



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

PROCEEDINGS
OF THE
THIRD INTERNATIONAL CONFERENCE
OF
AGRICULTURAL ECONOMISTS

HELD AT
BAD EILSEN
GERMANY
26 AUGUST TO 2 SEPTEMBER 1934

LONDON
OXFORD UNIVERSITY PRESS
HUMPHREY MILFORD
1935

SECTION IV
INTERNATIONAL POLICIES RELATING TO
AGRICULTURE

THE MONETARY SITUATION

G. F. WARREN
Cornell University, N.Y.

THIS paper presents results of research by myself and F. A. Pearson. I desire to present science—not to speak for, criticize, or recommend political action. I hope to be as objective as a chemist.

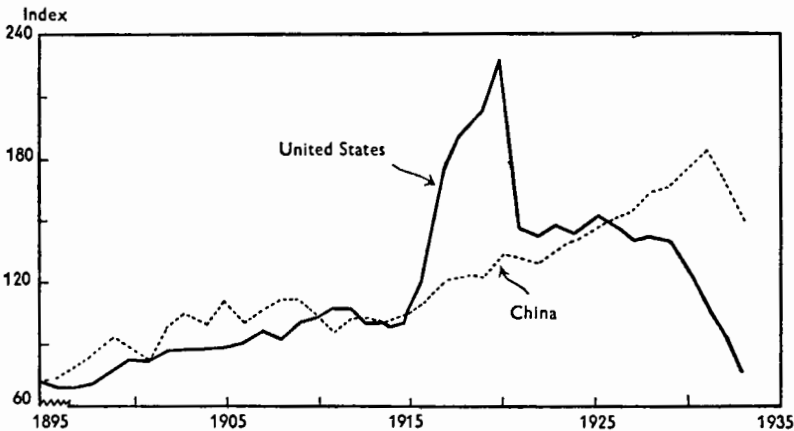


FIGURE 1. WHOLESALE PRICES IN CHINA ON A SILVER BASIS AND IN THE UNITED STATES ON A GOLD BASIS (Pre-War = 100)

China did not have inflation during the World War nor the deflation of 1920 and 1929. Deflation began in 1931 with the return of the demand for silver and silver-hoarding in gold-using countries. During the Napoleonic War period both gold and silver were used by Europe, and the reduced demand for monetary metals caused inflation in both gold-using and silver-using countries. During the World War, only gold-using countries were seriously involved and only gold lost and subsequently acquired value.

The gold-using world has had twenty years of monetary chaos and, I think, will continue to have monetary chaos for a number of years. The silver-using world was not strikingly affected until the last two years. During the years of violent rise in prices in all gold-using countries, China's prices continued the same gradual upward trend which began in 1875, as shown in Fig. 1. The price collapse which occurred in gold-using countries in 1920 had no counterpart

in China; her gradual upward trend continued; nor did the price collapse of 1929 occur in China. A collapse began in China in 1931, when silver hoarding began in gold-using countries. The recent price history of the gold-using world has not been a world-wide phenomenon but a gold-wide phenomenon. It cannot be said that the monetary chaos was a world-wide and inevitable consequence of the War. When a study is made of gold-using countries that suspended gold payments, or that raised the price of gold, we again find that the price history has not been world-wide. What, then, have been the causes of the chaotic price relationships?

WHY DID PRICES RISE AND FALL?

The writer believes that the price chaos has been due to fluctuations in the demand for gold which resulted from monetary chaos. In order to eliminate current illusions a comparison with another period of monetary chaos that began nearly 150 years ago is of interest. The French Revolution broke out in 1789. At first it was a local affair, but gradually grew into the Napoleonic War period which involved most of Europe and finally involved the United States in the war of 1812. For a few years it was a local affair, but finally approximated, although it never reached, the recent World War in inclusiveness.

When prices for the five years 1785-9 are called 100, prices rose by 1796 in England to 144 and in the United States to 165, although neither of these countries had made any monetary change and no important discoveries of gold or silver had been made (Fig. 2). England suspended metal payments in 1797, and returned to a metal basis in 1821. The United States also suspended metal payments for a short time, from September 1814 to February 1817. Its currency never fell very far below par. The lowest monthly average was 84 per cent. of par. Prices in gold and silver continued to rise. English prices in gold reached 180 in 1809. American prices reached 199 in 1814. For more than a quarter of a century, beginning with 1795, prices were very irregular, but were at a high level throughout the world. The explanation is, I believe, very simple. A large part of the world discontinued using gold and silver for money and discontinued active bidding for them. The reduced demand caused a sudden decline in the value of both gold and silver, so that prices expressed in these metals rose throughout the world.

The United States returned to metal money in 1817, and prices continued at a high level. In 1818 England decided to return to a gold basis, but took three years for the process. During these three

years prices in gold in England fell 30 per cent. and fell 31 per cent. in the United States. The experiences were similar to the recent occurrences. We now know that this price collapse was not due to over-production of commodities; it was not a business cycle; it was not due to a change in the supply of gold and silver; but was due to sudden changes in the demand for these metals for monetary use. There were violent fluctuations in prices after the price collapse, but no real price recovery until gold was found in Australia and California, about sixty years after the outbreak of the French Revolution.

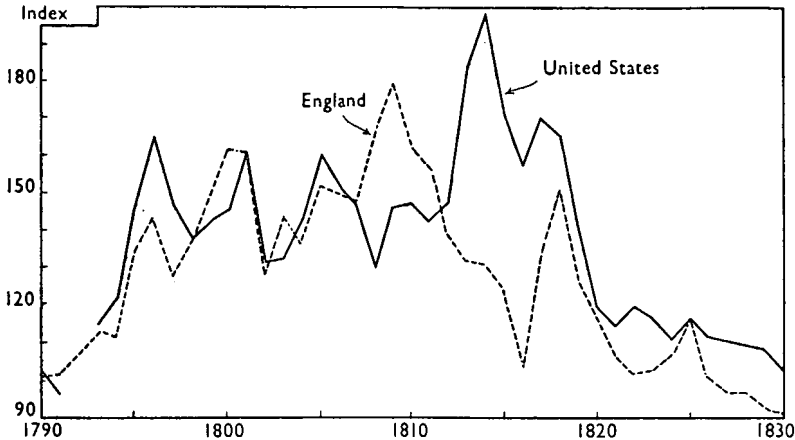


FIGURE 2. PRICES IN ENGLAND AND IN THE UNITED STATES IN GOLD DURING THE NAPOLEONIC WAR PERIOD

1785-9 = 100

Prices in gold

When prices for the five years, 1785 to 1789 are 100, prices in England for 1796 were 144 and in the United States were 165. These rises were due to reduced demand for gold and silver. With the return of demand, following 1818, a price collapse occurred in each country, from which there was no recovery.

