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EDUCATION AND SIZE OF FAMILY IN CHINA

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THE frequent studies that have been made of families of American College graduates and other educated groups, which set forth in a striking manner a rate of reproduction that diminishes rapidly in proportion to the degree of culture, suggest that a similar study of families in other countries would be of interest.

One might naturally expect that a favorable birth differential between educated and uneducated classes would scarcely be found in the world today. Least of all would one expect to find it in China. An investigation of Chinese families made by the writer, however, indicates that for the regions studied, the cultured groups show an increase, as far as surviving children are concerned, over the lower cultural levels that is as marked as the more rapid reproduction of the lower classes in the United States.

Methods of Collecting Data

The investigation which disclosed this fact was directed toward the determination of the factors which affect population increase in China. As there are no available statistics comparable to Western census reports, the method used was the study of population groups through typical samples from several different localities. These were selected in a considerable number of places and studied in three different ways.

One class of data was secured from women patients in hospitals. The investigator in each case was a trained nurse who asked each patient the questions on the survey blank as though they were a part of the history of the case. Information obtained in this way may be considered as particularly accurate not only as to

births, but also deaths, for the Chinese woman in the hospital will speak comparatively freely to her nurse of babies that have been discarded at birth or that died at an early age and have been dropped from the reckoning.

The items included in this hospital survey were: age, age married, age of husband, age of husband at death if not living, family occupation, religion, years of schooling if any, feet bound or unbound, economic condition, number of living children by sex and age, number of deceased children by sex and age at death, and number of stillbirths.

Hospitals in four cities, Peking, Nanking, Tsinan, and Shanghai and in four rural sections, Nanhsuchow, Techow, Hwanghsien, and Luchowfu, cooperated in securing the information.

The direct survey was a second method used in securing data. A man thoroughly trained in the making of surveys visited typical villages securing information somewhat similar to that obtained in the hospitals. In order to insure accuracy he worked through the introduction of well known local leaders such as pastors, teachers or village elders who allayed suspicion and aided in putting the questions and checking up the answers. In any instance where the villager gave suggestion of evasion or inaccuracy the information taken was discarded. Eight different rural communities were surveyed in this way.

The direct survey possessed the advantage of taking a fairer cross section of the population than could be obtained by studying hospital patients. The reports of living children taken in this way may be considered

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as very accurate, but slightly fewer deaths will naturally be reported than in the hospitals because of the reluctance to divulge such information.

A third procedure consisted in the questioning, personally and carefully, of students of different schools, who had reached an age of twelve or more years and who were able to give intelligent information about their full brothers and sisters and their half brothers and sisters. Students naturally came from a highly selected group. Their information was especially accurate with reference to living children, but less so as to the deceased. The survey was made with students from seven different groups

including schools in four rural areas, one in Nanking City, a student class in the College of Agriculture, and a group of graduate assistants in the University of Nanking.

It is not intended in this paper to give even a brief review of all of the data that have been obtained from this investigation, but rather to select only such material as bears upon the relation of education to the size of the family.

In the studies made by direct survey in the eight rural districts nearly all mothers were illiterate. The fathers, however, in some instances had had some schooling. Table I presents a comparison of these mothers

TABLE I—COMPARISON OF FAMILIES OF MOTHERS IN RURAL DISTRICTS STUDIED BY DIRECT SURVEY

GROUP 1—Mature Mothers Whose Husbands Had Had Five Years or More of Education

Place	Number of Mothers	Living Children	Average	Dead Children	Average	Total Births	Average
Kiangsi	62	233	3.76	122	1.97	355	5.73
Nanhsuchow ..	17	51	3.00	37	2.18	88	5.18
Yenshan	8	33	4.12	11	1.37	44	5.50
Hunan	20	64	3.20	68	3.40	132	6.60
Shantung ..	12	38	3.17	27	2.25	65	5.42
Unhsien	23	80	3.48	39	1.70	119	5.17
Tongshan ..	10	37	3.70	40	4.00	77	7.70
Kiangsu	12	41	3.42	10	.83	51	4.25
Total	164	577	3.52±.08	354	2.16±.11	931	*5.68±.13

GROUP 2—Mature Mothers Whose Husbands Had Had from One to Four Years of Education

Place	Number of Mothers	Living Children	Average	Dead Children	Average	Total Births	Average
Kiangsi	11	33	3.00	40	3.63	73	6.63
Nanhsuchow ..	9	22	2.44	27	3.00	49	5.44
Yenshan	13	45	3.46	16	1.23	61	4.69
Hunan	16	51	3.19	80	5.00	131	8.19
Shantung ..	4	21	5.25	19	4.75	40	10.00
Unhsien	2	7	3.50	4	2.00	11	5.50
Tongshan ..	6	21	3.50	17	2.83	38	6.33
Total	61	200	3.28±.08	203	3.33±.08	403	6.61±.17

GROUP 3—Mature Mothers Whose Husbands Had Had No Education

Place	Number of Mothers	Living Children	Average	Dead Children	Average	Total Births	Average
Kiangsi	6	18	3.00	12	2.00	30	5.00
Yenshan	21	69	3.29	33	1.57	102	4.86
Hunan	3	11	3.67	16	5.33	27	9.00
Shantung ..	62	192	3.10	201	3.24	393	6.34
Unhsien	62	184	2.97	96	1.55	280	4.52
Tongshan ..	5	14	2.80	17	3.40	31	6.20
Kiangsu	22	42	1.91	13	.59	55	2.50
Total	220	658	2.99±.08	513	2.33±.09	1171	5.32±.13
Grand total	411	1352	3.29±.04	1047	2.55±.07	2399	5.84±.09

*These means and probable errors are calculated from the total frequency distribution. All decimals beyond two places up to and including even 5 are dropped, over 5 a digit is added.

in three groups according to the education of the husbands. Group 1 includes mothers whose husbands had received five or more years of schooling. The mothers in Group 2 had husbands whose years in school varied from one to four. In Group 3 mothers with illiterate husbands were included.

The three cultural levels as defined are by no means comparable to groups with similar periods of schooling in the United States.

Economic pressure in China makes education a privilege of the select few. Men with even a few years in school have established themselves in a class distinctly superior to the illiterates while those who have mastered the classics make up the honored and

influential gentry, the recognized leaders of country life.

Women, too, even though illiterate are carefully graded into social levels through the selection of brides by parents with due regard to class and social standing.

Only those mothers are considered in Table I that we may term mature, provided we define a mature mother in this case as one who has reached or passed the age of forty years in Chinese reckoning, or thirty nine years of actual age. The use of this degree of maturity is convenient for a number of reasons. If the age of forty-five years and over should be taken, a larger number of children would be deceased who have already grown up and become parents them-

TABLE II—COMPARISON OF FAMILIES OF THE MOTHERS OF STUDENTS

GROUP 1—Literate Mothers with Literate Husbands

Place	Number of Mothers	Living Children	Average	Dead Children	Average	Total Births	Average
Han Kwan University of Nanking	31	142	4.58	35	1.13	177	5.71
College Assistants	5	17	3.40	13	2.60	30	6.00
students	12	58	4.83	31	2.58	89	7.42
Wehsien	4	15	3.75	7	1.75	22	5.50
Nanhsuchow ..	21	76	3.62	48	2.29	124	5.91
Kwantung ..	2	10	5.00	5	2.50	15	7.50
Total	75	318	4.24±.20	139	1.85±.13	457	6.09±.24

GROUP 2—Illiterate Mothers with Literate Husbands

Han Kwan College assistants ..	25	89	3.56	42	1.68	131	5.24
College students	11	45	4.09	11	1.00	56	5.09
Wehsien ..	15	64	4.27	25	1.67	89	5.93
Nanhsuchow ..	8	29	3.62	6	.75	35	4.37
Kwantung ..	73	246	3.37	115	1.58	361	4.95
Nanking ..	39	136	3.49	67	1.72	203	5.21
Total	28	102	3.64	27	.96	129	4.61
Total	199	711	3.57±.08	293	1.48±.07	1004	5.05±.11

GROUP 3—Illiterate Mothers with Illiterate Husbands

Place	Number of Mothers	Living Children	Average	Dead Children	Average	Total Births	Average
Han Kwan College students	4	11	2.75	3	.75	14	3.50
Nanhsuchow ..	5	21	4.20	12	2.50	33	6.50
Nanking	28	92	3.28	52	1.86	144	5.14
Total	2	8	4.00	0		8	4.00
Total	39	132	3.38±.19	67	1.72±.30	199	5.10±.31
Total for series	313	1161	3.71±.07	499	1.59±.07	1660	5.30±.09

selves, and a smaller number of mothers would be available for consideration. The age chosen eliminates most of the inequalities that result from comparing women differing widely in age and years married, and gives a fairly accurate idea of the size of a mature family with the proportion of births and deaths after the critical period of infancy and early childhood has been passed by the majority of the individuals.

In the table we find that the 164 mothers of group 1 gave birth to an average of $5.68 \pm .13$ children which is quite similar to the average of the whole group. But as the number of deceased children is less than the average of the whole group the number of living children is $3.52 \pm .08$ which is the highest for the series.

The mothers in group 2 had an average number of living children similar to the general average, but the living children of mothers with illiterate husbands numbered least with an average of $2.99 \pm .08$.

The difference between the average number of living children of the most cultured and of the least cultured groups is $.53 \pm .11$. As this number is 4.8 times its probable error the chances are 825 to 1 that the difference is significant.

A more detailed examination of Table I makes the evidence still more convincing. When we consider that the data were collected in eight different areas it is important to see to what extent the separate findings corroborate the conclusion. In six out of the eight surveys we find an

TABLE III—COMPARISON OF FAMILIES OF FATHERS OF STUDENTS

GROUP 1—Literate Fathers with Literate Wives								
Place	Number of Fathers	Living Children	Average	Dead Children	Average	Total Births	Average	
Han Kwan College assistants	31	147	4.74	38	1.22	185	5.97	
College students	4	14	3.50	11	2.75	25	6.25	
Weihhsien	12	59	4.92	31	2.58	90	7.50	
Nanhsuchow	4	16	4.00	7	1.75	23	5.75	
Kwantung	21	78	3.71	49	2.33	127	6.05	
Total	2	10	5.00	5	2.50	15	7.50	
	74	324	$4.38 \pm .22$	141	$1.91 \pm .14$	465	$6.29 \pm .24$	
GROUP 2—Literate Fathers with Illiterate Wives								
Place	Number of Fathers	Living Children	Average	Dead Children	Average	Total Births	Average	
Han Kwan College assistants	25	98	3.92	45	1.80	143	5.92	
College students	10	52	5.20	15	1.50	67	6.70	
Weihhsien	15	66	4.40	28	1.87	94	6.27	
Nanhsuchow	8	30	3.75	8	1.00	38	4.75	
Kwantung	73	262	3.59	126	1.73	388	5.31	
Nanking	38	159	4.18	87	2.29	246	6.47	
Total	28	110	3.93	32	1.15	142	5.07	
	197	777	$3.94 \pm .10$	341	$1.73 \pm .09$	1118	$5.67 \pm .14$	
GROUP 3—Illiterate Fathers with Illiterate Wives								
Place	Number of Fathers	Living Children	Average	Dead Children	Average	Total Births	Average	
Han Kwan College students	4	11	2.75	3	.75	14	3.50	
Nanhsuchow	5	21	4.20	12	2.40	33	6.60	
Kwantung	28	92	3.28	54	1.93	146	5.21	
Total	2	8	4.00	0		8	4.00	
Total for series	39	132	$3.38 \pm .19$	69	$1.77 \pm .30$	201	$5.15 \pm .31$	
	310	1233	$3.98 \pm .09$	551	$1.78 \pm .07$	1784	$5.75 \pm .11$	

increase, usually marked, in the number of living children of group 1 over group 3. With the two exceptions the difference is within the range of probable error and even with these a smaller number of deaths in families where the father is educated is indicated. The higher number of deaths in the small group of mothers with husbands having from one to four years of education was influenced by the data from the Hunan region which had the largest proportion of individuals and the highest death rate. It will be seen here that four out of the seven regions in this group really had fewer deaths than did the illiterates.

Table II presents a comparison of mature mothers of students. Here we find that in group 1 where both father and mother were literate that there were $6.09 \pm .24$ children born and $4.24 \pm .20$ living. With group 2 where the husbands were literate but the mothers illiterate there were $5.05 \pm .11$ children born and $3.57 \pm .08$ living. Group 3 with both parents illiterate averaged $5.10 \pm .31$ children born and $3.38 \pm .18$ living.

Although information obtained from students will reveal fewer deaths than that taken by the other methods described, yet without allowing for this factor we find no indication of a reduction in births as a result of education.

Seven-tenths of an adult son is left by the average leading scientist in the United States, to perpetuate his name, according to Cattell.¹ Graduates of Harvard from 1891 to 1900 have at

the present time, Phillips states, an average of 1.43 living children each.² Green and Hunt tell us that Michigan State College graduates who had been out twenty-five years or more had an average of 2.32 children.³ In marked contrast with these figures is this cultured group in China with 6.09 births and 4.24 living children.

The difference between the averages of the living children of group 1 and group 2 in Table II is $.67 \pm .22$. As this difference is three times its probable error the odds are twenty-two to one that it is significant.

Again the uniformity of the figures from regions considered separately corroborates the conclusion from the general averages. The single exception to an increase in number of living children of group 1 over group 2 is found with the college group of only five individuals. Similarly the one exception in group 3 that does not show fewer living children than group 2 has only two individuals.

Another factor bearing upon the rate of reproduction of the cultured groups is the relatively larger family of the father. Although widows do not usually remarry, the necessity for sons which the rites of ancestor worship compel, requires that a man take an additional wife or wives if the first is unproductive, and replace rather promptly a wife that is deceased. But remarriage and plural marriage is less practical where poverty pinches than among the well to do who are also the cultured group.

It was possible to secure informa-

TABLE IV—COMPARISON OF FAMILIES OF LITERATE WITH ILLITERATE MOTHERS WHERE THE MOTHER'S AGE IS LESS THAN 39 YEARS

	No.	Av'r'ge yrs. Married	Living Children	Deceased children		Total	Av'r'ge	
				Av'r'ge	Av'r'ge			
Tsinan Hospital	{Lit. 19	5.32	21	1.11 ± .11	15	.79 ± .29	36	1.90 ± .53
Hospital	{Illit. 30	5.97	21	.70 ± .14	22	.70 ± .22	43	1.40 ± .18
Peking Hospital	{Lit. 35	6.01	53	1.51 ± .20	18	.51 ± .10	71	2.03 ± .33
Hospital	{Illit. 32	6.79	37	1.16 ± .06	23	.72 ± .19	60	1.88 ± .29
Nanking Hospital	{Lit. 43	7.49	52	1.21 ± .18	28	.65 ± .10	80	1.86 ± .40
Hospital	{Illit. 74	8.04	76	1.03 ± .11	50	.66 ± .08	126	1.70 ± .20
Nanking Direct Survey	{Lit. 28	7.37	57	2.11 ± .26	18	.67 ± .12	75	2.78 ± .39
	{Illit. 20	7.75	34	1.70 ± .23	18	.90 ± .12	52	2.60 ± .34

tion regarding the total number of children of most of the fathers of the students whose mothers were compared in Table II. Table III sets forth the size of fathers' families. In group 1 we find there are 4.38 living out of 6.29 births and in group 2, 3.89 living children out of 5.63 births. The illiterates in group 3 averaged 3.38 living children out of 5.15 births. In groups 1 and 2 combined we find that the 271 educated fathers had 1,583 children born to them as compared with 1,461 births from 274 mothers. The educated fathers thus had 9.5 per cent more children than the mothers. The 39 illiterate fathers on the other had only 201 children to 199 for the 39 mothers, an increase of only 1 per cent.

The criticism may be made that the parents who have studied received the old fashioned education of China and that modern culture will tell a different story. It is possible to derive some data on this point from the records taken in hospitals. In Table IV the families of mothers of less than 39 years of age are considered. These groups are not only of young mothers but of those living in the large cities of Nanking, Peking, and Tsinan, where education of a modern type has prevailed for a longer time than in most other parts of China. Three of the groups give information obtained in hospitals while the fourth is from direct survey.

Throughout the series literate women are compared with illiterates and with remarkable uniformity show in spite of a slightly shorter period of married life a greater average number of births, proportionately fewer deaths and a greater number of surviving children.

Although the limited number of individuals renders the result calculated from any one group of the series of small significance, yet when we consider the series as a whole we find that there is a mean difference

for the four groups of .34 living children. When this difference is considered by using Student's table for determining probability we find the odds are 322 to 1 that it is significant.

When these facts are considered from the standpoint of biological selection, the question may be raised whether education in China is really a criterion of capacity or only an evidence of opportunity. To those who know Chinese village life intimately, there is no doubt about the natural superiority of the educated. With many families poverty prevents the giving of education to all of the children, but some one out of the group may be selected to bring honor to the family by becoming a scholar. Sometimes a whole clan will pool their resources to give such an opportunity to one of their number. On such occasions the brightest child is selected with rare intuition. Moreover, the intellectual difficulties in mastering the Chinese characters and classics weed out the dullards at an early date.

Another consideration enters into the situation through the custom of adoption. To the scholar who has mastered the teachings of the sages, the ceremonial obligations, particularly of ancestor worship, are most binding. This fact explains the greater desire for sons on the part of the most cultured, who at the same time are usually the most well-to-do. If a man of standing in his community fails to have sons either by his first wife or by the second which he must take if necessary, then in the language of the sages he has committed the gravest sin against society. He has permitted the chain connecting the ancestors of the past with the living worshippers to be broken through failing to continue the male line. But a means of reestablishing himself is available. He may adopt a son from a relative or a friend. Because of economic pressure surplus sons of others are always available.

The chances are, therefore, favorable that the most brilliant youth that may be obtained is adopted.

Summary

The size of Chinese families was studied by the sample method in which data were collected from nineteen different sources and in three different ways.

The evidence so accumulated indicates that for the regions studied, education of parents results in increase rather than decrease in the number of living children. The groups from the highest cultural levels tend to leave the most survivors and reproduce substantially more than their own number.

Education is not solving China's problem of overpopulation, but rather

contributing to it. It is conceivable that when the type of education changes so that instead of intensifying the ceremonial obligations to the dead ancestors which is the basic cause of over multiplication, and shifts the whole philosophy of life to an interest in the welfare of the living, then an effect upon reproduction may result that is similar to that observed in Western nations.

Birth control propaganda as a means of relieving the situation, regardless of its possibly desirable effects in other nations, would in China touch only the cultured groups and have no other result than to break down the favorable biological selection which is at present the only hopeful feature of China's population growth.

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Paper read on "Medical Day" of Conference
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UNION IN MEDICAL EDUCATION.

By R. T. SHIELDS, M.D., Nanking.

It goes without saying that what medical missionaries are in China for is to help on in the work of preaching the Gospel; they are an integral part of the great army of missionaries seeking to bring this land into subjection to their Master. We all know something of the history of medical missions in China. Dr. Boone has just given us a paper on the evolution of this branch of the missionary service from its small beginnings to its present importance.

Looking backward over the past history of medical work in China and forward into the unwritten history of the future, we are brought to ask ourselves the question, How can our medical work best help on the cause of Christ in China? How can we as medical missionaries make our lives count for the most in the advancement of His kingdom?

