費用，約高於最大者百分之五〇。此種關係，蓋因田坵之較大者，人工之效率較高所致也。

（七）棉花產量，對於棉花生產成本之影響，較任何因素，尤為顯著。生產量最高之田坵，其每市斤棉花淨費用僅及產量最低者之五分之一。

（八）民國廿六年每市斤棉花生產淨費用之最大者為粘土，竟達二·一三元，而壤土則僅一·四七元。

（九）民國廿六年內，田地價格較高者，其棉花產量，較田地價格低者為多。惟產量之增加，不足以平衡其他不利之因素，因此土地價值大者，其生產每市斤棉花之淨費用，較價小者為高。

（十）自有田地每市畝之總費用，較租進者大二·二倍；而每市斤之淨費用，則大二·六倍。

The average net cost of producing cotton in Kwanghwa was 0.54 yuan per shih catty and average gross cost per shih mow, 10.69 yuan in a normal year.

2. In a year of normal yield, the use of land accounted for 51.4 per cent of total costs. Compensation for labor, both paid and unpaid, amounted to a little over 36 per cent. All other costs such as buildings, threshing floor, implements, animal labor, seeds, fertilizers and ginning represented only 12 per cent of the total.

3. After cash receipts from by-products were deducted, cash expenditures amounted to only 0.07 yuan per shih catty. Total cash costs represented approximately 15 per cent of total costs, while non-cash costs aggregated 85 per cent. This high percentage of non-cash costs serves as a buffer or margin of safety against natural and economic calamaties such as flood, insects, or falling prices.

4. Cotton yields per shih mow in 1937 amounted to only one fifth of those of a normal year. Hence the cost of production per unit was extremely high in that year. The average of forty-nine farms in Kwanghwa indicates that the net costs of producing one shih catty of cotton in 1937 was as high as 1.69 yuan. Only 0.27 yuan was made in cash form and the other 1.42 yuan in non-cash expenses. The relative importance of various kinds of costs did not change very much in 1937 as compared with a normal year, except by a slight increase in wages, building and implements, and a slight decrease in the use of land, and ginning costs.

5. As the size of farm becomes larger, the unit cost decreases. This relationship indicates the competitive advantage of large farms. But large farms had more cash disbursements than small ones. Cash outlays represented 4.2 per cent of the net production costs for small farms, 14.4 per cent for medium sized farms, and 25.8 per cent for large farms. This discloses the vulnerability of large farms toward the ever-changing price level. This negative relationship between the size of farm and unit cost of cotton production holds true in a normal year as well as in 1937.

6. The size of the field has a negative relationship to the costs of cotton production. The lower unit costs of production were associated with larger field. In a normal year, net costs per shih catty were 0.39 yuan for the biggest fields, and 0.65 yuan for the smallest. Likewise, gross costs per shih mow were about 50 per cent higher for the smallest fields than for the largest. The relationship of labor efficiency to the size of the field accounts for this association.

7. More striking than that of any other factors was the effect of the cotton yield on the costs of cotton production. The net cost per shih catty of cotton for fields with highest yields was about one-fifth of that for those fields with lowest yields.

8. Net costs of production per shih catty of cotton were highest on clay soil, 2.13 yuan in 1937, while on loam, they were only 1.47 yuan.

（十一）每市斤棉花之淨費用，在距農舍平均〇•二二里之田坵，與距農舍平均〇•五七里者，無大差別；前者為一•四三元，而後者為一•四八元。惟距農舍最遠者，每市斤之淨費用，則為二•一九元。

（十二）如每市畝需要之人工多，則每市斤棉花之淨費用亦高。

（十三）低生產費用及高農具投資成正相關。

（十四）於任何情形之下，農民之租進農舍或農舍投資較少者，其棉花生產費用較低。因中國利率之高，故自經濟之立場言之，農民之宜否購買農舍，殊堪考慮也。

楊   蔚

潘 鴻 馨

抗戰以來之重慶市塲

重慶為吾國長江上流與西南諸省商業之咽喉，而自民族抗戰以來，更為後方資源供應之樞紐。去歲京滬淪陷，長江下流封鎖，渝地商業，頓受威脅。且影響所及，川康黔內地之農工商各業幾均瀕於危險之境。茲追述去年渝市危難實況及當時各種救濟方法，以供讀者之參攷。

進 出 口 物 價 之 背 馳

今於重慶批發物價中選出進口貨物十二種之價格，編為進口物價指數（一九三七年＝一〇〇）（第五二一頁第一圖）[1]。進口物價於一九三七年上半年雖有上升之勢，然甚徐緩。滬戰發生以後，該項指數即自八月之九六，突漲至九月之一一四。蓋因長江下流，實行封鎖，航運停頓，外貨來源斷絕之故。但九月至十一月指數僅漲二点。蓋因前此物價挺漲過猛，消貨者咸存觀望之心。其後以長江通航無期，外貨無由運入，故指數再度猛漲

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9. Land of higher value produced more cotton than land of lower value in 1937, but this increase in yield did not counterbalance other unfavorable factors, therefore the net costs of producing one shih catty of cotton were higher on land of greater value than on that of lower value.

10. It was found that the gross costs per shih mow for owned land were 2.2 times as much as those for rented land and net costs per shih catty were 2.6 times as much.

11. Net costs per shih catty of cotton did not vary much for fields averaging a distance of 0.22 li and 0.57 li from the farmstead; 1.43 yuan for the former and 1.48 for the latter; while for the fields furthest from the farmsteads, they were 2.19 yuan per shih catty.

12. Net costs per shih catty of cotton became slightly higher as the labor requirements per mow increased.

13. Low production costs and high investments on implements were related to each other.

14. In all circumstances, the costs of producing cotton were lower for farmers who rented their farmsteads or had the smallest investment in farmsteads. Owing to the high interest rate in China, the desirability of the farmers themselves possessing farmsteads from a business viewpoint becomes doubtful.

W. Y. Yang
Pan Hong-sheng

THE SINO-JAPANESE WAR AND THE CHUNGKING MARKET

Chungking, a central market for south-west China, situated on the Yangtze River, has become the headquarters of defensive resources since the outbreak of the Sino-Japanese hostilities. The successive fall of Shanghai and Nanking and the closing of the lower Yangtze have had disastrous effects on the Chungking market and in consequence the commerce, industries, and agriculture in the south-western interior are also faced with bad times. This paper attempts to review the situation existing during the crisis and the remedies that have been applied.

至今年三月，竟達一七二，較去年六月指數，高百分之八四。 其中尤以五金價格之升漲爲最速。因渝市二月間空襲頻傳， 居民紛購是項材料，以建築防空壕也。當時外貨價格雖高，然存貨漸空， 成交數量，自屬有限。

出口物價指數包括本省出口品九種[2]。 一九三七年上半年對外貿易旺盛，指數自該年一月至六月由九七漲至一一四。 七月蘆溝橋事變爆發，滬局緊漲，人心惶惶，價格因之折回。指數由七月至九月，猛跌二九点。 至今年一月，指數已跌爲七四・四，較去年六月，低四〇点。 一月至三月，雖上漲十四点，然三月後之指數，復見疲落。
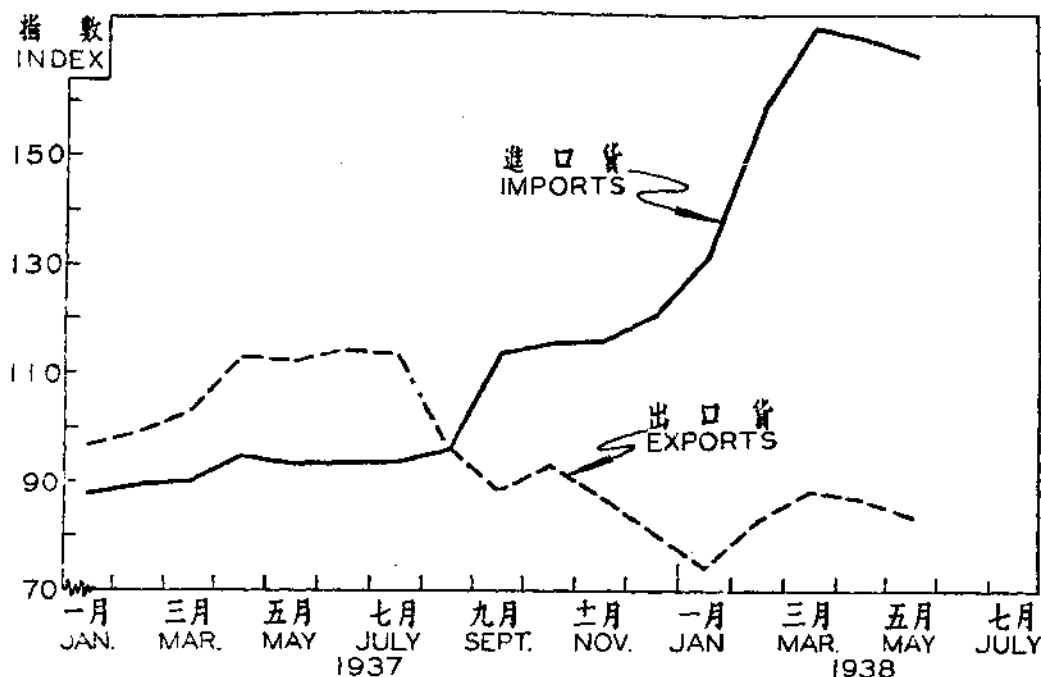
第一圖　重慶進口貨及出口貨批發物價指數一九三七年一月至一九三七年五月

一九三七年＝一〇〇

進口貨因一九三七年八月後，來源斷絕，價格自一九三七年七月至一九三八年三月，上升百分之八四。出口貨因長江封鎖，去路隔絕，價格自一九三七年六月至一九三八年一月下跌四〇点。

FIGURE 1.—INDEX NUMBERS OF WHOLESALE PRICES OF IMPORTED AND EXPORTED COMMODITIES IN CHUNGKING, JANUARY, 1937 – MAY, 1938

(1937 = 100)

Prices of imports rose by 84 per cent from July, 1937, to March, 1938, owing to the closing of the usual sources since August, 1937. Export prices fell precipitously by 40 points from June, 1937, to January, 1938, on account of the impossibility of using the Yangtze river as a route of export.