The *Statist* index number for England and a comparable index number for the United States are shown in Fig. 3. The phenomenal rise in prices in gold during the World War was not due to vast discoveries of gold, but to the vast reduction in the demand for gold. There was no reason for supposing that the world's gold supply could suddenly support a doubled price level, and certainly not after a period of monetary chaos, which always means inefficiency in the use of gold. With the attempt to restore the gold standard, a price collapse occurred.

Rist, the French economist, described this fantastic situation as follows:

'If one reflects how slowly world prices in gold vary as a rule, the

probability of any 50 per cent. jump in those prices between 1915 and 1925 (the date of the return of sterling to par) seems very scant indeed . . . the idea of maintaining price levels the world over on the war-time scale and transforming them into a gold price level, the while maintaining old currency parities, looks to-day like a fantastic dream.¹

Since 1918 I have been calling attention to the abnormal values of gold, and at the last meeting of this conference I made the following statement: 'My guess is that wholesale prices will fall below

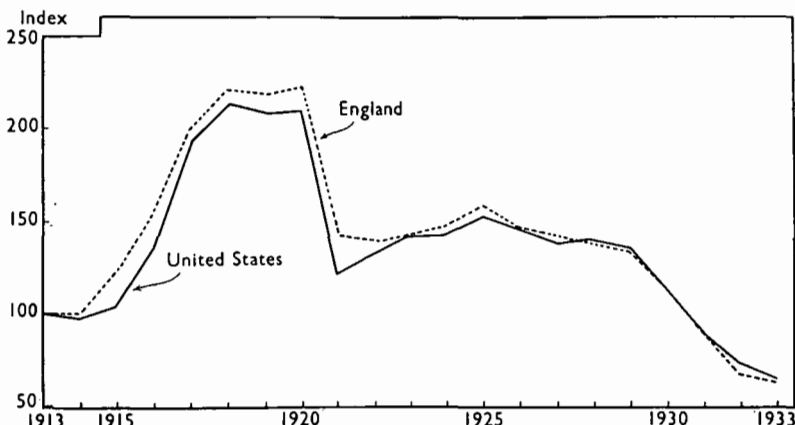


FIGURE 3. THE STATIST INDEX NUMBER IN GOLD FOR ENGLAND AND A COMPARABLE INDEX FOR THE UNITED STATES, WORLD WAR PERIOD

1913 = 100

Prices in gold

Prices in gold more than doubled in each country and fell to about 60 per cent of pre-war in two successive price collapses. The rise in price was due to reduced world demand for gold, and the collapse in price was due to the return of demand. The chaos resulting from the deflation caused a frantic demand for gold which carried prices far below pre-war.

pre-war—that is, gold will become more valuable than it was before the war.² The forecast has proved correct. Of course, a guess may be correct by accident, but I believe that in this case it is because the diagnosis was correct.

There is one interesting difference between the World War period and the Napoleonic War period. In the Napoleonic War period, warring countries were on a bimetallic basis and both gold and silver lost value and acquired more than their pre-war value after the wars were over. During the World War period nearly all of the warring

¹ Rist, C., 'Gold and the End of the Depression', *Foreign Affairs*, vol. xii, no. 2, pp. 246, 247, Jan. 1934.

² Warren, G. F., 'The Depression: Causes and Duration', *Proceedings of the Second International Conference of Agricultural Economists*, 1930, p. 110.

countries were on a gold basis. Neutral countries that were on gold had the rise and subsequent collapse in prices, but neutral countries that were on silver were little affected.

During the World War period a considerable part of the world left the gold standard, gold lost value, and prices in neutral gold countries more than doubled. This doubling of prices applied to commodities the consumption of which was interfered with by the war, but it did not occur in China. The first collapse occurred in 1920, but the most serious collapse occurred after the various countries had attempted to restore the gold standard. One after another the various countries began to move towards the re-establishment of the gold standard. It was not done all at once. Sweden returned to the gold basis on April 1, 1924; Germany, in the fall of 1924; England and the Netherlands, on April 28, 1925; Belgium, October 25, 1926; Italy, December 22, 1927; and France, June 25, 1928. The price structure was entirely out of line with the gold supply if all countries were to return to gold, and prices suffered a sudden collapse.

In 1920 prices in gold reached the highest level ever known and, from this level, prices in England and the United States have now collapsed to the lowest level in gold since the establishment of the United States.

When 1913 is 100, an index number for the United States comparable to the *Statist* rose to 242 in April 1920 and fell to 69 in February 1933, or prices rose 142 per cent. and fell 71 per cent. without any change in the monetary system of the country.

THE VALUE OF GOLD

The degree of the price collapse since 1929 is shown in Fig. 4. Prices in gold throughout the world have declined during the recent depression from nearly 50 per cent. above pre-war to 25-40 per cent. below pre-war.

