INDIAN PRICES DURING THE DEPRESSION

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The outstanding feature of the present depression is the heavy fall in prices. Two questions immediately suggest themselves. Did the slump in the Indian price-level begin simultaneously with that in the world price-level? Did the two price systems follow the same course?

In India, two official index numbers of wholesale prices are available, one for Calcutta and the other for Bombay. For the world price system, it is difficult to find a suitable index. A combination of the separate indices of different countries into a composite index is not satisfactory due to the bewildering diversity in the method of construction of these indices. Such a combination is open to objection on theoretical grounds also. Again, some countries have abandoned or been forced off the gold standard; many others, although nominally on gold, have set up elaborate schemes of exchange control. The price structures of all of these have been affected in consequence. Lastly, the social and economic conditions are so much different in different countries that even if it were possible to construct such a composite index, it would be very difficult to interpret it.

An obvious way is to choose a country like Canada for the purpose of comparison, as the economic conditions are more or less similar to those in India. But that will obscure the special difficulties of agricultural and debtor countries in the midst of the present depression. On the other hand, if a country like the United Kingdom is taken as the standard, the comparison is equally unfair for an opposite reason. The U. S. A. probably furnishes a proper basis,—a sort of mean between the two extremes. Taking these and similar facts into consideration, it has been thought advisable to study the Indian price system with reference to all these three countries.

This also involves many difficulties. For instance, to take up the index numbers of wholesale prices first, the base periods for Calcutta and Bombay indices are the end of July, 1914*, those for Canada (Bureau of Statistics) and U. S. A. (Bureau of Labour Statistics) are 1926 and that for the United Kingdom (Board of Trade) is 1913. Partly because of this and partly because they have been constructed on different methods, the five indices show a divergence throughout. Thus, for January, 1929, the figures are 145, 148, 97, 95 and 138 for Calcutta, Bombay, the U. S. A., Canada and the United Kingdom respectively. To make them comparable as far as possible, all the figures have been expressed as percentages of the corresponding figures for January, 1929. The results are given in Table 1, and shown in Fig. 1.** During the present depression, the

*Recently the Bombay Labour Office has started a new index number on the basis of average prices for 1931. But it is to be published quarterly.

**Rates of rise and fall are best shown on logarithmic paper. But for showing ratios between different index numbers, the ordinary graph paper seems to be more suitable. At least, it is easier of comprehension. As regards the graphs themselves, the device of reducing all quantities to the January, 1929 basis has in a large measure made the different series statistically homogeneous by bringing the fluctuations to the same order. Theoretically, the respective standard deviations ought to be taken for measuring average fluctuations. In any case, the ranges have been quoted at the top of all series to show roughly the relative amplitudes as they are not all equal.

downward trend has been much more important than normal seasonal changes. To avoid needless complication, any correction for this has not been introduced. The wholesale price index for Calcutta was the same in January, 1929, as it was on an average throughout the year 1928. The individual prices were also in substantial adjustment with the average annual prices during 1928. Thus January, 1929, provides a fairly good and otherwise convenient starting point.

TABLE 1. INDEX NUMBER OF WHOLESALE PRICES.

	Calcutta	Bombay	U. S. A.	Canada	U. K.		Calcutta	Bombay	U. S. A.	Canada	U. K.
Base	145[1]	148[2]	97[3]	93[4]	138[5]	Base	145[1]	148[2]	97[3]	93[4]	138[5]
Range	41	29	85	14	20	Range	41	29	85	14	20
1929						1931					
Jan.	100	100	100	100	100	Jan.	68	75	79	81	77
Feb.	99	101	100	101	100	Feb.	68	76	78	80	77
March	99	99	101	101	101	March	69	75	77	79	77
April	97	97	100	99	101	April	68	74	75	78	77
May	96	95	99	97	99	May	67	72	73	77	75
June	95	97	99	98	99	June	64	72	72	76	75
July	98	98	101	101	99	July	64	73	72	76	74
Aug.	99	99	101	103	99	Aug.	63	72	72	73	72
Sept.	99	99	101	103	99	Sept.	(47) 63	(53) 72	71	74	72
Oct.	97	99	99	102	99	Oct.	(52) 67	(57) 72	70	74	73
Nov.	94	97	97	101	97	Nov.	(48) 67	(52) 72	70	74	77
Dec.	92	95	97	101	96	Dec.	(48) 68	(53) 75	68	74	77
1930						1932					
Jan.	90	94	96	101	95	Jan.	(48) 67	(55) 77	69	73	77
Feb.	87	93	95	99	93	Feb.	(48) 67	(55) 76	68	73	76
March	86	93	94	97	91	March	(51) 65	(60) 76	68	73	76
April	85	91	94	97	90	April	(50) 63	(55) 74	67	72	74
May	83	88	92	95	88	May	(49) 61	(57) 75	66	72	73
June	80	86	90	93	88	June	(46) 59	(54) 75	66	70	71
July	79	84	87	91	86	July	(46) 60	(53) 74	66	70	71
Aug.	79	84	87	89	86	Aug.	(45) 63	(52) 74	67	70	72
Sept.	77	81	87	87	84	Sept.	(45) 63	(52) 72	67	71	74
Oct.	74	79	86	86	82	Oct.	(43) 63	(40) 72	66	69	73
Nov.	71	76	83	84	81	Nov.	(41) 62	...	65	68	73
Dec.	69	74	80	82	79	Dec.	61	...	...	...	73

(a) Prices have been expressed as percentages of the value for January, 1929. That is, figures for January, 1929, in the original data have been taken as 100 in constructing the index-numbers.

(b) Base of original series:—[1]Calcutta Index, July, 1914 (145); [2]Bombay Index, July, 1914 (148); [3]United States, Bureau of Labour Statistics Base, 1926 (97); [4]Canada, Bureau of Statistics Base, 1926 (93); [5]United Kingdom, Board of Trade Base, 1913 (138).

(c) Since the suspension of the gold standard (in September, 1931) gold prices for Calcutta and Bombay have been shown in brackets side by side with paper prices.

Course of Wholesale Prices in Different Countries.

It will be seen that all the five indices show a substantial similarity with only minor differences. This is clear when we consider the gaps between the thick line for the January, 1929, level of prices, representing 100 and the graph showing the actual course of prices in the five centres; for these gaps roughly measure the intensity of the depression in the respective cases. Their similarity only shows that the depression is largely brought about by common factors operating throughout the world.

On a closer analysis of the Table 1 as well as of the relative charts, however, it will be seen that the fall has been the heaviest in the case of Calcutta, by as much as 40 per cent. below the level for January, 1929. The orders of the fluctuations of the remaining four series are not very much different, about 30 per cent., except in the case of the U. S. A., which has remained on gold throughout, with the result that prices have fallen more heavily than under a sterling standard.

