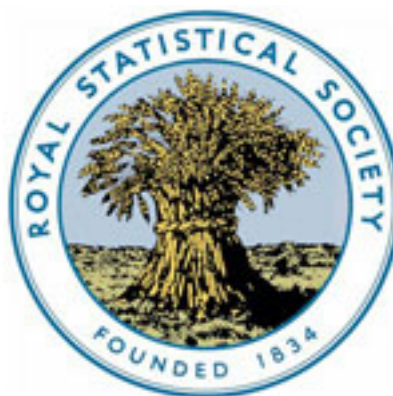


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Silver Prices in India

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SILVER PRICES *in* INDIA. By FRED. J. ATKINSON, F.S.S.

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I.—*Introductory.*

THE extraordinary fall in Gold prices led to the preparation by several economists of figures detailing the course that prices had taken annually for many years back. This course was indicated by so-called "Index Numbers," a method which is universally admitted to be the clearest and most satisfactory, and the figures which are now best known are those published by Mr. Augustus Sauerbeck. No attempt has however hitherto been made to deal with the course of Silver prices. The consequence is that various contradictory statements have been made on the subject at different times, and the general impression prevails, probably based on the declared values of exports from India, that Silver prices have been practically stable for the past twenty-five years, and the inference drawn is that Silver as a measure of value possesses qualities of stability which Gold is declared not to possess. It is with the object of coming to some definite conclusion on the point that the present figures have been worked out with considerable difficulty, and whether the conclusions arrived at hereafter are agreed to or not, the figures themselves will, it is hoped, prove useful to economists generally.

This paper deals only with Silver prices in India, it would

perhaps be more accurate to say "Rupee Prices in India," but the Rupee price represented the Silver price up to the year 1893, and it seems probable that up to that time India practically fixed Silver prices throughout the world. Since 1893, the year in which the mints were closed, the Rupee and Silver have diverged, and the prices given are Rupee prices.

## II.—*Method of Procedure.*

The only attempts apparently hitherto made to ascertain the general course of Silver prices in India have been by taking the declared values of exports of merchandise, giving them index numbers, and treating the result as a correct statement of facts. The result by this simple method indicates that Silver prices have been practically stable for the past twenty-five years, the variations up to 1891 not having exceeded about 9 per cent. But a little inquiry will show that this method is not to be relied on. In the first place, it is well known that exporters are never very careful to give correct figures, and there is always a tendency to give the declared value as approximate to the previous declaration as possible; secondly, it is doubtful if the figures of the customs department of values declared were in former years quite accurate; thirdly, certain of the exports, such as tea, opium, and indigo, are articles of considerable importance in the exports of the country, and are accordingly given due prominence in assigning index numbers to exports, whereas they are of little or nearly no importance in the inland trade of the country, which is the trade with which Silver prices are concerned; and lastly, the published figures of values necessarily lump together the values of every class of the same description of goods, and to ascertain the real prices of each variety of the same description of any particular export is impossible. Some more accurate method of arriving at actual results is therefore necessary, and no safer guide than the principles of the method of procedure adopted by Mr. Sauerbeck can be followed.

But whilst adopting Mr. Sauerbeck's principles, it is necessary to inquire whether his method in its entirety is altogether suitable to India. Mr. Sauerbeck in his index numbers of Gold prices bases his figures on 33 different classes of commodities, all of which are imported into England. Of these, wheat is represented by three different qualities and three index numbers; beef, mutton, pork, sugar, iron, coals, cotton, wool, hides, and oil by two each, and the remainder by one each, thus bringing up the total heads dealt with to 45. The majority of the prices are taken in London. Mr. Sauerbeck makes no attempt to deal with each article in actual proportion to its relative importance as

compared with other articles, beyond assigning more than one index number to the more important, but this, though in the right direction, gives only a rough approximation as regards relative importance.

The method adopted is, however, no doubt quite suitable to Gold prices, because London fixes the Gold price of all commodities, and the rise and fall in the price of any particular commodity of any importance ordinarily reacts, sooner or later, on other commodities, all other conditions remaining the same, and the necessity for differentiating between the various articles according to their relative importance is perhaps of little consequence. In fact, Mr. Sauerbeck's figures probably give as accurate a result of the articles dealt with, *i.e.*, articles of import, as could possibly be arrived at.

It is doubtful, however, if this method would be altogether suitable for India, as the conditions and circumstances of the country are so entirely different from those of England. India for economic purposes may be said to represent a cluster of different countries, each with its own products, its own differences in habits, its own climate, its own meteorological conditions, and its own prices, and this diversity was considerably more prevalent before railways began to thread their way throughout the vast empire.

The great bulk of the population is agricultural, and the Native of the country is a very curious creature in regard to his economic conditions. His earnings are small, but the cost of his living is less; the greater part of his income, received sometimes in coin but often in grain, is consumed in food, his clothing is of the scantiest description, and probably ordinarily does not reach the value of a Rupee a head per annum, and his luxuries are small, sometimes *nil*. The house in which he lives is possibly built by himself, and he pays rent, a very small one, only for his holding. If he manages to put by any money, he usually turns it into an ornament to be worn by some female member of his family, and the inducement to invest his savings in this manner formerly was, that he could always turn the ornament into money again should the necessity arise. This, although the mints are now closed, he can still do, though less profitably than before, since Silver bullion is still in demand, and has its market price. Occasionally he buries his savings as a safeguard against future bad times. He rarely, if ever, deposits money with a bank, and the buried money is ordinarily rather in the nature of a deposit than "hoarding" as the term is generally accepted.