From the very first the medical missionary has been handicapped in his work by lack of trained assistants, and those whom he has trained after years of labor to be capable assistants, have cost him many hours of study and teaching that had to be taken from his regular duties to his patients. And though many excellent assistants have been trained by this method, the plan as a whole has not been very satisfactory. It was but a temporary expedient, useful in the early days of medical missionary work, but destined to be replaced by something more satisfactory, more useful, and more permanent. The training-class plan was the best, the only plan that could be adopted at first, and it has had a great field of usefulness. But the time has come in the progress of medical work in China when we can give the Chinese something better—an education that will more nearly come up to our home standards. We are doing the same thing in theological training, where the one-man-taught training-class is giving way to the Theological Seminary.

Far be it from me to say a word derogatory to the work of the older medical missionaries in China. They opened dispensaries, built hospitals, treated thousands of patients, broke down prejudice and opposition, and gave the Chinese such an example of the efficiency of Western medicine that they seek for it more and more. And they so well used the great opportunity given them for preaching the Gospel that thousands of the Chinese have been brought into the church directly or indirectly under God because of the medical missionary and

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his work. Those men and women translated books, trained, from perfectly raw material, their assistants, and did all in the face of difficulties and opposition which we, in this day, practically do not have. All honor to these men and women and to the work which they did. But we have reached the time in the providence of God, when we can do something more—when we can take a step in advance. We have among us to-day the man who in addition to all the other work that he has done for the missionary cause in China, was the first to urge the necessity of the organization of the doctors of China into an association. Besides the other benefits derived from this association there have been formed committees on terminology and on publication. There are already several valuable books published in the new terminology, and the Lexicon of medical terms has just been completed. Owing to the labors of these two committees we shall soon have a good series of Chinese text-books. And thus the teaching opened to the Chinese in their own language is made much easier.

Let us look at a few of the reasons that can be advanced in favor of the establishing by the missionaries of medical schools in China.

First as regards the medical missionary and the mission hospital. The busy doctor cannot run his hospital and dispensary, look after his patients as he ought to, and properly prepare his lectures, and I take it that no one can teach without more or less preparation. If one tries to do all this there is something left undone; either the patients suffer from neglect of their physical or spiritual needs, or the students are not taught properly. The doctor cannot do his best for his patients or his students, cannot reach his highest usefulness so long as he is burdened with the duty of teaching students as well as running a dispensary and hospital. On the other hand a doctor must have assistants, and the better trained the assistants the better work the doctor can do, the more useful the hospital will be. The medical school would, on the one hand, relieve the doctor in charge of a hospital of the burden of teaching, and on the other hand furnish him with trained assistants for his work. We often hear the expressions "overworked doctor" and "large hospitals and dispensaries."

The former is true, and many of our dispensaries are burdened with a large work; we can, through medical schools, relieve these dispensaries of part of their work and strengthen their hands to better do the remainder. But the term "large hospital and dispensary" is a relative one. Almost any of our medical plants are large enough for one man to undertake to manage; many of them are entirely too

large to be run by one man. But have you ever thought what will happen if the Chinese—and there is no reason why they should not—begin to come to the foreign doctor and the foreign hospital as the people at home do? To take a few concrete examples. I saw not long ago the annual report of one of the fifty hospitals in New York City; they had 144,000 out-patients and over 10,000 in-patients. Go to a large institution like Bellevue in New York; any day there are from 700 to 1,000 in-patients; they have about forty doctors living in the hospital. The largest of the maternity hospitals in New York reports about 5,000 cases annually. The eye and ear hospital will have from 100 to 200 out-patients daily. These institutions are well equipped with dispensaries and nurses, and they can handle the patients. What is going to happen to our one-man our 2, 3, 4 and 5-man hospital when our hospitals become equally popular and the millions of China begin to come to us in this proportion? I don't think this day is coming suddenly. I certainly hope not; the point I make is, that we should prepare to meet this need, and is it not wiser to establish schools for the training of natives rather than try to import the foreigner needed?

Another reason for having mission medical schools is that we may provide institutions where the younger generation of the native church can receive a medical education under Christian influence. And we should also seek to get suitable students from the graduates of the government schools and the higher classes. I think we should use care at this point to keep the tone of the medical schools Christian. Young China wants Western medical knowledge, and will get it. If we the missionaries, their best friends, do not give it to them, schools will be established by the government, and what will be the attitude of these government schools towards Christianity? If the Chinese spend enough money they can get good teachers and good equipments for medical as well as for other schools. I think we can safely say that for some years to come the government cannot or will not establish schools that can compete with those that we missionaries can establish, that is, if we do what we are able to do along this line. And if we do anything, let us do it thoroughly. "A little learning is a dangerous thing," is eminently true in medicine. Let us not fool our students into thinking they are getting a full medical course when they are not; they will wake up some day to a realization of the facts, and the results will not be to the advantage of the reputation of our medical schools. Of course I do not mean to say that we can start a first rate medical college at once, but let us aim high and keep this ideal in mind in all our plans for the accomplishment of this end. I knew two boys at school once; neither of whom were shining lights in their classes.

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One boy remarked one day of the other, "The difference between me and Smith is, that I am a fool and know it, and he is a fool and don't know it." He is a wise man who knows his own limitations, and he is a very dangerous man in the practice of medicine who does not know his limitations. We owe it to those who come to us for instruction to give them the very best we can, not simply to seek to make them better than the native quacks.

And just here is the most important point in the whole question. If the Chinese government establish medical schools run by Japanese or other foreigners, how many of the professors do you suppose will be Christians and exert a Christian influence on the students? And what will be the attitude of the coming generation of medical men of China towards Christianity? Whether it be true or not that in the home lands the tendency of the medical college is to lower the spiritual tone of students, it is certainly true in China that non-Christian or agnostic medical schools will not turn out Christian doctors, and yet if we do not provide for the Chinese well-equipped Christian medical schools, they will start well-equipped schools of their own, which will draw their students not only from the government schools but will get many of the children of our native Christians as well. And we shall thus lose a great means of evangelization. This same condition obtains in other educational work as well. The Chinese are waking up; if we do not give them the real article, they will, and very naturally, go elsewhere for it.

It might be advanced as an objection that we are contemplating taking many doctors from the direct work of healing the sick and making them teachers of students, many of whom afterwards will not be in mission employ. This brings up the question of the relative value of doing our work directly, or through the natives. The value of the direct method of medical missionary work no one can gainsay. The mission hospitals have been greatly blessed of God and have been the means of bringing the Gospel to thousands who would not otherwise have heard it. By the establishment of medical schools we seek not only to provide Christian doctors for the Chinese, but also to render more efficient the work of the doctors doing the direct medical and evangelistic work in our hospitals by relieving them of their teaching duties and giving them assistants as well. Some one may want to ask just here, How can we guarantee that enough of the graduates of our medical schools will be willing to go into mission hospitals? I think there will be no difficulty on this point; practically all of our American hospitals are equipped with resident doctors in this way, who are

anxious to secure such positions for a few years on account of the added experience they obtain.

But to return to our subject of the training of natives, we foreigners can no more treat all the sick bodies of China than we can preach to all of the sick souls. We must make use of the natives. The time was when the medical missionary was chiefly useful in opening the doors for the evangelist. That time is rapidly passing away. Our work is still to give to the Chinese nation a concrete example of the love of God which we preach, but it is also our duty to train the native arm of the service that when the time comes, when the work of evangelization by foreigners is done, we may leave our work in the hands of a class of Christian men who have not only obtained a thorough medical education, but who are also imbued with the highest Christian ideals of the ministry of healing. This same condition is true of the strictly evangelistic work. We are taking men from the direct preaching of the Gospel and are putting them into theological seminaries; we are even putting them into so-called secular schools and colleges. Why? Because it is thought wisest to train the natives to do the work that we are sooner or later to lay down. It may be many years before China is ready to dispense with foreigners entirely, but is it not probable that we shall be needed more and more as leaders and teachers and less and less for the direct work of preaching to the masses, or healing their sick? There is one point in which I believe the medical school has the advantage over the academic mission school as an evangelistic agency—that the medical school can reach a class of men that is not usually drawn to the academic school and that does not usually attend the chapels.

Now what are the practical difficulties in the way of the establishment of such medical schools? The two chief difficulties are those that stand in the way of nearly all of our advance movements in missionary work—the lack of *men* and of *money*. As has been mentioned we have, or soon will have the needed text-books in Chinese, and we all know that there are plenty of students anxious to learn. But it is only by concentration that we can provide the necessary teachers and equipment to put into operation a first class medical school. What are we to do? Are we going to wait indefinitely and go on making each doctor conduct as best he can his own training-class? Or is each mission going to run its own small school? Or are we in the spirit of the Centenary Conference, in the spirit of the West China Conference, in the spirit of our Master, going to unite our means and our men and build up real Christian medical colleges in China? Some will say union schools have not always proved satisfactory; the difficulty of the admin-

istration under several Mission Boards is an obstacle. True, but it has been well said: "Obstacles are given to be overcome." There is a union medical college already begun in Peking. There is the probability of the formation of a union school in Hankow, there is one in Fokien province; a medical college is part of the union educational scheme in West China. Now what are we going to do in this section of China? I am not speaking of English-speaking schools; probably all of us know that there is a well-established English-speaking medical school in Shanghai, and this is not the place to discuss the question of English or Chinese as the medium of teaching. I think most of us will agree with Doctor Boone when he said: "English for the favored few, Chinese for the masses." If there is any one thing on which we can unite, it seems to me it is medical education. Time is passing rapidly even in old China. The opportunity of to-day will be gone to-morrow. The missionary body of China has an unparalleled opportunity for educational work of all kinds at present. To be more specific we, the missionaries of this section of China, have the opportunity by combining our forces of founding a medical college, an institution that we believe would grow in size and influence and that would not only give a scientific education to hundreds of students, but would give this education from a Christian standpoint and under Christian influences. We should have the faith to believe that the majority of the graduates of such an institution would become converted to Christianity and thus would exert a far reaching influence over their fellow-countrymen, whether they were in mission hospitals, or in government service, or in private practice.

The place of the ministry of healing in the general plan of missionary work is too well recognized to need discussing. My plea is that our Missions will but partially do their duty unless they seek to conserve what has already been done by medical missions by providing for the education of those who want to study medicine. Our evangelistic work is not complete without the theological seminary, our educational work is not complete without the college, our medical work will not be complete without the medical school. I believe that the time is ripe for undertaking this work in our section of China as well as elsewhere. We have the demand, the students; we have the text-books, and by combining our teaching forces and our money we can provide the teacher and the equipment necessary. Let us not wait any longer, but take steps to found a union Christian medical college and thus erect the capstone of our medical missionary work.

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Nanking University



GRADUATION ADDRESS, 1909.

BY

JOHN C. FERGUSON, PH.D.



Shanghai:

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1909.

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GRADUATION ADDRESS, 1909.

It is now twelve years since the first class of men graduated from this University. Three young men of sturdy characters and promising intellects received their diplomas from the College of Liberal Arts, and two other men of high character graduated from the School of Theology. It was a bold undertaking to confer upon these men diplomas as the reward of their faithful studies, for it must be remembered that in those days the modern education in China was travelling over an uncharted sea. It was fortunate for us at the time that we had a clear consciousness of the port from which we had sailed and also of our destination. The careers of the three young men who first graduated from the College must be an inspiration to all later graduates. All three have maintained high ideals of life, and have contributed their share toward bringing honour to this school. I was also present at the graduation exercises a few years ago, when several other young men were graduated. These also were men of promise, who have not failed to add their share of honour to the school which taught them.

It may be well for us to review some of the principles which guided this school at its foundation, and which have determined its character and methods. The wise and liberal policy

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inaugurated at that time was largely the result of the influence of the late Bishop Fowler,—a man of colossal mind, unflinching courage and unclouded thought.

1.—Science is not afraid of religion, neither is religion afraid of science. The man of true scientific mind, whose heart, like that of the learned Dawson of Montreal, is controlled and directed by religious principles, is a safer guide in scientific matters than the agnostic and often frivolous scientific man typified by Tyndall. Science is but knowledge and study of the world about us and its forces. Religion is the knowledge and study of Him in whom we live and move and have our being. His nature and His forces cannot work inharmoniously, and the study of one goes best hand in hand with the study of the other.

2.—The Chinese classics need not fear the Bible, nor need the Bible fear the Chinese classics. This was a subject of the keenest feeling at the time of the founding of this school, but its interest has now largely died out. At that time, it was felt that a school which emphasized classical learning must be more or less false to the teachings of the Bible, and that there was an essential and ineradicable antagonism between the influences flowing from these two sources. This school took the position at the time of its foundation that there was no antagonism. While recognizing the Bible as the foundation of the faith which begot and sustained the school, the classics were placed in the curriculum on the same basis and for the same purpose as the Greek and Latin classics occupied in our good schools in the homeland. Along with this recognition of the place of the

classics, the school struck out on lines of introducing a new system of teaching the Chinese language, and was the first school of any size to discard the stereotyped *wen-chang* in favour of a modern type of essay. We proceeded upon the theory that the method in which the Chinese literature was taught at that time was faulty and needed change.

3.—Instruction in practical science was necessary. It was not enough to know text-book theories concerning physics, chemistry, or other sciences; there must be practical laboratory work. To this end physical apparatus was purchased, a chemical laboratory established, the beginning of a herbarium made, and a collection of local mineralogical specimens gathered.

4.—Various branches of study should be open to our students. In the College of Liberal Arts practical science should be taught; but in addition to this, provision was made for the students to acquire a training in medicine, and for others who were chosen to the ministry to acquire a good training in theological subjects. We also had in mind the establishing of a department of law, but never were able to secure sufficient financial support to establish it. It was for that reason that instruction was planned for in these various faculties of arts, medicine, theology and law, that this school took upon itself the weighty and prophetic name of University, intending thereby to hold up before all later comers the ideal of a school of broad foundation, where students could be trained, and around which scholars could be collected for teaching or

investigating purposes. The name of this city of Nanking was added to University, because this school was the first one established in the city for such a comprehensive purpose.

5.—Our primary aim was to make a good school under Christian influences and not a proselytizing agency. For this reason, nothing was allowed to interfere with the ordinary routine of the school. A school conscience was developed, by which it was meant to emphasize that the best service to Christ and His church was to do faithfully that which our hands found to do. No desire to deepen our own religious life could be an excuse for neglecting the training and supervision of boys committed to our care by their parents. The best illustration which we could think of, of following Christ's teaching, was to do faithfully the work of our school. An example of being not slothful in the business of education, but diligent in spirit, was believed to be the best way of serving the Lord. Young men could be best influenced to become disciples of the great Master by being taught faithfulness in their work, both by the example and precept of their instructors.

6.—The school has need of the church, and the church has need of the school. Without the influence of the church, its holy teachings and its impressive services, the student becomes self-centred and selfish. Without the school, the church becomes superstitious and ignorant. A sound mind should be the accompaniment and interpreter of a warm Christian soul.

7.—It was the aim to make our school a model to outside schools. There was a small School of Languages in the Arsenal and in the Miao-siang-ang, but there was no school of any kind which tried to do more than teach the rudiments of some foreign language. You young students can scarcely imagine the condition of educational matters in this city twenty years ago, but it is safe to say that one of the greatest influences in moulding the new educational life of this city has been this school from which you are now receiving your diplomas.

8.—The model of our school life was considered to be the same as the model of the best personal life, and for this the life, example and teachings of the Master were always held up as the ideal. It did not seem possible to obtain a Christian standard for this school in any other way than by uplifting the lives of individual students of this school to the Christian ideal. No numbers of meetings, no formal teaching of the Bible, no amount of conformity to church requirements, could make a Christian school. Such an outcome was believed to be the result of a high tone of Christian character in our teachers and our students.

We turn now from the past to your present needs. You have a fine equipment of buildings, but I place as your most urgent need at the moment a good library. Erasmus once said at Oxford: "It is wonderful what a harvest of old volumes is flourishing here on every side; there is so much erudition—not common and trivial, but erudite, accurate and ancient." Your library is at present very small, and quite inadequate for purposes of reference.

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2.—You also need a better equipment for teaching science. Very little has been added to your apparatus for many years, and during this time science has made rapid strides. It should be your object to have your scientific equipment fully up to date.

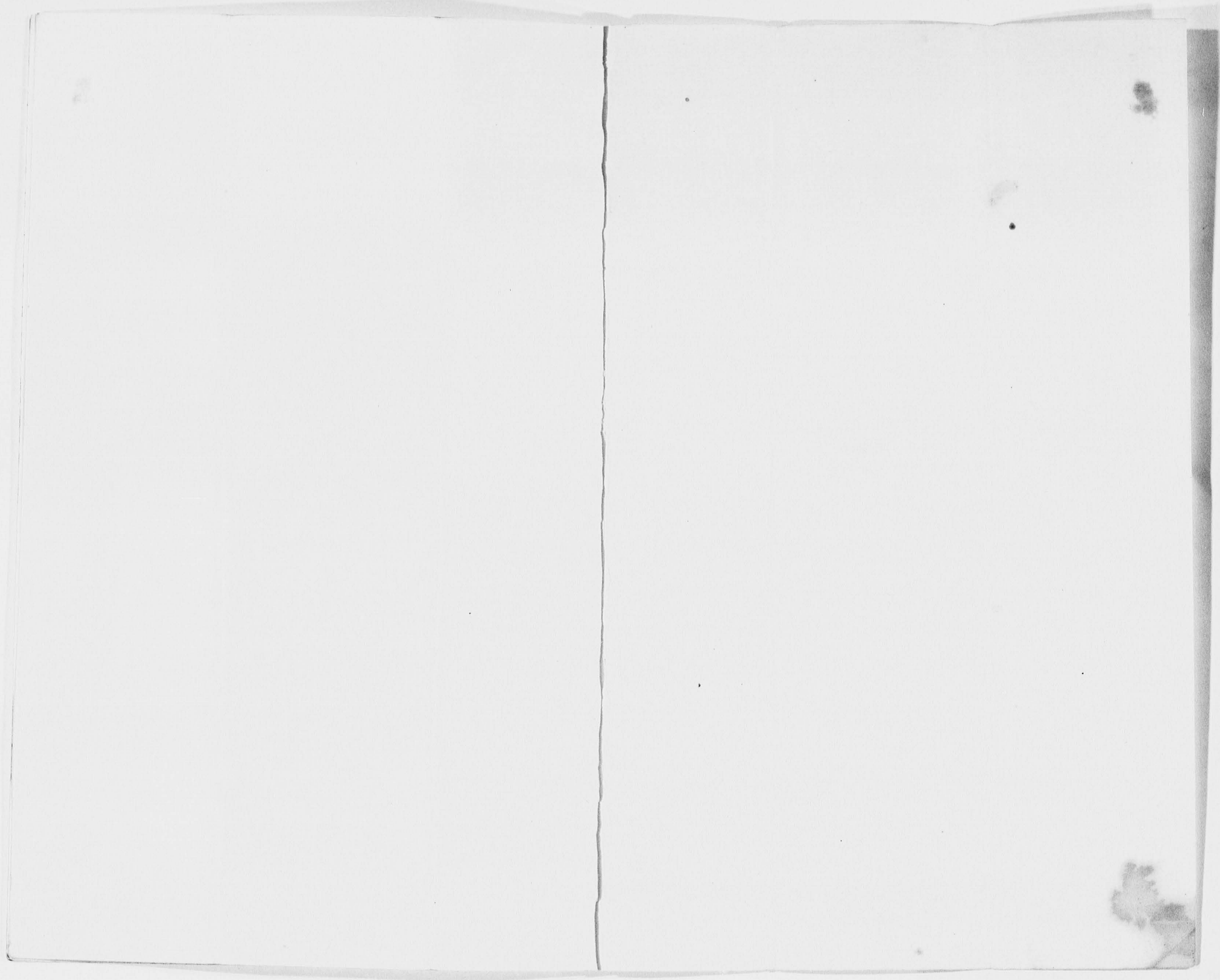
3.—The establishment of courses in law should not be postponed. It is noticeable that a very large proportion of the Chinese students who now go to foreign countries to study take up courses in law and kindred subjects. If you commence such a course you will be the leaders in this movement among Christian institutions, as you have already been the leader on many other lines.