Another important fact brought out is that there was no appreciable time lag in the setting in of the depression in the different centres, except in the case of Canada where it began since January, 1930, and not since October, 1929. Another point to be noticed is that the course of prices in India became uncertain as early as the beginning of 1929, having since then been marked by falls and recoveries, although their amplitudes were small in every case. An obvious inference is that the depression began in India before other countries, certainly before Canada. The reason seems to be that as soon as prices show a sagging tendency, businessmen try to hold back stocks in order to avoid losses as far as possible, with the result that prices are steadied, or even raised a little. If, however, there is not simply a temporary trade cycle but a real depression involving a wide economic disorder, this expedient proves unavailing, and prices do come down. The price of packing materials like jute begins to decline even before that, that is to say, as soon as stocks are held back.* As the Calcutta index is heavily weighted with jute whereas in the Bombay index it does not figure at all, there is no wonder that the courses of prices in the two centres were somewhat different, the latter following pretty closely the U. K. level.

Gold Prices and Rupee Prices.

Since September, 1931, for Calcutta and Bombay indices, it has been found necessary to quote gold prices side by side with rupee prices, both in Table 1 and in Fig. 1.** for comparison with the course of prices in U. S. A. It will be seen that after November, 1931, gold and rupee values both for Calcutta and Bombay, have moved more or less parallel, except during the month of March, 1932. The discrepancy immediately following the suspension is obviously due to the great uncertainty prevailing at the time, but it was short-lived, because both Calcutta and Bombay indices are constituted with com-

*As a matter of fact, the price of raw jute declined as early as April, 1929. See Table 5, Column (4), p. 18.

**The quotations for prices included in the Calcutta and Bombay indices are for the ends of each month. The rise in the rupee-dollar exchange rate above parity at those times has been taken to be the measures of the depreciation of the rupee. This is, of course, based on the assumption that the exchange quickly reacted on prices, the validity of which has been examined later on.

modities, which are mostly internationally traded articles, and as such are highly sensitive to exchange fluctuations.

Since the rupee was linked to sterling after the suspension, it is interesting to compare the relative movement of gold and rupee prices with that of gold and sterling prices. For this purpose, reference may be made to the diagram given in the *Economist* for July 0, 1932, on page 60. There also gold and sterling prices show a parallel movement since March, 1932, evidently because the dollar-sterling ratio has since then practically remained in the neighbourhood of \$3.45—50 to the £. Their movements were however not parallel during the preceding period, whereas in India there was a substantial parity between rupee prices and gold prices. This difference is due to several factors. Firstly, the "primary products" used by the *Economist* for constructing the diagram are not the same as those entering into the wholesale price indices of India. Secondly, the gold prices that have been used by the *Economist* are prices actually ruling in the U. S. A. markets, while the gold prices index that we have used is obtained by correcting the rupee prices by the rise in the prevailing rupee-dollar rate. The exchange rate is a complex of many economic forces operating for various lengths of time and it cannot register the variations in the market prices of a few products, however, internationally important they might be. Moreover, the course of prices in India and the United Kingdom is not exactly similar, partly because the proportion of trade with gold standard and with sterling standard countries is not the same in each case.

But, it is clear from a study of the *Economist* and our own diagrams that given a reasonable amount of stability of the exchanges, the prices of internationally traded articles quickly adjust themselves, so that the movements in gold and local currency prices become substantially similar.

Disparity between Prices of Different Regions.

As stated above the gap for Calcutta is greater than any other gap. To bring out the mutual relations better, the ratios of the Calcutta index to the other four indices have been calculated in Table 2, and plotted in Fig. 2. If the prices in different countries had moved alike, then these ratios would have been nearly 100 in each case and the curves would not have deviated from the thick lines.

It is evident that the Calcutta price level has followed a course which is quite different from the prices at other centres, the deviation sometimes being by as much as 15 per cent. from the U. S. A., Canada and United Kingdom levels and 20 per cent. from the Bombay level. The rapprochement at the time of the suspension of the gold standard was short-lived, especially in the case of the U. S. A.

If comparison is made with the Bombay index instead of with the Calcutta index quite different results are obtained. The parallelism with the U. K. is very close, the maximum deviation being only 4 per cent. either way. The disparity from the Canada level is also not very wide. It is only in the case of the U. S. A. that the divergence is rather large.

The reason for this somewhat dissimilar movement of the Calcutta and Bombay indices is to be looked for in their different compositions. In fact, some of the items included in the Calcutta index but excluded from the Bombay index, *e.g.*, tea, raw jute and jute

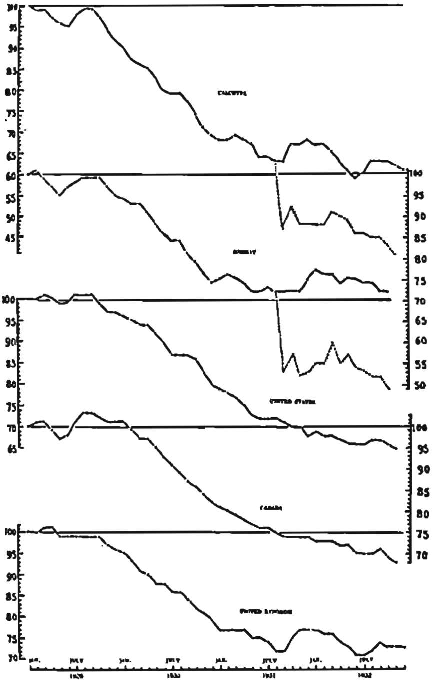

Fig. 1. Index Number of Wholesale Prices.

Prices have been expressed as percentages of the value for January, 1929. Base period: Calcutta and Bombay, July, 1914; U. S. A. and Canada, 1926; U. K., 1913. Dotted lines give gold prices for Calcutta and Bombay since the suspension of the gold standard in September, 1931. (Table 1).

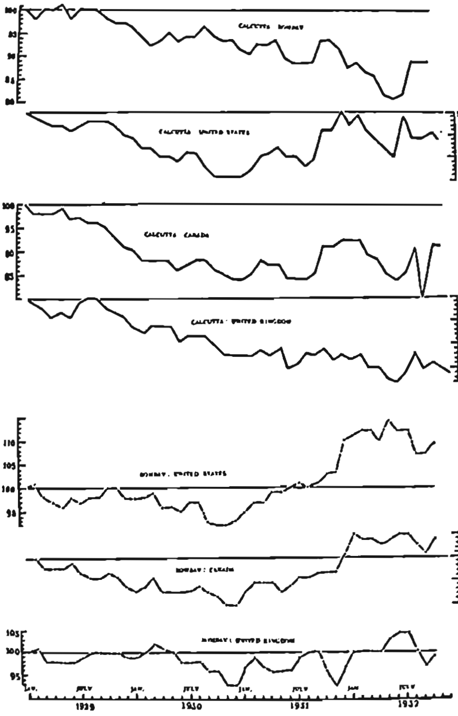

Fig. 2. Disparities in Wholesale Prices.