India is entirely self-contained, and the vast bulk of the trade results from the productions of the country, on which

the imports represent only some 7 per cent. If we examine the exports too, we find that certain of them, a considerable portion, are produced mainly for the purpose of export, and but little used by the Natives of the country, and the total exports, including these heads, are only about 9 per cent. of the value of the production. It seems evident therefore that prices must necessarily be affected rather by the production in common use than either by imports or exports, though the latter might affect prices to a limited extent, a point which will be touched on hereafter.

As already stated, the production and prices vary so greatly in different parts of the country, that to take only one market, Calcutta or Bombay, and treat every article as of equal or nearly equal importance, would give a very inaccurate idea of the actual state of affairs. To avoid this, a statement (Appendix A) has been prepared, based on the Agricultural Returns and Financial and Commercial Statistics, published by the government of India, and the Administration Reports of the various Native States. The year 1893-94 has been taken, the last year for which complete tables have been published. The figures for India and Mysore are believed to be approximately accurate, but the figures for the Native States are, with the exception of a few products, estimated from such slight information on the subject as is obtainable from the Administration Reports. The figures may, however, be accepted as sufficiently accurate for the purpose for which the statement is prepared. The figures given in the third section are also only approximate, and, so far as the industries are concerned, are shown below their value, as figures are not published in all cases, and it is impossible to estimate the enormous hand industries which are carried on in almost every village in India. The statement includes all the food supply of India of any importance, with the exception of fruit and vegetables, for which it seems practically impossible to obtain any reliable figures.

Col. 2 of the statement gives the statistical result required, namely, the percentage each product bears to the whole; in other words, the relative importance of each. This gives a sufficiently accurate basis on which to build, and Col. 12 of the statement shows the percentage of the whole that has been taken for each commodity in preparing the range of prices.

It may incidentally be mentioned that 1893 was a peculiarly prosperous year. Not only was the area cultivated greater than in any previous year, but the average yield per acre was above the normal. This was practically common to all products, and the fact that the year was a prosperous one does not therefore vitiate the accuracy of the relative importance of each article.

It would perhaps be more accurate if a similar statement had been prepared for every year dealt with, and the proportion of each product fixed accordingly; but even if this were possible it would have involved an immense amount of perhaps unnecessary labour, and as a matter of fact the figures of acreage under cultivation and production are only available for a comparatively few years back. The proportion of each product given in the statement may however be accepted as fairly representing the proportion produced each year for many years, perhaps with the exception of wheat. The great increase in the export of wheat naturally led to its greater cultivation, but this took place only in recent years, and the modification in the production of this grain probably does not interfere materially with the accuracy of the general results.

Looking at Col. 11 of the Statement, it will be seen that the production of Rice is shown as  $34\frac{1}{2}$  per cent. of the whole, including Section III. It has therefore been thought necessary to take 30 per cent. as the percentage of the articles dealt with, and so with every other article a proportion has been taken tallying as near as possible with its actual importance. In Section III, however, it will be noted that the proportions taken are greater than those shown in Col. 11, but this is partly necessary in order to include the items, and, as already stated, the figures given are in many cases below the actual value.

Next, accepting the fact that India in its economic conditions represents a cluster of different countries, we have to consider in what particular markets the prices of the various articles should be taken. To ascertain this, Appendix B has been prepared. This statement gives the area of cultivation in 1893-94 of each product in each province of India; and the price of each product has, as far as possible, been taken in the province or provinces in which the area of cultivation is greatest. This of course cannot be done in all cases, more especially in the Native States, the figures for which are only obtainable in a few cases, and are not always reliable.

### III.—*Commodities Selected.*

Appendices A and B give the percentage of each article to the whole, and the importance of each province in the growth of each product; it is now intended to consider the articles selected, but only those will be touched on for which any special notice appears necessary.

One hundred articles in all have been taken, it being possible with this number to include all for which figures are obtainable, whilst at the same time not giving the minor articles undue importance. The prices taken have been obtained from various

sources, partly from the prices current which the Chambers of Commerce of Calcutta, Bombay, and Madras issue; partly from the publication, "Prices and Wages of India," issued by the government of India, and partly from private sources. A few only, when figures were not elsewhere obtainable, have been taken from the export accounts.