2　出口物價指數爲下列各物品價格之簡單數學平均：

| 水糖 | 黨歸 | 大麴酒 | 桐油 | 黑猪鬃 |
| 白糖 | 榨菜 | 生黃牛皮 | 川芎 | |

The Divergence of Export and Import Prices

Index numbers of import prices in Chungking have been calculated from twelve imported commodities (1937 = 100)[1] (figure 1, page 521). Prices of imports in the first half of 1937 showed a slow upward tendency. From August to September the index rose from 96 to 114, because sources of imports had been cut off by the closing of the boom in the lower Yangtze at the outbreak of hostilities in Shanghai. From September to November the index rose only two points, because of the hesitation to purchase on the part of the consumers, due to the sudden rise of prices of imported commodities in previous months. But after people realized that the river would not be navigable for a long time, the index rose by leaps and bounds and reached 172 in March, 1938, 84 per cent higher than that of July, 1937. Prices of metals rose more rapidly in 1938 than those of any other commodities, as there was a rush demand for them for the building of dugouts, because people had been alarmed by air raid warnings in February. However, owing to the diminished stocks, the actual sales were few.

The index numbers of export prices are computed from nine exported commodities.[2] Foreign trade was active in the first half of 1937 and so the index, from January to June, 1937, rose from 97 to 114. The outbreak of the Lukouchiao incident on July 7 and the tenseness of the Shanghai situation arrested the further rise of export prices. From July to September the index fell precipitously by 25 points and slumped to 74.4 in January, 1938. The index in January, 1938, was lower than that in June, 1937, by 40 points. From January to March prices had risen 14 points, but they declined again from March to May.

Wood oil was one of Chungking's major exports. In June, 1937, the price of wood oil was 43.17 yuan per picul. From June to December, 1937, the price of wood oil declined by 24.17 yuan per picul and in January, 1938, it was worth only 17.4 yuan as compared with 40.12 yuan per picul in January, 1937. The average price per picul during August to December, 1937, was 24.8 yuan, whereas that for the same period in 1936 was 46 yuan.

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1   The index numbers of import prices are simple arithmetic averages of price relatives of the following commodities:—

Shirtings, Yin-tan-shih-lin.   Candles, Crown Brand.
Shirting, Hsien Pao Brand.   Bamboo steel.
Cotton.   Flexible cord.
Coal No. 2.   Cigarettes, Small Ruby Queen.
Kerosene, Eagle Brand.   News printing paper.
Reduced indigo, 60 per cent, Lion and Horse Brand.

2   The index numbers of export prices are simple arithmetic averages of price relatives of the following commoddities:—

Sugar, dried syrup.   Wood oil.
Sugar, white.   Drug, Chwan Kong.
Wine, Tachu.   Drug, Tang Kwei.
Cow hides.   Mustard root, salted.
Bristles, black.

重慶出口貨，以桐油爲主體。 一九三七年六月，桐油市價每担值四三・一七元。自六月至十二月，油價慘跌爲二四・一七元。 今年一月，復跌爲一七・四元。較一九三七年一月之每担四〇・一二元，相差多矣。 一九三七年八月至十二月，每担平均價格爲二四・八元。 而一九三六年同期，則爲四六元。

出口貿易之慘淡

川省出口商品，自絲業一落千丈以後，即由山貨及藥材取而代之。一九三六年山貨於出口總值中，佔百分之四三； 藥材佔百分之三八。藥材大部銷售國內，而山貨則大部輸出國外。 但自長江封鎖後，渝萬漢三地，此項出口貨，囤積如山。據川省貿易局一九三七年底統計， 渝市存貨約值四，四七六，四七二元，交易蕭沉，以此爲極。單以桐油貿易而論， 一九三七年八月至十二月每月平均成交數量爲三，六三六担。一九三六年同期，每月平均爲一五，二九四担。前後兩期，相差四倍強。 實際上九月後交易近於停頓。

金融之奇窘

一九三六年重慶市面，甚爲平穩。一九三七年初， 全國貿易，趨向旺盛。渝市商業，亦欣欣向榮。就渝市票據交換額觀之， 即可明瞭當時情形（第五二五頁第二圖）。一九三六年一月至十二月， 票據交換總額自四七・四百萬元漲至七〇・五百萬元。 至一九三七年五月，漲爲一三八・二百萬元；五月至七月，跌落一四・七百萬元。滬戰發動，商業驟告緊縮。 由七月之一二三・五百萬元交換額，突減爲八月之六・九百萬元。 自此一蹶不振，迄今仍未超出一六百萬元之低水準。平時票據交換之差額，恒在交換總額之百分之二十以內。 戰爭發生後，差額達於交換總額百分之三八至七三之間。七月底八月半之比期利率[3]，高達月息一分一厘，（第五二六頁第三圖）可見當時頭寸異常短少也。

今就川省公債價格而言， 善後公債每千元票面價格自一九三六年一月之六三七・五元陸續上漲， 至一九三七年六月爲八四八元（第五二九頁第四圖 七月初爲八四三元，而蘆溝橋砲聲一發，公債價格即一瀉如注，至七月底平均僅及六五五元。一月內相差竟達一八八元。 建設公債七月間跌落一四二元。川省公債，除已還本兌換者外， 尚有一千四百餘萬元之鉅額。如此驚人之慘跌，使持債商民之資產負債，不能相符。 乃造成渝市金融嚴重之難關。八月公債市價，經政府規定最低限價。 明盤市價，遂無漲落之可言。

3　比期爲長江上流折款往來規定習慣之清結日期，恒爲每月之月半及月底。

Adverse Trend of Export Trade

In recent years forest and game products and drugs have taken the leading places in exports. Since the decline of the silk trade, forest and game products and drugs have amounted to 43 and 38 per cent respectively of the total value of goods exported. While drugs were mostly for domestic consumption, forest and game products were exported to foreign countries. Since the blocking of the Yangtze River these products have been stored in Hankow, Wan Hsien and Chungking. According to the estimation of the Bureau of Trade of Szechwan, at the end of 1937 these goods in Chungking amounted to 4,476,472 yuan in value. The commodity exchange was substantially reduced. If the trade in wood oil is studied throughout this period, it is found that the average volume of transaction for August to December, 1937, was 3,636 piculs, while that for the same months of the preceding year was 15,294 piculs, that is to say that the oil business in August to December, 1936, was four times greater in volume than for the same period in 1937. Actually very few oil transactions have been completed since September, 1937.

Financial Crisis

In 1936 the Chungking market was steady. In the beginning of 1937, while the general condition of business in the whole country indicated future prosperity, commerce in Chungking also was progressing favorably, as is shown by the value of inter-bank clearings and collections in figure 2 (page 525). From January to December, 1936, bank clearings rose from 47.4 million yuan to 70.5 million yuan. From December, 1936, to May, 1937, the clearing value rose from 70.5 million yuan to 138.2 million yuan, and from May to July it fell by 14.7 million yuan. From July to August, 1937, the value of clearings suddenly slumped from 123.5 million yuan to 6.9 million yuan. Thereafter the value of clearings fluctuated below the level of 16.0 million yuan. The value of inter-bank collections in pre-war times seldom exceeded 20 per cent of the total value of clearings. Since the outbreak of war, the collection value fluctuated vigorously within a range of 38 to 73 per cent of the total value of clearings. The interest rate on demand deposits for the end of July and the middle of August rose to 1.1 per cent per month (figure 3, page 526)[3], reflecting a shortage of available cash.