Actual figures are given in Table 2.

manufactures have fallen more heavily in price than the rest, and this has depressed the Calcutta level below that of Bombay. This shows the importance of analysing the price systems.

TABLE 2. DISPARITIES IN WHOLESALE PRICES

	As Compared with								As Compared with						
	Calcutta level				Bombay level				Calcutta level				Bombay level		
	Bombay level	U. S. A. level	Canada level	U. K. level	U. S. A. level	Canada level	U. K. level		Bombay level	U. S. A. level	Canada level	U. K. level	U. S. A. level	Canada level	U. K. level
Range	21	14	16	18	22	13	11	Range	21	14	16	18	22	13	11
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1929								1931							
Jan.	100	100	100	100	100	100	100	Jan.	91	86	84	88	95	93	97
Feb.	98	99	94	99	101	100	101	Feb.	90	87	85	88	97	95	99
Mar.	100	98	98	98	98	98	98	Mar.	92	90	88	89	97	95	97
April	100	97	98	96	97	98	98	April	92	91	87	88	99	95	96
May	101	97	99	97	96	98	98	May	93	92	87	89	99	93	96
June	98	96	97	96	98	99	98	June	89	90	84	85	100	94	96
July	100	97	97	99	97	97	99	July	88	90	84	86	101	96	99
Aug.	100	98	96	100	98	96	100	Aug.	88	88	84	88	100	96	100
Sept	100	98	96	100	98	96	100	Sept.	88	89	85	88	101	97	100
Oct.	98	98	93	98	100	97	100	Oct.	93	96	91	89	103	97	96
Nov.	97	97	93	97	100	96	100	Nov.	93	96	91	87	103	97	93
Dec.	97	95	91	96	98	94	99	Dec.	91	100	92	88	110	101	97
1930								1932							
Jan	96	94	90	94	98	93	99	Jan.	87	97	92	87	111	105	100
Feb.	94	92	88	93	98	94	100	Feb.	88	99	92	88	112	104	100
Mar.	92	92	88	94	99	96	102	Mar.	86	96	89	83	112	104	100
April	93	90	88	94	96	93	101	April	85	94	88	85	110	103	100
May	95	90	88	94	96	93	100	May	81	92	83	83	114	104	103
June	93	89	86	91	95	93	98	June	80	90	84	82	112	105	104
July	94	91	87	92	97	93	98	July	81	99	85	84	112	105	104
Aug.	94	91	88	92	97	94	98	Aug.	88	94	90	88	107	103	100
Sept.	96	88	88	92	93	93	96	Sept.	88	94	89	85	107	101	97
Oct.	94	86	86	90	92	92	96	Oct.	88	95	91	86	109	104	99
Nov.	93	86	85	88	92	90	93	Nov.	...	94	91	...	...	...	.
Dec.	93	86	84	88	93	90	93	Dec.	...	...	...	..	...	...	...

Col. (2) = $\frac{\text{Calcutta Index}}{\text{Bombay Index}} \times 100$ Col. (3) = $\frac{\text{Calcutta Index}}{\text{U. S. A. Index}} \times 100$ Col. (4) = $\frac{\text{Calcutta Index}}{\text{Canada Index}} \times 100$

Col. (5) = $\frac{\text{Calcutta Index}}{\text{U. K. Index}} \times 100$ Col. (6) = $\frac{\text{Bombay Index}}{\text{U. S. A. Index}} \times 100$ Col. (7) = $\frac{\text{Bombay Index}}{\text{Canada Index}} \times 100$

Col. (8) = $\frac{\text{Bombay Index}}{\text{U. K. Index}} \times 100$

PRICES OF EXPORTS AND IMPORTS.

One may begin with a study of the exports and imports separately. The constituent items of the Calcutta wholesale price index number have been divided into two categories of exports and imports. The index numbers of prices of the exports are available from September, 1929, to March, 1932. The same holds good for the corresponding index

TABLE 3. PRICES OF EXPORTS AND IMPORTS.

	Index Number of Prices				Index Number of Prices		
	Exports from India	Imports into India	Disparity		Exports from India	Imports into India	Disparity
(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Fig. for Jan. 1929	139	148	...	Fig. for Jan. 1929	139	148	...
Range	50	24	68	Range	50	24	68
1929				1931			
January	100	100	100	January	59	84	142
February	100	100	100	February	60	84	140
March	99	100	101	March	60	85	142
April	96	101	105	April	58	84	145
May	94	101	107	May	58	84	145
June	91	101	111	June	52	84	161
July	95	101	106	July	53	82	155
August	94	102	109	August	53	81	153
September	96	101	105	September	51	81	159
October	94	101	109	October	55	84	153
November	90	99	110	November	58	84	145
December	89	97	109	December	58	84	145
1930				1932			
January	86	95	110	January	57	84	147
February	81	95	117	February	56	85	152
March	80	95	119	March	53	83	157
April	79	95	120	April	50	82	164
May	78	94	121	May	48	80	167
June	73	92	126	June	47	79	168
July	71	91	128	July	48	78	162
August	69	92	133	August	53	79	149
September	67	91	136	September	53	79	149
October	65	89	137	October	52	79	152
November	63	86	136	November	52	79	152
December	61	84	138	December	50	78	156

Prices have been expressed as percentages of values for January, 1929. That is, figures for January, 1929 quoted above the Range have been taken as 100.

Col. (2) Index Number of Prices of Exports from India, Base: July, 1914.

Col. (3) Index Number of Prices of Imports into India, Base: July, 1914.

Col. (4) Disparity between Prices of Exports and Imports

$$= \frac{\text{Index Number of Prices of Imports [Col. (3)]}}{\text{Index Number of Prices of Exports [Col. (2)]}} \times 100$$

numbers for the imports*. To complete the two series the earlier and the later figures have been calculated, and they have been finally shown as percentages of the figures for January, 1929, *viz.*, 139 for exports and 148 for imports, in Columns (2) and (3) of Table 3. To bring out the comparison of the two indices better, the derivative index of the relative prices of imports and exports has been tabulated in Column (4). This index has been called the "Term of Trade" and is of great theoretical interest. It is also of considerable practical importance. For, if imports have to be bought dear and at the same time exports have to be sold cheap, trade is bound to be adversely affected. The imposition of high tariffs has widened this disparity. The only redeeming feature is that it is now not getting still wider (Fig. 3, p. 15).

PRICES OF RAW MATERIALS AND MANUFACTURES.