*Rice.*—This of course is the most important of all products, it is the staple food of an enormous population, and even when not the staple food, it is still eaten to some extent by the great majority. It is chiefly grown in Bengal, though a considerable quantity is also raised in the North-West Provinces, Burma, and Madras, the Burma production being to a large extent exported. As the grain is so largely grown throughout the country, and the markets for it are so enormous, it has been thought expedient to take averages of prices at as many places as possible within the principal regions of its production. With this object various markets have been grouped together in one division, whilst certain important centres such as Calcutta, Patna, and Jubbulpore have been shown separately. Bengal has been allotted six index numbers, representing eighteen markets; Madras two numbers, representing six markets; North-West Provinces two numbers, eleven markets; Burma two numbers, five markets; Central Provinces two numbers, two markets; and Hyderabad, Deccan, one number, one market, aggregating in all fifteen index numbers and forty-three markets. This, however, does not give the required proportion of 30 per cent., consequently the whole of the fifteen index numbers have been grouped together and added to the list, or, in other words, each of the index numbers given has practically been doubled, thus making thirty numbers, representing the prices at forty-three different markets. The figures given are those published in the volume of "Prices and Wages," and from prices kindly supplied by Messrs. Ralli Brothers.

*Wheat*, the second most important product of India, is represented by five numbers, three of common wheat, one of first quality, and one in the shape of flour. The prices of the common wheat have been taken at the three great centres of Cawnpore, Delhi, and Nagpur.

*Other grains.*—This head in the agricultural returns includes a large number of different classes of minor grains and pulses grown in different parts of the country, though the North-West Provinces are pre-eminent in their cultivation. It has only been found possible to obtain reliable figures for a few, and the figures for some of these are not complete. *Arhar* (*cajanus indicus*), the most important of these minor pulses, for which two index numbers have been given, and *Mung* (*phaseolus mungo*), give



complete figures. Those for *Masûr* (*erva lens*) and *Chenna* (*cicer arietinum*), supplied by the Commissariat Department, commence only from 1875, and are averages of the financial year. It has unfortunately not been found possible to obtain figures for any other of the many grains or pulses under this head, and consequently only 5 per cent. instead of  $9\frac{1}{2}$  per cent. has been taken.

*Sugar*.—The two refined sugars have been taken from the Calcutta prices current, assisted by figures kindly supplied by Messrs. Bissouath, Law, and Company, and the two raw sugars from the Madras prices current. Considerable difficulty was experienced in the former case, as indeed in most of the quotations taken from the prices current, by the changes in nomenclature during the series of years, which in some cases meant a change in actual quality, and to continue the same quality throughout the entire period involved a method of calculation of comparisons. The result, however, is probably approximately accurate.

*Ginger, Tea, and Coffee*, are taken from the export accounts, as reliable figures were not obtainable elsewhere.

*Cotton*, of which three descriptions have been taken, are all obtained from the Bombay prices current.

*Jute, Indigo, Linseed, Rape, Saltpetre, Raw Silk (Surdals), Raw Buffalo and Cow Hides, Raw Goat Skins, Gunny Bags, Silk Piece Goods, Shellac, Castor Oil, and Rungoon Teak* have been taken from the Calcutta prices current.

*Coal* from figures kindly supplied by the Bengal Coal Company.

*Opium* from the monthly figures published by the Government of India.

*Til, Cutch, Castor Seeds, Myrabolams and Manure* (animal bones), from the export accounts, as reliable figures were not obtainable elsewhere.

*Bamboos*, an item of some importance in India, on account of its enormous cultivation and the general use it is put to, and *Cocconut Oil*, are taken from the figures published in the Government of India publication "Prices and Wages." The prices on 1st January of each year beginning from 1871 only are given. Monthly prices for the series of years were not obtainable in either case.

*Cotton Yarn and T cloth 44 inches* are taken from "Prices and Wages," and represent the prices, as given to the Government of India by the Bombay Mill Owners' Association, on 1st January and July of each year. The secretary of the association was asked to give monthly figures for the purposes of this paper, but declined assistance. Certain cotton mills also were requested to assist, but all refused. The figures entered, though not giving the actual



average monthly prices, give the general tendency, and an approximately accurate result.

*Tanned Hides, and Goat and Sheep Skins* have been taken from the Madras Prices Current.

#### IV.—*The Index Numbers.*

The prices have been taken from the year 1861, the earliest, year from which reliable figures are obtainable, and in each case the price of the year 1871 has been taken to represent the number 100. This year was selected because in that year the index number of Mr. Sauerbeck's Gold prices was 100, and silver approximated to it (99·7), and it is thus possible to make a start, whether taken in relation to Gold, or in relation to Silver, of the three from almost the same point. Appendix C gives the result under each article in each year. Immediately under the heading of each article is given the average price in 1871, which in every case represents 100, and from this price all the other index numbers have been found. In the last line is given the average index number for the whole thirty-five years of each article.

This appendix is summarised in the following statement, which gives the index numbers for (1) Food, (2) Raw Produce and Materials, and (3) Manufactures or partly Manufactured. The fifth column gives the index numbers for all the articles dealt with. Rupee prices and Silver prices were practically the same up to the year 1893, when the Indian Mints were closed to the free coinage of silver; Col. 6 gives the index numbers of Rupee prices in their relation to Silver from that year, and Col. 7 the index numbers of Rupee prices in their relation to Gold; *i.e.*, allowing for the fluctuations in the relative values of gold and the rupee in each year dealt with. This column is a necessity, in order to bring Rupee prices into line with Gold prices for purposes of comparison.

Col. 8 gives similar figures for the Food section of the prices.

Col. 9 gives Mr. Sauerbeck's index numbers for Gold commodities, Col. 10 the Gold price of Silver, and Col. 11 the Gold price of the Rupee.