As regards the price of provincial bonds, from January, 1936, to June, 1937, the price of rehabilitation bonds has risen from 637.5 yuan to 848 yuan per 1000 yuan par value (figure 4, page 529). The news of the Lukouchiao incident immediately depressed the prices of rehabilitation bonds, causing them to fall from 843 yuan to 655 yuan. In other words they fell 188 yuan within one month. Reconstruction bonds fell by 142 yuan in

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3　Loans in upper Yangtze Valley district due on dates at the middle or end of the month.
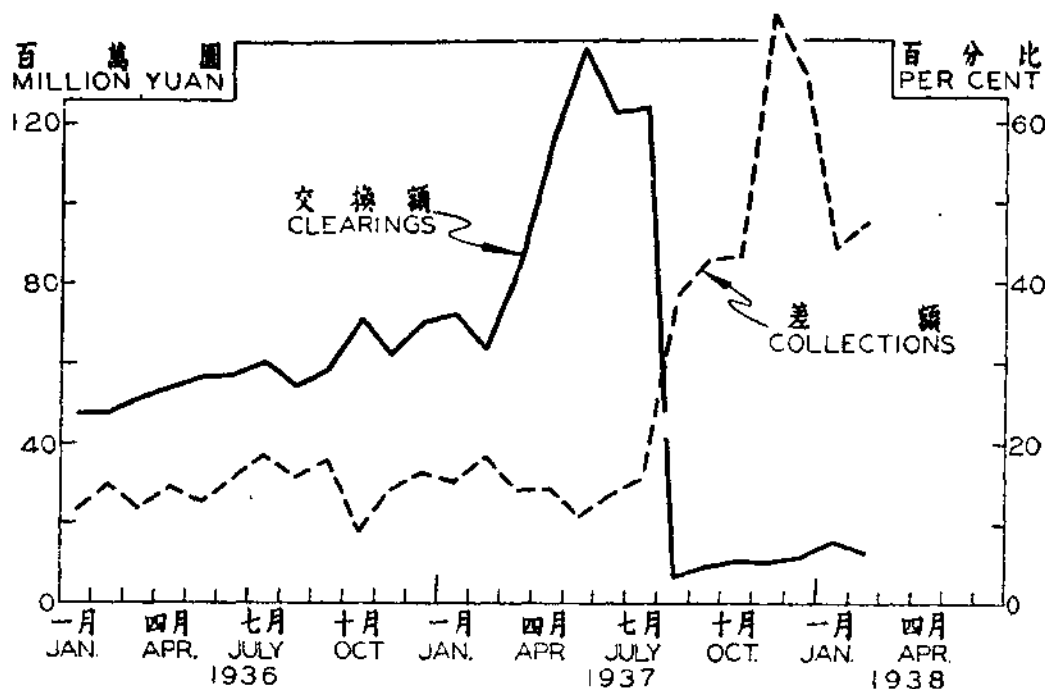
第二圖　重慶票據交換總值及交換差額對總值之百分比一九三六年一月至
　　　　一九三八年二月

　　一九三六年及一九三七年上半年，票據交換總值陸續上升。自一九三七年七月至八月突跌百
分之九四・四，其後起伏於一六・〇百萬元之低水準以下。交換之差額於平時恆在總值之百分之
二〇以內。抗戰發動後，此值激變於百分之三八至七三之間。

FIGURE 2.—THE VALUE OF INTER-BANK CLEARINGS AND THE VALUE
　　OF INTER-BANK COLLECTIONS AS A PER CENT OF THE CLEAR-
　　INGS IN CHUNGKING, JANUARY, 1936 – FEBRUARY, 1938

　　　The value of inter-bank clearings was rising during 1936 and the first
half of 1937.　From July to August, 1937, it suddenly dropped by 94.4 per cent
and thereafter the value of clearings fluctuated below the level of 16 million
yuan.　The collection, at normal times within 20 per cent of the total clearings,
fluctuated vigorously between 38 and 73 per cent of the latest clearings after
the outbreak of the war.

各 方 救 濟 之 實 施

　　重慶商業自發生極度困難以來，政商及金融各界，根據當時需要，成
立各種救濟管理機關。其救濟方案，可分以下數端：

　　穩定物價：　一九三七年九月，川省政府令營業地方兩稅局，辦理利
得稅，以防止奸商操縱戰時之物價，所有因戰爭而獲得之各項盈餘，均須
以累進稅率，課以利得稅。

　　同時重慶市政府，設立物價管理委員會，以研究物價平定，消費節制
，物品運銷統制事項，而穩定市場。
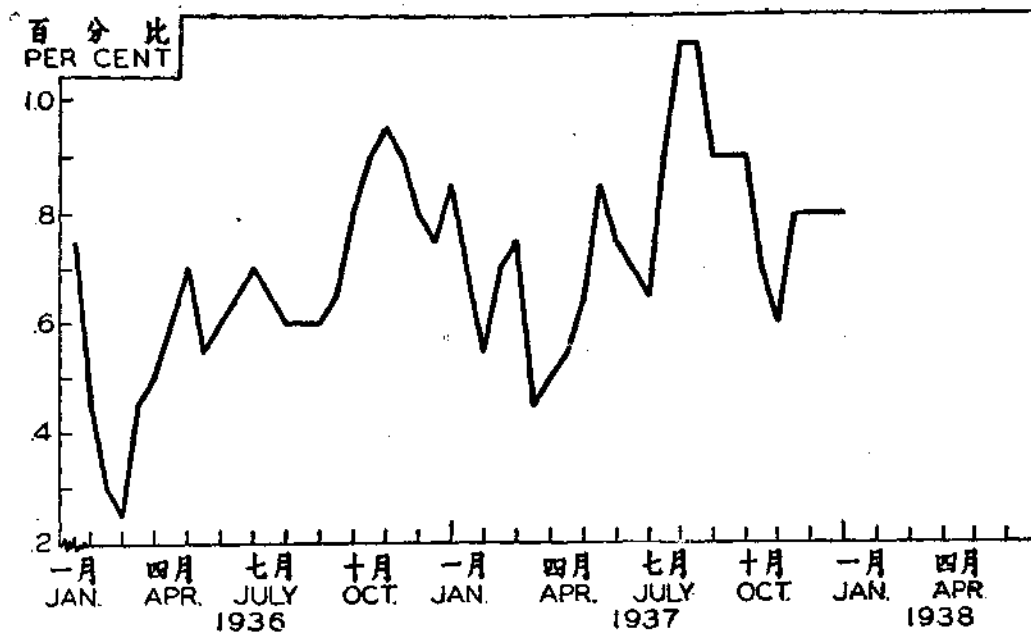
PER CENT

第三圖　重慶往來存欵之比期利率一九三六年一月至一九三八年一月

七月底八月半之比期利率，高達月息一分一厘可見當時頭寸異常短少也。

FIGURE 3.—THE INTEREST RATE OF DEMAND DEPOSIT ON THE DATE IT FALLS DUE ᵢₙ CHUNGKING.

The interest rate for the end of July and the middle of August, 1937, rose to 1.1 per cent per month, reflecting a short of available cash.

July. Outstanding value of provincial bonds amounted to 14 million yuan, therefore, the tremendous fall in bond prices created an unfavorable balance for the merchant bondholder, and became an overwhelming menace to the Chungking financial circle. Prices have been nominally unchanged since the fixing of the lowest limit of prices by the Ministry of Finance in August.

Measures taken by Interested Organizations for Meeting The Crisis

During the crisis, the government, merchants and bankers in Chungking united in finding means to relieve the market situation by establishing some specific organizations for suitable relief. The remedies put into action may be classified under the following main headings:

Stabilization of Commodity Prices:

In September, 1937, the Provincial Government instructed the Bureau of Business Taxation and Bureau of Land Taxation to levy war profit taxes to prevent illegal manipulations and an inflational rise of prices. Profit which owned its origin to the war would be taxed according to a progressive rate.

推進貿易： 戰爭發動後，進出口貿易主要之困難，不外交通，兵險，及流動資金三大問題。一九三七年九月，四川省貿易局，會同貿易委員會，國際貿易局，與金融界協力救濟貿易。茲將其針對上例三端所施行者，分述於後：

(甲)交通： 自長江航線封鎖後，四川出口貨，分由新闢下列三大路線出口：

(一)渝漢粵香港線： 由水道至漢口，轉粵漢路而抵香港出口，運輸成本最廉，然粵漢路空襲頻繁，渝漢水運工具不足，而又忙於軍運，故貨運因之不暢。

(二)渝筑昆海防線： 自渝由公路過貴陽至昆明，復由滇越路達海防出口，試辦結果，每關擔貨物運輸成本為六十元左右，然車輛太少，運輸仍極困難。

(三)渝宜昆海防線： 由渝水道到宜賓，再以騾馬背子運往昆明，然後由滇越路至海防出口，此線成本較輕，費時較久，牛羊皮之類，可由此道出口。

(乙)兵險保險： 兵險保險，由中央信託局負責承辦。

(丙)金融： 由財政部撥與對外貿易委員會二千萬元資助出口貿易。此外由中中農三行合組貼放委員會，以供農工商業之周轉。主要押品，分農工礦產商品及中央政府之債券。

救濟金融： 金融界因戰爭影響而發生之困難，不外籌碼缺乏，頭寸短少以及公債跌價。救濟之法，亦可分為下列數点：

(甲)發行保証代現券： 一九三七年八月底重慶銀行錢業聯合準備委員會成立，發行代現券八百萬元，以救暫時眉急。該券以省公債股票，到期票，有貨物担保之票據，生金銀及貨品，為保証品。

(乙)提高公債之抵押折扣： 平時以省公債向銀行抵押現款均以票面四，五折計算。然為救濟渝市金融商業，三行貼放會，奉令將省公債抵押折扣，各分別提高一折。

(丙)穩定公債： 財政部為穩定公債價格起見，特於一九三七年八月，規定善後公債，最低限價為七六折，建設公債為七一折。

At the same time, a committee for the controlling of prices was formed under the auspices of the Chungking Municipal Government, to discuss devices for fixing prices, limiting consumption, and other means of controlling the market.

Development of Trade:

On account of the lack and restriction of three important business facilities, namely, communications, war insurance and working capital, foreign trade had suffered a severe set-back since the outbreak of hostilities. The Bureau of Trade, Szechwan, the Committee of Foreign Trade Adjustment, the Bureau of Foreign Trade, and the financial circle in Chungking jointly considered these problems in the following way:—

A. Communication: Since the use of the Yangtze River was impossible three other routes remained open for the export of Szechwan merchandise to foreign ports.

1. Chungking-Hankow-Hongkong Route:—Goods are shipped from Chungking to Hankow by river and then transported to Hongkong by the Hankow-Canton Railway and Canton-Kowloon Railway. The cost of transportation is low, but owing to the lack of navigating vessels, intensive military transportation and repeated bombings along the railroad, this route is not a very satisfactory one.