4.—Greater interest should be taken by the graduates in the prosperity and advancement of their Alma Mater. Our graduates and former students are succeeding in the world beyond our highest expectations. I am glad that a Society of Graduates has been formed, and it should be the aim to make this Society a strong agency in pushing the work of this school.

In conclusion, I do not know of any Christian school in China so well located as this, nor one with a better history behind it. Nanking in former days was a great literary centre, where every three years twenty or thirty thousand of the students from two Provinces gathered for their civil service examinations. Those examinations have now been discontinued, but Nanking still remains the most important official centre in Central and Southern China. The completion of the

Shanghai-Nanking Railway, the building of the Tientsin-Pukow Railway, and the probable immediate construction of the Sinyang-Pukow Railway, will make Nanking also a large commercial centre, easy of access from all parts. Now is the time for this school to be up and doing; for you young men who are leaving its halls this year to decide that, as far as in you lies, you will do everything possible for its interests and advancement. It is for all of us who have ever been connected in any way with this school to embrace the present fine opportunity for making this school a real University and the leading Christian school in China.





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Sept. 23, 1930.

**RELIGIOUS INSTRUCTION IN
MISSION SCHOOLS**

by

John C. Ferguson

Peiyang Press, Tientsin-Peking

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RELIGIOUS BAN AN ERROR

Grave International Consequences

By John C. Ferguson

Although the Ministry of Education has denied the petition of the Churches for the repeal of the restrictions against religious education and worship in Church schools and has affirmed that its decision is final, may I be allowed to remind the Ministry that no question is ever settled until it is settled right.

I desire to associate myself unreservedly with the petition which requested that certain portions of Chapter 1 Article 5 of the Regulations for the control of private schools should be amended so as not to forbid voluntary religious exercises and instruction in higher schools nor any religious exercises in primary schools. I would go further than the petition and would suggest the withdrawal of the whole article so as to allow private schools to establish their own rules as to religious instruction and religious exercises. I do not wish to enter into a controversy with the Ministry of Education whose chief is a friend of many years' standing, but I am convinced that its decision has been taken without due consideration and consultation with interested parties.

In spite of the seriatim reply to the points raised in the petition, there seems to me no good reason why private schools should not be allowed to require religious instruction and attendance upon religious exercises. The state should not establish nor contribute to the support of such schools, but if private individuals wish to maintain

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them I know of no valid reason based upon public policy which can be adduced against this action. No parent or guardian is obliged to send a child to such a school but if he chooses to do so he should be allowed to act in accordance with the dictates of his conscience.

There are Christian families in China who desire to have their children taught the precepts of the Christian religion in school and who also want regular religious exercises conducted such as their children are accustomed to attend when living at home. These citizens should not be forbidden to establish the kind of schools most agreeable to their wishes.

This is even more important for families of the Roman Catholic than of Protestant faith. The Christian precepts taught in such schools contain nothing derogatory to later duties as citizens of the state and the state is not justified in prohibiting the teaching of them. This statement applies also to the large number of Mohammedan schools scattered throughout the country and to the new schools being started by revived Buddhist congregations.

I am not attempting to say that these schools are ideal. My own preference is for the American public school system where no religion is taught. But public schools supported by general taxation are one thing and private schools established by private contributions are another. The teaching of religion in private schools should be as untrammelled as the introduction of new teaching methods, like the Montessorian. Public schools should make no requirements which are not applicable to all classes of society but in private schools specialized instruction should be not only allowed but also encouraged.

Much of the progress of present generations in teaching methods has been due to experiments carried on

by private schools supported by private individuals who have contributed special funds for the purpose in addition to paying their share of taxation for ordinary public schools. Allow me to repeat that no one is obliged to send his child to any private school, but if he chooses to do so in full knowledge of the requirements of the school, the state should not interfere with the liberty of the school by requiring it to exclude specialized instruction such as that in religious subjects. The apparent purpose of the Regulation is to forbid religious propaganda in Private Schools but I would point out that the Regulation itself is a species of propaganda disagreeable to a certain section of the citizenry to which religious liberty has been guaranteed.

If this kind of governmental interference in the control of private schools could be justified, the state might carry the principle one step further and forbid preaching or worship in churches established and supported by private contributions. Such an attempt would not be tolerated by the general public.

It is equally true that the provisions of the Regulation which I am discussing do not commend themselves to the good judgment of the average man. This could be readily proved by a canvass of the names of the students for the last ten years in St. John's, Shanghai, Nanking or Hangchow Colleges, even when religious instruction was a required subject in their curricula. Here would be found sons of many of the best-known families in China. Such a canvass of any of the Ministries would also show that a good proportion of its members received their education in Church schools.

The international aspect of this question must not be overlooked. Funds for the establishment of many private schools in China have been contributed by individuals in

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America, England, France, Germany and other countries who are able to exert an influence in creating public opinion. There is no doubt in my mind that the decrease of interest in China's welfare among many former friends which has been noticeable during the last three years has been due to the attitude of the Government toward private schools and other philanthropic enterprises more than to any other single cause. Benevolent residents of other countries can see no reason why the Government should try to restrict the activities of the schools in whose support they have had a part. It is to be feared that they may go still further and allow themselves to lose their former friendly feelings toward China and its future.

The private schools with which I have been most familiar were founded by the missionary societies which signed the petition to which reference has been made in the first paragraph. These missionary schools have made records for which no apology is needed. With one of them I have been continuously connected for more than forty years, first as President and later as a member of the Board of Directors. This is the University of Nanking.

May I be pardoned for reminding the present Ministry of Education that when in 1888 I started the small school out of which the University has grown there was no modern school in the whole city with the exception of a small language school in the Arsenal. It was no easy task to interest the public in such simple subjects as geography, general history, and elementary science. In Nanking the first chemical laboratory, the first classes in botany and zoology, the first teaching of the physical laws of the universe were in the school which was under my charge.

The teaching was not of as high grade as I would like to have provided, for I taught all these subjects myself,

but it must be remembered this was previous to the present system of highly specialized study. However, we teachers taught all we knew and gave the best of ourselves to our pupils. Among those educated in our school are men who have occupied honourable positions in China's diplomatic and consular service, in modern business, in banking, in teaching, in the medical and legal professions, in the Christian ministry and in almost every walk of life. I have watched their careers and can say that not one of them has ever suffered from following the Christian precepts which were compulsorily taught them while they were in school whereas I have seen some who would have lived lives more useful to society if they had followed them more closely. In those early days religious instruction and attendance at religious exercises were required, just as they were in such colleges in England and America.

The suggestion that these missionary schools are allied to imperialistic schemes is too prejudiced to admit of discussion and can only be answered by a flat denial. Every one who makes such a statement must do so with his tongue in his cheek.

For the sake of treating with full justice the Christian citizens of China, for the sake of freedom in experiment in teaching methods, for the sake of creating sentiment favourable to China in foreign countries and for the sake of the large number of illiterates in China who need every possible chance to be educated I trust that the Ministry of Education will reconsider its action and withdraw the whole of Article 5, Chapter I, of the Regulations for the control of Private Schools.

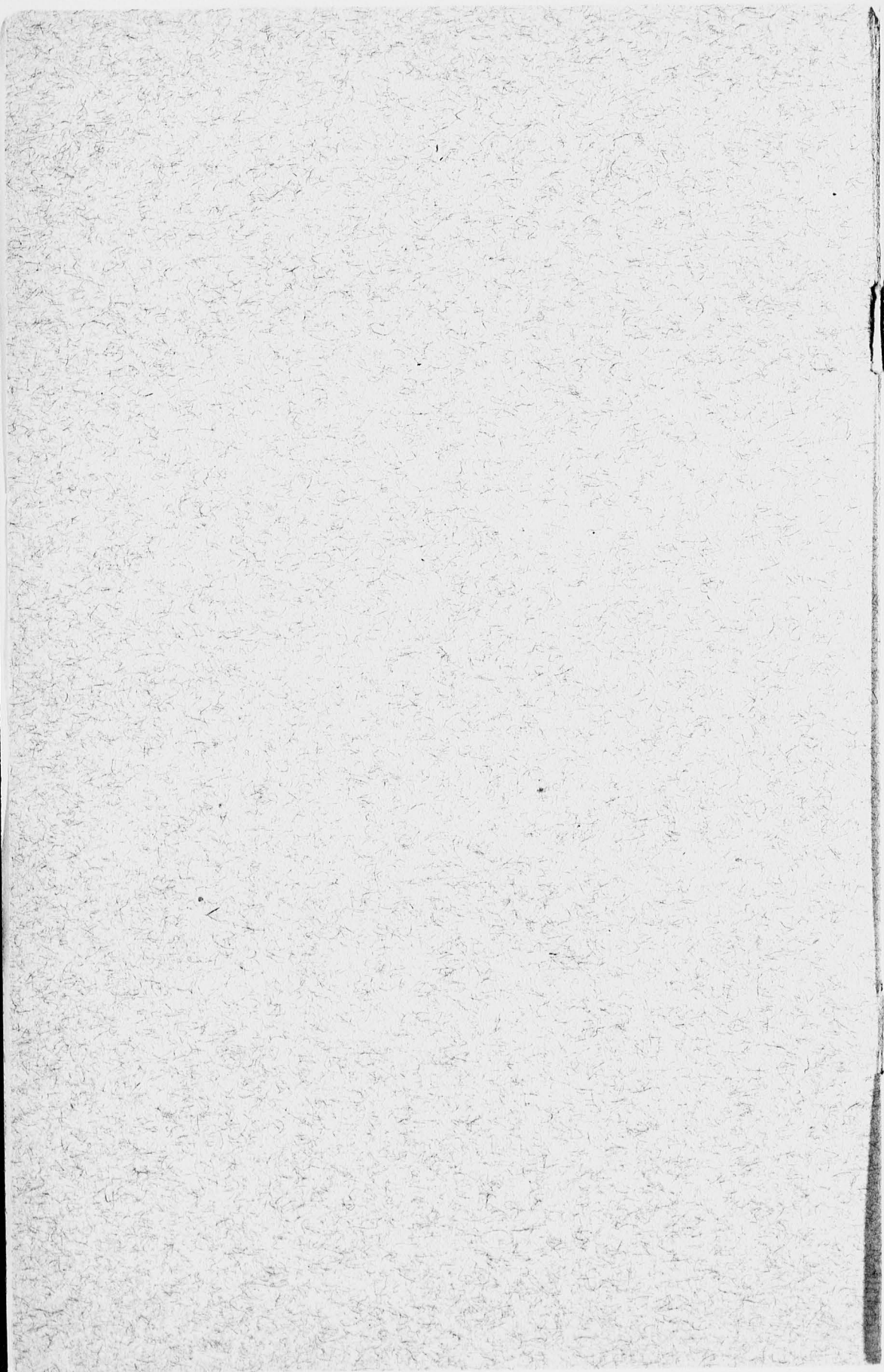
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限 制 宗 教 教 育 問 題

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分理由，政府雖不設此種學校，或供給其經費，然私人苟欲維持之，恐無根據公
駁，但以余觀之，私立學校不得必修宗教科目，及參加宗教儀式二點，並無充
，尙未經相當之考慮，亦未諮詢當事方面，教部對教會代表之請求各點，雖逐條
及宗儀式之規則，余雖不欲與多年交好之教部長相詰難，但相信教部之決定
種請求外，尤欲更進一步，即建議撤消該全文，而允私立學校自訂其宗教教育
，以便對於初設宗教課目及小學舉行宗教儀式，不加限制，余極贊同，但於此
決，即不能指爲解決，教會代表呈請教部改訂管理私立學校規章之第一章第五條
以批駁，並謂爲最後之決定，余竊願向教部進一詞，即某項問題，除有正當之解
教部對教會代表請求撤消教會學校不得設宗教科目及舉行宗教儀式之規定，雖加

(見十九年八月十八日大公報)

限制宗教教育問題

洲美

福開森

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此項問題之國際關係，亦不得忽視，中國有許多私立學校，多由具有產生活公共團體，不少均曾受教會學校之教育者，

可立辦中國各名子弟，多集於彼，即一再一查各部署之官員履歷，恐其中亦有宗教修課自上海聖約翰大學。滬江大學。金陵大學或之江大學學生名冊，即有規定，亦非一般人所能贊許，尚欲證明此言不妨一查前十年其課程表中列有規之教堂中宣教或參拜，此種企圖，實為公眾所難忍受，故余所論之政府規章人之政府管理私立學校之此種干涉，為有理由，則應更進一步，而禁止人民在私立學校之宗旨宣傳，但該項之本身，即與公民權某部信仰自由之規定相衝突，倘教課目之特殊訓練，而干涉學校之自由，政府設立規章之目的，即在禁止教會但假令熟知其校中必課目，而發送其子弟入學，則政府不強迫學校取消，私立學校，經其試驗，得有成效，蓋無人員送子弟入學，則任何私立學校之義務，進步，蓋多由私人方面繳納維持，公學校之正式捐款外，復以特別款項，維持

目，然於私立學校內，不但應允許特別訓練，而尤應加以鼓勵，現代教育方法之，無須加以干涉，公學校對於不適用於各級社會之課目，可將其列入必修科目，私立學校之教授宗教課目，亦如新教授之實行，例如蒙台梭利教育法然一事，然由全國稅收供給之公學校為一事，而由私人供給之私立學校，乃另為余非謂此種學校，為理想之學校，余頗贊成美國之公立學校制度，並無教授宗教，現正開始之佛敎學校，亦得適用，無損失，故政府之禁止，決無理由，此說對於國內各處大多數之回教學校，以及較耶穌教徒尤為重要，此種學校內教授之基督教訓，於其將來之公民資格，毫無所望，其子弟能於學校內受基督教訓，同時亦希望有宗教儀式，與其在家庭時，學校之義務，然果自願如此，則亦得順其心願之所嚮行之，中國有基督教家庭共政策，反對此種行動之充分理由，由各生家長及其保護人，並無遺送其子弟入教

應其行動，並取消管理私立學校規章第一章第五條之全部焉，
國對中國親善計，爲中國需要各種受教機會之大多數民衆計，余信教育部當從新考
爲對中國之基督教公民加以平等待遇計，爲教授方法之自由試驗計，爲應生各外
可以簡單之否認，作此項論者當非由衷之言，
如謂教會學校與帝國主義或資本主義相聯合，似過於偏激，而無討論之餘地，只
英·美各學校無異，
則將於社會更形有益，當此之時，宗教教育及參與宗教儀式，爲必需課目，與
受迫之宗教課程，而感受困難，並以爲荷其中有一部能更依其所得之教育行之
，及宗教各界者甚多，余曾注意彼等之生活途程，能謂其中並無一人因在學校中
肄業之學生中，多有高尚地位，服務於外交界·商界·銀行·教育·醫院·法律
此爲現時有專門學術制度前之事，然一切教員，均以其所知者教授學生，在金陵
均金陵爲嚆矢，當時各課均由余担任，其程度之高深，未能副余之希望，但
發生興趣，誠非易事，南京第一次有化學實驗室，以及動物學與物理學之教授
學外，並無一新式學校，欲以地理，普通歷史，乃初步科學之簡單課目，使公衆
始辦該校時，爲一小學校，現已有如此之發展，然當時全城中除兵工廠內之一小
年之關係，初爲校長，後爲董事，余所指金陵大學，當一校，已有四十年
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之態度，有以致之，其影響較其他任何原因爲尤甚，他國之慈善僑民於中政府限
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SILVER
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CHINESE PRICE LEVEL

BY

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SILVER AND THE CHINESE PRICE LEVEL¹

ARDRON B. LEWIS AND CHANG LU-LUAN²

IT is a matter of common knowledge that farmers in the interior of China are receiving unusually low prices for their products, and are having unusual difficulty in paying their debts and taxes. Declining prices are not confined to farm products but are also affecting the products of city industries. The average of wholesale prices in China has been declining since the middle of 1931 (figures 2 and 3). Widespread economic distress such as that which was experienced in gold standard countries because of falling prices after 1920 and 1929 is beginning to be felt in China.

Statistical research into price relationships extending over long periods of years has shown that the price level in gold standard countries has depended primarily upon the supply of and demand for gold.³ The rapid increase in the purchasing power of gold that began in 1929 was expressed in a rapid increase in the purchasing power of gold standard currencies and in declining commodity prices in gold standard countries. Falling prices caused the undesirable conditions that are known as "the economic depression."

It is the purpose of this article to show the relationship between the purchasing power of silver and the price level in China. The data indicate (1) that declining prices in China are due primarily to the increasing purchasing power of silver, and (2) that the purchasing power of silver is very likely to continue to increase. If the price level in China continues to decline, in consequence of a rising purchasing power of silver, economic distress will be intensified.

The gold standard countries have tried in many ways to avoid the economic consequences of the rising purchasing power of gold. As a last resort, most of these countries have abandoned the fixed gold standard. A change in the basis of the currency is the only

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- 3.—Kitchin, J., "The Supply of Gold Compared with the Prices of Commodities," Interim Report of the Gold Delegation of the Financial Committee of the League of Nations, Document C. 375 M. 161, Sept., 1930.
Cassel, G., *The Theory of Social Economy*, p. 447, 1924.
Woytinsky, W., "Das Ratsel der langen Wellen," *Smollers Jahrbuch*, 55 Jahrgang, Viertes Heft, p. 30, 1931.
Warren, G. F. and Pearson, F. A., *Prices*, pp. 74-125, 1933.

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way in which a gold standard country can avoid declining prices when the supply of and demand for gold is such as to increase its value in terms of other commodities.

The experience of China will probably be similar to that of foreign countries. As long as China is on a fixed silver standard, declining prices cannot be avoided if silver continues to rise in purchasing power. The present is the best time for China to consider the problem of a modification in the silver standard, before declining prices have done further damage to the economic life of the country.

Purchasing Power of Silver

The purchasing power of silver is the amount of other commodities that a given amount of silver will buy. Since China is on the silver standard and silver is the basis of important payments and prices, the purchasing power of silver determines the level of prices in China. When the purchasing power of silver rises, fewer silver dollars and other forms of silver are required to buy a given amount of commodities, and wholesale prices decline. Conversely, when the purchasing power of silver declines, more silver dollars are required to buy a given amount of other commodities, and wholesale prices rise. The purchasing power of silver in China is therefore measured as the reciprocal of the index of wholesale prices of commodities.

In countries that are not on the silver standard, silver is not the basis of commodity prices, and the money price of silver is not fixed. Nevertheless, the price of silver in terms of money cannot be used as a direct measurement of the purchasing power of silver in terms of other commodities. If the price of silver rises, and average wholesale prices also rise at the same rate, the purchasing power of silver in terms of commodities has not changed. Neither has the purchasing power of silver changed if the price of silver declines and average wholesale prices also decline at the same rate. Therefore, in countries that are not on a silver standard, the purchasing power of silver is measured as the percentage that the index of the price of silver is of the index of wholesale prices.