The normal growth in output of basic commodities in the world was interfered with by the war so that world production has been low compared with its normal trend, not high as is assumed by those who attribute the depression to over-production. With the general level of production before the depression, the world's gold supply was sufficient to support pre-war prices if gold were used with pre-war efficiency. But prices in gold are now 25-40 per cent. below pre-war. Individuals have learned that hoarding was good policy. Banks have learned that lending the normal percentage of the value of goods, homes, or farms has been unsafe. Borrowers have learned

that normal borrowing is unsafe. It will be many years before gold is likely to be used with pre-war efficiency. It is therefore probable that if the countries that formerly used gold as money continue to use it, or continue to bid for it, gold will retain more than its pre-war value for a number of years at least. Of course phenomenal

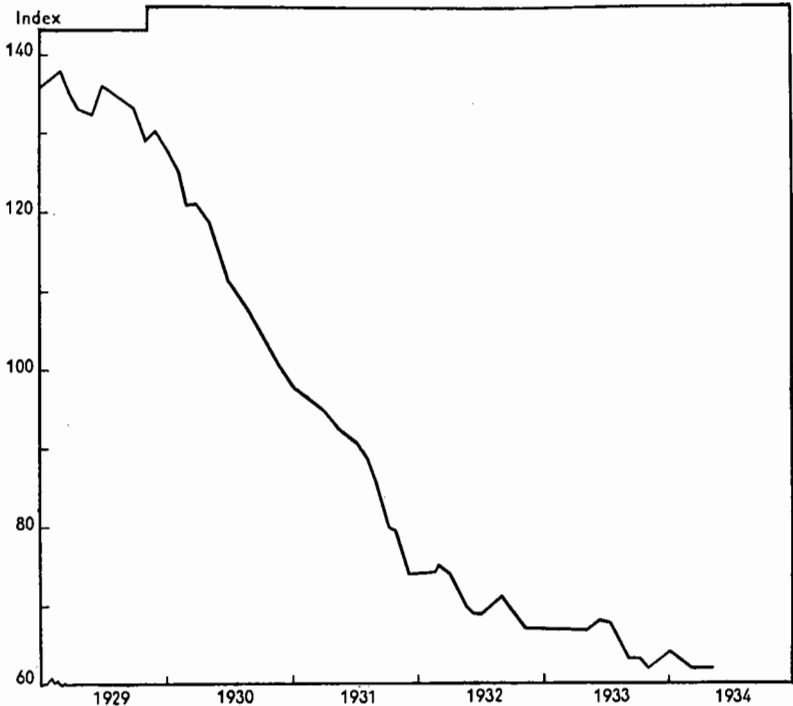


FIGURE 4. PRICES OF BASIC COMMODITIES IN SIX COUNTRIES
EXPRESSED IN PRE-WAR GOLD CURRENCIES

Pre-war = 100

Prices declined with great rapidity from 1929 to 1932. Since that time, the decline has been less rapid, but no upturn has occurred. Apparently the rapid increase in the value of gold has been checked. Prices in gold are lower than at any previous time for a century and a half.

gold discoveries might change this, but no such discoveries are in sight, and the present rate of production is probably inadequate for the maintenance of pre-war prices even if we had such prices. On the other hand, the terrific fall in prices in gold seems to have been checked. The decline in the last two years has been gradual.

Unless some important country definitely demonetizes gold and stops bidding for it, or unless some phenomenal gold discovery is

made, it is to be expected that prices in gold will remain distinctly below pre-war for some years, but that they will probably not remain at the present level after the price of gold has been raised enough so that general recovery occurs. Sudden violent fluctuations in the price level expressed in gold will probably continue.

EFFECTS OF RAISING THE PRICE OF GOLD

In 1931 England and most of the other countries of the world left the gold standard when prices were only a little below pre-war, and, by raising the price of gold, either raised prices or stopped the decline. The United States persisted in its efforts to maintain the gold standard until the United States index comparable to the *Statist* had reached 69 in gold, that of 1913 being 100. The attempt to pay debts, most of which had been contracted at prices from 140 to 242, was so utterly impossible that a collapse occurred in the entire credit structure. The attempt to exchange goods when raw materials had collapsed, but costs of distribution remained high, stopped business.

It is sometimes said that England did not get a rise in prices by leaving the gold standard. That is true, but she stopped the collapse. She left the gold standard when prices in gold were 95. The United States waited until the same index reached 69. Disparaging comparisons are sometimes made between American and English banking without taking account of this fact.

Only two countries, Holland and Switzerland, are still continuing the attempt to maintain their pre-war currencies. It remains to be seen whether they can stand the amount of suffering which this entails. It is easier for these countries to persist in such an effort because in countries near large markets the discrepancy between prices of raw materials and finished products is less than the discrepancy far from market. Farmers in England and Holland and those near New York City suffer less from deflation than do farmers in Australia, Canada, or western United States.

There is also a different situation in countries that revalued after the depression of 1920. Countries like the United States which attempted to maintain their pre-war currency throughout the period were in a worse condition than they would have been had they not had the depression of 1920, which had not been overcome before the second depression. In fact the lag in distributing charges compelled the farmers to take less goods for their farm products than they normally would receive, so that cities profited by cheap food. This accentuated the boom in 1929 and made the situation quite different from conditions in France. The only deflation from which France and

Italy has suffered is the deflation since 1929. Countries that avoided the deflation of 1920 by revaluing at a later date suffered least. Countries like England and Denmark that suspended the gold standard had higher prices than the United States, and would have suffered more than the United States had they not left gold sooner.

In the countries that have recently suspended the gold standard, prices of gold have been raised from more than 60 to nearly 200 per cent. (Table 1). The degree of recovery is largely in proportion to the increase in the price of gold. To restore the pre-depression price level at the present time requires that the price of gold should be more than doubled.

TABLE 1. *Index Numbers of the Price of Gold in Various Countries*

Post-war pars = 100

	<i>France</i>	<i>Switzer- land</i>	<i>Nether- lands</i>	<i>Italy</i>	<i>Belgium</i>	<i>Poland</i>
Dec. 1929 . . .	99	99	100	100	99	100
Dec. 1930 . . .	100	100	100	100	100	100
July 1931 . . .	100	99	100	101	100	100
Oct. 1931 . . .	100	98	99	102	100	100
Dec. 1931 . . .	100	99	100	103	100	100
July 1932 . . .	100	99	100	103	100	100
Oct. 1932 . . .	100	100	100	103	100	100
Feb. 1933 . . .	100	100	100	103	100	100
July 1933 . . .	100	100	100	100	100	100
Oct. 1933 . . .	100	100	100	100	100	100
Jan. 16, 1934 . . .	101	101	101	102	101	100
May. 15, 1934 . . .	100	100	100	104	100	99
June 1, 1934 . . .	100	100	100	103	100	100
June 7, 1934 . . .	100	100	100	102	100	99