1	2	3	4	5	6	7	8	9	10	11
Year.	Index Number in relation to the Rupee, Food.	Index Number, Raw Produce, &c.	Index Number, Manufactories, &c.	Total Index Number in relation to Rupee.	Index Number in relation to Silver.	Index Number in relation to Gold.	Index Number of Food (Col. 2) in relation to Gold.	Gold Price Com- modities.	Gold Price Silver.	Gold Price Rupee.
1861....	105	87	93	99	99	98.9	104.9	98	99.9	—
'62....	100	99	96	99	99	99.9	100.9	101	100.9	—
'63....	102	111	99	104	104	105.1	103.1	103	101.1	—
'64....	114	113	100	112	112	113.0	115.0	105	100.9	—
'65....	128	100	93	117	117	117.4	128.4	101	100.3	—
'66....	153	102	94	133	133	113.7	153.8	102	100.5	—
'67....	145	96	91	126	126	125.6	143.6	100	99.7	—
'68....	126	98	90	114	114	113.5	125.5	99	99.6	—
'69....	142	104	89	126	126	125.5	141.4	98	99.6	—
1870....	122	104	100	115	115	114.5	121.5	96	99.6	—
'71....	100	100	100	100	100	99.7	99.7	100	99.7	—
'72....	106	104	99	105	105	104.1	105.1	109	99.2	—
'73....	112	100	94	107	107	104.2	109.1	111	97.4	—
'74....	125	104	99	116	116	111.1	119.8	102	95.8	—
'75....	108	97	94	103	103	96.0	100.8	96	93.3	—
'76....	115	99	83	107	107	92.8	99.7	95	86.7	—
'77....	166	103	85	138	138	124.5	149.7	94	90.2	—
'78....	181	103	87	148	148	127.9	156.4	87	86.4	—
'79....	160	105	89	135	135	113.7	134.7	83	84.2	—
1880....	126	109	97	117	117	100.5	108.2	88	85.9	—
'81....	109	104	96	106	106	90.1	92.6	85	85.0	—
'82....	109	101	91	105	105	89.1	92.5	84	84.9	—
'83....	112	101	91	106	106	88.1	93.1	82	83.1	—
'84....	125	101	86	114	114	95.0	104.1	76	83.3	—
'85....	125	99	80	113	113	90.3	99.9	72	79.9	—
'86....	120	100	85	110	110	82.1	89.5	69	74.6	—
'87....	120	102	90	111	111	81.4	88.0	68	73.3	—
'88....	130	107	94	119	119	83.8	91.5	70	70.4	—
'89....	136	112	102	125	125	87.8	95.5	72	70.2	—
1890....	138	109	96	125	125	98.0	108.2	72	78.4	—
'91....	144	107	94	128	127	94.2	106.0	72	74.3	73.6
'92....	161	116	97	141	141	92.1	105.1	68	65.5	65.3
'93....	153	118	106	138	151	88.6	98.2	68	58.5	64.2
'94....	141	119	109	131	158	75.3	81.1	63	47.7	57.5
'95....	132	126	111	128	149	72.8	75.1	62	49.0	56.9

Reference should now be made to Appendices G and H. Appendix G is a diagram tracing the course of Gold and Rupee prices from 1861 to 1895; the thick line A at 100 represents Gold in regard to the course of Gold prices (line B), and the Rupee in regard to the course of Rupee prices (line C). Line D represents the course of the prices of Food products in relation to the Rupee. In Appendix H the thick line A, = 100, represents Gold only, line B Gold prices, line C Silver (metal), line E the Rupee, and line D Rupee prices in their relation to Gold.

V.—*The Course of Prices.*

First dealing with Appendix G, we find that Gold prices remained fairly steady from 1861 to 1871, the fluctuations being 9 points only, but Silver prices were very unsteady, the fluctuations amounting to 34 points. This appears to indicate that during this period, before the demonetization of silver, gold was a more stable measure of value than silver.

From 1871 to 1873 Gold prices rose 11 points and Silver prices 7, then Gold prices commenced a steady fall, dropping 28 points by 1879, whilst during the same period Silver prices, less steady, rose 9 points, fell 13, rose again 45, and fell 13, the gross fluctuation between 1873 and 1879 having been 45 points.

Gold prices then rose 5 points in 1880, whilst Silver prices fell 18. From 1880 to 1887 Gold prices steadily fell 20 points, whilst Silver prices fell, then rose, then fell, then rose again, the highest and lowest fluctuations differing by 12 points.

From 1887 to 1891 Gold prices rose 4 points, whilst Silver prices rose 17.

From 1891 to 1895 Gold prices fell 10 points, and Silver prices rose 13, and fell 13.

Thus, summarising the whole, we find the fluctuations of each as follows :—

	Gold Prices.	Rupee Prices.
	points.	points.
1861-71..... ..	9	34
'71-73..... ..	11	7
'73-79..... ..	28	45
'79-80..... ..	5	18
'80-87..... ..	20	12
'87-91..... ..	4	17
'91-95..... ..	10	13
Total .....	87	146

By putting it in another way, between 1871 and 1895 Gold prices fluctuated 15 points upwards and 58 downwards, whilst Silver prices fluctuated 101 points upwards and 73 downwards.