Longtime Changes in the Purchasing Power of Silver in China and in England

An index of the purchasing power of silver in China was calculated as a reciprocal of an index of prices of Chinese import and export commodities.¹ According to this index, the purchasing power of silver in China has been declining rapidly for many years. After 1887, except during the world war, this decline closely paralleled the decline in the purchasing power of silver in England (figure 1).

1.—The index of the price of Chinese import and export commodities was compiled by Nankai Institute of Economics, Nankai University, Tientsin, China.

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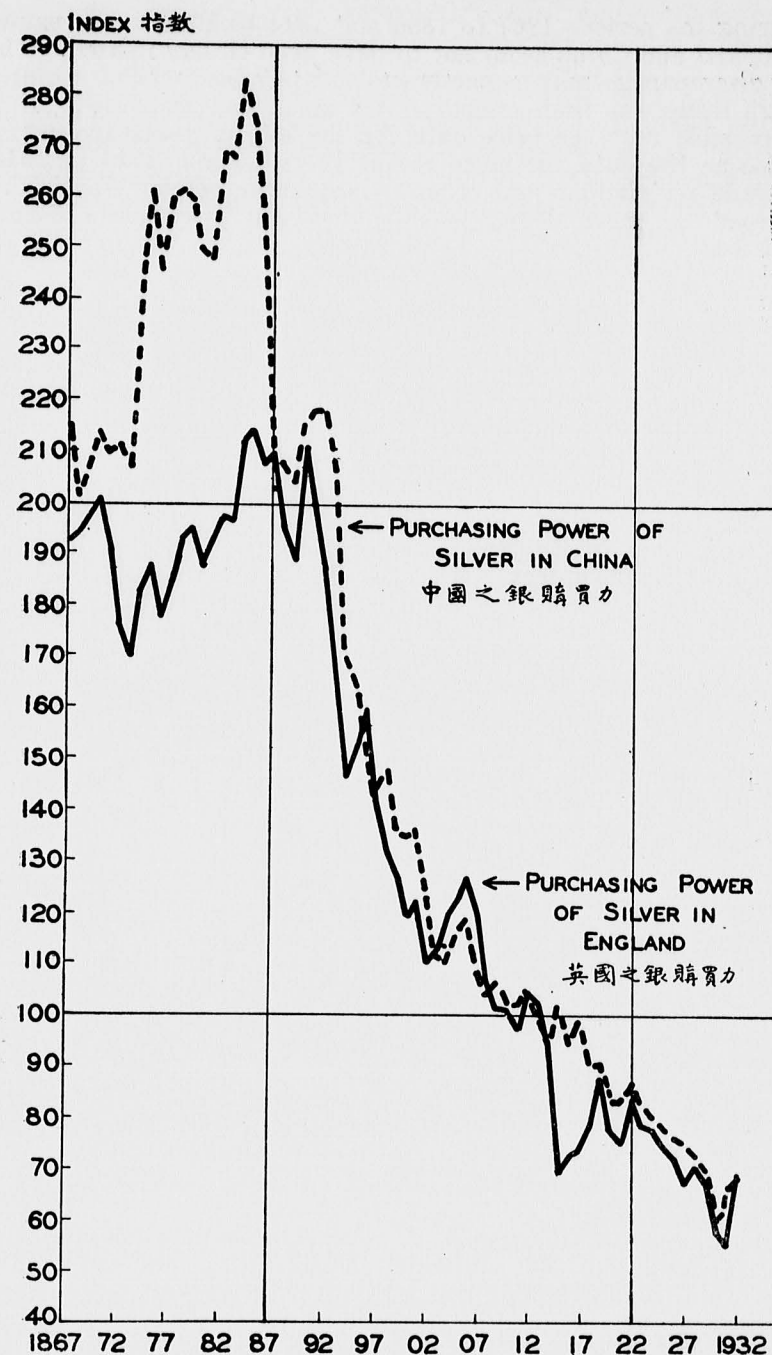


Figure 1. Index of Purchasing Power of Silver in China and Purchasing Power of Silver in England, 1910-1914=100.
(Based on table 3)

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During the periods 1867 to 1886 and 1914 to 1918, silver values in England and China seem not to have been closely related. The early discrepancies may be partly explained by the fact that Chinese foreign trade was then comparatively small and restricted. It is also possible that the price data for the earlier years are not so reliable as the data for more recent years. From 1914 to 1918, the trade restrictions and other consequences of the World War disturbed the normal relationships between prices in different countries.

Purchasing Power of Silver in England and Wholesale Prices in North China, 1921 to 1933

During the post-war period, changes in the purchasing power of silver in China were closely similar to changes in the purchasing power of silver in other parts of the world.

In the years 1921 to 1933, wholesale prices in North China rose when the purchasing power of silver in England declined (figure 2). Wholesale prices in North China declined when the purchasing power of silver in England rose. Since the commerce in silver is world wide and subject to few restrictions, this similarity between silver values in different parts of the world is not surprising.

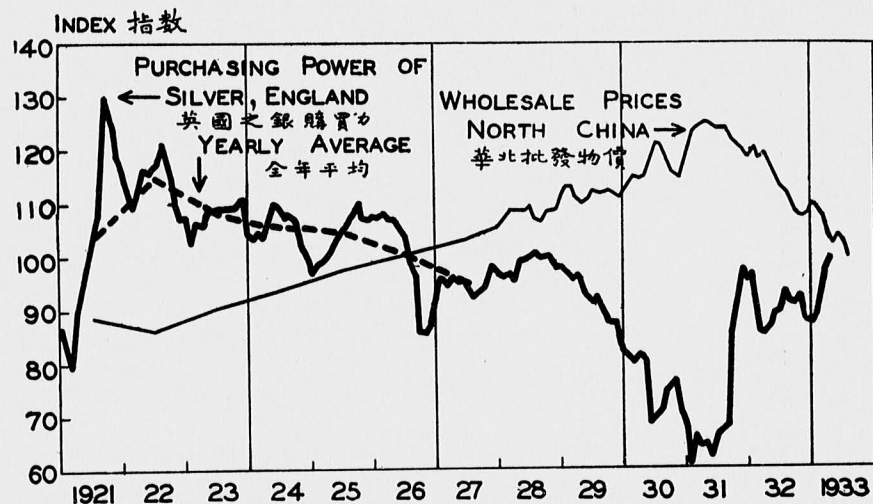


Figure 2. Purchasing Power of Silver in England and Wholesale Prices in North China, 1921-1933, when 1926=100. (Based on table 4)

For the years 1928 to 1933, monthly indexes of wholesale prices for North China are available. During this period, monthly changes in the purchasing power of silver in England were usually matched by inverse monthly changes in wholesale prices in North China. A striking exception occurred late in 1931 when the purchasing power of silver in England rose without any corresponding fluctuation in the wholesale price level in China. At that time,

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Great Britain abandoned the gold standard and wholesale prices in England rose. When prices rise, the prices of basic commodities (silver, wheat, pig iron, coal, cotton and others) tend to rise faster than the average of wholesale prices. This fact explains the sudden rise in the purchasing power of silver in England just after England left the gold standard. This rise went too far, and a reaction occurred. Later in 1932 and in 1933, when the English price level was comparatively stable, the purchasing power of silver in England was similar to the purchasing power of silver in China.

In 1930 and most of 1931, the purchasing power of silver in England was considerably lower than the purchasing power of silver in China. During this period, prices in England were declining rapidly, and the price of silver, a basic commodity, was declining in advance of the average of wholesale prices.

Purchasing Power of Silver in England and Wholesale Prices at Shanghai, China, 1921 to 1933

During the period 1921 to 1933, month-to-month changes in the purchasing power of silver in England were usually matched by inverse month-to-month changes in wholesale prices in Shanghai, China (figure 3).

These similarities existed although the average yearly value of silver at Shanghai was not always the same as its average yearly value in North China, where the index before 1926 reflected the value of silver in England more closely than did the Shanghai index (figures 2 and 3).

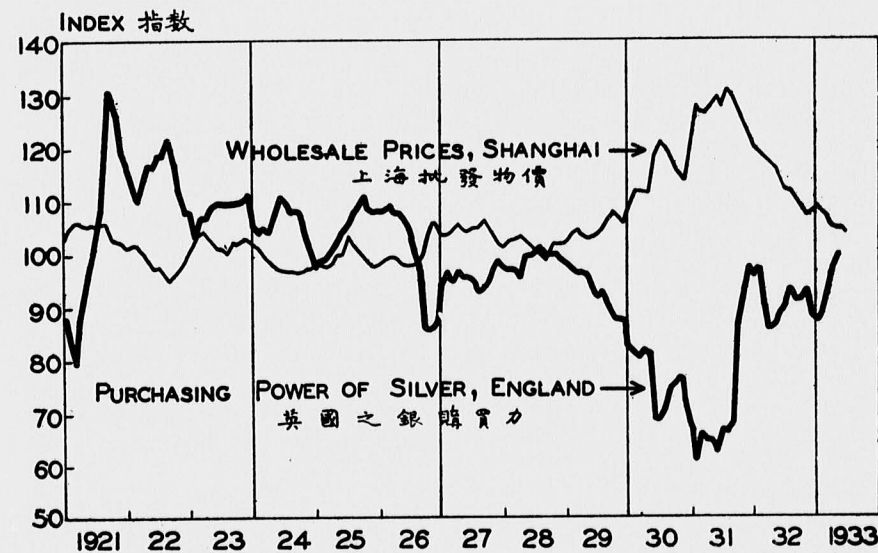


Figure 3. Purchasing Power of Silver in England and Wholesale Prices in Shanghai, 1921-1933, when 1926=100. (Based on table 4)

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Purchasing Power of Silver in the United States and Wholesale Prices in China, 1921 to 1933

During the years 1921 to 1931, the purchasing power of silver in the United States moved in close relation to the purchasing power of silver in England (figures 3 and 4). Changes in the purchasing power of silver in the United States were usually matched by inverse changes in wholesale prices in China (figure 4).

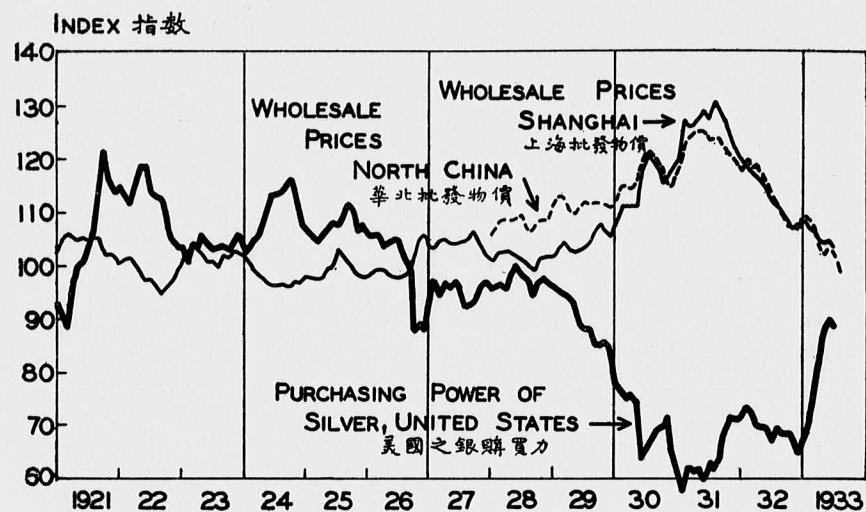


Figure 4. Purchasing Power of Silver in the United States and Wholesale Prices in China, 1921-1933, when 1926=100. (Based on table 4)

In 1932, when the United States was still on the gold standard and prices were declining rapidly, silver had a much lower purchasing power in the United States than in England. When prices decline, the prices of basic commodities such as silver tend to decline in advance of general average wholesale prices. Any forces which would ordinarily raise the price of an individual basic commodity will be partly neutralized by this tendency.

In April, 1933, the United States left the gold standard. Wholesale prices rose, but the prices of silver and other basic commodities rose more rapidly. The purchasing power of silver in the United States approached more closely the purchasing power of silver in England and in China.

Violence of Short-time Changes in the Purchasing Power of Silver, 1921-1933

Short-time changes in the purchasing power of silver in China were somewhat less violent than corresponding changes in the purchasing power of silver in foreign countries (figures 2, 3 and 4). This relationship is to be expected, since there is always a

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certain amount of resistance to a change in the price of a commodity, and a change in the purchasing power of silver in China can be expressed only by a change in the price of many commodities. In countries where silver is not the monetary standard, changes in the purchasing power of silver must overcome the resistance to a change in the price of only one commodity, namely, silver.

Factors Responsible for Long-Time Changes in the Purchasing Power of Silver

The precipitous decline in the purchasing power of silver in the world from about the year 1885 to the middle of 1931 was due to the rapid demonetization of silver during that period (table 1). While the market for monetary silver was being rapidly narrowed, the demonetized silver was continually being sold. This demonetized silver increased the supply available for other uses and for monetary uses in a decreasing number of countries. During the period, 1920 to 1932, 541.5 millions of fine ounces of demonetized silver were sold by various governments and central banks (table 2).

TABLE 1

Dates of Adoption of the Gold Standard by Different Countries and of Other Acts Unfavorable to Use of Silver as Money*

Year	Country/Event
1816	England
1854	Portugal
1871	Germany
1873	United States, Denmark, Sweden and Norway began to adopt the gold standard. Belgium stopped using silver to mint 5-Franc pieces. France prohibited the free coinage of silver 5-Franc pieces.
1874	The Latin League limited the minting of silver currency.
1875	Italy began to limit the free coinage of silver currency. The Dutch Settlements stopped minting silver currency. Holland adopted bimetalism, and stopped minting silver currency.
1876	Finland adopted the gold standard. France stopped minting silver 5-Franc pieces.
1880	Haitie
1881	Argentina
1885	Egypt
1893	The free coinage of Indian silver currency and French trade silver were stopped. The United States repealed the "Sherman Act".
1897	Japan and Russia
1899	India adopted the gold exchange standard.

*Wu Ta-yeh, "A Statistical Analysis of Fluctuations in the Silver Price, 1883-1931", Quarterly Journal of Economics and Statistics, Nankai University, Vol. 1, No. 1, p. 24 (Chinese).

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TABLE 1—(Continued)

1900	Uruguay
1903	The Philippine Islands adopted the gold exchange standard.
1905	Bolivia adopted the gold standard. Mexico adopted the gold exchange standard.
1906	Straits of Malacca
1907	Colombia
1908	Siam
1910	Canada
1925	India
1930	French Indo-China

TABLE 2

Demonetized Silver Sold by Various Governments or Central Banks during the Period 1920-1932**

Year	United Kingdom	Other European countries	British India	Indo-China	Other countries	Total, all countries
1920	—	27.0	—	—	—	27.0
1921	6.5	30.0	—	—	—	36.5
1922	24.0	19.0	—	—	—	43.0
1923	25.0	20.0	—	—	—	45.0
1924	2.0	18.0	—	—	—	20.0
1925	7.0	23.0	—	—	—	30.0
1926	0.7	7.0	—	—	—	7.7
1927	1.2	8.0	9.2	—	—	18.4
1928	5.5	32.0	22.5	—	—	60.0
1929	10.0	10.0	35.0	12.0	—	67.0
1930	—*	22.0*	29.5	20.0	—	71.5
1931	—*	—	35.0	6.4	27.4	68.8
1932	—	11.6	24.0	10.0	1.0	46.6
Total	81.9	227.6	155.2	48.4	28.4	541.5

*During 1930 and 1931, additional supplies came to London from Europe and from the debasement of British coinage. These were used for the manufacture of coin in other countries and are not included in this table.

**Figures quoted from the publications of Messrs. Handy and Harmon, New York, by E. Kann, "The Exchange and Financial Markets", Finance and Commerce, Shanghai, July 19, 1933.

During the period 1902 to 1922, the price level in China rose at about the same rate as the world stocks of silver increased (figure 5). The demonetization of silver during this period was therefore just sufficient to prevent any net increase in the demand for silver, since changes in the purchasing power of silver corresponded to changes in the supply.

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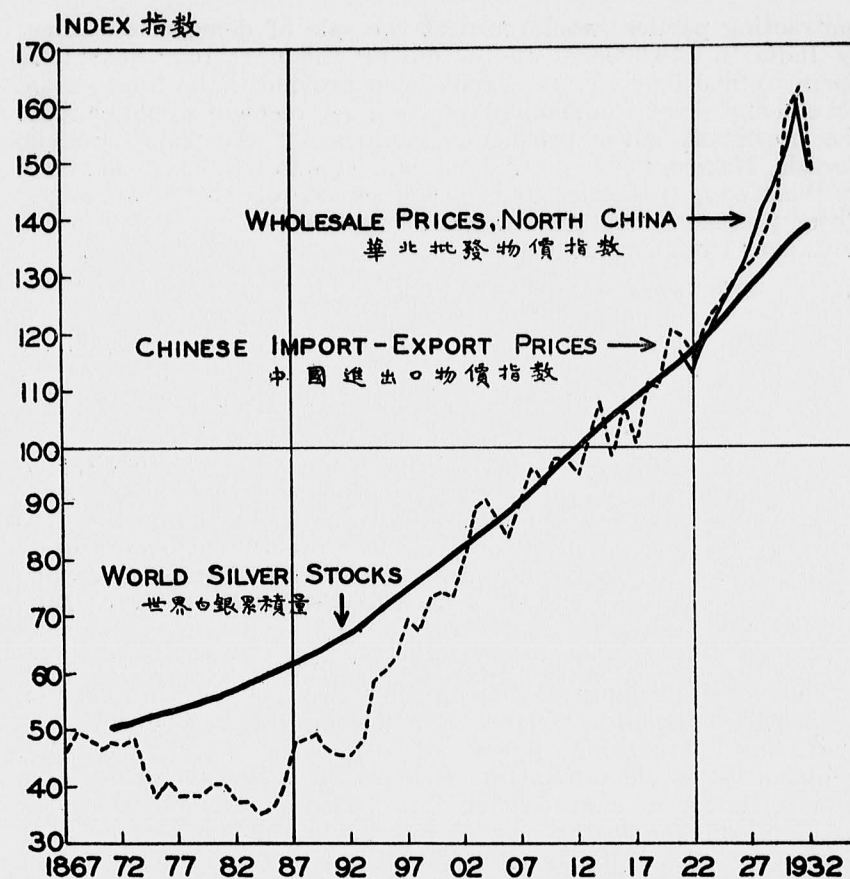


Figure 5. Estimated World Silver Stocks and Wholesale Prices in China, 1867-1932, when 1910-1914=100.
(Based on tables 3, 5 and 6)

From 1923 to 1931, prices in China rose faster than did the world stocks of silver. During this period, sales of demonetized silver were apparently sufficient to reduce the demand for silver, and its value in terms of commodities declined faster than the total stocks increased.

Prospects for higher purchasing power of silver in the future

The source of supply of demonetized silver has been considerably reduced by past demonetization. It is inevitable that this source of silver will be exhausted. Unless China goes off the silver standard, the demand for new silver for monetary uses cannot be reduced nearly so extensively in the future as it has been in the past.

On July 22, 1933, the agreement relative to the control of silver was signed in London.¹ This agreement, if ratified by the

1.—Kann, E., "The Exchange and Financial Markets", Finance and Commerce, Shanghai, Vol. 22, No. 4, July 26, 1933.