	<i>Czecho- slovakia</i>	<i>Austria</i>	<i>England</i>	<i>South Africa</i>	<i>India</i>	<i>Egypt</i>	<i>Canada</i>	<i>United States</i>
Dec. 1929 . . .	100	100	100	100	100	99	100	100
Dec. 1930 . . .	100	100	100	100	102	99	100	100
July 1931 . . .	100	100	100	100	101	99	100	100
Oct. 1931 . . .	100	101	125	100	127	124	112	100
Dec. 1931 . . .	100	101	144	100	144	143	121	100
July 1932 . . .	100	101	137	102	137	136	115	100
Oct. 1932 . . .	100	101	143	102	142	142	110	100
Feb. 1933 . . .	100	101	142	144	141	141	120	100
July 1933 . . .	99	125	146	148	146	145	148	140
Oct. 1933 . . .	100	125	155	157	155	160	152	149
Jan. 16, 1934 . . .	100	125	155	154	154	..	162	162
May 15, 1934 . . .	119	124	160	160	160	..	168	168
June 1, 1934 . . .	120	125	161	161	161	..	168	168
June 7, 1934 . . .	119	124	161	161	161	..	167	168

TABLE I (continued)

	Sweden	Norway	Finland	Den- mark	Aus- tralia	New Zealand	Argen- tina	Japan
Dec. 1929 . . .	100	100	100	100	102	100	104	100
Dec. 1930 . . .	100	100	100	100	109	100	128	100
July 1931 . . .	100	100	100	100	131	..	138	100
Oct. 1931 . . .	116	121	109	122	163	138	186	101
Dec. 1931 . . .	143	145	149	144	181	..	165	115
July 1932 . . .	147	152	164	140	172	150	165	182
Oct. 1932 . . .	153	156	170	152	179	157	165	216
Feb. 1933 . . .	147	153	169	176	179	178	165	240
July 1933 . . .	156	160	171	180	184	183	167	242
Oct. 1933 . . .	165	170	181	191	195	194	166	267
Jan. 16, 1934 . .	165	169	180	191	194	193	198	266
May 15, 1934 . .	171	176	187	198	200	200	209	277
June 1, 1934 . .	172	177	188	199	202	201	210	279
June 7, 1934 . .	173	177	188	199	202	201	210	278

The price of gold in Germany is not included in this table because German marks are sold at a discount for various purposes. In order to determine the average price of gold for Germany one would need to know the average price at which all sales of marks have been made. By selling marks at a discount the German level of commodity prices has been prevented from declining as much as prices have declined in gold.

England left the gold standard at a time when prices in gold were rapidly falling and stopped the collapse (Fig. 5). Prices continued to fall in those countries which remained on the gold standard. The United States left the gold standard at a time when prices in gold were falling slowly and therefore quickly raised prices to the English level.

The *Journal of Commerce* index of prices of thirty basic commodities in the United States followed the price of gold fairly closely (Fig. 6).

Index numbers of prices of basic commodities in the various countries are at all times about in proportion to their respective prices of gold. For example, from February 1933 to February 1934 prices of 20 basic commodities in Italy fell 2 per cent., but rose 70 per cent. in the United States. Italy had made no change in the price of gold. The United States raised the price 69 per cent. Prices are available for 21 commodities in France. These rose an average of 6 per cent., but rose 64 per cent. in the United States (Tables 2 and 3).

England raised the price of gold 13 per cent., and prices of 22 basic commodities rose on an average by 14 per cent. The same commodities in the United States rose 73 per cent. For eleven countries the advance in prices of these basic commodities was 1 per cent. in gold.

The advance in the United States was 2 per cent. in gold plus an additional 69 per cent. because of an increase in the price of gold.

The same relationship was shown for general index numbers for various countries. Even with the extremely wide range of commodities included in the different index numbers and the differences

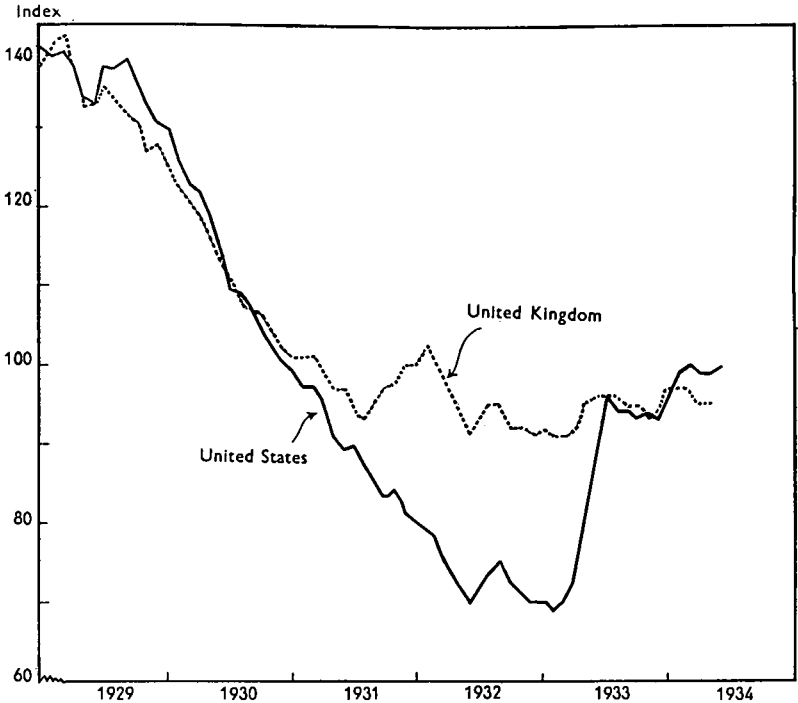


FIGURE 5. THE STATIST INDEX NUMBER FOR ENGLAND AND A COMPARABLE INDEX NUMBER FOR THE UNITED STATES
1913 = 100
Prices in Currency

By suspending the gold standard and raising the price of gold in September 1931, at a time when gold was rapidly rising in value, England stopped the decline in prices. By raising the price of gold in 1933, prices in the United States were brought to the English level.

in weighting, index numbers expressed in gold are reasonably comparable throughout the world. This is due to two well-established laws of prices.

1. The index numbers of prices of basic commodities when expressed in terms of any commodity that moves cheaply and freely are normally alike in the various countries. This is sometimes called the law of purchasing-power parity.