We may also classify the commodities as raw materials and manufactures. The theoretical justification for this lies in the fact that as a rule raw materials have fallen more heavily in value than manufactures. As is well known, during the war, agriculture was less disturbed than manufacturing industries. Since then there has been disparity between the two. Even now, agriculture is much worse organised and therefore far less able to adjust production to demand. The many restriction schemes, beginning with that for coffee which have come to grief, all point to the same conclusion. Generally speaking, the demand for agricultural goods is more inelastic than that for manufactures and there is always a gap between the price levels of the two. In the League of Nations Report on World Economic Depression, it is pointed out that the percentage falls in the wholesale price indices of raw materials in most European countries have been of the order 30, whereas the corresponding figure for manufactures has been of the order 20, on a comparison of the price level of June, 1931 with that of June, 1929§. Unfortunately no such indices are available for India.

The composite price of raw jute and raw cotton has been shown side by side with that of jute and cotton manufactures in Columns (2) and (3) of Table 4 and plotted in Fig. 4. The group indices constituting the Calcutta Wholesale Price Index as published

*The official division seems to be as follows:—

Exports:—Cereals; Pulses; Tea; Other food articles; Oil seeds; Mustard oil; Raw jute; Jute manufactures; Raw cotton; Other textiles; Hides and skins.

Imports:—Sugar; Cotton manufactures; Metals; Other raw and manufactured articles; Building materials.

There is a similar set of figures derived from the Indian Index Number (Base 1873), which shows a close parallelism with the series discussed here, except for a short period following the suspension of the gold standard. The corresponding figures for selected dates are reproduced below.

Percentage fall as compared with September, 1929			Exports		Imports	
			Calcutta series	Indian series	Calcutta series	Indian series
December,	1930	...	36%	36%	17%	16%
March,	1931	...	37%	39%	16%	14%
September,	1931	...	47%	46%	20%	17%
December,	1931	...	39%	43%	17%	10%
March,	1932	...	45%	43%	18%	8%
June,	1932	...	50%	47%	22%	16%

**A proper discussion is here out of place but we cannot refrain from referring to Keynes' *Treatise on Money*, Vol. I, p. 72 and the bibliography given there,—particularly to Taussig's article in the *Economic Journal*.

§The exceptional case of Sweden is discussed on p. 168 (revised edition).

TABLE 4. PRICES OF RAW MATERIALS AND MANUFACTURES.

	India (official figures)			Canada (Labour Gazette)			U. S. A. (Dept. of Agriculture)		
	Raw Jute and Cotton	Jute & Cotton Manufacture	Disparity	Raw Materials	Manufacture	Disparity	Raw Materials	Manufacture	Disparity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Figure for Jan. 1929...	125	154	...	94	93	...	133	153	...
Range	60	87	58	53	28	41	77	81	89
1929									
January ...	100	100	100	100	100	100	100	100	100
February	102	99	99	102	100	98	102	101	99
March ...	102	99	99	103	100	97	103	101	98
April ...	95	96	101	101	99	98	105	100	95
May ...	93	95	102	99	98	99	102	100	98
June ...	91	94	103	99	98	99	102	100	98
July ...	90	94	104	109	100	91	105	100	95
August ...	94	97	103	109	102	93	108	100	93
September	90	95	105	109	101	93	106	100	94
October ...	85	90	106	107	101	94	105	99	94
November	81	89	101	...	...	...	102	99	97
December	81	87	107	105	100	95	102	99	97
1930									
January ...	76	85	111	104	100	96	101	99	98
February	70	83	119	100	99	99	98	98	100
March ...	69	80	116	97	98	101	95	97	102
April ...	72	85	118	97	97	100	95	97	102
May ...	69	84	112	95	96	101	93	96	104
June ...	61	78	128	90	94	104	92	96	105
July ...	56	78	140	85	92	108	83	96	116
August ...	53	79	150	82	91	111	81	96	119
September	51	74	145	79	91	115	83	96	116
October ...	46	70	152	78	90	115	80	96	120
November	46	70	152	...	...	...	77	96	125
December	44	69	157	71	88	124	73	96	132

	India (official figures)			Canada (Labour Gazette)			U. S. A. (Dept. of Agriculture)		
	Raw Jute and Cotton	Jute & Cotton Manufacture	Disparity	Raw Materials	Manufactures	Disparity	Raw Materials	Manufacture	Disparity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Figure for 1929 ...	125	154	...	94	93	...	133	153	...
Range	60	87	58	53	28	41	77	81	89
1931									
January	46	70	152	71	85	120	71	89	125
February	51	73	143	70	85	121	68	88	130
March ...	51	71	141	68	84	124	68	87	128
April ...	50	70	140	68	82	121	68	85	125
May ...	49	69	140	67	81	121	65	85	132
June ...	49	66	135	65	80	123	60	83	139
July ...	46	65	141	64	80	125	59	82	139
August ...	45	65	144	64	78	122	56	81	145
September	48	65	135	63	77	122	54	79	147
October ...	55	67	122	64	77	120	51	79	154
November	53	69	133	63	78	120	53	77	145
December	59	70	119	64	78	122	50	77	154
1932									
January	58	70	120	63	77	122	47	76	161
February	58	74	127	63	76	121	45	75	167
March ...	52	71	136	62	77	124	45	74	164
April ..	50	69	138	61	77	126	44	73	167
May ...	46	66	143	59	76	129	42	72	172
June ...	42	63	150	57	75	131	39	71	182
July ..	45	64	142	57	75	131	42	70	167
August ...	58	70	121	59	76	129	44	70	159
September	54	66	122	57	76	133	44	70	159
October ...	49	65	133	56	74	132	...	...	...
November	49	64	130	...	...	...	...	...	...
December	46	63	137	...	...	...	...	...	...

Prices have been expressed as percentages of the values for January, 1929. That is, figures for January, 1929 quoted above the Range have been taken as 100.

Col. (2) Composite Price of Raw Jute and Raw Cotton. Col. (3) Composite Price of Jute and Cotton Manufactures.

Col. (4) Disparity between raw materials and manufactures

$$= \frac{\text{Composite Price of Jute and Cotton manufactures [Col. (3)]}}{\text{Composite Price of raw Jute and raw Cotton [Col. (2)]}} \times 100$$

Col. (5) Raw and partly manufactured goods. Col. (6) Fully (and chiefly) manufactured goods.

Col. (7) Disparity between raw materials and manufactures

$$= \frac{\text{Price Index of fully manufactured goods [Col. (6)]}}{\text{Price Index of raw and partly manufactured goods [Col. (5)]}} \times 100$$

Col. (8) Goods sold by the farmer. Col. (9) Goods bought by the farmer.