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contracting parties, would restrict the sale of demonetized silver by India to 140,000,000 ounces during the next four years; by Spain to 20,000,000 ounces; and would provide that China should not sell any silver from melted coin. The agreement would obligate the important silver producing countries of Australia, Bolivia, Canada, Mexico, Peru and the United States to purchase and retain in their own treasuries 140,000,000 ounces of their own silver. These producing countries would be further obligated not to sell any silver from surplus stocks.

This agreement, if ratified, will mark the end of the period when a process of continual demonetization kept the demand for silver at or below the demand prevailing in the period 1902 to 1922. If this agreement is ratified, the increase in the purchasing power of silver that began in the middle of 1931 will probably continue for a number of years.

An index of the total world physical volume of basic production may be used to represent the normal growth of the demand for a single staple commodity, if the field of use of that commodity does not greatly change. If remonetization or further demonetization of silver does not occur, the growth of the world physical volume of production will approximately measure the growth of the demand for silver.

During the years 1922 to 1931, the world stocks of silver did not increase so rapidly as the world physical volume of production of basic commodities (figure 6). Under these conditions, an increasing purchasing power of silver in terms of other commodities would ordinarily be expected. However, the rapid demonetization of silver during this period more than offset the effect of the increasing size of the world's production of other things, and the purchasing power of silver declined instead of rising.

Total world physical production has been greatly reduced by the post war depression and unemployment in gold-standard countries. As recovery in these countries progresses, the world's physical volume of production will probably resume its usual rate of increase, as it had begun to do after the serious decrease in production caused by the World War. From 1865 to 1914, the world's physical volume of production normally increased at the rate of 3.15 per cent per year.¹ It is probable that, if there is no remonetization or further demonetization of silver, the world stocks of silver should increase at about 3.15 per cent per year in order to maintain a stable purchasing power of silver. The estimated world stocks of silver in 1932 were 15,222,112,000 ounces (table 5). Silver production in 1933 would have to be about 479,000,000 ounces in order to equal 3.15 per cent of stocks for the preceding year. The highest annual silver production known was 260,900,000 ounces, produced in 1929. Warren and Pearson estimate that only about 155,000,000 ounces

1.—Carl Snyder's index of world physical volume of production, as quoted from Warren, G. F. and Pearson, F. A., Prices, p. 47.

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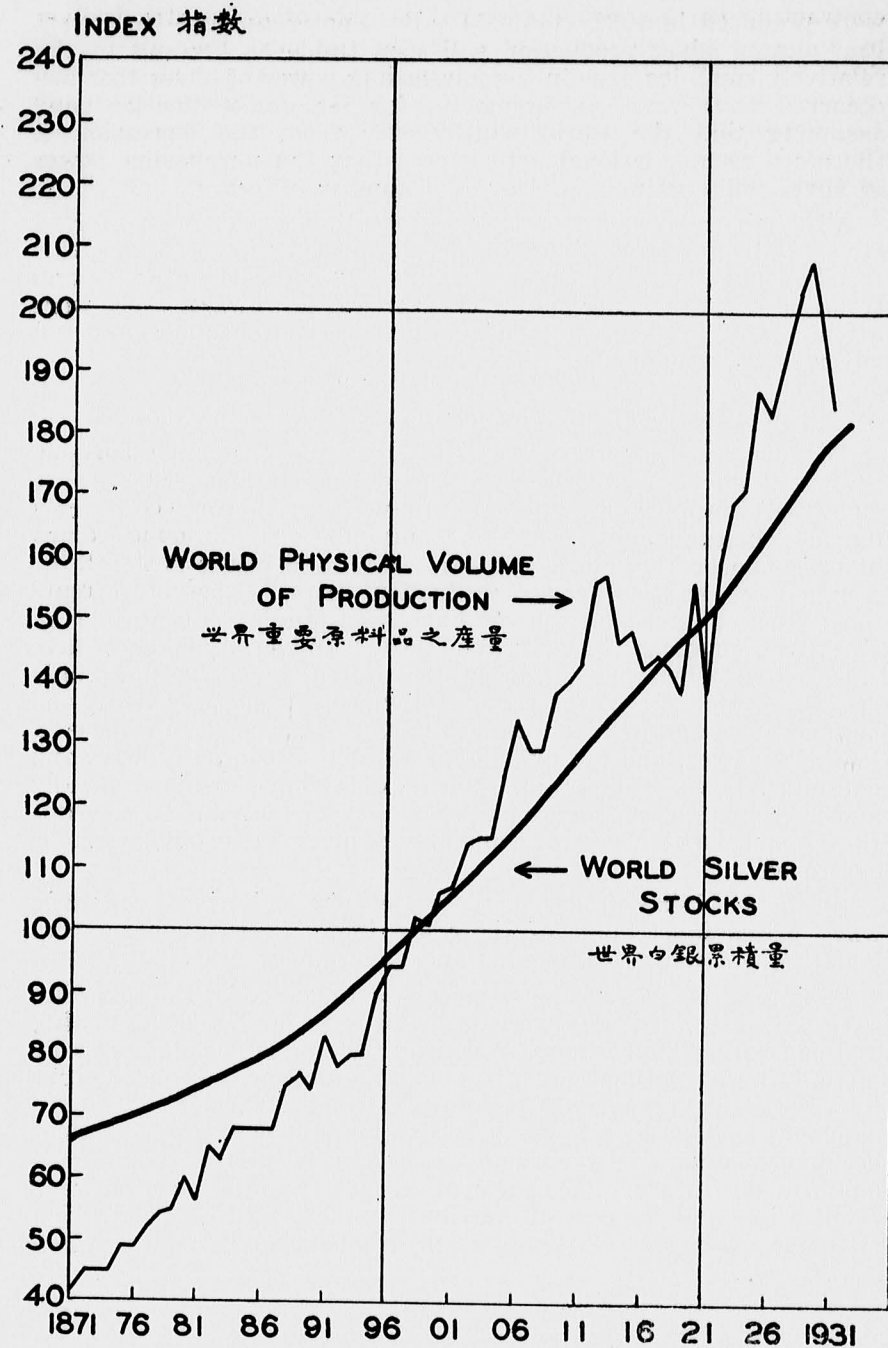


Figure 6. Index of World Physical Volume of Production of Basic Commodities and Index of World Silver Stocks, 1871-1931, when 1880-1914=100.

(Based on table 5)

were produced in 1932 (table 5). It is not reasonable to expect that annual silver production will soon treble as a result of the relatively small increase in the purchasing power of silver that has occurred thus far. Assuming no further demonetization, and assuming that the world will recover from the depression, it therefore seems reasonable to expect that the purchasing power of silver will continue to rise for a number of years.

Although the general outlook is that the purchasing power of silver is likely to continue to rise, temporary reversals of this trend should also be expected. During the years when the general trend in the purchasing power of silver was downward, there were often periods of several months when the purchasing power of silver rose continuously.

Effect of Rising Purchasing Power of Silver on China

The evidence already presented shows that as long as China is on the silver standard, any rise in the purchasing power of silver will cause declining prices in China. Declining prices severely damage the economic life of the country, because different groups of prices do not decline at the same rate, and prices received for commodities will not cover production costs. Price movements during periods of falling prices have been studied statistically by G. F. Warren and F. A. Pearson of Cornell University.¹ They have shown that when prices fall, wages fall less rapidly and profits decrease. Unemployment occurs. Debts decrease very little, and become more and more difficult to pay. Taxes do not decrease in line with prices, and are difficult to collect. Business failures and defaults become widespread. When prices have declined rapidly and long enough, confidence in the ability of individuals, corporations, banks and local governments to meet their obligations is destroyed.

All sorts of blind efforts for the betterment of business are made when prices fall. Some of these are import restrictions, export bounties, buy-native campaigns and government price-fixing.²

Falling prices are especially serious for farmers, for the following reasons.³ (1) Farmers have to wait for a season between planting and harvesting their crops. A considerable price decline may take place during that time. (2) The manufacturer may reduce output by discharging men when prices fall, but the farmer is at once employer and employee. Farm production is biological, and cannot be stopped temporarily without great loss, if it is to be resumed again in the future. (3) Farm prices are the difference between retail prices and the cost of distribution. The cost of distribution is composed largely of items which are not easily reduced when

1.—Warren, G. F. and Pearson, F. A., *Prices*, 1933.

2.—*Ibid.* pp. 303-310.

3.—Warren, G. F. and Pearson, F. A., "Interrelationships of Supply and Price", Cornell University, *Agr. Exp. Stat. Bul.* 406, 1928.
Warren, G. F. and Pearson, F. A., *Prices*, 1933, pp. 183-193.
Chang Lu-luan, "Farm Prices in Wuchin, Kiangsu" (Chinese), *Nanking Journal*, Vol. 3: 153-216. May, 1933. Reprinted.

prices fall, such as wages, freight rates, and internal tariffs. Therefore, most of the amount of any reduction in retail prices tends to be passed back to farm prices, of which it will be a much larger percentage than it is of retail prices. Therefore, when prices decline, farm prices decline by a much larger percentage than do retail or wholesale prices. In China, this fact is of great importance, because transportation is relatively difficult and expensive, and the cost of distribution is high.¹ A change in the price level in China results in a very violent change in farm prices.

Farm prices are especially important in China, because Chinese farmers sell 54 per cent of their products for cash, and 80 per cent of the population is rural.²

In the United States, declining prices for farm products caused farmers in many instances to offer physical resistance to the marketing of farm products at the low prices, and to the foreclosure of mortgages on their farms. Tax delinquency in rural areas of the United States has been widespread.³

During the long period when the value of silver was declining, the physical volume of Chinese imports and exports increased rapidly (figure 7). In the years 1922-1930, imports were especially high, although the purchasing power of silver was the lowest in history. Chinese exports also increased during these years, although not so rapidly as imports.

Since the middle of 1931, the purchasing power of silver has increased and Chinese prices consequently have declined. At the same time, both exports and imports have decreased, but imports have decreased more than exports.

These facts do not support the view, often expressed, that Chinese foreign trade would necessarily increase with an increasing purchasing power of silver. When prices decline, business shrinks. Markets are poor for foreign as well as for domestic goods. As long as China remains on a fixed silver standard, those who advocate and work for higher silver values are unconsciously working for declining prices and business depression in China.

Many gold standard countries have been forced to leave the fixed gold standard because of the rising value of gold in terms of other commodities, and consequent declining prices. Without exception, these countries did not abandon the gold standard until declining prices had brought them to the verge of complete economic ruin. Many have not been able to avoid serious social and political upheavals. Incalculable suffering would have been avoided if the gold standard countries had left the fixed gold standard as soon as prices began to decline.

1.—Much of the transportation in China is furnished by pack animals, carts and wheelbarrows. In 16 localities in the North China plain the cost of transportation of agricultural products per ton-mile was 38 cents by mule and donkey, 23 cents by cart, and 11 cents by wheelbarrow. Transportation by boat was only 5 cents per ton mile; and by railroad, only 7 cents per ton-mile. (Unpublished data from an economic study of land utilization in China, Department of Agricultural Economics, College of Agriculture and Forestry, University of Nanking, Nanking, China.)

2.—Buck, J. L., *Chinese Farm Economy*.

3.—Hibbard, B. H., "Taxes a Cause of Agricultural Distress," *Journal of Farm Economics*, Vol. XV, No. 1: 1-10, Jan., 1933.

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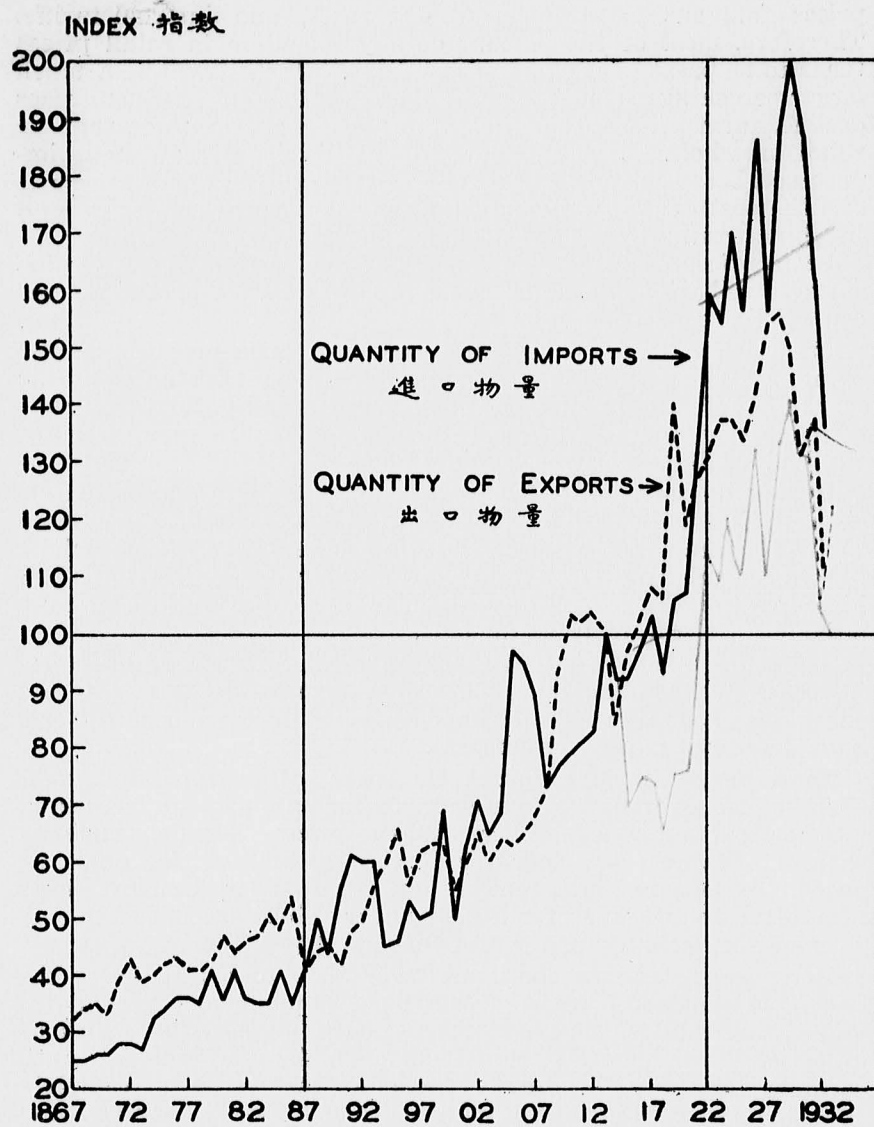


Figure 7. Index of Quantity of Exports and Index of Quantity of Imports in China, 1867-1932, when 1913=100.
(Based on table 7)

The strongest lesson that the terrific economic chaos of the past few years has taught is that when money is exchangeable for a fixed amount of any one commodity, the general price level will change whenever a change occurs in the supply of and demand for that commodity. This is true, whether the commodity is gold or silver.

AVOIDING ECONOMIC DEPRESSION

If measures were taken to raise the wholesale price level in China to the point from which it began to fall in 1931, most of the unusual economic distress now being felt by farmers and other producers in China would be alleviated. If wholesale prices were raised, farm prices would rise by a much greater percentage, just as they have fallen much further than wholesale prices have fallen. If commodity prices were raised, relatively immovable items such as debts, wages, and taxes, which have remained up while commodity prices have declined, would be little affected, and could then be paid with the proceeds of the sale of no more than the usual amount of commodities.

The present low commodity prices are due primarily to the increased purchasing power of silver. Much less silver can be obtained from the sale of other commodities than was obtained in 1931. Since the Chinese dollar exchanges for a fixed weight of silver, fewer Chinese dollars are now obtained when commodities are sold, than were obtained in 1931.

The purchasing power of the Chinese dollar may change either because of a change in the purchasing power of silver, or because of a change in the weight of silver represented by the dollar. The purchasing power of silver is determined in a world market, and there is little that one country can do to control this factor as long as free trade in silver is permitted. There remains one way in which the purchasing power of the Chinese dollar can be changed, and that is by changing the weight of silver exchanging for the dollar.

If the weight of silver exchanging for the Chinese dollar were reduced, the purchasing power of the Chinese dollar would fall, and wholesale prices in China would rise.

A reduction in the weight of silver exchanging for the Chinese dollar is the same as an increase in the price of silver in terms of Chinese dollars. A given percentage rise in the price of silver in terms of Chinese dollars would eventually produce a similar rise in wholesale prices in China.

Restoring the Wholesale Price Level

At the beginning of 1932, the wholesale price level in China had not yet fallen disastrously. At that time, the index of wholesale prices in North China, compiled by the Nankai Institute of Economics, was about 118, when 1926=100. By November 1, 1933, this index had dropped to 94. To restore prices from an index of 94 to an index of 118, a rise of about 25 per cent would be necessary.

The accomplishment of the following objects would raise the price level 25 per cent, thus raising commodity prices toward the point from which they have fallen:

- (1) The central banks of China, that are now permitted to issue notes exchangeable at par for the silver Yuan dollar, would issue new notes redeemable in a smaller weight of silver per dollar than are present notes, and the old notes would be

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retired. If it were desired to raise the price level 25 per cent, the number of new dollar notes exchanging for a given number of silver Yuan dollars or for a given weight of silver would be increased 25 per cent.

- (a) All persons holding silver coin or bullion could exchange these at banks or at exchange offices for new notes, obtaining 25 per cent more dollars than before.
 - (b) All persons holding Yuan dollar bank notes could exchange these notes for new notes, receiving 25 per cent more dollars than the face value of the old notes. The banks of issue would be required to destroy all old notes received in exchange for new notes.
 - (c) After the application of item (7), all demand deposits in banks, subject to be drawn upon by check, would be increased in number of dollars 25 per cent; but the depositor would be entitled to withdraw a correspondingly smaller amount of silver or of silver coin per dollar; and if he withdraw notes, he would receive the new notes.
- (2) All written or unwritten obligations payable in terms of Yuan dollars, including taxes, wages, debt principle, interest, and all other public and private obligations except the obligations of banks to demand depositors, would henceforth be payable, dollar for dollar, in terms of the new notes.
A person who owed 100 dollars could pay the obligation in full with 100 dollars in new notes.
- (3) All obligations payable in terms of uncoined silver, or in terms of silver coins other than the Yuan dollar, would henceforth be payable in terms of as many new notes as the Yuan dollar value of the obligation.
A person who owed 100 ounces of silver in uncoined form would first determine the number of silver Yuan dollars for which 100 ounces of the uncoined silver would exchange. He could then pay this debt, when due, in this number of dollars in new notes.
- (4) Any persons or agencies requiring the payment of obligations in actual coin or silver would be required to accept as full payment the amount of coin or silver exchangeable for the number of new notes in which the obligation, according to item (3), could otherwise be paid.
- (5) All old notes outstanding after a certain date would be received at banks in exchange for only the amount of silver represented by the new notes; or would be received in exchange for new notes dollar for dollar.
This provision would clear the markets of an issue of notes having a greater silver exchange weight than the new, legal tender notes.
- (6) Note exchange offices would be made available in every hsien city.

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Such offices would be necessary in order to furnish exchange facilities to all the people. These offices might be branches of the central banks, departments of the hsien government, or local banking or trade organizations authorized to act in this capacity.

- (7) It is stated under item (1) (c) that demand deposits in banks would be treated as if they were current cash in the hands of the depositor, and would therefore be increased in number of dollars by 25 per cent. Before applying this provision, however, it would be necessary to divide the present demand deposits of banks into time and demand divisions. Only the demand division of the present demand deposits would then be increased 25 per cent. The reasons for this reservation are as follows:

A demand deposit in a bank is a liability of the bank to the depositor. The assets which cover this liability may at present consist partly of cash and partly of other assets, such as loans. The decrease in the silver exchange weight of the dollar would automatically increase the dollar value of the bank's cash on hand by 25 per cent. The bank can therefore increase by 25 per cent the dollar value of demand deposits that are covered by cash. It is not desirable, however, that the bank increase the dollar value of its outstanding loans, and therefore the bank cannot increase the dollar value of that proportion of its demand deposits which is covered by loans.