2. Index numbers for average prices of all commodities lag behind index numbers for basic commodities, but there is no difference in long-time trend, and, given time for adjustment, they are brought into line.

By quotas, tariffs, bounties, and the like a country may favour one

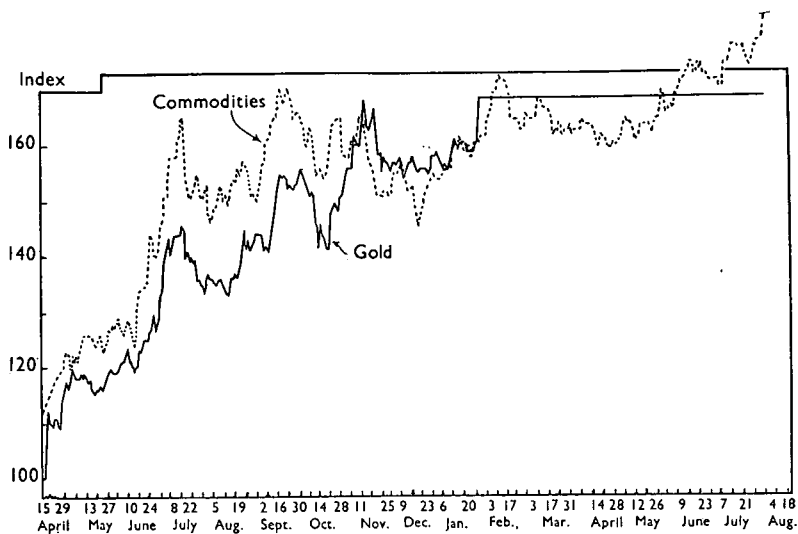


FIGURE 6. DAILY PRICES OF GOLD AND THE JOURNAL OF COMMERCE INDEX OF PRICES OF 30 COMMODITIES IN THE UNITED STATES, 1933-4

February 1933 = 100

Prices of basic commodities in the United States moved approximately in proportion to the price of gold. The commodities included in the index are wheat, corn, oats, rye, barley, flour, beef, pork, lard, eggs, butter, cheese, sugar, coffee, cocoa, cotton, print-cloth, wool, silk, burlap, copper, zinc, lead, tin, silver, hides, rubber, linseed oil, turpentine, crude petroleum. After April 17, 1934, hogs were substituted for petroleum.

or another commodity, but even with the maximum of restriction there is enough international business to keep the general level of commodity prices expressed in gold very closely comparable if the index numbers are at all comparable as to composition and weighting (Table 4).

The change in the price of gold and changes in prices of various farm products in the United States are shown in Table 5. By May 15, 1934, one half of the products had advanced more than the price of gold and one half less. Of course, prices were influenced not only by the price of gold, but by their supply. In the United States in 1934 most of the crops were rather short. Sheep and horse cycles

TABLE 2. *Percentage Changes in Prices of Individual Basic Commodities in Various Countries from February 1933 to February 1934*

	France	Italy	Belgium	Holland	Switzerland	England	India	Canada	Czechoslovakia	Japan	Austria	Germany	United States
Copper . . .	- 1	+ 1	..	..	- 2	+ 10	..	+ 32	+ 6	+ 5	+ 4	0	+ 61
Tin . . .	+39	+33	..	..	+38	+ 50	+48	+ 77	+41	..	+51	+ 35	+120
Lead . . .	+ 2	- 4	..	..	- 4	+ 9	+ 7	+ 13	+ 2	..	+ 2	+ 5	+ 33
Zinc . . .	+ 2	0	- 7	..	- 7	+ 7	..	+ 17	- 2	..	+ 2	0	+ 60
Pig iron . . .	- 3	0	+ 7	+20	+ 3	+ 5	0	0	-15	+26	0	0	+ 17
Wheat . . .	+20	-20	-25	..	+ 9	- 16	-10	+ 43	- 8	+28	+ 7	0	+ 79
Rye . . .	..	-24	..	+ 2	..	..	..	..	+19	+51	- 8	+ 4	+ 70
Barley . . .	..	-21	- 4	+10	+20	+ 36	-29	..	+11	+45	-16	..	+139
Corn . . .	+11	- 7	- 3	+34	+20	- 5	..	..	+ 7	..	+39	- 12	+102
Oats . . .	-39	..	..	+30	+ 3	+ 7	..	+ 45	-10	..	+13	+ 17	+120
Potatoes . . .	+39	+ 8	+33	..	-10	..	- 7	+ 43	+33	..	+11	+ 11	+100
Butter . . .	..	+ 6	..	- 9	- 3	- 18	..	+ 27	0	..	..	+ 44	+ 36
Pork . . .	-33	- 1	..	+23	+24	..	..	..	-31	..	-10	+ 20	+ 55
Beef . . .	-17	- 1	..	+24	..	- 9	..	..	-17	0	- 4	- 3	+ 1
Mutton . . .	- 2	..	..	+20	..	- 4	..	..	- 9	..	..	+ 17	0
Cotton . . .	+21	+12	..	+16	+10	+ 33	+10	+ 72	+13	+30	+33	+ 17	+102
Wool . . .	+45	+24	+57	..	+52	+ 59	+27	+150	+22	..	+72	+ 59	+113
Hides . . .	+11	+11	..	+26	+15	+ 16	..	+ 86	+62	..	+39	+ 14	+115
Leather . . .	- 5	-16	..	+ 4	+ 1	+ 21	..	..	+21	+11	+12	0	+138
Rubber . . .	..	..	..	+89	+38	+135	..	+ 33	..	..	+89	+109	+246
Nitrate of Soda . . .	- 5	- 2	- 7	..	0	- 13	- 1	..	..	..	..	..	+ 4
Coffee . . .	-11	-37	..	-35	-14	- 11	- 8	- 18	- 9	..	- 1	- 30	+ 26
Petroleum . . .	+37	..	..	- 9	- 3	- 8	0	+ 11	0	..	+ 9	+ 10	+ 71
Sugar . . .	+ 5	0	..	+22	- 9	0	-18	+ 56	0	- 2	0	0	+ 18
Coal . . .	0	..	-21	..	- 8	- 8	+ 2	0	- 3	+13	0	0	+ 12
Average . . .	+ 5.5	- 1.9	+ 3.3	+16.7	+ 7.9	+13.5	+ 1.6	+ 40.4	+ 5.8	+20.7	+15.6	+13.8	..
Gold . . .	0	0	0	0	0	+13	+14	+ 40	+11	+16	+25	..	+ 69

were beginning to turn up, but the poultry, cattle, and hog cycles happened to be in the period of high supply and low purchasing power, so that they rose less than the average of all commodities.