Col. (10) Disparity between raw materials and manufactures

$$= \frac{\text{Price Index of goods bought by the farmer [Col. (9)]}}{\text{Price Index of goods sold by the farmer [Col. (8)]}} \times 100$$

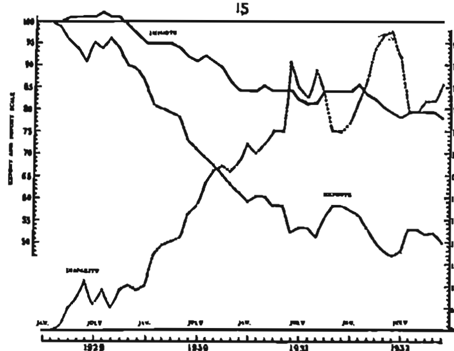

Fig. 3. Prices of Indian Exports and Imports.

Prices as percentages of values for January, 1929. Base, July 1914.
Disparity gives percentage ratio of Imports : Exports (Table 3).

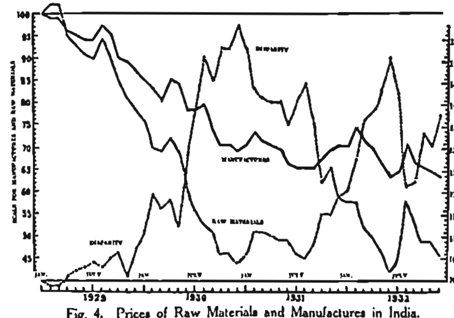

Fig. 4. Prices of Raw Materials and Manufactures in India.

Prices as percentages of values for January 1929. Disparity gives percentage ratio of Manufactures : Raw Materials (Table 4, cols. 2, 3, 4, p. 15).

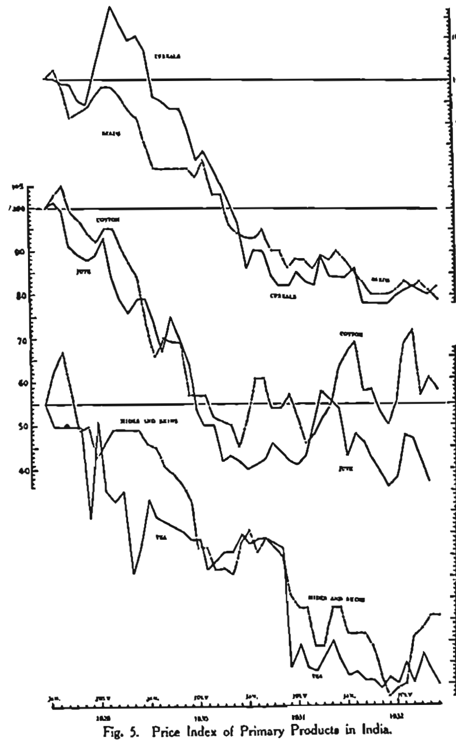

Fig. 5. Price Index of Primary Products in India.

Prices as percentages of values for January 1929 Table 6, Columns 2—7.

in the *Indian Trade Journal* have been taken with the respective weights given there‡, and all have been converted to the January 1929 basis as usual. The disparity index is given in Column (4) of Table 4, and plotted in Fig. 4.

It is interesting to compare this index with similar indices in other countries. For instance, in the *Canada Labour Gazette*, we have two separate series for raw and manufactured goods†, which together with their disparity co-efficient have been shown in Table 4. Similarly the United States Department of Agriculture publish two series of prices of goods bought and sold by the farmer. Although the first includes some raw materials like fertilisers, it is composed chiefly of manufactures. These figures and their disparity co-efficient have also been inserted in Table 4 for the sake of comparison. It will be seen that the disparity for India has followed the same general course as that for Canada, while that for U. S. A. is somewhat wider, specially after the tariffs of 1930. Another reason for these different courses is of course the different constitution of the indices.

Prices of Primary Products.

This leads us to the question of price-movements of individual commodities. It will be seen that all have not moved exactly alike but there is substantial agreement among them. This will be clear when we examine separately cereals, oil seeds, jute, cotton, tea, hides and skins, whose course of prices is given in Table 5, Columns (2) to (7). The separate group indices constituting the Calcutta wholesale price index have been converted to the base January, 1929 and their average given in Column (8). For comparison, Canada and the U. S. A. index numbers of prices of farm products have been similarly given (as percentages of the figures for January, 1929), in Columns (9) and (11). All these series are plotted in Fig. 5, which also show the relative disparity between the Indian and other indices. It should be remembered that from September, 1931 onwards, Indian values are paper values, whereas U. S. A. values are gold values. In other words, Indian prices have fallen more than what is shown in the Table. In fact, the small temporary rise following the suspension of the gold standard is more apparent than real as has been shown in Table 1. Taking rupee prices as they are, the greatest fluctuation is in the case of hides and skins, whose range is 80 and the lowest is in the case of cereals with a range of 53. The rest have about the same range, of the order 60, which is also the limit of the fluctuation of the average of all the primary products shown in Column (8).

The prices of cereals and oil seeds record similar changes and have been plotted together in Fig. 5. The gap noticed between June, 1929 and June, 1930 is due to special causes operating on oil seeds. The chief seed included in the group is linseed, for which the index has more than proportionately gone up. It may be recalled that during that season, the production in Argentine was about one-third less than the previous year's crop, and small productions were also reported from Canada and the U.S.A. Similarly the Indian out-turn was somewhat less. The result was that the price of linseed in Calcutta rose from Rs. 7/4/- per maund at the end of June, 1929 to Rs. 10/1/- towards the end of September. The price remained at a high level in spite of the depression for about three months, after which it began to fall, although not to the same extent as cereals. From July, 1930 onwards the parallelism is quite close. The movement is similar to the course of the index for all the primary products calculated in Column (8).

‡*Viz.*, Raw Jute 3; Raw Cotton 2; Jute Manufactures 4; Cotton Manufactures 7.

†The former includes also "partly manufactured goods," and the latter "chiefly manufactured goods," but the broad division remains the same as calculated for India.

Raw jute and raw cotton prices record similar movements as shown in Fig. 5. But the parallelism is not so close as in the case of cereals and seeds for obvious reasons. If we omit the two small gaps at the beginning and end of 1929, the disparity does not become appreciable until the end of 1930, when the price of cotton rallied due to many

TABLE 5. PRICES OF PRIMARY PRODUCTS.