Thus it will be seen that the fluctuations in Rupee prices were very much greater, both before and after the demonetization of silver, than the fluctuations in Gold prices, and line C in the diagram readily shows this, and also the violent fluctuations to which Rupee prices were subjected. This appears to dispel the idea prevalent in some quarters of the suitability of silver as a measure of value in preference to gold, an idea due to the

common impression regarding the imaginary stability of Silver or Rupee prices. Another factor of great importance apparent in the diagram is the unquestionable tendency to a rise in price, in other words the depreciation of silver in respect to Silver prices. This is equally the case even if we put aside the exceptional years 1877-78-79. This point will be referred to later on when discussing the question of the causes of the fluctuations.

Line D in this diagram representing the course of prices of Food Products shows that the most important commodities, so far as the vast bulk of the people of the country is concerned, fluctuated in price to a much greater extent than the general level of prices did.

Next considering Appendix H, in which Rupee prices are measured in gold, we find that the fluctuations in Rupee prices previous to 1871 were very heavy, whilst Gold prices remained practically steady. Between 1871 and 1876, Gold and Rupee prices moved together. In 1877, Gold prices continued their downward fall, but Silver prices sprang up 35 points.

In 1881 Rupee prices stood at 90, whilst Gold prices and Silver (and Rupee) both stood at 85. From this year to 1895 the tendency of Rupee prices was to follow the downward career of silver, and the rupee, though the movements were not identical, and Gold prices followed the same course.

If, however, we add together the index numbers from 1881 to 1892, the year previous to the closing of the Indian mints, we find the total for Gold prices to be 890, whilst the total for Rupee prices is 1072, thus Gold prices show 310 points from the par of gold, whilst Rupee prices show 128 points, indicating that the general fall in Rupee prices converted into their gold value at the exchange of the day was less than one half (41 per cent.) of the fall in Gold prices. But what perhaps is more important is the position of Silver prices in respect to the gold and silver lines, and the inferences to be drawn therefrom. From the year 1871 down to 1892 we find that the aggregate of index numbers of Silver prices measured in gold was 53·5 points short of par, and during the same period silver was 358·3 points short of par; the average index numbers for the twenty-two years therefore of the three were—

Gold .....	100·0
Silver prices.....	97·5
Silver .....	83·7

In other words, whilst Gold and Silver prices nearly averaged par for the period, gold having appreciated only  $2\frac{1}{2}$  per cent., silver depreciated some 14 per cent., and the inference to be

drawn is rather that, as regards gold and silver, the latter depreciated than that the former appreciated.

It may be urged that in the years 1877, 1878, and 1879 there were special reasons for the high Silver prices; if therefore we treat those years as normal years, *i.e.*, giving each the same index number as in 1876, the position would be—

Gold .....	100
Silver prices .....	94
Silver .....	84

making gold to have appreciated 6 per cent., and silver to have depreciated 10 per cent.

#### VI.—*Causes of the Fluctuations in Rupee Prices.*

These causes may be assigned to the following:—

- (a.) The rainfall.
- (b.) The extension of railways.
- (c.) Excess of demand over supply caused by increase in exports.
- (d.) Competition outside India.
- (e.) The condition of the currency.

##### (a.)—*The Rainfall.*

In England, if a severe drought or flooding takes place, prices need not very materially be affected, because England depends to so great an extent on outside supplies, and a drought to England does not necessarily mean the same elsewhere. If any of England's outside markets, such as the United States, has a short crop, prices rise, but, provided the deficiency in the out-turn is not general in all countries, only slightly, because other countries fill the place and supply the full demand. But in India it is a very different matter, because the country being self-contained depends on itself for its food supplies; and to make matters more difficult, the communications in the interior are not as perfect as they should be, and it has sometimes been found almost impossible, without great delay, inconvenience, and expense, to supply grain and food in places where it was really necessary, for want of these means of communication. Both railways and roads are of course improved every year, and deficiencies in rainfall can now be made up in many places by irrigation works, which also increase in extent annually. When the country receives only a short rainfall, especially if the deficiency is general throughout India, a rare occurrence, crops give only a short yield, the supply is not sufficient to meet the demand, prices rise, and this rise in the

tracts where the crops are poorest is often very great. To meet this the proper course would appear to be to import grain to meet the demand, but, strangely enough, such a thing has never been done until the present year, and unfortunately the out-turn in food grains of the whole world during 1896 appears to have been below the normal, a fact which places the present experiment at a disadvantage; nevertheless the attempt now made proves the existence, under ordinary circumstances, of a further safeguard in the future against famine and high prices.

A deficiency in the rainfall in India often causes prices to rise considerably higher than the circumstances of the case necessitate, because the possession and sale of the grain is in the hands of a certain class of men who derive a large profit by holding back their stocks and demanding high prices, and they obviously put this into practice if there is the smallest excuse for doing so with any chance of success. Thus the extent of the deficiency of the rainfall is not always a safe guide to the extent to which prices would be expected to rise, but the general principle may be accepted that a short rainfall, whether it actually lessens the out-turn or not, so long as it raises a panic in that direction, does affect prices.