Furthermore, to the extent that demand deposits have served in the past as the basis for bank loans, and have been subject to the payment of interest, they have been, in effect, time investments rather than current cash deposits.

Therefore, all banks that have demand deposits subject to check would be required, before increasing the number of dollars in demand deposits by 25 per cent (item (1) (c)), to divide their present demand deposits into time and demand divisions, according to the following rules:

- (a) Of each different account, a certain amount (for instance, 200 dollars) would be reserved as a demand deposit. This provision would insure that the funds of small depositors would remain accessible and be treated as current cash.
- (b) The total value of loans outstanding against demand deposits would be determined. After reserving 200 dollars from each account (item (7) (a)), the percentage that total loans were of total remaining demand deposits would be determined. This percentage of the value of each account (not counting the 200 dollars reserved) would be transferred to time deposits. The rest of each account, plus the 200 dollars first reserved (item (1) (a)), would remain as a demand deposit.

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The operation of item (7) is illustrated by the following simple balance sheets:

Original Balance Sheet of Demand Deposit Department of Bank

	Assets of the bank against demand deposits	Demand deposits of the bank
Cash	\$ 5,000	Account A \$ 200
		Account B 1,000
Loans	5,000	Account C 800
		Account D 2,000
		Account E 100
		Account F 900
		Account G 5,000
Total	\$10,000	\$10,000

From Each Account, 200 Dollars is Reserved for the Demand Division of Deposits (Item (7) (a))

	Original demand accounts	First part of demand division of deposits	Remainder of account
Account A	\$ 200	\$200	\$ 0
" B	1,000	200	800
" C	800	200	600
" D	2,000	200	1,800
" E	100	100	0
" F	900	200	700
" G	5,000	200	4,800
Total	\$10,000	\$1,300	\$8,700

The Proportion of Remaining Deposits that is Covered by Loans is Transferred to Time Deposits (Item (7) (b))

The \$5,000 of notes outstanding are 57.47 per cent of the remainder of \$8,700.

	Remainder (after subtracting 200 dollars)	Transferred to time deposits (57.47 per cent of remainder)	Second part of demand division of deposits (remainder less 57.47 per cent)
Account A	\$ 0	\$ 0	\$ 0
" B	800	460	340
" C	600	345	255
" D	1,800	1,034	766
" E	0	0	0
" F	700	402	298
" G	4,800	2,759	2,041
Total	\$8,700	\$5,000	\$3,700

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Final Demand Deposit Balance Sheet of Bank

Assets	Demand division of deposits (Sum of first and second parts of demand division of deposits)
Cash \$5,000	Account A \$ 200
	" B 540
	" C 455
	" D 966
	" E 100
	" F 498
	" G 2,241
Total \$5,000	\$5,000

Final Time Deposit Balance Sheet of Bank

Assets	Time division of deposits
Loans \$5,000	Account A \$ 0
	" B 460
	" C 345
	" D 1,034
	" E 0
	" F 402
	" G 2,759
Total \$5,000	\$5,000

The dollar value of the bank's cash on hand against the final demand division of deposits would be increased 25 per cent, and the dollar value of each separate depositor's account would also be increased 25 per cent (item (1)). The weight of silver exchanging for each of these dollars would, of course, be 20 per cent smaller than before.

No change would take place in the dollar valuation of the time division of deposits or loans against time deposits. The bank would be obligated to pay withdrawals in new notes or in silver enough to purchase the new notes; and would accept new notes or their silver equivalent from debtors.

In subsequent revaluations of the currency, if these should occur, no change would take place in the dollar value of time deposits or in bank loans, but collections and payments would both be made in the revalued dollars. The number of dollars in checking accounts would be changed by the percentage of the revaluation.

- (8) All amounts transferred by banks to time deposits would not be withdrawable, except with the consent of the bank, within three months after the date of revaluation of the currency;

and after the expiration of this three months' period, such deposits would be withdrawable, in new notes or their silver equivalent, upon one month's notice to the bank. During this four months' period, the maturity of loans would bring the bank a cash balance with which to meet demands for the withdrawal of time deposits. After any subsequent revaluations of the currency, time deposits would be withdrawable on one month's, not three months' notice. Banks would also encourage the making of deposits to be withdrawn or extended at a prearranged time, such as 3-month, 6-month, or 12-month time deposits.

- (9) After the date of revaluation, no bank would be permitted in future to pay any interest on demand deposits subject to check. Banks could charge a small fee for the use of checking accounts.

Any person desiring to receive interest on bank deposits would deposit his money in a time deposit, subject to withdrawal on one month's notice to the bank, or subject to withdrawal or extension at a prearranged time.

- (10) After the date of revaluation, no bank would be permitted in future to make, on the basis of demand deposits, any loans other than demand loans; and the percentage of such demand loans against demand deposits would be strictly limited. This provision would not limit the power of banks to make loans against time deposits.

- (11) Under present rules, banknotes issued by the central banks must be backed by silver up to 60 per cent of the face value. After the application of item 1 (b), the bank would have outstanding 125 dollars in new notes for each 100 dollars of notes previously issued. Cash on hand of 60 Yuan dollars silver would be worth 75 new dollars. If all other assets behind the note issue were loans of 40 dollars, these would remain 40 dollars, collectible in new notes. The bank would have outstanding \$125 in notes against only \$115 of assets (\$75 in silver + \$40 in loans = \$115).

The expense of a revaluation large enough to raise the price level 25 per cent would thus be a severe burden to the banks. Since the restoration of the price level would be attempted for the benefit of the state rather than for the benefit of the banks, it would seem fair for the government to transfer to the banks sufficient government bonds to replace any loss in net worth that would otherwise be suffered as a result of the operation of revaluing the currency.

- (12) In areas where large amounts of copper coins are used to pay debts or other obligations the value of which is set in silver it might be found desirable to issue notes in exchange for copper coins. In issuing such notes, the amount of silver for which the copper coins would exchange at the market rate would first be determined. As many new dollar notes would then be issued as would have been issued in exchange for

that amount of silver. A note issued would be redeemable in copper at the rate of exchange prevailing between the silver face value of the note and copper at the time the note is presented for redemption.

In some areas, the issue of these copper notes might help greatly in relieving the people from the effects of the increased purchasing power of silver. In other areas, the small importance of copper coins would not justify this provision. If there were areas where the copper mints could not be controlled, and rapid depreciation of copper coins might result, no copper notes would be issued in those areas.

Establishing an Approximately Stable Price Level

In China, silver serves primarily as a medium of exchange and not primarily as a material for purposes of manufacture and consumption. Promises to pay a certain amount of silver in the future are therefore really promises to pay a certain purchasing power in terms of other commodities. When the value of silver increases greatly, injustice results if debtors are forced to pay the full weight of silver borrowed, because in order to do this they must surrender an unusually large proportion of the commodities which they produce. If prices fall fast and far enough, creditors also lose, because they are not repaid at all. When the value of silver decreases rapidly, injustice results if debtors pay back no more than the weight of silver borrowed, because the lender cannot buy as much goods with the silver when it is paid back as he could when he lent it. Many other injustices result from fluctuations in the value of money. In order to accomplish the purposes for which it is intended, a currency should remain approximately stable in purchasing power in terms of commodities.

The outlook is that the purchasing power of silver in the world may continue to increase, with occasional periods of temporary decrease, for a number of years. After the first revaluation of the Chinese currency, commodity prices might not remain at the level to which the revaluation would raise them, but might begin to decline again from that point. In order to hold the price level up, the process of raising the price level could be repeated whenever indices of wholesale prices had fallen a certain percentage below the level established by the first revaluation. It would not be desirable that such revaluations be frequent, and therefore the wholesale price level might be allowed to fall 5 per cent before a revaluation were made. The price of silver in terms of dollars would then be raised 5 per cent, by reducing the silver exchange weight of the currency.

After the first revaluation of 25 per cent, small decreases in the silver exchange weight of the currency could be made with comparative ease, since no further change in the banking system would be required. It would not be necessary for banks to subdivide their demand deposits before increasing the number of dollars in such deposits. It would not even be necessary to replace all old

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notes outstanding with new notes, since old notes might be received, identified by an indelible stamp or by punching, and reissued together with the necessary additional number of similarly identified new notes.

Preventing Inflation

When 1910-14 is taken as 100, wholesale prices in China rose from an index of 46 in 1892 to an index of 162 in 1931 (table 3). During this 39 year period, prices rose 252 per cent of the level existing in 1892.

When prices rise, creditors are penalized, because the money which they receive in repayment of loans has less purchasing power than the money which was lent. Persons engaged in productive enterprise are favored by rising prices, because prices received for finished products tend to be higher than prices paid for the materials, credit and labor which are the costs of production. Periods of gradually rising prices therefore stimulate productive enterprise.

Since productive enterprise is profitable, there is a steady demand for the use of money, and rates of interest are high when the general price level is rising. These higher interest rates partly compensate the creditor for the loss that he sustains from the decrease in the purchasing power of repayments of principle.

The high interest rates prevailing in China are partly the result of the fact that the price level has increased 252 per cent in 39 years. The practice of paying interest on demand deposits and of issuing demand obligations on relatively non-liquid security are also due, in part, to the rapidly and continuously rising price level of the past two generations. The present banking practices in China are adjusted to a rising, not to a stable price level. This fact increases the severity of the effects of the present declining prices in China. High interest rates cannot be paid when prices decline, and the issue of demand obligations based on non-liquid security is extremely risky.

A gradual rise in the price level, if that should occur, would not be undesirable, since it would encourage productive enterprise and thus help in the development of China. As stated before, it is not very likely that the purchasing power of silver will soon decline markedly, and therefore not likely that the price level in China will soon rise on account of such a decline.

At some time in the future, however, the country may be faced with the danger of rapid inflation due to a rapid decrease in the purchasing power of silver. If, after the expiration of the London silver agreement, India should decide to sell its silver stocks quickly, such a sudden decrease in silver values might occur. If, after a period of remonetization of silver, many foreign nations should quickly demonetize silver, a sudden decrease in silver values might also occur. A resulting rapid rise in prices in China, from the stable level to which they had been held for some years, could then

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quickly be offset by an increase in the silver exchange weight of the currency. This object could be attained by methods that are the opposite of those used in raising the price level. If a real danger of inflation due to rapidly decreasing silver purchasing power should exist, these measures would have to be applied immediately if at all, since business soon adjusts itself to higher prices. As soon as business is adjusted to a given price level, it is hazardous to attempt to lower prices, since only through bankruptcy and unemployment does business finally become adjusted to a lower price level.

The following procedure would counteract rapidly rising prices due to rapidly declining purchasing power of silver:

(1) Persons presenting silver and old notes to banks would receive a definite percentage smaller number of dollars in new notes, exchanging for a correspondingly greater weight of silver per dollar. Existing demand bank deposits would be reduced by a definite percentage, but be made payable in new notes, each exchanging for a greater weight of silver.

(2) Obligations payable in silver and old notes would be legally discharged only by the presentation of new notes or by the presentation of a correspondingly greater amount in old notes or in silver.

(3) When copper were presented to be exchanged for notes, in areas where copper notes were used, an amount of copper equalling in value the silver exchangeable for the new notes would be required. These notes would be redeemable in copper, at the rate prevailing between copper and the face value of the note in silver at the time redemption were desired by the note holder.

(4) After a set date, all old notes not redeemed in a smaller number of new notes or in silver would be declared worthless, and would not be received at banks or exchange offices in return for silver.

This provision would clear the markets of the old banknotes.

Prohibiting the Export of Silver

It is impossible to predict in advance the net effect that an embargo on the export of silver from China might have on the Chinese price level. During the war period, Great Britain placed an embargo on the export of silver, and the purchasing power of silver in Great Britain fell rapidly to a point far below its purchasing power in China (figure 1). When the embargo was lifted, the purchasing power of silver in Great Britain rose, and was again similar to the purchasing power of silver in China.

From this example it should not be concluded that the purchasing power of silver in China would necessarily fall markedly, and the Chinese price level necessarily rise considerably, if the export of silver were prohibited. In China, there is a large demand for silver for currency purposes, which is not duplicated in Great Britain, and the growth of trade in China will therefore require

increasing amounts of silver. Although an embargo on the export of silver from China might partly release the purchasing power of silver in China from foreign influences, it is not at all certain that domestic influences might not be sufficient to hold the purchasing power of silver up and commodity prices down to the present level.

Over a period of years, even if no silver were exported from China, Chinese commodity prices would decline if silver increased in purchasing power abroad, because the silver prices received for export commodities would decline. It would therefore be impossible to increase the supply of Chinese money fast enough to maintain stable internal prices, unless the silver exchange weight of the dollar were reduced.

If the exchange weight of the Chinese dollar were reduced, an embargo on silver exports would not be necessary in restoring prices, nor later in maintaining a stable price level. Furthermore, it would contribute to the international strain resulting from the currency restrictions now imposed by many foreign countries.

Foreign Cooperation

Foreign cooperation would not be helpful in restoring or controlling the Chinese price level. Until 1931, the Chinese price level had risen steadily for many years. The fluctuations in the purchasing power of gold standard currencies that came during and after the World War had no effect on the Chinese price level. These fluctuations were observed in China only as fluctuations in foreign exchange rates. These fluctuations in foreign exchange rates had no corresponding effect on Chinese foreign trade, which increased rapidly under a variety of foreign exchange rate situations.

If the silver exchange weight of the Chinese dollar were reduced so as to restore the Chinese price level to the point where producers' costs would again be paid, the resulting change in foreign exchange rates would have no permanent effect, either good or bad, on Chinese prosperity. Temporarily it might encourage Chinese exports of manufactured commodities, the prices of which would be comparatively slow in rising to the full extent of a devaluation of the currency.

Adequacy of Present Indexes of Wholesale Prices in China

Available indexes of wholesale prices in various cities in China agree closely in showing the decline in prices that has occurred in recent years. If it were decided to restore the wholesale price level, these indexes are sufficient evidence as to the amount of the necessary revaluation. If the price level is raised, the exact amount of the rise is not important if the rise is sufficient to relieve the distress occasioned by the previous fall in prices.

If it were decided to make subsequent revaluations of the currency, if necessary, in order to maintain a stable price level in future, an official index of wholesale prices would be desirable. This index should be based on data from many wholesale markets in various parts of China.

Conclusion

When the internal price level has fallen suddenly, a rise in internal prices is the only way in which the resulting depression can be avoided. Efforts to raise the price of individual commodities by tariffs, export bounties, buying campaigns, and restriction of production, though often tried in other countries, have not been effective in curing the fundamental situation. Expansion of credit, when prices are declining on account of increasing silver purchasing power, only involves debtors and creditors in further losses. There are various ways in which the internal price level could be raised and later stabilized, but all of them would involve changes in the relation of the currency to silver.¹

The method that is outlined in principle in this bulletin could be modified and extended in various ways. Advantages of following such a procedure, in establishing a stable price level, would be

(1) No motives to speculate in or against silver, banknotes, or demand checking deposits would be furnished by any revaluation, since all these forms of currency would be treated alike.

(2) No change would take place in the ratio of number of dollars of banknotes and checking accounts to number of dollars' worth of silver as a result of a revaluation, except as more notes based 100 per cent on silver might be issued.

(3) Credit customs adjusted to a rapidly rising price level would be adjusted to the conditions prevailing under a stable price level.

(4) International complications would not be involved.

1.—Warren, G. F. and Pearson, F. A., *Prices*, 1933: 150-177.
Fisher, I., *Stabilizing the Dollar*, 1920.

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TABLE 3
Value of Silver in China and in England 1867-1932,
when 1910-14=100

Year	Index of import and export prices in China, 1867-1871 =100*	Index of import and export prices in China 1910-1914 =100**	Index of purchasing power of silver in China, 1910-1914 =100†	Price of bar silver in London (pence per ounce)‡	Index of price of bar silver in London 1910-1914 =100	Index of wholesale prices in England, 1910-1914 =100††	Index of purchasing power of silver in England, 1910-1914 =100‡‡
1867	97.1	46.4	215.5	60.56	232.7	121	192.3
1868	104.1	49.8	200.8	60.50	232.5	120	193.8
1869	101.0	48.3	207.0	60.44	232.3	118	196.9
1870	97.9	46.8	213.7	60.56	232.7	116	200.6
1871	99.8	47.7	209.6	60.50	232.5	121	192.1
1872	99.1	47.4	211.0	60.31	231.8	132	175.6
1873	101.2	48.4	206.6	59.19	227.5	134	169.8
1874	89.1	42.6	234.7	58.31	224.1	123	182.2
1875	80.1	38.3	261.1	56.69	217.9	116	187.8
1876	85.4	40.8	245.1	53.13	204.2	115	177.6
1877	80.5	38.5	259.7	54.81	210.6	114	184.7
1878	80.1	38.3	261.1	52.63	202.3	105	192.7
1879	80.7	38.6	259.1	51.25	197.0	101	195.0
1880	83.8	40.1	249.4	52.25	200.8	107	187.7
1881	84.5	40.4	247.5	51.63	198.4	103	192.6
1882	77.9	37.2	268.8	51.81	199.1	101	197.1
1883	78.0	37.3	268.1	50.56	194.3	99	196.3
1884	73.9	35.3	283.3	50.69	194.8	92	211.7
1885	76.0	36.3	275.5	48.56	186.6	87	214.5
1886	82.9	39.6	252.5	45.38	174.4	84	207.6
1887	100.0	47.8	209.2	44.69	171.8	82	209.5
1888	101.3	48.4	206.6	42.88	164.8	85	193.9
1889	103.0	49.2	203.3	42.69	164.1	87	188.6
1890	97.3	46.5	215.1	47.75	183.5	87	210.9
1891	96.0	45.9	217.9	45.06	173.2	87	199.1
1892	96.0	45.9	217.9	39.75	152.8	82	186.3
1893	100.8	48.2	207.5	35.56	136.7	82	166.7
1894	122.0	58.3	171.5	28.94	111.2	76	146.3
1895	126.2	60.3	165.8	29.81	114.6	75	152.8
1896	131.7	63.0	158.7	30.81	118.4	74	160.0
1897	145.5	69.5	143.9	27.56	105.9	75	141.2
1898	141.6	67.7	147.7	26.94	103.5	78	132.7
1899	153.3	73.3	136.4	27.44	105.5	82	128.7
1900	155.0	74.1	135.0	28.31	108.8	91	119.6
1901	154.0	73.6	135.9	27.19	104.5	85	122.9
1902	168.6	80.6	124.1	24.06	92.5	84	110.1
1903	187.1	89.4	111.9	24.75	95.1	84	113.2
1904	189.9	90.8	110.1	26.38	101.4	85	119.3
1905	181.1	86.6	115.5	27.81	106.9	87	122.9
1906	175.2	83.7	119.5	30.88	118.7	93	127.6

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TABLE 3—(Continued)

Year	Index of import and export prices in China, 1867-1871 =100*	Index of import and export prices in China 1910-1914 =100**	Index of purchasing power of silver in China, 1910-1914 =100†	Price of bar silver in London (pence per ounce)‡	Index of price of bar silver in London 1910-1914 =100	Index of wholesale prices in England, 1910-1914 =100††	Index of purchasing power of silver in England, 1910-1914 =100‡‡
1907	189.9	90.8	110.1	30.19	116.0	97	119.6
1908	200.0	95.6	104.6	24.38	93.7	88	106.5
1909	195.9	93.6	106.8	23.69	91.0	90	101.1
1910	205.1	98.0	102.0	24.63	94.7	94	100.7
1911	204.5	97.8	102.2	24.56	94.4	97	97.3
1912	199.1	95.2	105.0	28.03	107.7	103	104.6
1913	211.1	100.9	99.1	27.56	105.9	103	102.8
1914	226.2	108.1	92.5	25.31	97.3	103	94.5
1915	205.0	98.0	102.0	23.69	91.0	131	69.5
1916	222.3	106.3	94.1	31.31	120.3	165	72.9
1917	210.2	100.5	99.5	40.88	157.1	212	74.1
1918	231.6	110.7	90.3	47.56	182.8	232	78.8
1919	231.4	110.6	90.4	57.06	219.3	249	88.1
1920	251.5	120.2	83.2	61.50	236.4	304	77.8
1921	250.3	119.6	83.6	36.88	141.7	188	75.4
1922	241.8	115.6	86.5	34.44	132.4	159	83.3
1923	254.4	121.6	82.2	31.94	122.8	156	78.7
1924	259.7	124.1	80.6	34.00	130.7	168	77.8
1925	266.3	127.3	78.6	32.08	123.3	165	74.7
1926	273.5	130.7	76.5	28.69	110.3	153	72.1
1927	277.4	132.6	75.4	26.04	100.1	148	67.6
1928	285.5	136.5	73.3	26.74	102.8	145	70.9
1929	296.8	141.9	70.5	24.48	94.1	139	67.7
1930	330.3	157.9	60.363.3	17.65	67.8	117	57.9
1931	339.8	162.4	61.6	14.46	55.6	101	55.0
1932	—	148.2	67.5	17.81	68.4	99	69.1

*Compiled by Nankai Institute of Economics, Nankai University, Tientsin, China, and Published in Nankai Weekly Statistical Service, Vol. V, No. 15, April 11, 1932.