2. Chungking–Kweiyang–Kumming–Haifong Route:—Goods are transported by trucks from Chungking through Kweiyang to Kunming and then by the Yunnan-Annam Railway to Haifong. An experimental shipment cost approximately 60 yuan per Hai-Kwan picul. But owing to the lack of trucks over this route it is impossible to maintain prompt commercial transportation.

3. Chungking–Epingá Kunming–Haifong Route:—Goods can be transported by junk or motor boat from Chungking to Eping and thence to Kunming on draft animals. By this way the cost of transportation is low, but the goods are a longer time on the road. The hides and like merchandise can be exported in this manner.

B. War Insurance: The Central Trustee Company has opened a department for war insurance, to cover transportation risks on goods for foreign trade.

C. Finance: The Ministry of Finance has appropriated 20 million yuan to the Committee of Foreign Trade Adjustment for the subsidizing of export business. The three National Banks have formed a discounting and loaning committee to extend credit to farmers, industrialists, and merchants. The important securities acceptable are agricultural, mineral, and industrial products, and Central Government Bonds.
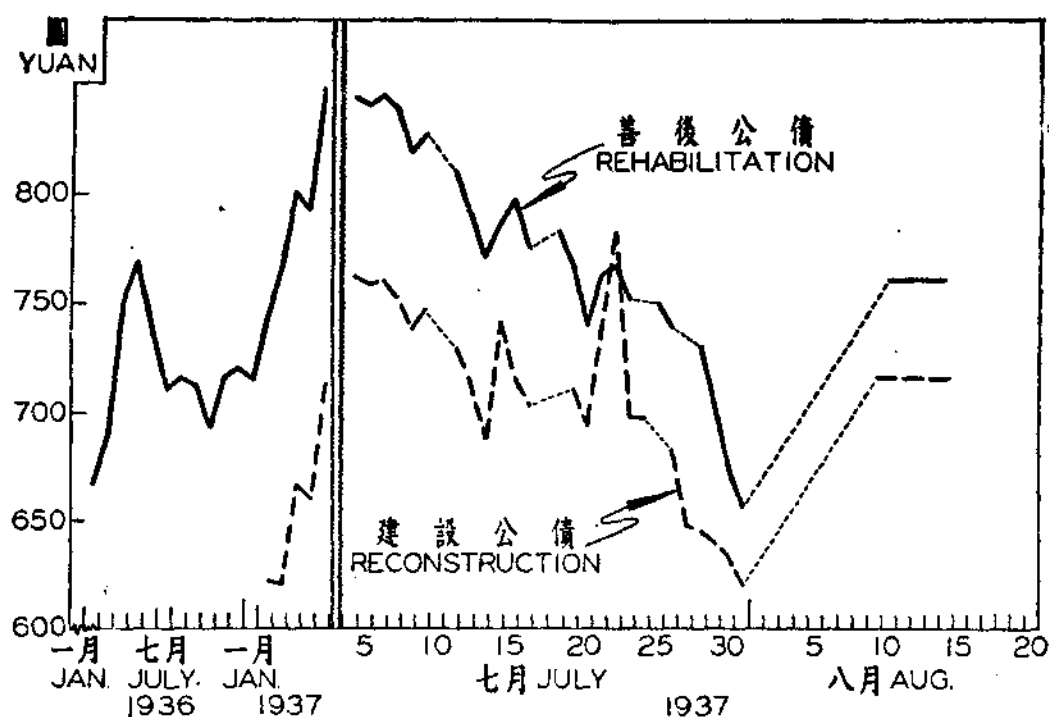
第四圖　重慶四川省善後公債及建設公債之價格一九三六年一月至一九三
　　　　七年八月十四日

一九三六年及一九三七年上半年，公債市價陸續上升。華北戰端一啟，一九三七年七月間，善後公債及建設公債價格分別跌落一八八元及一四二元。其後經中央政府規定其最低限價，明盤市價，遂無漲落。

FIGURE 4.—THE PRICE OF THE SZECHWAN REHABILITATION BONDS
    AND SZECHWAN RECONSTRUCTION BONDS IN CHUNGKING,
    JANUARY, 1936 – AUGUST 14th, 1937.

Prices of bonds were rising during 1936 and the first half of 1937. The outbreak of hostilities in North China immediately depressed the prices of rehabilitation and reconstruction bonds by 188 and 142 yuan respectively in July, 1937. After that, lowest price limits were fixed by the Central Government, consequently prices have remained unchanged as in normal times.

結　　論

自抗戰發動，長江下流封鎖後，重慶貿易突然停頓，進口物價，以來貨斷絕而飛漲，出口貨價格，因去路不暢而慘跌。善後公債價格，一月間下落幾達一八八元。建設公債，亦落一四二元。商業金融，因之瀕於險境。內地農工商業，大受影響。政府民眾機關協力籌劃穩定物價，扶植貿易，發行代現券，實施貼放，以及提高公債抵押折扣等救濟方策。然市面之轉好，不及萎縮之快，蓋真正繁榮，端賴貿易之繁榮，生產之增加，與金融之穩定也。

　　　　　　　　　　　　　　　　　胡　國　華

Restoration of Finance:

The difficulties before the financial circle were the deficiency of circulating currency, inadequacy of appropriable cash, and the slump in the prices of provincial bonds. These difficulties were solved in the following ways:—

A. Issue of Secured Circulating Notes:—A joint reserve committee was organized by the modern banks and the native banks in Chungking to issue 8,000,000 yuan of circulating notes for joint relief. Securities authorized were provincial bonds, general stocks, bills, documents guaranteed by commodities, gold and silver bullion, and commodities.

B. Raising the mortgage value of provincial bonds:— At ordinary times, provincial bonds can be pledged at only 40 per cent or 50 per cent of their par value. In order to ease the financial situation the Discounting and Loaning Committee was instructed to raise the margin by 10 per cent.

C. Stabilization of the price of bonds: By the order of the Ministry of Finance in August 1937, the lowest price limits were announced for rehabilitation and reconstruction bonds at 760 and 710 yuan respectively.

Summary

The closing of the Yangtze immediately arrested trade in Chungking. Prices of imports advanced rapidly and prices of exports dropped precipitously. Prices of rehabilitation and reconstruction bonds declined by 188 and 142 yuan respectively in one month. Commerce and finance in Chungking were seriously affected. Agriculture and industries in the interior also were faced with collapse. Measures for relief were taken one by one, to stabilize prices, subsidize trade, issue circulating notes, extend loans, and discount and raise the mortgage value of bonds. The recovery of the market could not be as swift as its depression had been. Real prosperity depends upon a flourishing trade, increase of production and a stable currency.

Hu Kwoh-hwa

河北正定農產物價之分析

任何一地，物價指數之編製，其範圍之大小， 每爲物品項目之多寡所限制。然編製一種指數，而欲蒐集所有物品之材料，實不可能。 本文所選作物，深信頗足代表正定農民現金收入之各種來源。

一九三三年以前之材料，係採用本系『土地利用』調查。自一九三四年以後，十五種作物，每月之價格，由正定物價報告員，按月塡報。 當個別物價指數，編爲總指數，及月指數編爲年指數時， 究應採用算術平均法，抑其他方法，須充份考慮。 本研究以權數材料之缺乏，故未能採用加權平均。要之，如所擇之材料確實，且富有代表性，則採用算術平均， 與加權平均，兩者所得之結果微異，亦毫不重要也。

上海與天津之農作物價格指數，編製有年， 然若以之代表其附近市鎮之物價變動，則爲大謬。蓋各地所產之作物種類迥異， 即同一作物，在兩地之供需情形，亦難盡同，故欲知正定農民之經濟實況， 必須分析該地之物價變動也。

一九○七年以來正定之物價變動

正定農作物價格變動之趨勢，（第五三三頁第一圖） 純爲中國一般物價水準之變動所左右。 物價水準之變遷，表示物品價值或貨幣購買力之變異。華北批發物價指數 [1]，指明自一九一○年至一九三一年物價水準，呈上漲趨勢。自一九三一至一九三四年猛跌，而自一九三五至一九三七年， 復行囘漲。正定農產物價之變動，正同出一轍。 惟以影響批發物價之水脚運輸等費，變動遲緩，故城市批發物價之柔活性，恒較田塲物價爲弱。 此種關係，各地皆然。一九三一年以前，華北一般物品之批發物價水準， 穩定上漲，但田塲物價則循此主要趨勢，變動不常。自一九三一年以後， 物價下跌，華北批發物價與正定田塲物價，兩者之曲線，大爲分歧。 但此分歧，於物價復行上漲時，立即調整。

1　一九○七至一九一二年　根據何廉指數（請參看銀行月報第七卷第二期原指數爲
　　　　　　　　　　　　　一九一三＝一○○）換算爲一九二六年＝一○○。

　　一九一三至一九三六年　南開大學經濟學院：「南開指數年刊」一九三七年三月出版。
　　一九三七年　　　　　　國定稅則委員會：「上海物價月報」。

ANALYSIS OF PRICES OF FARM CROPS IN CHENGTING, HOPEH, 1907–1937

The size of sample in compiling a price index for any locality is limited by the number of commodities for which a satisfactory series of price data are available. It is practically impossible to include all kinds of commodities in the compilation of an index. It is believed that the sample used here is fairly representative of the cash income of the farmers of Chengting from different sources.