In dealing with this question, however, it must be remembered that the Natives of India, so peculiar in many of their economic conditions, extend their peculiarity to the particular class of food which they will eat. Conservatives of an ultra type in every respect, a Native accustomed to eat wheat will not eat rice, and will almost starve first; so with a Native who eats ragi, he looks down on wheat or rice as something beneath his notice; so with other grains. This adds to the difficulty of dealing with famines, especially if the grain commonly consumed in any part affected by famine is one which is grown but little anywhere except locally.

Appendix D gives the actual rainfall in India from 1861 to 1895. India is divided into twenty-two meteorological divisions (excluding Upper Burma), each of which contains a number of stations, which have continued to increase gradually almost year by year. In 1861 the twenty-two divisions contained 97 stations, 290 in 1878, and 375 in 1890. The rainfall for each division is taken from the average of all the stations within the division, and as it has been found impossible to adhere to one set of stations throughout the period, the averages given are not strictly accurate as regards comparison of years; but as rain in India is ordinarily general throughout certain areas, the averages may be accepted as approximately correct. The figures (in inches) were kindly supplied by the head of the Meteorological Department in Bengal.

In drawing out the figures for all India, the divisions have been grouped together into ten groups, giving each approximately its share of importance in the rainfall over the cultivated area of the country. In order to do this it has been necessary to omit altogether the two divisions of Gujrat, Sindh, and Cutch, but the area covered by these is of no importance when considering the cultivated area of the country. It has also been necessary to omit the one division including Orissa and the Northern Circars, as the rainfall is very different from the rest of Bengal; the area is small, and to include the figures in the rest of Bengal would give the small cultivated area undue importance, and an incorrect result in the statistics of that province.

Col. 2 of this appendix gives the cultivated area of each group for which the average is given. From these figures two index numbers are taken for Bengal and Assam, two for the Native States, and one for each of the other provinces. It will be noted that Lower Burma has been given undue importance in proportion to its cultivated area, but this it will be observed was unavoidable. The rainfall in inches has been added together for each group for the thirty-five years, and an average struck. This average is shown in Col. 3, and is taken to represent 100. The index numbers of all the groups have then been added together, and the average of the ten groups struck gives the average for all India. In working out these figures the Carnatic and Malabar Coasts of Madras have been grouped as one, but as the rainfall of the two and the cultivation is different, figures have also been separately given below the general average for the more important Carnatic Coast and Mysore district. The figures for Sindh and Gujrat grouped into one are also separately given, as well as figures for the omitted Orissa division.

From the figures for all India it appears that a marked deficiency (*i.e.*, upwards of 10 per cent.) of rain occurred only in the years 1864, 1868, 1873, and 1876, the years 1870, 1882, and 1884 were normal, and 1892, 1893, and 1894 had abundance of rain, *i.e.*, upwards of 10 per cent. in excess of normal. The year 1869, though recording 3 per cent. below the normal, shows the most even distribution of rain of any year. The table brings to light how very even the rainfall in India, taking it as a whole and year by year, has been. The greatest deficiency, 1868, is only 19 per cent. below normal, and if India had then been blessed with a sufficient length of railways and other communications, it is possible that the distress caused by the deficiency of rain in those years would not have been so great as it was. But taking circumstances as they stood, we find serious deficiencies in certain years, which must have caused distress locally and raised prices,



whilst abundance of rain fell in other places in the same year, and it is needless to observe that abundance of rain in one locality does not necessarily make up for the deficiency in others, especially in a hand-to-mouth country like India.

Appendix K gives a diagram showing the course of the rainfall (line C), and of Rupee prices (line B) for each year from 1861. In considering this diagram it must be remembered that the rainfall of a year does not affect the prices of that year only. Rains commence in India from the middle to the end of June, and terminate from the middle to the end of September. It is not finally realised whether the rains are likely to be sufficient or otherwise until some time in August, or later, and possibly the first difference in prices will not appear till September. Thus the year of deficient or abundant rainfall in any year has effect on prices for four or five months only of that year, and for six or seven months of the following year.

In examining the diagram we find short rain in 1864, and prices in 1864 and 1865 rose.

In 1865 the rainfall was nearly normal, and only 8 per cent. deficient in 1866, but prices in both years rose very high. Glancing at Appendix D, however, we find short rain in Orissa and Madras and Mysore in 1865, resulting in actual widespread famine in the first-named, and deficiency in 1866 in the North-West Provinces, Madras, Central Provinces, and Hyderabad. Next, referring to Appendix C, we find that the principal rises in prices were in the products shown against these provinces in the years named. The smaller rise in price elsewhere was due to the greater demand for supplies for the short areas.

1867 shows a full rainfall, and prices in that and the following year fell. 1868 had the smallest rainfall in the thirty-five years, the deficiency being greatest in the Punjab, North-West Provinces, Central Provinces, and Central India, where prices in that and the following year rose to famine rates. The rise in price in these provinces in 1868 was more than counterbalanced by the fall in other provinces, and the year showed a net fall, but rose 12 points in 1869, in which year and the following three years to 1872 the rainfall was normal, and prices rapidly fell, reaching the normal point in 1871. In 1873 there was again a short rainfall, and prices rose considerably in that and the following year. The deficiency was particularly great in Behar and east of the North-West Provinces and in Eastern Bengal, but prices did not rise as high as they would otherwise have done, as the government imported grain from Burma to supply the deficiency in Upper Bengal.