**For the years 1867 to 1931, these indexes were obtained by converting the indexes in column 1 to the base of 1910-14=100. For the year 1932, the index is the North China index of wholesale prices compiled by Nankai Institute of Economics. This was made comparable with the import-export index by converting it from a base of 1926=100 to a base of 1926=130.7, which was the import-export index for 1926 (Table 6).

†Reciprocals of indexes in column 2.

‡For the years 1867 to 1924, from Kann, Eduard. The Currencies of China, 1926, p. 161. For the years 1925 to 1932, average of monthly quotations found in The Shanghai Market Prices Report published by National Tariff Commission, Shanghai, China.

††Warren, G. F. and Pearson, F. A., Prices, 1933, p. 75.

‡‡Percentage that the index of silver prices is of the index of wholesale prices in England.

TABLE 4

Purchasing Power of Silver in the United States, England, and China from 1921 to 1933, 1926=100¹

Year and month	Price of silver in New York (cents per fine ounce)	Index of price of silver in New York, 1926=100	Index of wholesale prices in the United States, 1926=100 ²	Index of purchasing power of silver in the United States, 1926=100 ³	Price of silver in London (pence per ounce)	Index of price of silver in London, 1926=100	Index of wholesale prices in England, Board of Trade, 1926=100 ⁴	Index of wholesale price in England, Statist, 1926=100 ⁵	Index of purchasing power of silver in England, based on Board of Trade index of wholesale prices, 1926=100 ⁶	Index of silver in England, based on Statist index of wholesale prices, 1926=100 ⁷	Index of wholesale prices in North China, 1926=100 ⁸	Index of wholesale prices in Shanghai, China, 1926=100 ⁹
1921										103.0	88.9	
January	65.95	106.1	114.0	93.1	39.63	138.1	156.1	156.1	103.0	88.5	102.9	102.9
February	59.32	95.5	104.9	91.0	34.56	120.5	145.0	145.0	88.5	83.1	105.5	105.5
March	56.03	90.2	102.4	88.1	31.81	110.9	140.4	140.4	79.0	79.0	106.2	106.2
April	59.34	95.5	98.9	96.6	33.94	118.3	134.5	134.5	88.0	88.0	105.9	105.9
May	59.85	96.3	96.2	100.1	34.31	119.6	128.0	128.0	93.4	93.4	105.2	105.2
June	58.51	94.2	93.4	100.9	34.63	120.7	123.4	123.4	97.8	97.8	105.4	105.4
July	60.26	97.0	93.4	103.9	37.38	130.3	125.4	125.4	103.9	103.9	105.0	105.0
August	61.60	99.1	93.5	106.0	37.69	131.4	122.1	122.1	107.6	107.6	105.8	105.8
September	66.15	106.5	93.4	114.0	40.56	141.4	118.2	118.2	119.6	119.6	105.5	105.5
October	70.97	114.2	94.1	121.4	41.00	142.9	109.7	109.7	130.3	130.3	102.6	102.6
November	68.23	109.8	94.2	116.6	39.19	136.6	108.4	108.4	126.0	126.0	102.5	102.5
December	65.76	105.8	92.9	113.9	36.13	125.9	105.8	105.8	119.0	119.0	102.1	102.1
1922											86.4	
January	65.45	105.3	91.4	115.2	35.00	122.0	104.5	104.5	115.0	115.0	100.9	100.9
February	65.31	105.1	92.9	113.1	33.81	117.8	104.5	104.5	116.7	116.7	101.6	101.6
March	64.38	103.6	92.8	111.6	33.00	115.0	105.1	105.1	109.4	109.4	101.8	101.8
April	66.57	107.1	93.2	114.9	34.56	120.5	106.4	106.4	113.3	113.3	100.6	100.6
May	71.15	114.5	96.1	119.1	35.88	125.1	107.1	107.1	116.8	116.8	99.2	99.2
June	71.15	114.5	96.3	118.9	35.88	125.1	107.1	107.1	116.8	116.8	97.2	97.2
July	70.24	113.1	99.4	113.8	35.81	124.8	105.8	105.8	118.0	118.0	97.6	97.6

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SILVER AND THE CHINESE PRICE LEVEL

August	69.40	111.7	98.6	113.3	34.88	121.6	102.5	102.5	118.6	118.6	96.1	96.1
September	69.50	111.9	99.3	112.7	35.38	123.3	101.2	101.2	121.8	121.8	95.0	95.0
October	68.01	109.5	99.6	109.9	34.56	120.5	103.2	103.2	116.8	116.8	96.2	96.2
November	65.18	104.9	100.5	104.4	32.94	114.8	103.2	103.2	111.2	111.2	97.5	97.5
December	64.62	104.0	100.7	103.3	31.38	109.4	101.9	101.9	107.4	107.4	99.5	99.5
1923											90.4	
January	65.71	105.8	102.0	103.7	31.94	111.3	103.2	103.2	108.3	108.3	100.9	100.9
February	64.34	103.6	103.3	100.3	30.75	107.2	104.5	104.5	107.8	107.8	103.3	103.3
March	67.53	108.7	104.5	104.0	32.25	112.4	105.1	105.1	106.9	106.9	104.1	104.1
April	66.85	107.6	103.9	103.6	32.31	112.6	105.8	105.8	106.4	106.4	103.2	103.2
May	67.07	108.0	101.9	106.0	32.63	113.7	104.5	104.5	108.8	108.8	102.0	102.0
June	64.84	104.4	100.3	104.1	31.69	110.5	101.2	101.2	109.2	109.2	100.8	100.8
July	63.01	101.4	98.4	103.0	30.88	107.6	98.6	98.6	109.1	109.1	100.8	100.8
August	62.78	101.0	97.8	103.3	30.94	107.8	98.6	98.6	109.3	109.3	99.9	99.9
September	64.22	103.4	99.7	103.7	31.69	110.5	101.2	101.2	109.2	109.2	102.1	102.1
October	63.65	102.4	99.4	103.0	31.75	110.7	101.2	101.2	109.4	109.4	101.7	101.7
November	63.82	102.7	98.4	104.4	32.94	114.8	104.5	104.5	109.9	109.9	102.8	102.8
December	64.70	104.1	98.1	106.1	33.44	116.6	105.1	105.1	110.9	110.9	102.6	102.6
1924											93.6	
January	63.44	102.1	99.6	102.5	33.56	117.0	111.6	108.4	105.8	105.8	101.6	101.6
February	64.36	103.6	99.7	103.9	33.56	117.0	112.7	109.7	104.8	104.8	101.6	101.6
March	63.96	102.9	98.5	104.5	33.50	116.8	111.6	108.4	103.8	103.8	100.8	100.8
April	64.14	103.2	97.3	106.1	33.06	115.2	111.2	108.4	104.7	104.7	99.1	99.1
May	65.52	105.5	95.9	110.0	33.75	117.6	110.5	107.7	106.3	106.3	98.6	98.6
June	66.69	107.3	94.9	113.1	34.88	121.6	109.8	107.7	106.4	106.4	97.2	97.2
July	67.16	108.1	95.6	113.1	34.50	120.3	109.8	109.7	110.7	110.7	96.9	96.9
August	68.52	110.3	97.0	113.7	34.31	119.6	111.5	109.1	109.6	109.6	96.4	96.4
September	69.35	111.6	97.1	114.9	34.94	121.8	112.7	111.7	107.3	107.3	96.7	96.7
October	70.87	114.1	98.2	116.2	35.44	123.5	114.8	115.6	108.1	108.1	96.4	96.4
November	69.30	111.5	99.1	112.5	33.69	117.4	114.6	114.9	107.6	107.6	96.5	96.5
December	68.10	109.6	101.5	108.0	32.94	114.8	114.8	116.9	102.4	102.4	97.2	97.2
1925											97.3	
January	68.45	110.2	102.9	107.1	32.13	112.0	115.5	114.3	103.9	103.9	98.2	98.2
February	68.47	110.2	104.0	106.0	32.25	112.4	114.0	113.0	97.0	97.0	97.5	97.5

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TABLE 4—(Continued)

SILVER AND THE CHINESE PRICE LEVEL

Year and month	Price of silver in New York (cents per fine ounce)	Index of price of silver in New York, 1926=100	Index of wholesale prices in the United States, 1926=100 ^a	Index of purchasing power of silver in the United States, 1926=100 ^a	Price of Silver in London ^b (pence per ounce)	Index of price of silver in London, 1926=100	Index of wholesale prices in England, 1926=100 ^c	Board of Trade, 1926=100 ^c	Index of wholesale silver in England, based on Board of Trade, 1926=100 ^c	Index of purchasing power of silver in England, based on Board of Trade index of wholesale prices, 1926=100 ^c	Index of wholesale prices in North China, 1926=100 ^d	Index of wholesale China, 1926=100 ^d
March	67.79	109.1	104.2	104.7	31.88	111.1	112.3	111.0	98.9	100.1	—	97.6
April	66.90	107.7	101.9	105.7	31.44	109.6	109.7	108.4	99.9	101.1	—	97.9
May	67.58	108.8	101.6	107.1	31.31	109.1	107.3	107.1	101.7	101.9	—	99.9
June	69.12	111.3	103.0	108.1	31.69	110.5	106.4	103.8	103.9	106.5	—	99.6
July	69.44	111.8	104.3	107.2	32.00	111.5	106.3	106.4	104.9	104.8	—	103.2
August	70.26	113.1	103.9	108.9	32.44	113.1	106.0	106.4	106.7	106.3	—	101.7
September	71.61	115.3	103.4	111.5	32.88	114.6	105.3	105.1	108.8	109.0	—	100.5
October	71.11	114.5	103.6	110.5	33.00	115.0	104.0	103.2	110.6	111.4	—	99.4
November	69.22	111.4	104.5	106.6	32.13	112.0	103.7	105.1	108.0	106.6	—	98.3
December	68.89	110.9	103.4	107.3	31.81	110.9	103.4	103.2	107.3	107.5	—	97.6
1926	—	—	—	—	—	—	—	—	100.1	—	100.0	—
January	67.75	109.0	103.2	105.6	31.31	109.1	101.3	102.5	107.7	106.4	—	97.9
February	66.88	107.6	102.0	105.5	30.75	107.2	99.6	101.2	107.6	105.9	—	99.0
March	65.88	106.0	100.6	105.4	30.31	105.6	97.3	99.9	108.5	105.7	—	99.2
April	64.38	103.6	100.3	103.3	29.75	103.7	96.9	99.3	107.0	104.4	—	99.4
May	65.00	104.6	100.5	104.1	30.06	104.8	97.8	99.3	107.2	105.5	—	98.1
June	65.44	105.3	100.4	104.9	30.19	105.2	99.2	98.6	106.0	106.7	—	97.9
July	64.88	104.4	99.5	104.9	30.00	104.6	100.6	99.9	104.0	104.7	—	98.0
August	62.31	100.3	99.1	101.2	28.69	100.0	101.1	100.6	98.9	99.4	—	97.9
September	61.25	98.6	99.7	98.9	28.25	98.5	101.9	101.2	96.7	97.3	—	99.2
October	54.00	86.9	99.4	87.4	25.13	87.6	102.7	103.8	85.3	84.4	—	103.0
November	54.38	87.5	98.4	88.9	25.25	88.0	102.9	103.2	85.5	85.3	—	105.3
December	53.50	86.1	97.9	87.9	24.56	85.6	98.6	98.0	86.8	87.3	—	105.5

SILVER AND THE CHINESE PRICE LEVEL

1927	—	—	—	—	—	—	—	—	—	—	103.0	—
January	55.88	89.9	96.5	93.2	25.88	90.2	96.9	97.3	95.1	92.7	—	103.2
February	57.75	93.0	95.8	97.1	26.63	92.8	96.3	98.0	96.4	94.7	—	103.1
March	55.38	89.1	94.7	94.1	25.69	89.5	94.9	98.0	94.3	91.3	—	104.7
April	56.50	90.9	94.1	96.6	26.19	91.3	94.4	97.3	96.7	93.8	—	105.2
May	56.13	90.3	94.2	95.9	26.00	90.6	95.2	98.0	95.2	92.4	—	104.1
June	56.75	91.3	94.1	97.0	26.25	91.5	95.9	97.3	95.4	94.0	—	103.9
July	56.25	90.5	94.3	96.0	25.94	90.4	95.2	96.6	95.0	93.6	—	104.5
August	54.50	87.7	95.2	92.1	25.19	87.8	95.1	97.3	92.3	90.2	—	104.8
September	55.50	89.3	96.3	92.7	25.63	89.3	95.9	96.0	93.1	93.0	—	106.2
October	56.13	90.3	96.6	93.5	25.75	89.8	95.4	95.3	94.1	94.2	—	104.9
November	57.50	92.5	96.3	96.1	26.50	92.4	95.2	96.0	97.1	96.3	—	103.1
December	58.06	93.4	96.4	96.9	26.81	93.4	94.8	96.0	98.5	97.3	—	101.7
1928	—	—	—	—	—	—	—	—	—	—	—	—
January	57.13	92.0	96.4	95.4	26.44	92.2	95.2	95.3	96.8	96.7	—	101.0
February	57.13	92.0	95.8	96.0	26.19	91.3	94.7	96.0	96.4	95.1	—	102.2
March	57.25	92.1	95.5	96.4	26.38	92.0	94.9	98.0	96.9	93.9	—	102.4
April	57.38	92.4	96.6	95.7	26.31	91.7	96.6	99.3	94.9	92.3	—	102.9
May	59.75	96.2	97.5	98.7	27.56	96.1	96.9	99.9	99.2	96.2	—	103.0
June	59.94	96.5	96.7	99.8	27.44	95.6	96.3	96.6	99.3	99.0	—	101.7
July	59.25	95.4	97.4	97.9	27.28	95.1	95.2	95.3	99.9	99.8	—	100.8
August	58.88	94.8	97.6	97.1	27.13	94.6	94.0	93.4	100.6	101.3	—	99.8
September	57.63	92.8	98.6	94.1	26.50	92.4	92.9	92.1	99.5	100.3	—	98.9
October	58.00	93.4	96.7	96.6	26.69	93.0	93.2	92.1	99.8	101.0	—	101.2
November	58.00	93.4	95.8	97.5	26.69	93.0	93.1	93.4	99.9	99.6	—	101.4
December	57.38	92.4	95.8	96.5	26.31	91.7	93.4	93.4	98.2	98.2	—	101.6
1929	—	—	—	—	—	—	—	—	—	—	—	—
January	57.00	91.7	95.9	95.6	26.25	91.5	93.4	92.7	98.0	98.7	—	101.7
February	56.25	90.5	95.4	94.9	25.88	90.2	93.4	94.7	96.6	95.2	—	103.2
March	56.38	90.7	96.1	94.4	26.00	90.6	94.6	95.3	95.8	95.1	—	104.1
April	55.75	89.7	95.5	93.9	25.81	90.0	93.7	92.1	96.1	97.7	—	103.1
May	54.38	87.5	94.7	92.4	25.19	87.8	91.7	89.5	95.7	98.1	—	102.6
June	52.44	84.4	95.2	88.7	24.25	84.5	91.5	89.5	92.3	94.4	—	103.0
July	52.63	84.7	96.5	87.8	24.28	84.6	92.7	90.8	91.3	93.2	—	103.4

TABLE 4—(Continued)

Year and month	Price of silver in New York (cents per fine ounce)	Index of price of silver in New York, 1926=100	Index of wholesale prices in the United States, 1926=100 ^a	Index of purchasing power of silver in the United States, 1926=100 ^b	Price of silver in London (pence per ounce)	Index of price of silver in London, 1926=100	Index of wholesale prices in England, Board of Trade, 1926=100 ^c	Index of wholesale prices in England, based on Board of Trade index of wholesale prices, 1926=100 ^d	Index of purchasing power of silver in England, based on Statist. index of wholesale prices, 1926=100 ^e	Index of wholesale prices in North China, 1926=100 ^f	Index of wholesale prices in Shanghai, China, 1926=100 ^g
August	52.63	84.7	96.3	88.0	24.31	84.7	91.7	92.4	94.0	111.7	104.8
September ..	50.75	81.7	96.1	85.0	23.63	82.4	91.7	89.9	92.8	111.8	106.6
October	50.00	80.5	95.1	84.6	23.03	80.3	91.9	87.4	91.0	111.9	107.4
November ..	49.63	79.9	93.5	85.5	22.69	79.1	90.5	87.4	92.5	111.1	106.1
December ..	49.00	78.9	93.3	84.6	22.44	78.2	89.4	87.5	90.7	110.7	105.5
1930	—	—	—	—	—	—	—	—	—	—	—
January	44.81	72.1	92.5	77.9	20.81	72.5	88.4	82.0	86.1	111.3	108.3
February ..	43.56	70.1	91.4	76.7	20.00	69.7	86.3	80.8	84.1	114.5	111.3
March	41.81	67.3	90.2	74.6	19.25	67.1	84.0	79.9	82.2	114.9	111.3
April	42.50	68.4	90.0	76.0	19.56	68.2	83.5	81.7	84.9	114.1	111.2
May	40.94	65.9	88.8	74.2	19.00	66.2	82.4	80.3	75.5	114.8	111.0
June	34.13	54.9	86.8	63.2	15.91	55.5	81.5	68.1	73.3	118.6	117.5
July	34.38	55.3	84.4	65.5	15.94	55.6	80.5	69.1	74.7	120.5	120.4
August	35.25	56.7	84.3	67.3	16.19	56.4	79.5	70.9	77.2	120.2	119.6
September ..	36.25	58.3	84.4	69.1	16.75	58.4	78.3	74.6	81.3	118.3	118.4
October	35.81	57.6	83.0	69.4	16.56	57.7	76.3	75.6	81.0	116.0	115.4
November ..	36.00	57.9	81.3	71.2	16.63	58.0	75.6	76.7	83.0	115.0	114.1
December ..	32.38	52.1	79.6	65.5	15.19	52.9	73.5	72.0	77.1	114.5	113.6
1931	—	—	—	—	—	—	—	—	—	—	—
January	29.38	47.3	78.2	60.5	13.88	48.4	72.2	67.0	71.3	118.2	119.7
February ..	26.88	43.3	76.8	56.4	12.44	43.4	71.7	60.5	63.9	122.2	127.4
March	29.25	47.1	76.0	62.0	13.53	47.2	71.5	66.0	69.5	124.0	126.1
April	28.38	45.7	74.8	61.1	13.19	46.0	71.3	64.5	69.1	124.5	126.2