	India							Canada		U. S. A.	
	Cereals	Seeds	Raw Jute	Raw Cotton	Hides & Skins	Tea	Index of raw materials	Index of raw materials	Disparity	Index of raw materials	Disparity
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Jan. 1929	131	140	107	153	116	165	137	94	...	133	...
Range	63	69	64	60	80	65	60	53	27	77	88
1929											
Jan.	100	100	100	100	100	100	100	100	100	100	100
Feb.	102	100	101	103	108	95	102	102	100	102	100
Mar.	98	99	99	105	112	95	101	103	98	105	96
Apr.	91	99	91	99	103	95	96	101	95	105	91
May	92	95	89	97	94	95	94	99	95	102	92
June	93	94	88	94	95	74	90	99	91	102	88
July	96	102	80	92	88	96	91	100	86	105	90
Aug.	98	110	93	95	91	80	93	109	85	108	86
Sept.	98	117	84	95	94	78	94	109	86	106	89
Oct.	96	113	79	91	94	80	92	107	86	105	88
Nov.	93	109	76	87	94	61	87	...	...	102	85
Dec.	91	110	79	84	94	68	88	105	84	102	86
1930											
Jan.	85	107	79	73	91	78	86	104	82	101	85
Feb.	79	96	74	66	90	74	80	100	80	98	82
Mar.	79	95	67	70	86	73	78	97	80	95	82
Apr.	79	93	63	69	84	72	79	97	81	95	83
May	79	93	70	69	82	71	78	95	82	93	84
June	79	89	64	57	78	60	73	90	81	92	80
July	77	81	54	57	67	60	68	85	80	83	82
Aug.	81	83	50	57	67	62	67	82	82	81	83
Sept.	73	79	50	52	62	64	64	79	81	83	79
Oct.	73	75	42	51	62	66	62	78	80	80	78
Nov.	66	66	43	50	61	66	59	...	...	77	78
Dec.	64	66	42	45	68	70	60	71	85	73	82
Jan. 1929	131	149	107	153	116	165	137	94	...	133	...
Range	63	60	64	60	80	65	60	53	27	77	88
1931											
Jan.	63	56	40	52	71	68	58	71	82	71	82
Feb.	63	60	41	61	66	69	60	70	86	68	88
Mar.	65	60	42	61	69	68	61	68	90	68	90
Apr.	60	54	46	54	67	68	58	68	85	68	85
May	60	52	44	54	65	67	57	67	85	65	88
June	56	52	42	57	56	50	50	65	77	60	83
July	58	55	41	52	53	44	50	64	78	59	85
Aug.	58	53	43	46	53	39	48	64	75	56	86
Sept.	56	52	48	48	44	38	46	63	73	54	85
Oct.	59	59	58	52	44	41	52	64	81	51	102
Nov.	58	54	56	54	53	45	53	65	81	53	100
Dec.	60	54	54	63	53	41	51	64	84	50	108
1932											
Jan.	58	54	40	67	47	37	52	63	82	47	111
Feb.	55	56	48	69	47	38	52	63	82	45	116
Mar.	53	48	46	58	47	36	48	62	77	45	107
Apr.	50	48	42	58	44	36	46	61	75	44	105
May	50	48	39	53	37	34	43	59	73	42	102
June	50	48	36	50	32	37	42	57	74	39	108
July	51	50	38	56	34	35	44	57	77	42	105
Aug.	53	51	48	69	35	40	45	59	76	44	102
Sept.	52	52	47	62	46	35	45	57	79	44	102
Oct.	53	51	42	57	48	42	40	56	83	...	...
Nov.	51	50	37	61	51	33	48	...	...	...	...
Dec.	49	52	36	58	51	35	47	...	...	...	...

Prices have been expressed as percentages of the values for January, 1929.

Col. (8) Composite Price Index of raw materials in India obtained by taking the arithmetic average of price index numbers given in columns (2)—(7).

Col. (9) Canada Price Index for raw and partly manufactured goods.

Col. (10) Disparity between India and Canada $= \dfrac{\text{Price Index of raw materials in India [Col. (8)]}}{\text{Price Index of raw materials in Canada [Col. (9)]}} \times 100$

Col. (11) Price Index of commodities bought by farmers in U. S. A.

Col. (12) Disparity between India and U. S. A. $= \dfrac{\text{Price Index of raw materials in India [Col. (8)]}}{\text{Price Index of raw materials in U.S.A. [Col. (11)]}} \times 100$

factors. It was partly in sympathy with higher American prices as a result of the termination of the lock-out in Lancashire and partly due to the withdrawal of the curtailment scheme in Japan. The other causes were the seasonal increase in American consumption, and a rise in the local demand as an effect of the improvement in the Indian Mill industry. On the other hand, the price of jute remained particularly steady except for a short spurt in April, 1931, which was due to reports about decreased sowings. This was soon nullified by a proportionately heavier reduction in demand. There was another rally, a somewhat moderate one, from July to October, 1931, due firstly to reports about injury to crops by floods, secondly to the greatly reduced production of 5.6 million bales as against 11.3 million bales during the previous season and lastly to the suspension of the gold standard. From the end of 1931 there is again a fairly wide margin, but the movements are substantially similar during the past few months.

The real reason for the earlier disparity must be looked for in the different statistical positions of the two commodities.* The cotton crop of the season 1931-32 amounted to only 4 million bales following two years of short crops. But the local demand by mills has been well maintained. Some rise again must be due to the imposition of duty against foreign cotton. The result of all this has been that the parity between the prices of Indian and American cotton on the Liverpool cotton market has definitely changed in favour of India, which has not been appreciably affected by the suspension of the gold standard. This will be clear from the table below showing the ratio between the sterling prices of Fine Broach and Middling American at Liverpool.

	Jan. 2 1931	Apr. 3 1931	July 3 1931	Sept. 25 1931	Oct. 2 1931	Jan. 8 1932	Jan. 29 1932	Apr. 1 1932
Parity (India on America) ...	76.0	79.0	83.2	83.0	89.6	97.9	101.5	94.2

The fall in the prices of hides and skins has been the heaviest, as pointed out before. The course of the price of tea, however, is altogether different from the price movements of the commodities considered above as also from the movement of the U.S.A. and Canada farm products. As a matter of fact, the Indian Trade Commissioner had to omit this commodity when he wanted to stress the similarity of the curves for the movement of different commodities, which according to him, affords striking support to the contention that all primary products are suffering from a single dominant cause—or from the aggregate of several causes all operating in one direction.† The special reasons for the catastrophic fall in the case of tea are heavy stocks, increased production outside India and long drawn-out talks about restriction schemes which undermine confidence.

Cost of Living and Wholesale Prices.

It is well known that during periods of economic disturbances, whether a boom or a depression, not only does the price-level go up and down, there is also a noticeable disparity between the cost of living and wholesale prices. The index numbers of cost of living for India, United Kingdom, Canada and the United States have been shown as percentages of the January, 1920, figures in Table 6, Columns (2), (5), (7) and (9). Their relative disparities from wholesale prices in Bombay, Calcutta and the other three centres have been calculated in Columns (3), (4), (6), (8) and (10) respectively. All these figures as also the wholesale prices have been plotted in Figs. 6 and 7 (p. 22). It will be seen that after the suspension of the gold standard in September, 1931, the disparity has ceased to be wider in

**Review of Trade for India for 1930-31 and for 1931-32.*

†Report on the Work of the Indian Trade Commissioner during 1931-32, p. 11.

the cases of the United Kingdom and Canada and to a limited extent in the case of Bombay and the United States but not in the case of Calcutta. Even in the first two centres, the

TABLE 6—COST OF LIVING AND WHOLESALE PRICES.