Data for the earlier years are from the Land Utilization Study made in the years 1930 to 1933. Since 1934 monthly prices for 15 crops have been recorded regularly by the local price reporter. In combining price indexes for single commodities into a general index, and monthly indexes into annual indexes, the problem arises as to whether a simple arithmetic average or other methods should be used. Owing to the lack of information on weights, the use of a weighted average is out of the question. The differences between the results obtained from the use of a simple arithmetic average and a weighted average are, however, very insignificant if the sample chosen is fairly representative.

The price index of farm crops for Shanghai and Tientsin have been available for a number of years, but it would be a mistake to suppose that the price movement in any near-by market town in China would be exactly the same as that in Shanghai or Tientsin. The varieties of crops produced in different places are not identical. The conditions of supply and demand of a particular crop in one district do not resemble those of other districts. Consequently, the analysis of price movement in Chengting is necessary if we are concerned with the distress or prosperity of farmers in that particular district.

Price movement in Chengting since 1907

The major movements of prices of farm crops in Chengting (figure 1, page 533) are governed by the changes in the general price level in China. Changes in the general price level represent variations in the commodity value or purchasing power of money. The index numbers of wholesale prices in North China[1] indicate that the price level has had an upward trend from 1910 to 1931,

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[1] 1907-1912   Ho Lien Index (Original index 1913 = 100. Please refer to Bankers' Monthly Vol. VII, No. 2).
Converted to 1926 = 100.

     1913-1936   Nankai Institute of Economics: Nankai Index Numbers, 1936.

     1937   National Tariff Commission: Prices and Price Indexes in Shanghai.
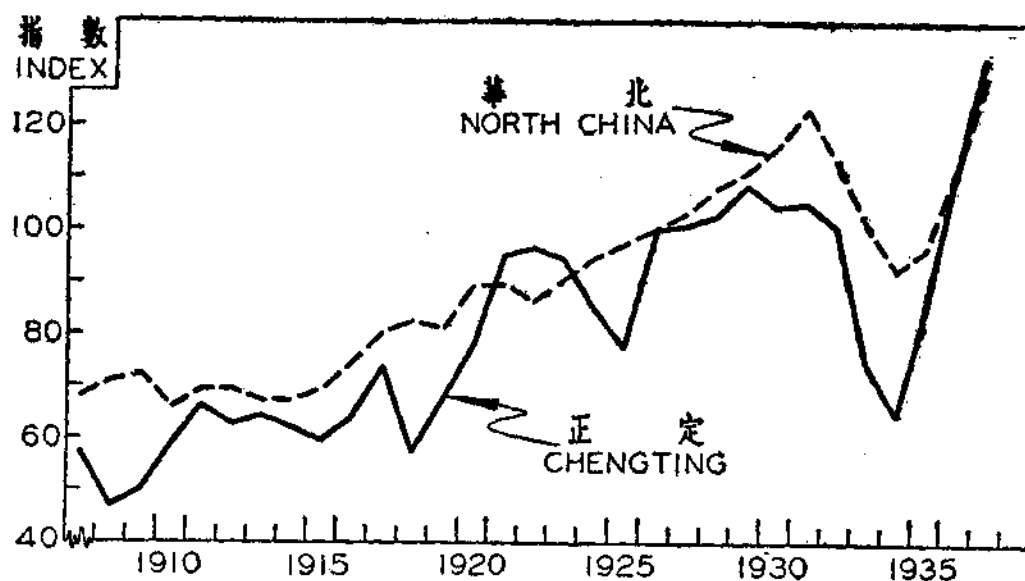
第一圖　河北正定農產物價格及華北批發物價指數一九○七至一九三七年

一九二六年＝一○○

正定農產物價格變動之趨勢，純依附中國批發物價。

FIGURE 1.—INDEX NUMBERS OF PRICES RECEIVED BY FARMERS FOR FARM CROPS IN CHENGTING, HOPEH, AND WHOLESALE PRICES IN NORTH CHINA, 1907 – 1937,

1926 = 100

The trend of farm prices in Chengting was governed chiefly by the general price level in China.

正定與華北之農產物價

正定與華北農產物價之比較，示於第五三四頁第二圖。 華北農產物價之柔活性，似較正定爲遜。 此得以下列事實解釋之：第一，華北批發物價包括比較不甚柔活之分配及運輸費用：第二，正定田場物價迅隨經濟及氣象狀況而變動， 但華北之批發物價之變動，則因其他各種都市因子所限制，反應較緩；第三，兩種指數所包括之物品，數目不等。 華北指數包括作物二十一種，而正定指數僅十五種。

農產物價格之趨勢

爲比較各種農產物價格變動之趨勢， 每種農產價格，每年之增高，以中間年百分率計算之（第五三六頁第一表）。各種作物以棉花價格，增進最速。 棉花乃正定農民之重要出售作物。每年出售者，佔總產量百分之八十三[2]。 正定棉花銷路，所以日增不已者，乃因歐戰以後，天津青島等處，

2　卜凱著：「中國土地利用」統計冊第三章
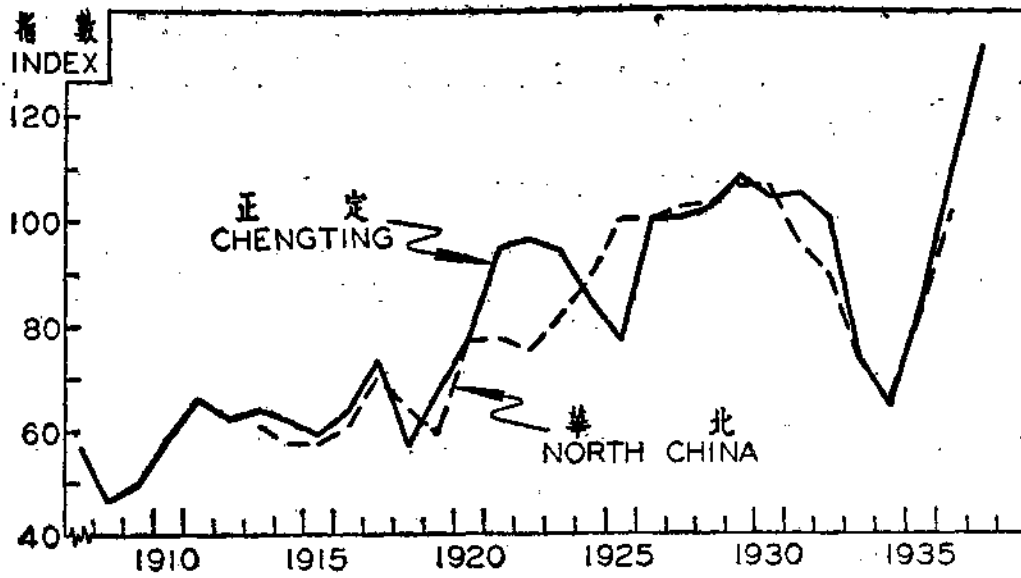
第二圖　河北正定及華北之農產物價指數一九〇七至一九三七年

一九二六年＝一〇〇

農產物之農場價格較批發價格為柔活，惟兩者之變動循同一之趨勢．

FIGURE 2.—INDEX NUMBERS OF PRICES OF FARM CROPS IN CHENG-
TING, HOPEH, AND IN NORTH CHINA, 1907 – 1937,

1926 = 100

The prices of farm crops in Chengting seemed to be more flexible than those in North China, but both fluctuated over a similar course.

and again from 1935 to 1937, and fell abruptly from 1931 to 1934. Prices of farm crops in Chengting followed just the same course. Because the charges such as freight, transportation, etc., which influence wholesale prices are slow moving, wholesale prices are always less flexible than farm prices. This relationship is true for all localities. Before 1931, the general price level of wholesale prices in North China rose steadily, but farm prices fluctuated irregularly along this main trend. After 1931, during which prices declined, there was a wide discrepancy between these two curves, but this discrepancy was soon adjusted when prices speeded up again.

Prices of farm crops in Chengting and in North China

A comparison of the prices of farm crops in Chengting with those of North China is shown in figure 2 (page 534). The prices of farm crops in North China seem to be less flexible than those of Chengting. This may be explained by the facts that, firstly,

紡織工廠林立，致棉花需要，較其他各種農產為巨。黃米，玉米，大豆，為正定農民之重要食用作物，故其價格增加之遲緩，對於當地農民之現金收入，並無重要之影響。

重 要 作 物 之 購 買 力

各種作物價格之購買力係以華北批發物價計算之（第五三五至五三八頁第三至第七圖）。各種作物購買力與價格間之變動，幾完全一致。在本研

第三圖　河北正定之棉花價格長期趨勢及其購買力一九〇七至一九三七年

一九二六年＝一〇〇

中國紡織工業蒸蒸日上，棉花之需要激增，正定棉花購買力，呈顯著上升趨勢。
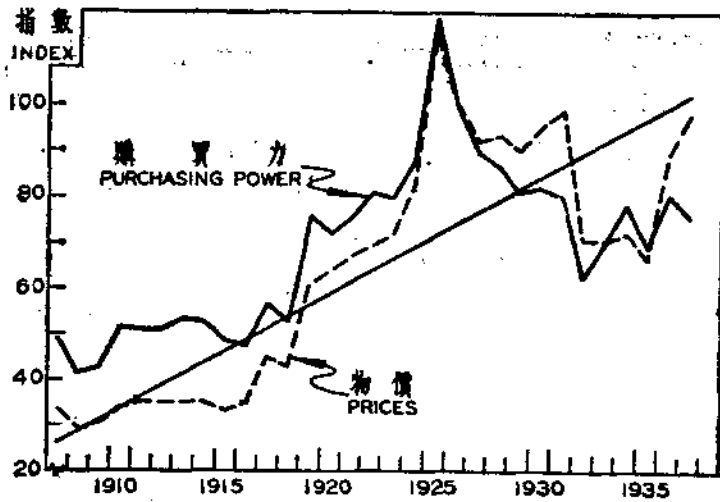
FIGURE 3.—INDEX OF PRICES OF COTTON WITH ITS SECULAR TREND AND PURCHASING POWER, CHENGTING, HOPEH, 1907 – 1937,

1926 = 100

The purchasing power of cotton has a remarkable upward trend, which reveals the increasing demand for cotton caused by the expansion of spinning industries in China.