The years 1874 and 1875 experienced rainfalls above the normal, and prices fell heavily in 1875, but a serious deficiency of

rain in 1876 caused them to rise again, and this tendency was further aggravated by another serious short rainfall in 1877, with the result that prices rose 45 per cent. between 1875 and 1878. The short rainfall during 1876 and 1877 was chiefly in the North-West Provinces, Madras, Central Provinces, Bombay, Central India (1877), and Hyderabad (1876). The North-West Provinces suffered in both 1876 (79), and 1877 (56), and the effect on the many food grains cultivated there was disastrous, though the greatest sufferers were the Carnatic Coast of Madras and Mysore, which areas had previously had a short rainfall in 1875 (80) and a very little in excess of half the normal in 1876 and 1877 (55+51). The result was that a serious famine resulted, and prices rose from 300 to 700 per cent. in excess of normal.

The year 1878 experienced a bumper rainfall, which was general everywhere except in the North-West Provinces. The fall in 1879 was normal, and in 1880 10 points short, but prices continued to fall. The years 1881 to 1885 received normal rain, all provinces receiving their due share, except in 1883, when the Punjab and the North-West Provinces were deficient, and prices rose slightly in 1884, falling again in the following year.

The years 1886 to 1890 experienced normal or excess rainfalls, all provinces receiving their share, but prices rose 15 points during the five years.

The year 1891 showed a rainfall short by 9 points; Madras (Carnatic), Mysore, and Hyderabad being the chief sufferers, and prices rose 16 points in that and the following year.

The years 1892, 1893, and 1894 received bumper rains, and prices fell again 13 points.

The rainfall in 1895 was 8 points below normal, Burma and Central India being the chief sufferers; but this apparently did not affect prices.

From this retrospect of the rainfall and prices it seems very clear that the former has been a considerable power in affecting the latter, and it may at once be accepted that the sudden high rise of prices in particular years has been due entirely to the meteorological conditions of the country. In this light the high levels of prices reached in 1866, 1869, 1877, 1878, and partially in 1892, were all due to deficiency of rain. But, even if this is accepted, it is evident that the atmospheric conditions, though responsible for the violent fluctuations, were not responsible for the continued rise in prices. For example, the rainfall was favourable from 1881 to 1894, except in 1891, and yet the rise in prices was steady and continuous. Other reasons must then be considered to account for this. Starting from the year 1871, and eliminating the fluctuations due to the atmospheric conditions of the country,

if the course of Rupee prices as they would apparently have gone had the rainfall been normal each year is followed, and this course shaped from the direction it actually took, it appears that up to the year 1892 a steady rise continued, approximately 34 per cent., and that from 1893 a slow fall set in. This probable line is entered in the diagram (Appendix K) in the dotted line D.

(b.) *The Extension of Railways.*

It is argued that every mile of railroad assists in raising prices in India, because it causes an increase in the demand, and as a matter of fact experience has shown that as a line reaches any particular town or village, prices at once spring up, sometimes to even as much as double the former price. Some 14,000 miles of line have been laid since 1871, and if we allow, say, 20 miles on each side of the line as brought within reach of it, the area affected would be 560,000 square miles. This should therefore enormously affect the level of prices generally. But it is very doubtful if it has done so permanently, and it seems that when a town or village becomes accessible to the railway, prices rise, partly because the demand, as compared with the supply, temporarily increases, and partly for imaginative causes, *i.e.*, the idea being prevalent that with the advent of the line, the demand must continue to exceed the supply, and higher prices must continue, quite apart from any laws of political economy. But it is obvious that the original rise in price must attract the same products from places further afield; the result is that roads are soon constructed, and the particular product pours into the place where the price is so attractive, and prices gradually fall, and very soon reach their former level, or very nearly so. It would be absurd to suppose that high prices would continue in any particular place, unless the price had originally been lower than what ruled elsewhere, and though this is sometimes the case, it is also sometimes the case that prices in the interior are above the normal elsewhere, and when railways reach those places, prices have eventually to be reduced in order to get a footing in the market.

It is very doubtful if the extension of railways has had any appreciable effect in raising prices in India.

(c.) *Excess of Demand over Supply caused by Increase of Exports.*

This question is one indirectly connected with railways, but has a somewhat different bearing. The aggregate value of exports from India in 1871-72 was Rx. 61,697,225, and in 1892-93 Rx. 101,930,879. It is argued that the additional demand caused

by this increase of Rx. 40,233,654 has had the effect of raising Rupee prices in India.