	India			United Kingdom		Canada		United States	
	Cost of Living Index No.	Disparity with Bombay price	Disparity with Calcutta price	Cost of Living Index No.	Disparity with Wholesale price	Cost of Living Index No.	Disparity with Wholesale price	Cost of Living Index No.	Disparity with Wholesale price
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Figure for Jan. 1929	149	...	...	165	...	100	...	100	...
Range	28	17	22	16	25	21	20	14	23
1929									
Jan.	100	100	100	100	100	100	100	100	100
Feb.	99	98	100	101	101	99	98	100	100
Mar.	100	101	101	98	97	100	99	99	99
April	99	102	102	98	97	99	100	99	99
May	99	103	103	97	98	99	102	99	100
June	99	103	104	98	99	99	101	99	100
July	99	101	101	99	100	99	98	100	99
Aug.	100	101	101	99	100	101	98	101	100
Sept.	100	101	101	100	101	101	98	101	100
Oct.	100	101	103	101	102	101	99	101	102
Nov.	100	104	106	101	104	102	101	101	104
Dec.	100	105	109	101	105	102	101	100	103
1930									
Jan.	99	105	110	99	104	102	101	99	103
Feb.	97	104	111	98	105	102	103	99	104
Mar.	95	102	110	95	104	102	105	98	103
April	94	104	111	94	104	100	103	98	105
May	93	106	112	93	106	100	105	97	106
June	94	109	118	94	107	100	108	97	108
July	93	111	118	95	110	100	110	96	110
Aug.	91	109	115	95	110	99	111	95	109
Sept.	91	112	118	95	113	97	111	95	109
Oct.	88	111	119	95	116	97	113	95	112
Nov.	85	112	120	94	116	97	115	94	118
Dec.	81	109	117	93	118	96	117	93	116
1931									
Jan.	79	104	116	92	119	95	117	91	115
Feb.	76	100	112	91	118	94	118	90	115
Mar.	75	100	109	89	116	93	118	89	115
Apr.	75	101	110	89	116	92	118	88	117
May	74	103	110	88	118	90	117	87	119
June	73	101	114	89	119	89	117	86	119
July	73	100	114	88	119	89	117	86	119
Aug.	73	101	116	88	122	89	119	86	119
Sept.	73	101	116	88	122	88	119	86	121
Oct.	73	101	109	88	118	86	119	85	121
Nov.	73	101	109	90	117	86	119	84	120
Dec.	73	99	107	89	116	86	116	83	122
1932									
Jan.	74	96	110	89	116	85	116	81	117
Feb.	74	97	110	88	116	85	116	80	117
Mar.	73	98	115	87	114	84	115	80	118
Apr.	73	99	116	87	118	84	117	79	118
May	72	95	118	86	118	82	114	...	...
June	72	97	122	87	122	81	116	78	117
July	73	99	120	85	120	81	116	77	117
Aug.	73	101	116	85	118	82	117	77	115
Sept.	73	101	116	87	118	81	114	77	115
Oct.	...	...	...	87	119	...	...	...	...
Nov.	...	...	...	⋮	...	...	...	...	...
Dec.	...	...	...	...	...	...	...	...	...

Figures have been expressed as percentages of the figures for January, 1929

$$\text{Col. (3)} = \frac{\text{Cost of Living Index India [Table 6, col. (2)]}}{\text{Wholesale Price Bombay [Table 1, col. (3)]}} \times 100$$

$$\text{Col. (4)} = \frac{\text{Cost of Living Index India [Table 6, col. (2)]}}{\text{Wholesale Price Calcutta [Table 1, col. (2)]}} \times 100$$

$$\text{Col. (6)} = \frac{\text{Cost of Living Index U. K. [Table 6, col. (5)]}}{\text{Wholesale Price United Kingdom [Table 1, col. (6)]}} \times 100$$

$$\text{Col. (8)} = \frac{\text{Cost of Living Index Canada [Table 6, col. (7)]}}{\text{Wholesale Price Canada [Table 1, col. (5)]}} \times 100$$

$$\text{Col. (10)} = \frac{\text{Cost of Living Index U. S. A. [Table 6, col. (9)]}}{\text{Wholesale Price United States [Table 1, col. (4)]}} \times 100$$

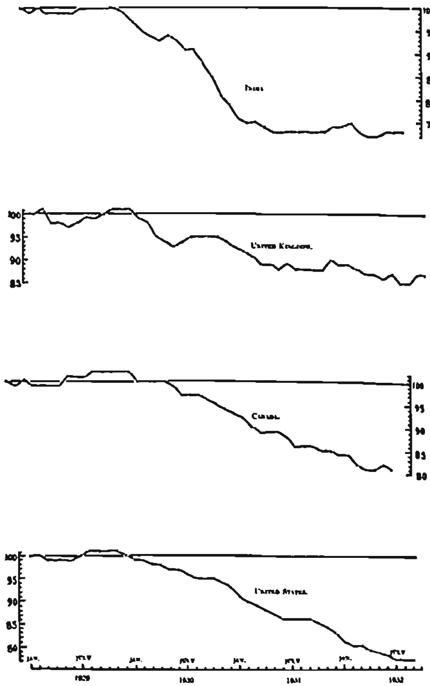

Fig. 6. Cost of Living Index.

Figures have been expressed as percentages of figures for January, 1929. Actual data for India given in Table 6, Col. (2); for United Kingdom in Table 6, Col. (5); Canada in Table 6, Col. (7); and United States, Table 6, Col. (9).

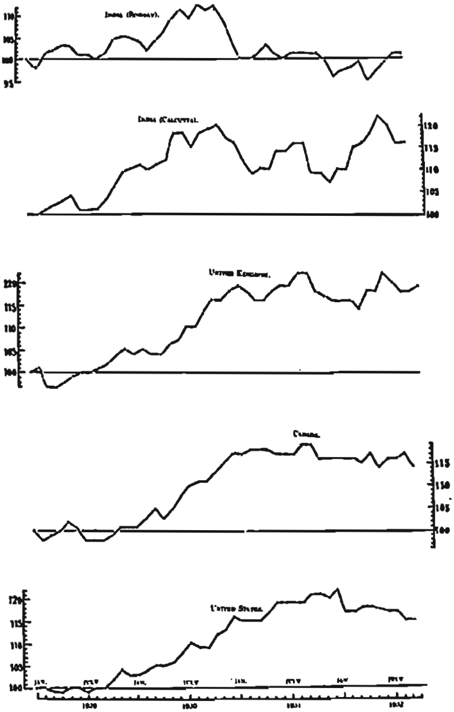

Fig. 7. Disparity between Cost of Living and Wholesale Prices.