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SILVER AND THE CHINESE PRICE LEVEL

May	28.00	45.1	73.2	61.6	13.00	45.3	70.5	65.3	64.3	125.0	127.5
June	26.63	42.9	72.1	59.5	12.88	43.2	69.7	65.3	62.0	124.8	129.2
July	28.00	45.1	72.0	62.6	13.13	45.8	69.0	63.7	66.4	123.8	127.4
August	27.50	44.3	72.1	61.4	12.81	44.6	67.2	62.7	71.1	123.8	130.3
September ..	27.88	44.9	71.2	63.1	13.00	45.3	67.0	64.0	70.8	123.5	129.2
October	29.75	47.9	70.3	68.1	17.25	60.1	70.2	65.3	92.0	121.3	126.9
November ..	31.13	50.1	70.2	71.4	18.88	65.8	71.6	65.3	100.8	120.5	124.8
December ..	30.25	48.7	68.6	71.0	20.00	69.7	71.6	67.3	103.6	119.4	121.8
1932	—	—	—	—	—	—	—	—	—	—	—
January	29.81	48.0	67.3	71.3	19.63	68.4	71.6	67.3	101.6	117.7	119.3
February ..	30.13	48.5	66.3	73.2	19.63	68.4	70.9	68.6	99.7	119.9	—
March	29.75	47.9	66.0	69.6	18.09	63.1	70.6	66.6	94.7	118.0	—
April	28.25	45.5	65.5	72.5	16.88	58.8	69.1	65.3	90.0	118.8	116.7
May	27.75	44.7	64.4	69.4	16.81	58.6	68.0	63.3	92.6	117.0	115.7
June	27.63	44.5	63.9	69.6	16.88	58.8	66.2	60.7	96.9	115.0	113.6
July	26.75	43.1	64.5	66.8	16.91	58.9	65.9	62.7	93.9	112.4	111.8
August	28.00	45.1	65.2	69.2	17.93	62.5	67.2	64.0	97.7	111.3	111.3
September ..	27.63	44.5	65.3	68.1	18.00	62.7	68.9	63.3	99.1	109.5	109.8
October	27.38	44.1	64.4	68.5	17.78	62.0	68.2	61.4	101.0	107.5	108.7
November ..	27.00	43.5	63.9	68.1	18.07	63.0	68.2	61.4	102.6	106.9	106.9
December ..	25.13	40.4	62.6	64.5	17.10	59.6	68.2	87.4	97.1	107.1	107.5
1933	—	—	—	—	—	—	—	—	—	—	—
January	25.64	41.3	61.0	67.7	16.85	58.7	67.5	87.0	—	109.1	108.6
February ..	26.43	42.5	59.8	71.1	16.91	58.9	66.8	88.2	—	108.5	107.6
March	28.15	45.3	60.2	75.2	17.63	61.4	66.2	92.7	—	106.7	106.7
April	30.58	49.2	60.4	81.5	18.22	63.5	65.5	96.9	—	103.0	104.6
May	34.51	55.5	62.7	88.5	19.12	66.6	66.8	99.7	—	101.8	104.2
June	36.19	58.2	65.0	89.5	19.12	66.6	—	—	—	103.1	104.5
July	37.94	61.1	68.9	88.7	18.39	64.1	—	—	—	101.9	104.5
August	—	—	69.5	—	17.90	62.4	—	—	—	98.5	—

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- 1.—For 1921-1925, Sun, C., Chinese translation of Bratter, Herbert, M., "The Price of Silver," The Statistical Monthly, Vol. 2, No. 6, June, 1930.
For 1926-1932, National Tariff Commission, "The Shanghai Market Prices Report," April-June and October-December Issues, 1932.
For 1933, Nankai Weekly Statistical Service, Nankai Institute of Economics, Nankai University, Tientsin.
- 2.—United States Bureau of Labor Statistics Index of Wholesale Prices in the United States.
- 3.—Percentage that the index of the price of silver is of the index of wholesale prices in the United States.
- 4.—For 1921-1932, National Tariff Commission, "The Shanghai Market Prices Report" Oct.-Dec. Issues, 1932.
For 1933, Nankai Weekly Statistical Service, Nankai Institute of Economics, Nankai University, Tientsin.
- 5.—Board of Trade Index of Wholesale Prices in England, converted from the base of 1913=100 to the base of 1926=100. Original found in Ministry of Industries, China, "Price Indexes in China and Foreign Countries," and in Federal Reserve Board, Washington, D. C. "Federal Reserve Bulletin," July, 1933.
- 6.—Statist-Sauerbeck Index of Wholesale Prices in England, converted from a base of 1910-14 to a base of 1926=100. Original found in Warren, G. F. and Pearson, F. A. "Wholesale Prices for 213 years, 1720 to 1932," Cornell University Agr. Exp. Stat. Mem. 142, Nov., 1932, p. 14.
- 7.—Percentage that the index of the price of silver in London is of the Board of Trade index of wholesale prices in England.
- 8.—Percentage that the index of the price of silver in London is of the Statist index of wholesale prices in England.
- 9.—Ministry of Industries, "Price Indexes in China and Foreign Countries" and Nankai Weekly Statistical Service, Nankai Institute of Economics, Nankai University, Tientsin, China.
- 10.—Sheng, T., "The Revision of the Price Index Numbers" Stat. Series No. VI, Bul. of the National Tariff Commission, China.
"Wholesale Prices", U. S. Dept. of Labor, July, 1933.
- 11.—In figures 2 and 3, which are based on this table, the purchasing power of silver in England for the years 1921 to 1923 is in terms of the Statist index of wholesale prices in England; and, for the years 1924 to 1933, is in terms of the Board of Trade index of wholesale prices in England.

SILVER AND THE CHINESE PRICE LEVEL

TABLE 5
World Silver Stocks and World Physical Volume of Production
of Basic Commodities

Year	Annual world production of silver* (Thousands of fine ounces)	Estimated world stocks of silver at the end of the year** (Thousands of fine ounces)	Index of world stocks of silver, 1910-1914 = 100	Index of world stocks of silver, 1880-1914 = 100	Index of world physical volume of production of basic commodities*** 1880-1914=100
1871	63,317	5,560,000	50.6	66.3	42
1872	63,317	5,623,639	51.2	67.0	45
1873	63,267	5,686,906	51.8	67.8	45
1874	55,301	5,742,207	52.3	68.4	45
1875	62,262	5,804,469	52.8	69.2	49
1876	67,753	5,872,222	53.4	70.0	49
1877	62,680	5,934,902	54.0	70.7	52
1878	73,385	6,008,287	54.7	71.6	54
1879	74,383	6,082,670	55.4	72.5	55
1880	74,795	6,157,465	56.0	73.4	60
1881	79,021	6,236,586	56.8	74.3	56
1882	86,472	6,322,958	57.5	75.3	65
1883	89,175	6,412,133	58.3	76.4	63
1884	81,568	6,493,701	59.1	77.4	68
1885	91,610	6,585,311	59.9	78.5	68
1886	93,297	6,678,608	60.8	79.6	68
1887	96,124	6,774,732	61.6	80.7	68
1888	108,828	6,883,560	62.6	82.0	75
1889	120,214	7,003,774	63.8	83.5	77
1890	126,095	7,129,869	64.9	85.0	74
1891	137,170	7,267,039	66.1	86.6	83
1892	135,152	7,402,191	67.3	88.2	78
1893	165,473	7,567,664	68.9	90.2	80
1894	164,610	7,732,274	70.4	92.1	80
1895	167,501	7,899,775	71.9	94.1	90
1896	157,061	8,056,836	73.3	96.0	94
1897	160,421	8,217,257	74.8	97.9	94
1898	169,055	8,386,312	76.3	99.9	102
1899	168,337	8,554,649	77.8	101.9	101
1900	173,591	8,728,240	79.4	104.0	106
1901	173,011	8,901,251	81.0	106.1	107
1902	162,763	9,064,014	82.5	108.0	114
1903	167,689	9,231,703	84.0	110.0	115
1904	164,165	9,395,898	85.5	112.0	115
1905	172,318	9,568,216	87.1	114.0	125
1906	165,054	9,733,270	88.6	116.0	134
1907	184,207	9,917,477	90.3	118.2	129
1908	203,131	10,120,608	92.1	120.6	129
1909	212,149	10,332,757	94.0	123.1	138
1910	221,716	10,554,473	96.0	125.8	140

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TABLE 5—(Continued)

1911	226,193	10,780,666	98.1	128.5	143
1912	230,904	11,011,570	100.2	131.2	156
1913	210,013	11,221,583	102.1	133.7	157
1914	172,264	11,393,847	103.7	135.8	146
1915	173,001	11,566,848	105.2	137.8	148
1916	180,802	11,747,650	106.9	140.0	142
1917	186,125	11,933,775	108.6	142.2	144
1918	203,159	12,136,934	110.5	144.6	142
1919	179,850	12,316,784	112.1	146.8	138
1920	173,296	12,490,080	113.6	148.8	156
1921	171,286	12,661,366	115.2	150.9	138
1922	209,815	12,871,181	117.1	153.4	159
1923	246,010	13,117,191	119.4	156.3	169
1924	239,484	13,356,675	121.5	159.2	171
1925	245,213	13,601,888	123.8	162.1	187
1926	253,795	13,855,683	126.1	165.1	183
1927	253,981	14,109,664	128.4	168.1	192
1928	252,273	14,366,937	130.8	171.2	202
1929	260,900	14,627,837	133.1	174.3	208
1930	243,700	14,871,537	135.4	177.2	198
1931	195,575	15,067,112	137.1	179.5	184
1932	163,700	15,222,112	138.5	181.5	
1933	163,000	15,293,812		183.4	

*Wu Ta-yeh, "A Statistical Analysis of Fluctuations in the Silver Price, 1833-1931" Quarterly Journal of Economics and Statistics, Nankai University, Vol. 1, No. 1, p. 24 (Chinese). For 1931 and 1932, estimates made by Warren, G. F. and Pearson, F. A. in "Prices," p. 139.
 **Ibid. These figures make no allowance for annual losses due to such causes as chemical combination, shipwreck, and forgotten hoards.
 ***Warren, G. F. and Pearson, F. A., Prices, pp. 85-86.
 This index was originally prepared by Carl Snyder of the Federal Reserve Bank of New York.

TABLE 6

Index of Import and Export Prices in China and Index of Wholesale Prices in North China, 1921-1932

Year	Index of import and export prices in China,* when 1910-14=100	Index of wholesale prices in North China,** when 1926=100	Index of wholesale prices in N. China when 1926=130.7
1921	119.6	88.91	116.2
1922	115.6	86.40	112.9
1923	121.6	90.35	118.1
1924	124.1	93.61	122.3
1925	127.3	97.28	127.1
1926	130.7	100.00	130.7
1927	132.6	103.02	134.6
1928	136.5	107.98	141.1
1929	141.9	111.08	145.2
1930	157.9	115.84	151.4
1931	162.4	122.55	160.2
1932		113.40	148.2

*Nankai Weekly Statistical Service, Nankai Institute of Economics, Nankai University, Tientsin. Vol. V, No. 15, April 11, 1932. Converted from a base of 1867-1871=100.
 **Ibid. and Ministry of Industries "Price Indexes in China and Foreign Countries."

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TABLE 7

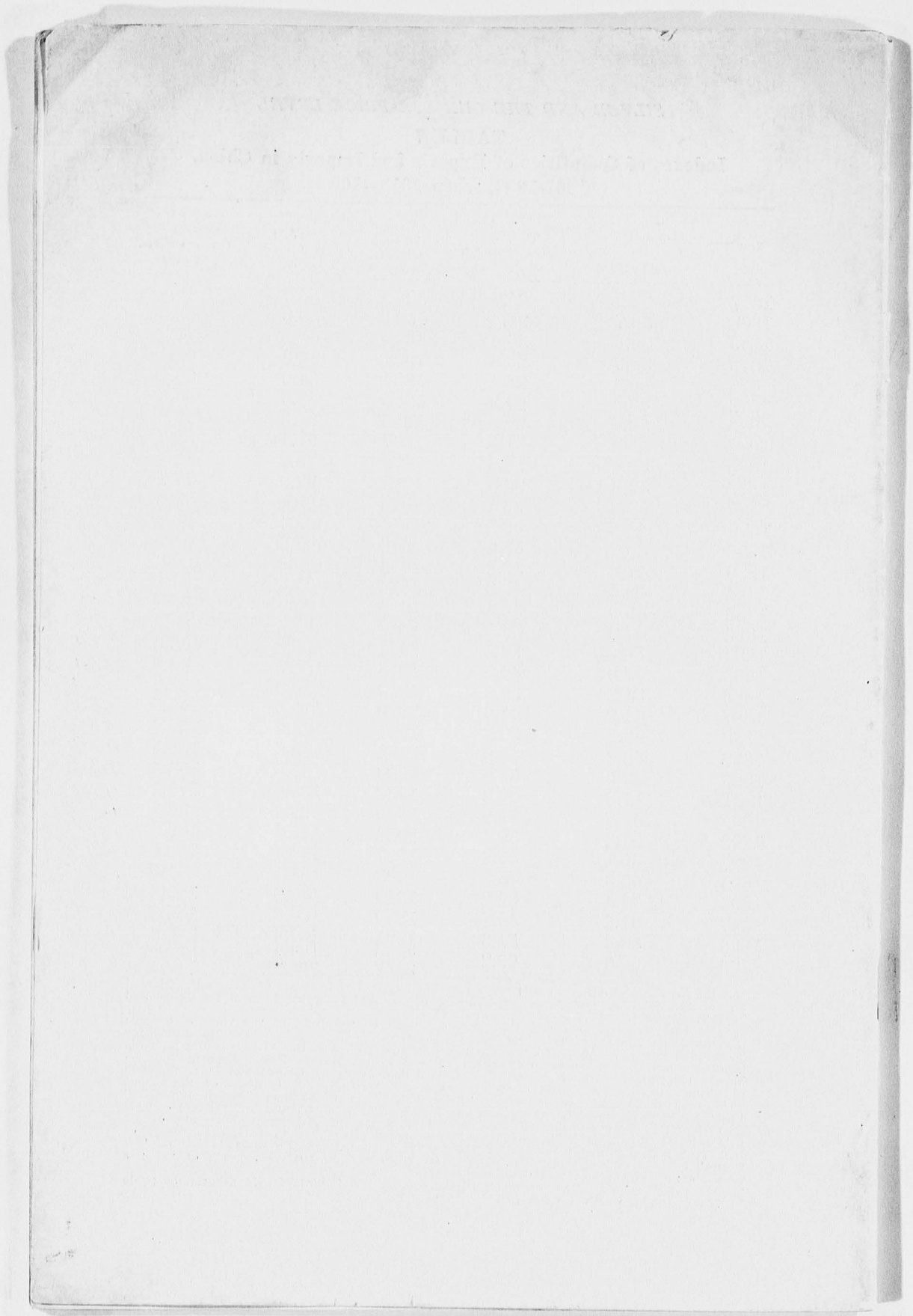
Indexes of Quantities of Exports and Imports in China, 1867-1932, when 1913=100

Year	Index of quantity of Chinese exports, 1913=100*	Index of quantity of Chinese imports, 1913=100*	Year	Index of quantity of Chinese exports, 1913=100*	Index of quantity of Chinese imports, 1913=100*
1867	31.9	24.7	1900	54.9	49.5
1868	33.7	25.4	1901	59.8	62.5
1869	35.4	26.4	1902	65.1	70.9
1870	33.3	25.9	1903	59.8	65.1
1871	39.4	28.1	1904	64.0	69.2
1872	43.3	27.9	1905	62.5	96.6
1873	39.1	27.3	1906	64.6	95.3
1874	40.1	31.5	1907	67.1	88.7
1875	42.2	33.8	1908	73.0	72.7
1876	42.8	36.3	1909	92.9	77.1
1877	40.8	36.1	1910	102.9	79.2
1878	41.4	34.9	1911	102.1	80.9
1879	43.2	40.8	1912	103.8	82.8
1880	47.2	36.2	1913	100.0	100.0
1881	43.5	40.8	1914	83.8	91.6
1882	45.9	36.4	1915	96.5	92.1
1883	47.2	35.0	1916	102.3	96.6
1884	50.6	34.5	1917	108.3	103.0
1885	47.6	40.5	1918	105.5	92.7
1886	54.2	35.3	1919	140.0	105.8
1887	41.2	41.6	1920	119.3	106.5
1888	43.6	50.3	1921	126.9	132.9
1889	45.2	44.0	1922	130.5	158.5
1890	42.0	54.8	1923	137.3	154.4
1891	47.9	60.8	1924	136.6	170.1
1892	49.8	59.9	1925	132.9	156.3
1893	57.2	59.4	1926	141.1	185.9
1894	60.1	45.3	1927	154.1	156.5
1895	66.3	45.8	1928	156.1	187.5
1896	56.4	53.2	1929	148.9	199.5
1897	61.6	49.7	1930	130.8	186.8
1898	63.4	51.3	1931	117.4	160.8
1899	62.5	69.2	1932	111	136.0

*Indexes for the years 1867 to 1931 were compiled by Nankai Institute of Economics, Nankai University, Tientsin, and found in Ministry of Industries "Price Indexes in China and Foreign Countries" 1932: 51-52.
 †1933
 Indexes for the years 1931 and 1932 were estimated on the basis of the value of Chinese imports and exports in 1913, 1932 and 1933 (Ho Ping-Yin, "China's Foreign Trade for the Second Half-Year, 1932", Chinese Economic Journal, Vol. XII, No. 5: 537), index numbers of export and import prices in Shanghai (The Shanghai Market Prices Report, January-March, 1933, published by National Tariff Commission, Shanghai, China) and index numbers of Chinese import prices and export prices compiled by Nankai Institute of Economics, and found in Ministry of Industries "Price Indexes in China and Foreign Countries" 1932: 51-52. Index numbers of the value in Haikwan Taels of Chinese imports and exports in 1931 and 1932 when 1913=100 were deflated by indexes of the import prices and export prices in Shanghai, when the average of these indexes for 1926 to 1930—the average of the Nankai import and export price indexes, respectively, for the years 1926-1930. The Shanghai index of export prices in 1932 was not complete, but an average of the five available monthly indexes was used.
 The indexes for 1932 include estimates of the exports and imports for Manchuria, as made by Ho Ping-Yin, which are not included in official figures.

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