TABLE 3. *Changes in Average Prices of Identical Basic Commodities in Various Countries in Currency and in Gold from February 1933 to February 1934*

Country	Number of identical commodities	Percentage change in currency prices	Percentage change in the price of gold	Percentage change in prices in terms of gold
France . . .	21	+ 5.5	0	+ 5.5
United States . . .		+64.2	+69	- 2.8
Italy	20	- 1.9	0	- 1.9
United States		+69.6	+69	+ 0.4
Belgium	9	+ 3.3	0	+ 3.3
United States		+69.6	+69	+ 0.4
Holland	16	+16.7	0	+16.7
United States		+78.5	+69	+ 5.6
Switzerland	22	+ 7.9	0	+ 7.9
United States		+80.4	+69	+ 6.7
England	22	+13.5	+13	+ 0.4
United States		+73.4	+69	+ 2.6
India	13	+ 1.6	+14	-10.9
United States		+64.2	+69	- 2.8
Canada	17	+40.4	+40	+ 0.3
United States		+78.3	+69	+ 5.5
Czechoslovakia	23	+ 5.8	+11	- 4.7
United States		+69.1	+69	+ 0.06
Japan	10	+20.7	+16	+ 4.1
United States		+63.9	+69	- 3.0
Austria	22	+15.6	+25	- 7.5
United States		+81.8	+69	+ 7.6
Germany	23	+13.8	..	..
United States		+73.8	+69	+ 2.8
Average for 11 countries (omitting Germany). Similar average for United States . . .		..	..	+ 1.2
		72	69	+ 1.8

The demand for individual commodities of course affects their relative positions. The stimulus to business which came as a result of leaving the gold standard greatly increased the demand for hides and textiles, and the prices of these rose more than the price of gold.

Some persons have thought that the advances in prices were only for import or export commodities. Others have thought that only speculative commodities respond to the price of gold. The fact is that basic commodities respond quickly whether they be import or export, speculative or non-speculative. Lard is a speculative, export

TABLE 4. *Index Numbers of Wholesale Prices in Various Countries*

Pre-war = 100

	Base	Month	Prices in currency	Gold divisor	Prices in pre-war gold
<i>Countries on a pre-war gold standard:</i>					
Netherlands:					
Central Bureau of Statistics	1913	March	79	1.00	79
<i>Countries on gold standard that have revalued:</i>					
Belgium:					
Ministry of Industry and Labour	Apr. 1914	"	478	6.94	69
France:					
45 items	1913	"	371	4.92	75
Raw materials	1913	"	337	4.92	68
General Statistical Bureau	1913	"	394	4.92	80
Italy:					
Riccardo Bachi	1913	"	275	3.67	75
Ottolenghi, materials	1913	"	260	3.67	71
<i>Countries off the gold standard:</i>					
United States:					
Bureau of Labour, all commodities	1910-14	"	108	1.69	64
Bureau of Labour, raw materials	1913	"	96	1.69	57
30-basic commodities	1910-14	"	99	1.69	59
Bradstreet's	1913	"	101	1.69	60
Annalist	1913	"	108	1.69	64
'Statist'	1913	"	100	1.69	59
United Kingdom:					
Sauerbeck-Statist	1913	"	97	1.61	60
Board of Trade	1913	"	104	1.61	65
Economist	1913	"	90	1.61	56
<i>The Times</i>	1913	"	99	1.61	61
Canada:					
Total index	1913	"	112	1.69	66
Raw and partly manufactured	1913	"	97	1.69	57
Sweden:					
General index	1913	"	112	1.72	65
Raw materials	1913	"	99	1.72	58
Norway:					
Central Bureau of Statistics	1913	"	122	1.77	69
Denmark:					
Statistical Department	1913	"	129	1.98	65
New Zealand:					
Census and Statistics Office:	1909-13	Feb.	134	2.02	66
Australia:					
Bureau of Census and Statistics	1910-14	Dec.	144	1.87	77

Index numbers of prices in currency varied from 79 to 478 when pre-war is 100. When these index numbers are divided by the increase in the price of gold above the pre-war price, the range is from 56 to 80. In spite of the differences in commodities included and differences in methods of weighting, the index numbers differ by only a limited amount in gold.

commodity, but the high supply of hogs tended to obscure the effect of raising the price of gold. Potatoes and sweet potatoes are domestic products that are not traded in on the speculative markets. They advanced more than the price of gold because of the supply.

TABLE 5. *Changes in Prices paid to Farmers in the United States from February 15, 1933, to May 15, 1934*

	Feb. 15, 1933	May 15, 1934	Per cent. change
	\$	\$	
Wool, per lb.	0·088	0·234	166
Corn, per bushel	0·194	0·486	151
Oats, per bushel	0·133	0·327	146
Rye, per bushel	0·219	0·519	137
Barley, per bushel	0·179	0·422	136
Wheat, per bushel	0·323	0·695	115
Cotton, per lb.	0·055	0·110	100
Potatoes, per bushel	0·370	0·737	99
Sweet potatoes, per bushel	0·435	0·828	90
Flax-seed, per bushel	0·871	1·637	88
Beans, per bushel	0·90	1·57	74
Apples, per bushel	0·66	1·14	73
GOLD, per oz.	20·67	35·00	69
Lambs, per 100 lb.	4·19	6·95	66
Sheep, per 100 lb.	2·16	3·54	64
Hay, per ton	5·91	8·94	51
Buckwheat, per bushel	0·391	0·555	42
Horses, per head	61·53	82·88	35
Beef cattle, per 100 lb.	3·31	4·13	25
Eggs, per doz.	0·110	0·133	21
Chickens, per lb.	0·094	0·112	19
Butter, per lb.	0·184	0·216	17
Hogs, per 100 lb.	2·94	3·17	8
Milk cows, per head	31·29	33·32	6
Veal calves, per 100 lb.	4·75	4·83	2

From February 1933 to May 1934 prices paid to farmers for 12 farm products advanced more than the price of gold (69 per cent.) and 12 advanced less than the price of gold. The unweighted average of 24 products increased 72 per cent. These prices were before the drought had much influence.