第四圖　河北正定之黃米價格長期趨勢及其購買力一九〇七至一九三七年
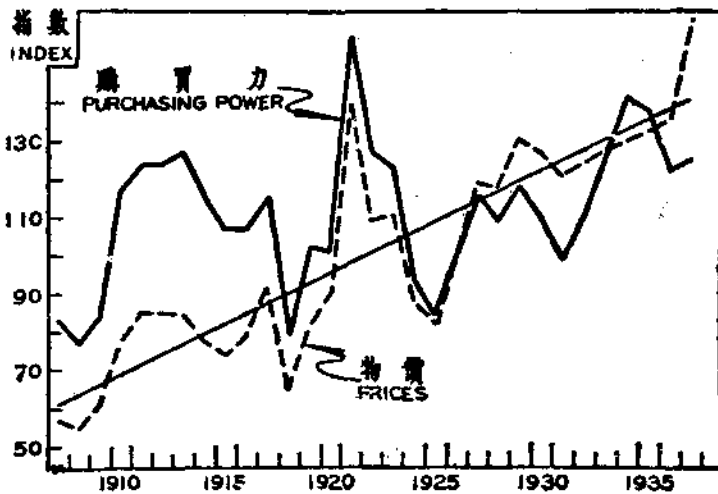
一九二六年＝一〇〇

正定黃米價格之每年增加速率甚高，其購買力僅呈上升趨勢。

FIGURE 4.—INDEX NUMBERS OF FARM PRICES OF PROSO-MILLET WITH ITS SECULAR TREND AND PURCHASING POWER, CHENGTING, HOPEH, 1907 – 1937,

1926 = 100

The yearly increase in the price of proso-millet was fairly high, its purchasing power reveals a slightly upward trend.

the wholesale prices of farm crops in North China included the cost of distribution and freight rates, which are comparatively inflexible; secondly, the fluctuations in the farm prices in Chengting respond quickly to changing economic and meteorological conditions while those of the wholesale prices of North China were somewhat minimized by other urban factors; and, thirdly, the number of commodities included in both indexes were different. There were 21 kinds of crops included in the North China index and only 15 in the Chengting index.

The trend of prices of farm crops

For the purpose of comparing the trends in the prices of different products the yearly increase in the price for each commodity has been expressed as a percentage of the middle year (table 1, page 536). It was found that cotton increased the most. Cotton was an important cash crop in Chengting, 83 per cent of the total production being sold.[2] The growing demand for cotton, due to the expansion and establishment of weaving and spinning

第一表　河北正定農產物價格三十一年來每年增加率對一九二二年平均價格之百分比

一九〇七至一九三七年

TABLE 1.—YEARLY INCREASE IN PRICES FOR 31 YEARS, 1907 – 1937, EXPRESSED AS A PERCENTAGE OF THE MIDDLE YEAR 1922 CHENGTING, HOPEH.

物　品　名　稱 Commodities	每年增加率 (%) Yearly increase (per cent)
棉　　花　Cotton	3.92
黍　　米　Glutinous proso millet	2.63
白　　豆　Soybean, white	2.62
黃　　豆　Soybean, yellow	2.56
綠　　豆　Green beans	2.51
黑　　豆　Black beans	2.34
小　　麥　Wheat	2.27
芝　　蔴　Sesame	2.24
蕎　　麥　Buckwheat	2.11
稻　　　　Rice	2.10
小　　米　Hulled millet	2.06
紅　高　梁　Red kaoliang	2.05
華北一般物品(批發物價)All commodities (wholesale price) N. China	2.04
玉　蜀　黍　Corn	2.02
白　高　梁　White kaoliang	2.02
豌　　豆　Field peas	1.78

2　J. Lossing Buck: Land utilization in China, statistics, chapter III.

究開始時期，自一九〇七至一九二〇年，兩曲線間所發現之高低差度極大。此得以白銀交易值解釋之。自一九〇七至一九二〇年，白銀價格較高，故田塲物價較一九二六年爲低，然其時一般物價亦低，故農產物之購買力反高。自一九二六至一九三一年，銀價繼續下跌，其明顯之表現，即爲批發物價之上升。此復使農產物價格與購買力之變動，互異其趣。正定棉花，黃米，及白豆之購買力，呈顯著之上升趨勢；而玉米，白糧，豌豆之購買力則下跌，此足示近年正定棉花企業之相當獲利性。

第五圖　河北正定之白豆價格長期趨勢及其購買力一九〇七至一九三七年

一九二六年＝一〇〇

除最初數年外，正定白豆價格，及其購買力之變動頗爲一致。

FIGURE 5.—INDEX NUM-BERS OF FARM PRICES OF WHITE SOYBEANS WITH ITS SECULAR TREND AND PURCHASING POWER, CHENGTING, HOPEH, 1907 – 1937,

1926 = 100

Except in a few early years the purchasing power and price of white soybeans fluctuated in close relation-ship with each other.

第六圖　河北正定之小麥價格長期趨勢及其購買力一九〇七至一九三七年

一九二六年＝一〇〇

正定小麥價格之每年增加速率爲百分之二•二七其購買力無顯著之升降趨勢

FIGURE 6.—INDEX NUM-BERS OF FARM PRICES OF WHEAT WITH ITS SECULAR TREND AND PUR-CHASING POWER, CHENGTING, HOPEH, 1907 – 1937,

1926 = 100

The yearly increase in the price of wheat for 31 years was 2.27 per cent of that of its middle year. No significant trend was observed in the purchasing power of wheat.

factories in Tientsin, Tsingtao and other places after the World War, accounts for cotton having a greater increase than any other commodity. Millet, corn and soybeans are important food crops of the farmers of Chengting, thus the slower price increase for these crops does not affect the farmers' cash income seriously.

Purchasing power of the important crops

The purchasing power of prices of different crops has been calculated at wholesale prices in North China (figures 3–7, pages 535–538). It was found that in each case the fluctuations between purchasing power and prices revealed a similar relationship. In the beginning of the period studied, from 1907 to 1920, a big gap occurred between the two curves. This may be explained by the exchange value of silver. From 1907 to 1920 the value of silver was comparatively higher, thus the farm prices were low compared to those of 1926. Since the prices of all commodities were also low, the purchasing power of farm products was higher. From 1926 to 1931 the value of silver continued to decline steadily, which was reflected in the noticeable rising of wholesale prices. This again caused the purchasing power and prices of farm crops to fluctuate away from each other.

The purchasing power of cotton, glutinous proso millet and white soybeans showed a marked upward trend, while that of corn, white kaoliang and field peas declined. This shows the relative profitableness of the cotton industry in Chengting in recent years.

第七圖　河北正定之豌豆價格長期趨勢及其購買力一九〇七至一九三七年
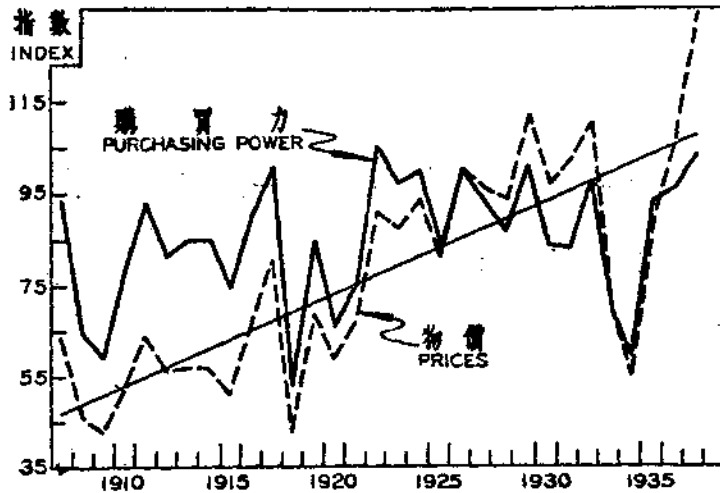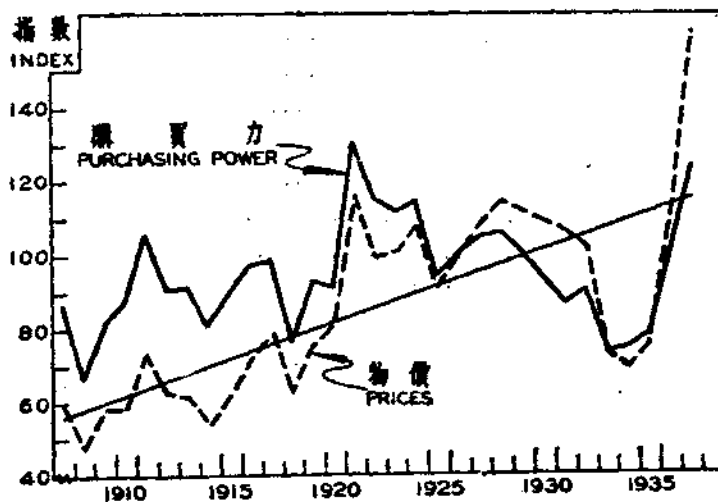
一九二六年＝一〇〇