Figures expressed as percentages of figure for January, 1929. Table 6, Columns 3, 4, 8, 9, and 10.

cost of living is proportionately higher than prices, as compared with their respective levels in January, 1929. This corroborates the previous conclusion that the depression although still bad is not getting worse. On reference to the figures for Bombay and Calcutta, it will appear that maladjustment had set in practically from the beginning of 1929, long before its commencement in the United Kingdom and the other two countries, where the year opened with the price level above the level of the cost of living and not below it. This also supports the conclusion already reached in the section on Prices of Raw Materials and Manufactures, in which it was shown that the disparity between the two started in India before they did so in Canada and the U. S. A.

CONCLUSION.

Although economic depression affects people mainly through commodity prices, the prices, by themselves, are inadequate for a complete study. Nor is it always safe to associate falling prices with depression and rising prices with recovery which may be purely short-lived as has been proved by experience so often during the present long drawnout depression. For example, the American boom preceding the Stock Exchange collapse, which brought on the crisis, occurred during a period of falling prices, although not on the present scale. American businessmen hoped that even though the prices were lowered, if they could reduce costs proportionately, their profit would not be affected. Nay more, even if the costs did not fall to the same extent, and if there was a smaller profit on each individual unit, there might still be a larger profit in the aggregate.

It is therefore necessary to study prices in relation to cost of production, along with its important element wages. Satisfactory figures for cost of production are not available for any of the countries, and those for wages relating to India are restricted in scope. As stated by Sir Henry Strakosch before the Ottawa Conference the cost of living may be taken as a rough measure of the cost of production for the United Kingdom. If we assume this for India as well, a large assumption, we find that there has been after the suspension of the gold standard a certain measure of adjustment with Bombay prices, but to a much lesser extent than in the case of United Kingdom prices. What is more regrettable is that the divergence with Calcutta prices is still quite wide. If we consider the other criteria, such as the disparities between the prices of exports and imports, between the prices of raw materials and manufactures, and between the prices *inter se*, we find even now abundant evidence of great economic mal-adjustment in India, although they began here earlier than elsewhere. The only redeeming feature is that the disparities are not, now getting wider and wider as before. The above analysis therefore indicates that we have now probably reached the bottom, but it does not tell us how much longer we may have to remain in the trough. That depends on various other factors, partly economic and partly political, which cannot be discussed here.

DISCUSSION.

The paper on *Indian Prices during the Depression* by Dr. Haris Chandra Sinha and Mr. Sailendranath Sen was read by Dr. H. C. Sinha before a public meeting of the Indian Statistical Institute held in the Presidency College, Calcutta at 5-30 p.m. on Friday the 3rd March, 1933. Dr. D. B. Meek, D.Sc., O.B.E., Director-General of Statistics and Commercial Intelligence and a Vice-President of the Institute was in the chair.

Dr. H. C. Sinha supplemented the facts dealt with in the paper itself by charts and figures showing the change in the dispersion in the prices of different commodities in India. He thought that the dispersion had increased as the depression had deepened, and was of opinion, that the magnitude of the dispersion was a kind of index of the intensity of economic maladjustments.

Dr. D. B. Meek opened the discussion by complimenting the authors on the great labour taken in preparing the paper, and the clear manner in which such a large mass of statistics had been presented. He agreed with the authors in thinking that it was practically impossible to reach a "world-level" for prices. A great deal depended upon local conditions, and valid comparisons were not possible between different countries, or between different parts of the same country like India. The authors had been wise in studying the price-levels separately.

As regards the question of disparity Dr. Meek was of opinion that prices were bound to get more and more apart, that is, the disparity was bound to increase with the passage of time. The relative demand for different commodities would change owing to changes in technology and the development of new industries. He pointed out that July, 1914, had been used as the base for both the Calcutta and the Bombay series of index numbers. He was of opinion that the disparity was increasing through the action of normal economic causes, and had very little connexion with the course of the depression. In order to study the depression itself it would have been more instructive to have adopted a nearer base for comparison.

Prof. P. C. Mahalanobis desired to discuss certain purely statistical aspects of the dispersion in prices. He was unable to agree that the dispersion must necessarily increase with the passage of time under all circumstances. In the absence of selective causes, prices should be dispersed about the mean in a random manner. He thought that a detailed study of the disparity in prices for different commodities would prove interesting Such a study would reveal, for example, whether the prices fluctuated independently or there were definite groups of associated movements. He was, however, not clear whether any intensification of the depression would necessarily increase the dispersion in prices.

Mr. J. V. Joshi referred to the great rise in prices during and after the War, and agreed with Dr. Meek in thinking that the increase in the dispersion pointed out by Dr. Sinha was largely brought about by the economic disturbances of the post-War period independently of the present depression. He thought that an increase in the dispersion was not likely to have any diagnostic value so far as the depression was concerned.

Dr. L. Nemenyi mentioned some of the world causes which had operated in bringing about the depression and thought that the absence of any appreciable lag in the fall of prices in India showed that the depression in India was only a part of the world depression. Dr. N. Sanyal was of opinion that the depression was more severe in India than in other countries, and thought that this was due to mistakes in the economic policy followed in India.

Dr. Jogis Chandra Sinha referred to the wide disparity in prices between raw materials and manufactured goods. This indicated undue rigidity in the present economic structure which was the root cause of the present depression. He emphasized the acute hardship caused to Indian agriculturists who had to sell their produce cheap but had to buy their requirements dear. In India the dispersion in prices was probably aggravated by the recent imposition of heavy tariffs.

Dr. Haris Chandra Sinha pointed out that all prices in the present paper had been expressed as percentages of prices ruling in January, 1929. This month was chosen as the Calcutta index number was then practically the same as the average index number for 1928. He thought that the effect of the time factor had been largely eliminated by this device. In any case he was referring not to the dispersion as such but the *increase* in the dispersion observed during the four years 1929-1932. He thought that this was connected with the course of the depression, but agreed that further detailed studies were required before this result could be established. He agreed with Dr. J. C. Sinha in thinking that tariffs had intensified the disparity, but the purpose of the present paper was to describe and analyse the facts as they were, and not to discuss causes and remedies. He was very grateful for the kind reception of the paper, and wanted to point out that the charts were prepared by a number of research workers in the Statistical Laboratory of the Presidency College to whom praise was due.

The meeting terminated with a vote of thanks to the chair.