Combining supply price relationships with the world value of gold and the price of gold goes far towards explaining prices. For example, the December 1933 estimate of the United States supply of wheat was 17 per cent. below the previous year. From the supply price relationship this would be expected to raise the price 29 per cent. Average prices of commodities in gold in Holland, France, and Italy had declined 3 per cent. Therefore prices would be

expected to decline 3 per cent. The United States price for gold was increased 57 per cent. Multiplying these together ($1.29 \times 0.97 \times 1.57 = 1.96$) gives an expected price of 196 when prices for December 1932 were 100. The actual farm price on December 1 was 212. Similar calculations for corn give an expected price of 193, an actual price of 205. For cabbage, a domestic, non-speculative product, expected price, 410; actual price, 411. For cotton, expected price, 157; actual price, 165. These calculations do not include a factor for demand as no data are available, but the combination of supply of the crop and the value and price of gold give an approximate explanation of the price changes (Table 6).

TABLE 6. *Changes in Farm Prices, December 1, 1932, to December 1, 1933**

Crop	Supply when 1932 = 100	Expected change in farm price due to change in size of United States supply	Expected change in farm price due to change in value of gold	Expected change in farm price due to change in price of gold	Expected farm price when Dec. 1, 1932 = 100	Actual price Dec. 1, 1933, when Dec. 1, 1932 = 100
Wheat .	83	1.29	0.97	1.57	196	212
Corn .	81	1.27	0.97	1.57	193	205
Potatoes .	89	1.17	0.97	1.57	178	199
Hay .	94	1.05	0.97	1.57	160	124
Cabbage .	61	2.69	0.97	1.57	410	411
Oats .	63	1.55	0.97	1.57	236	227
Cotton .	94	1.03	0.97	1.57	157	165

* Warren, G. F., and Pearson, F. A., 'Five Factors in Price', *Farm Economics*, no. 84, Feb. 1934, p. 2025.

PRICE DISPARITY WITH INFLATION, DEFLATION, AND REFLATION

When prices suddenly rise, regardless of the cause, prices of basic commodities outrun prices of manufactured goods. Wholesale prices outrun retail prices. For example, in 1917 prices of 30 basic commodities in the United States had risen to an index of 201, but all commodities had risen only 172. Prices paid to farmers for food products had risen to 181. The same food at retail was 156, and the cost of living was 131.

Adjustment upwards takes place much more quickly than adjustment downwards. By 1920 prices paid to farmers for food products were 207. Retail prices had caught up with farm prices and were also 207. The cost of living was 212.

Whenever prices fall, regardless of the cause, basic commodities fall more rapidly than manufactured goods and wholesale prices fall more rapidly than retail prices, but in this case the lag in adjustment is very great. It was possible to raise wages and other costs of distribution fast enough so that by 1920 farm prices were in adjustment with retail prices. When prices are cut in half, it is not possible to lower wages and other costs of distribution so as to bring farm prices and retail prices into adjustment quickly. It would probably require a generation to do so. In the nine years of experience following 1920 the United States had not succeeded in reducing the costs of distribution very much.

There are only two ways to bring the price level into balance. One is a prolonged period of distress, probably at least a generation long. The other is by reflation.

A clear distinction should be made between inflation and reflation. Inflation throws a balanced price structure out of adjustment. Reflation brings an unbalanced price structure into adjustment. Many persons have mistakenly assumed that there were two problems—one to raise the price level and the other to bring farm prices and prices of other commodities into line with wages, prices of manufactured goods, retail prices, and the cost of living. There is only one problem. A certain amount of reflation will restore equilibrium and a further rise in prices would cause the inflationary type of disequilibrium, with farmers' prices too high.

When a half-deflated price structure is raised by raising the price of gold it prevents those things that had not fallen from the necessity of decline and raises the prices of those things that had fallen. When gold has doubled in value and partial deflation has occurred, a doubling of the price of gold does not mean that everything will double in price. Those things that have not declined are relieved of the necessity of declining. Those things that have declined 50 per cent. would be expected to rise 100 per cent. Of course, if in the meantime the value of gold either rose or fell it would neutralize or add to the effect of the change in its price.

The experience of the United States in raising the price of gold indicates these well-established laws. For example, prices paid to farmers for food products in June 1934 had risen 61 per cent., but this same food at retail had risen only 25 per cent. A much greater rise in the farm price would be necessary in order to restore equilibrium. The *Journal of Commerce* index of basic commodities had risen 72 per cent., but the Bureau of Labour index, which includes 784 commodities, largely manufactured goods, had risen only 25 per

cent. Many manufactured goods had not declined much and, of course, would not be expected to rise (Tables 7 and 8).

TABLE 7. *Per Cent. Advance in Prices from February 1933 up to Month indicated*

	Gold per cent. above par United States	Wholesale prices of basic commodities Journal of Commerce	United States Bureau of Labour index of 784 commodities	United States prices paid to farmers for food*	United States retail prices of same food as preceding column	United States cost of living†	Wholesale prices in countries on the gold standard		
							Italy	France	Nether- lands
Mar. 1933	0.2	8	1	4	2		-2	-3	-3
April .	5	12	1	14	1		-3	-4	-4
May .	18	24	6	37	6		-3	-5	-3
June .	23	32	9	41	8	-3	-2	0	-1
July .	40	54	16	65	14		-3	-1	-1
Aug. .	37	52	17	57	16		-3	-2	-1
Sept. .	48	64	18	49	16		-4	-2	1
Oct. .	49	61	20	45	16		-4	-2	1
Nov. .	60	58	20	47	14		-5	0	3
Dec. .	56	53	18	33	11	2	-4	1	4
Jan. 1934	59	58	21	35	14		-4	0	7
Feb. .	67	67	24	47	22		-4	-1	8
Mar. .	68	65	24	51	25		-4	-2	7
April .	69	62	23	49	25		-5	-4	7
May .	68	64	24	53	26			-6	4
June .	68	72	25	61	25	3			
July .	68	75							

* Prices are for the fifteenth of the month.