各種農作物中，豌豆價格之每年增加速率最慢，其購買力且有下落之趨勢，蓋因豌豆之食糧需要減少所致也。
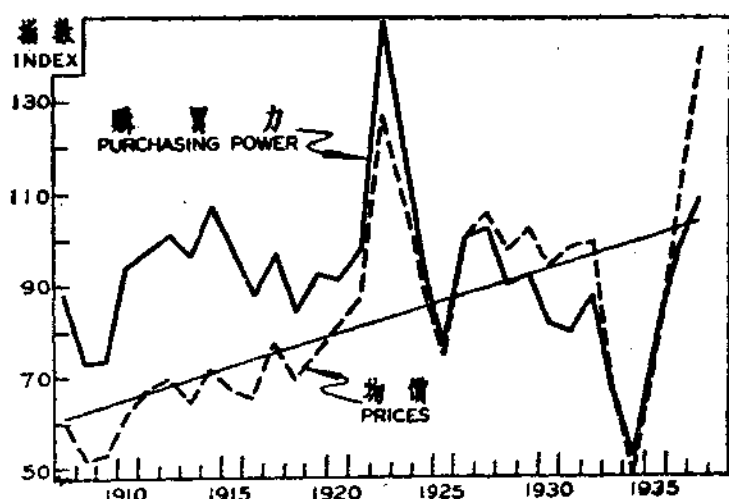
FIGURE 7.—INDEX NUMBERS OF FARM PRICES OF FIELD PEAS WITH ITS SECULAR TREND AND PURCHASING POWER, CHENGTING, HOPEH, 1907 – 1937,

1926 = 100

The yearly increase in the price of field peas was the slowest and its purchasing power showed a downward trend because of the lower demand for it as a food crop.
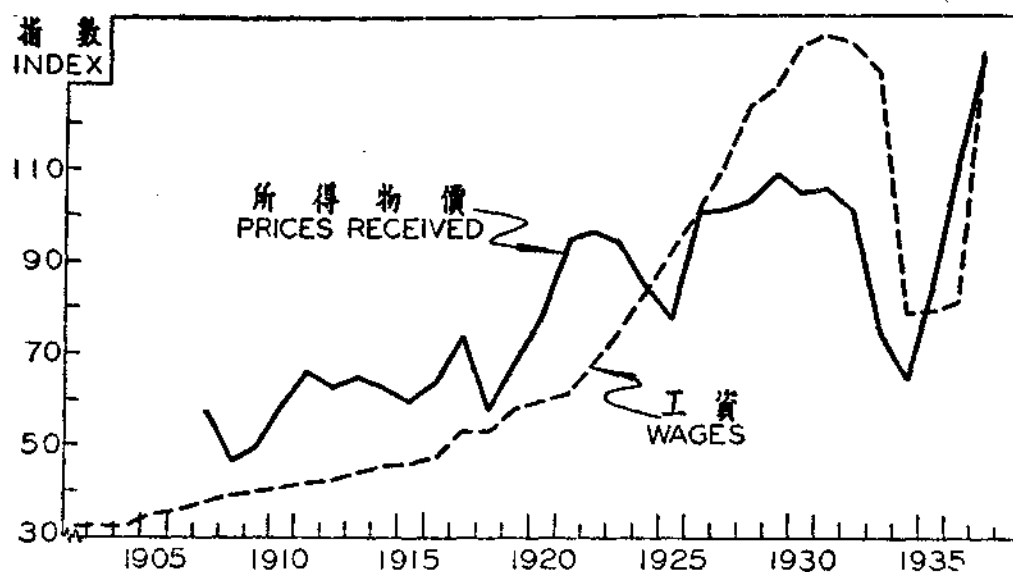
第八圖　河北正定農產物價格及工資指數一九〇七至一九三七年

一九二六年＝一〇〇

農場物價及工資變動之趨勢雖同，惟工資之增減每比物價漲落較緩一年

FIGURE 8.—INDEX NUMBERS OF PRICES RECEIBED BY FARMERS FOR
FARM CROPS AND OF FARM WAGES IN CHENGTING, HOPEH,
1907 – 1937,

1926 = 100

Both farm prices and farm wages fluctuated over a similar course, only
the rise or fall of the wage rate usually lagged one year behind the correspond-
ing changes in farm prices.

田 場 物 價 之 連 繫 性

田場物價與田場工資變動之長期趨勢終循同一途線（第五三九頁第八圖）。河北正定之物價，雖有不常之短期變動，然工資指數則穩定上漲。惟自一九三二年以後，物價慘跌，致使工資率，有極顯著之低跌。工資率之升降，每發現於田場物價升降之後一年。當經濟恐慌時期，多數工資不與物價同跌。但因田場工資較都市工資之感應為柔活，故農場收入之削減，不久即造成工資率之下跌。此種田場工資與物價間之連繫性，物價上漲時期，復可證明之。蓋其時農場收入增加，故田場工資亦漸提高。

正定田地價格，在一九三三年以前，與田場物價保持其正常關係。在三一九三四與一九三五年，地價驟跌，達一九〇五年以來之最低水準（第五四〇頁第九圖）。此種現象，全國皆然。近年河北災荒頻仍，正定田地價格特低，或因一九三三及一九三四年之水災，有以致之也。
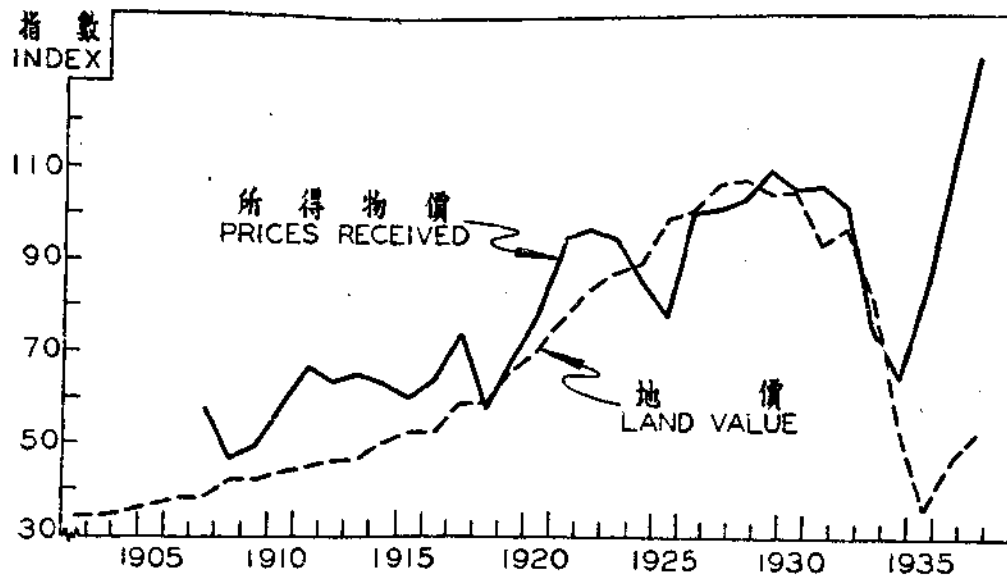
FIGURE 9.—INDEX NUMBERS OF PRICES RECEIVED BY FARMERS FOR
FARM CROPS AND OF FARM LAND IN CHENGTING, HOPEH, 1907 –
1937,

1926 = 100

The general trend of farm land value in Chengting retained its normal
relationship with farm prices until 1933. The collapse of farm land value in
recent years has probably been caused by frequent natural calamities.

Relationships of Farm Price

In the long run, farm prices and farm wages rise or fall
following a similar course (figure 8, page 539). In Chengting,
Hopeh, the wage index rose steadily irrespective of the irregular
price movement which was of short duration, until 1932. After
that year, the drastic drop of farm prices pulled down the
wage rate to a very noticeable extent. The rise or fall of the
wage rate usually lagged one year behind such changes in farm
prices. During the depression period many wages did not
decline with prices, but since farm wages are more flexible than
city wages, soon the decreasing farm income resulted in a fall in
the farm wage rate. This relationship between farm wages and
prices is again proved during a period of rising prices, when farm
wages were gradually pulled up because farm incomes had risen.
The general trend of farm land value in Chengting maintained
its normal relationship with farm prices until 1933. It dropped
suddenly in 1934 and in 1935, when it reached the lowest level
since 1905 (figure 9, page 540). This price relationship of farm

結　論

　　正定田塲物價，受中國一般物價水準之控制。 在本文所包括之期間內，除最近數年外，各種農產物價格，皆係上漲。 惟其增加速率，各有不同。棉花每年價格之增加，居其他各種物品之首。此乃由於歐戰以後， 中國紡織工業發展，棉花需要激增所致。正定農產物之購買力， 一般皆無顯著之升降趨勢。惟由供求狀況所引起之短期升降，至堪注意。 物價雖有短期之變動，然田塲工資與田地價格兩者均穩定上漲。 近年農業恐慌造成之田塲工資率與地價之降落，足徵工資及地價與物價一般之關係。

楊　蔚

盧　盛　懷

prices to farm land value in Chengting was typical throughout China during this period. The violent collapse of farm land value in Chengting during recent years was probably caused by frequent calamaties, such as the floods in 1933 and 1934.