† Per cent. advance since December 1932.

TABLE 8. *Index Numbers of Prices from Various Sources*
(1910-14 = 100)

	Warren and Pearson index of 30 basic commodities	United States Bureau of Labour index of 784 commodities	United States prices paid to farmers for food	United States retail prices of same food as preceding column	United States cost of living	United States cost of distributing food
1917 . .	201	172	181	156	131	129
1920 . .	231	226	207	207	212	202
1926 . .	146	146	154	174	176	192
Feb. 1933 .	66	87	51	97	(132 Dec. 1932)	143
June 1934 .	100	109	82	121	136	157

The cost of living had not declined much and consequently did not rise much. It was relieved of the necessity of falling, and was high without rising.

A comparison of nearly any basic commodity with the manufactured goods made from it will show this principle. For example,

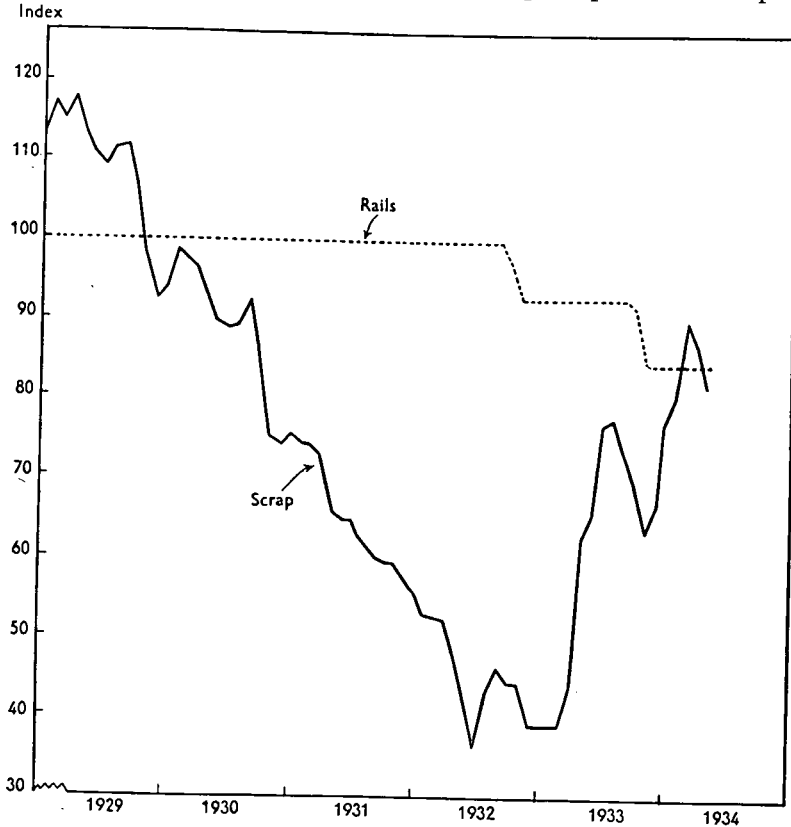


FIGURE 7. WHOLESAL E PRICES OF SCRAP STEEL (CHICAGO) AND STEEL RAILS (MILL) (UNITED STATES BUREAU OF LABOUR) (1926 = 100)

In February 1933, scrap steel was selling for approximately one-third the September 1929 price. This is a 65 per cent. decline in the price of scrap steel. During the same period, steel rails declined 7 per cent. With the advancing premium for gold, scrap steel rose 109 per cent. in May, or more than the advance in the price of gold, which was 69 per cent. Steel rails fell somewhat.

in the whole period of the terrific depression steel rails declined only 7 per cent. Scrap steel declined 65 per cent. In May 1934 scrap steel had risen 109 per cent. and steel rails had declined. The disparity between these two was eliminated (Fig. 7).

Prices of hides compared to boots and shoes show that only a portion of the disparity has thus far been eliminated. This latter relationship is the general situation in the United States at the present time.

THE PRICE OUTLOOK

At the present time the price of gold must be more than doubled in order to restore the pre-depression price level in any country. Those countries that have doubled the price of gold have progressed much farther towards recovery than those countries which have raised it by a lesser amount. From present appearances it will be extremely difficult, if not impossible, for any country to maintain its pre-depression currency. It is further practically certain that any country which maintains its currency as any fixed weight of gold will have extremely violent price fluctuations for some years to come and will, of course, always be subject to the long periods of rise or fall in prices which have occurred at all times when a single commodity is used as a measure of value. Any commodity like gold, the discovery of which is largely fortuitous, will always have long periods of rising or falling value as mines run out and new ones are discovered, and will, of course, be subject to extremely violent changes in value when monetary demand suddenly changes.

With the progress of civilization, the problem of stability of the purchasing power of money becomes of increasing importance. It is far more important to-day than it was twenty years ago. With the growing proportion of inflexible prices, an increasing burden is thrown on the flexible prices when gold rises in value. An amount of instability that could be tolerated in a primitive society in which people were largely self-sufficient and in which the unemployed could move to new lands or new countries, becomes a menace to the very existence of a modern type of civilization. To leave such a delicate mechanism as our modern society subject to accidental discoveries of gold, or to the accidents in the variations in the demand for gold, is to leave it subject to a menace that is not a necessary accompaniment of a form of civilization based on individual enterprise. The greatest menace to the maintenance of individual enterprise is an unstable medium of exchange. If a more reliable medium of exchange is not provided, men are likely to attempt some other method of distribution.

The democratic form of government and a civilization based on private enterprise have been severely tested by the monetary chaos since the War, and in some countries have broken down. For the

continuance of our present social order we need a thoroughgoing revision of the rules of the game and a better observance of the rules to provide for greater security and justice and to keep the door of opportunity open for young men and young women; but, if this form of government and social organization is to have a fair chance to show its merits, we must avoid any repetition of such deflation as we have suffered during the past few years. Some provision for better monetary control seems essential.

I believe that there is enough knowledge about prices so that an improved measure of value is possible, but, even if the gold standard is to be re-established, a definite commitment to any final price for gold before its value has reached some approximation to stability is dangerous.