Conclusion

The trend of farm prices in Chengting was governed chiefly by the general price level in China. During the period studied, prices of all farm crops were rising, except in a few recent years, but the rate of increase varied for different products. Cotton headed all other commodities in its annual rate of price increase. This reflected the increased demand for cotton, caused by the expansion of the weaving and spinning industries in China after the World War. The purchasing power of farm crops in Chengting showed no significant upward or downward trend. The ups and downs caused by supply and demand conditions were, however, very noticeable. Both farm wages and land value rose steadily irrespective of the price fluctuations which were of short duration. The drastic drop of farm wages and land value, caused by the agricultural depression in recent years, indicates their general relationship with farm prices.

W. Y. Yang
Lu Sheng-hwai

中 國 物 價 指 數

第 一 表　　中 國 各 重 要 批 發 物 價 指 數
TABLE 1.—INDEX NUMBERS OF WHOLESALE PRICES IN CHINA

	上　海 [1] Shanghai[1]	廣　州 [2] Canton[2]	重　慶 [3] Chungking[3]	南　寧 [4] Nanning[4]	香　港 [5] Hongkong[5]
物　品　項　目 Number of commodities	154	190	92	91	85
基期　Base Period	1926＝100	1926＝100	1937＝100	1934＝100	1926＝100
1926	100.0	100.0			100.0
1927	104.4	100.8			—
1928	101.7	96.8			—
1929	104.5	96.7			—
1930	114.8	101.4			—
1931	126.7	112.6			134.7
1932	112.4	113.8			120.7
1933	103.8	104.5			102.1
1934	97.1	94.3		100.0	92.3
1935	96.4	84.6		91.1	76.8
1936	108.5	105.4		145.9	101.7
1937	129.1	120.5		182.2	129.3
1937					
一月 Jan.	121.6	115.7	93.5	160.3	112.9
二月 Feb.	122.9	118.0	96.2	166.3	115.8
三月 Mar.	123.0	117.5	96.7	171.1	120.3
四月 Apr.	123.9	119.8	97.9	175.6	125.6
五月 May	125.1	119.8	98.3	190.3	126.4
六月 June	126.1	118.7	98.8	193.3	129.3
七月 July	125.8	116.1	95.1	182.8	128.5
八月 Aug.	127.8	121.1	95.7	180.1	133.3
九月 Sept.	129.9	121.8	103.1	188.8	141.4
十月 Oct.	·133.1	128.2	104.4	190.8	141.2
十一月 Nov.	140.3	125.1	104.0	187.3	137.7
十二月 Dec.	141.4	123.7	98.3	186.5	139.1
1938					
一月 Jan.	139.6	123.8	109.3	187.0	137.0
二月 Feb.	138.4	128.1	119.2	187.2	135.6
三月 Mar.	139.2	129.2	127.2		135.9
四月 Apr.	142.8	129.6	124.1		135.0
五月 May	141.9		123.4		
六月 June			128.2		

1　國定稅則委員會：「上海物價月報」
National Tariff Commission:　Prices and Price Index in Shanghai.

2　廣東省調查統計局編
Supplied by Kwangtung Statistical Burean.

3　金陵大學農業經濟系，四川省建設廳合編
Compiled by the Department of Agricultural Economics, University of Nanking and Bureau of Reconstruction, Szechwan Provincial Government.

4　廣西省調查統計局編
Supplied by Kwangsi Statistical Bureau.

5　香港進出口部統計處編
Compiled by the Statistical Office of the Imports and Exports Department of the Hongkong Government.

PRICE INDEXES IN CHINA

第 二 表　　中 國 各 重 要 生 活 費 指 數

TABLE 2.—INDEX NUMBERS OF COSTS OF LIVING IN CHINA

	上 海 [1] Shanghai[1]	南 寧 [4] Nanning[4]	成都勞動貿販界 [3] Chengtu, labor- pedlar class[3]
基　　期 Base Period	1926＝100	1931＝100	Feb.—June, 1937＝100
Date			
1926	100.0	—	
1927	106.7	—	
1928	102.5	—	
1929	107.9	—	
1930	121.8	—	
1931	125.9	100.0	
1932	119.1	101.3	
1933	107.2	96.9	
1934	106.2	93.1	
1935	106.6	91.7	
1936	113.3	159.2	
1937	—	209.1	
1937			
一月　Jan.	120.1	167.9	96.3
二月　Feb.	120.1	191.5	100.4
三月　Mar.	116.8	181.6	100.9
四月　Apr.	117.4	200.4	101.0
五月　May	118.7	212.7	100.4
六月　June	119.0	213.3	97.3
七月　July	120.0	202.7	93.2
四月　Aug.	134.6	197.8	93.3
九月　Sept.	147.7	234.7	97.2
十月　Oct.	139.5	215.2	90.5
十一月　Nov.	160.6	199.5	91.6
十二月　Dec.	167.2	192.4	92.6
1938			
一月　Jan.	154.6	193.0	98.4
二月　Feb.	158.5	191.3	98.9
三月　Mar.	150.4	—	94.8
四月　Apr.	148.2	—	93.7
五月　May	140.9	—	92.9
六月　June	—	—	96.0

1, 3 and 4 see foot notes 1, 3 and 4 on page 539

1, 3 及 4 參看第五三九頁附註 1, 3 及 4

第 三 表　田 塲 物 價

一九二六年＝一〇〇

TABLE 3.—FARM PRICES, 1936 = 100

月 份 Month	農民所得物價指數 Index numbers of prices received by farmers				農民所付物價指數 Inlex numbers of prices paid by farmers				所得物價對所付物價之百分比 Ratio of prices received to prices paid
	江西和泰 Taiho Kiangsi	湖北遠安 Yuan Hupeh	陝西横山 Hwen Shan Shensi	平均 Average	江西泰和 Taiho Kiangsi	湖北遠安 Yuan Hupeh	陝西横山 Hwen Shan Shensi	平均 Average	
1935									
七月 July	116.9	—	—	116.9	99.1	—	—	99.1	118.0
八月 Aug.	118.7	—	—	118.7	98.5	—	—	98.5	120.5
九月 Sept.	75.8	94.0	67.8	79.2	97.3	84.3	90.1	90.6	97.4
十月 Oct.	76.7	99.4	68.9	81.7	97.3	94.5	91.2	94.3	86.6
十一月 Nov.	79.9	98.9	73.1	84.0	97.4	90.0	93.9	93.8	89.6
十二月 Dec.	81.0	98.4	78.3	85.9	95.8	91.6	96.9	94.8	90.6
1936									
一月 Jan.	84.0	93.7	83.8	88.8	93.7	96.2	98.3	96.1	92.4
二月 Feb.	95.3	102.8	88.7	95.6	96.2	101.1	101.2	99.5	96.1
三月 Mar.	102.0	102.4	93.0	99.1	97.8	101.8	99.5	99.7	99.4
四月 April	99.7	103.1	97.2	100.0	100.0	99.2	99.3	99.5	100.5
五月 May	105.5	103.2	100.0	102.9	101.8	101.4	101.8	101.7	101.2
六月 June	97.0	91.7	100.8	96.5	99.0	98.9	99.2	99.0	97.5
七月 July	86.7	90.6	97.5	91.6	92.8	99.3	97.1	96.4	95.0
八月 Aug.	86.0	93.8	98.3	92.7	94.1	97.5	89.2	93.6	99.0
九月 Sept.	98.8	87.5	97.7	94.7	102.4	94.4	97.1*	98.0	96.6
十月 Oct.	122.0	100.6	95.8	106.1	110.9	100.4	96.7	102.7	103.3
十一月 Nov.	112.6	109.9	114.5	112.3	105.8	105.3	105.3	105.5	106.4
十二月 Dec.	114.0	118.5	137.7	123.4	105.2	117.5	116.1	112.9	109.3
1937									
一月 Jan.	122.2	120.1	135.8	126.0	106.0	110.7	111.8	109.5	115.1
二月 Feb.	129.4	124.8	151.6	135.3	106.1	116.0	117.7	113.3	119.4
三月 Mar.	124.2	121.4	150.4	132.0	105.1	115.4	126.3	115.6	114.2
四月 April	120.7	113.7	150.8	128.4	102.8	117.1	127.9	115.9	110.8
五月 May	125.7	103.5	147.7	125.6	104.9	115.6	118.5	115.0	111.2
六月 June	126.3	108.8	138.4	124.3	101.4	114.1	118.1	111.2	111.8
七月 July	127.4	116.7	139.2	127.8	107.0	114.4	120.6*	114.0	112.1
八月 Aug.	134.7	105.9	138.0	126.2	107.2	118.1	117.8*	114.4	110.3
九月 Sept.	142.7	101.2	126.0	123.3	112.9	113.8	131.3*	119.3	103.4
十月 Oct.	139.5	95.6	118.1*	7.7	117.5	120.0*	131.8*	123.1	95.6
十一月 Nov.	142.6	97.0	127.2	122.3	115.3	122.6	132.4	123.4	99.1
十二月 Dec.	133.2	93.8	133.1	120.0	116.4	118.2	134.2	122.9	97.6
1938									
一月 Jan.	128.0	99.3	128.1	118.5	116.7	115.4	131.2	121.1	97.9
二月 Feb.	125.3	90.6	128.0	114.6	120.8	113.1	135.3	123.1	93.1
三月 Mar.	123.6	101.7	128.9	120.1	119.5	121.9	139.7	126.7	94.8
四月 April	127.1	97.5	132.0	118.9	117.2	115.7	161.4	131.4	90.5
五月 May	119.8	—	—	—	114.8	—	—	—	—
六月 June	—	—	145.2	—	—	—	179.9	—	—

* 修 正 指 數 Revised.