Let us therefore examine the figures of the principal exports of the two years:—

	1871-72.	1892-93.	Difference.	
			+ more.	- less.
	Rx.	Rx.		Rx.
Coffee .....	1,368,949	2,066,862	+	697,913
Rice .....	4,446,588	12,391,894	+	7,945,306
Wheat .....	235,644	7,440,383	+	7,204,739
Spices .....	284,660	514,675	+	230,015
Sugar .....	288,048	507,913	+	219,865
Tea .....	1,454,985	6,292,348	+	4,837,363
Opium .....	13,365,228	9,255,014	-	4,110,214
Indigo .....	3,687,762	4,141,179	+	453,417
Cotton .....	21,272,429	12,743,679	-	8,528,750
Raw hides and skins .....	2,011,344	2,635,495	+	624,151
Jute .....	4,117,308	7,944,223	+	3,826,915
Seeds .....	2,728,127	11,631,015	+	8,902,888
Silk .....	1,081,097	505,121	-	575,976
Teak .....	291,280	570,102	+	278,822
Wool .....	902,900	1,116,578	+	213,678
Cotton goods .....	369,964	8,100,658	+	7,730,694
Jute goods .....	182,459	3,237,993	+	3,055,534
Tanned hides and skins .....	514,516	2,956,439	+	2,441,923
Lac .....	278,944	775,063	+	496,119
	58,882,232	94,826,634	+	35,944,402

These heads, as will be seen, represent the great bulk of the exports.

The exports of opium, raw cotton, and silk decreased and need not be considered. The following either fell in price or remained nearly stable, sugar, tea, indigo, raw hides and skins, jute (up to 1889), linseed (up to 1892), rape, castor (up to 1889), teak, cotton goods, jute goods, lac (up to 1889), tanned hides and skins (up to 1893).

Thus we are left with only the following heads to consider, rice, wheat, spices, til, and raw wool, aggregating an export of Rx. 17,808,984 in 1892-93 in excess of 1871-72. This figure includes the export of rice, the great bulk of the increase of which represents exports from Burma; and it must be remembered that a new province in Upper Burma was added in the interval, with a settled government and every encouragement given to trade. The increase of the export from India (excluding Burma) was only 1,450,000 cwt., valued at Rx. 2,224,000; and this small increase in twenty-one years, considering the enormous production, could not have affected prices in the smallest degree.

But even including rice, a reference to Appendix A will show

that the increased demand for exports which have risen in price is under 2·2 per cent. of the production of the country, and it is impossible to believe that this small increase during the space of twenty-one years could not have been met without affecting prices.

The entire increase in the exports amounts only to 4·9 per cent. of the production of the country, and it may safely be said that exports have not had any appreciable effect in raising prices in India.

*(d.) Competition of other Countries.*

It has been suggested that the increase in the exports caused the demand to exceed the supply, and hence prices have risen. This argument has already been dealt with, but another point in this connection is the effect on prices of the competition of other countries in supplying the exports supplied by India.

As regards the food supply, Rice and Wheat are the only two which are exported to any extent, the latter only since 1881-82 in any quantity. In rice, India has practically no competitor in the particular quality she mainly exports. Rice is exported from Siam, Cochin China, Japan, Madagascar, Java, and Carolina; but all excel and fetch a higher price than Indian rice. Burman rice, on the other hand, excels all others for distillation purposes.

Wheat is another matter. Indian wheat is inferior to all other wheats, and ordinarily only fills gaps in the supplies from other countries. The price must therefore be regulated by prices elsewhere, when the supply from those countries is sufficient to meet the demand; if it is not, India can fix the market, and probably did so for many years before Argentina commenced her export of the grain. It seems probable that the prices of neither rice or wheat have been affected by outside competition, though in the case of wheat it is possible that prices might otherwise have risen higher than they have done. Tea, coffee, indigo, and opium are almost entirely produced for export. The price of coffee has risen considerably owing to the abolition of coffee planting in Ceylon. In tea, India has Ceylon and China as competitors; this, coupled with the enormous increase in the production in recent years, has caused the supply to exceed the demand, and prices have fallen. In indigo and opium India holds a monopoly, but in both commodities the supply has apparently exceeded the demand, and prices have fallen.

Jute, seeds and hides, and skins are also produced to a great extent for export purposes. Jute is a monopoly of India, and in seeds India only has Russia, and recently Argentina, as competitors. The exports of seeds from Russia were much smaller than from India, her supply was limited, and India practically

held a monopoly. The area cultivated under jute has increased enormously during the past twenty years, and the supply and demand up to 1890 apparently equalised each other, as prices remained fairly steady, some years up, some years down. Since 1891 the price has risen. The same remarks are applicable to seeds, except "til" which has risen in price. Raw hides, in which India has competitors in Australasia, South Africa, and Canada, fell in price, whilst skins rose. Coal has had to compete with English coal, and being much inferior, has fallen in price. Raw wool, in spite of its many competitors, has however risen.

Cotton goods in competition against England have fallen in price, whilst jute goods, also in competition with Great Britain, were fairly steady up to 1888, when a rise took place, followed by a fall to normal prices, and silk goods have also been fairly steady.

From this brief summary of the facts it appears that in cases when India has had to compete with other countries in the supply of any commodities, prices have ordinarily remained steady, or have fallen, and as the bulk of the commodities indigenous to the country, which form the very greatly preponderating portion of the inland trade of the country, the trade which actually regulates the question of the position and course of prices, have risen in price, it is evident that the export trade, and its various interests and conditions, have caused the general level of prices to be considerably lower than it would otherwise have been.

(e.) *The Condition of the Currency.*

We have now to consider the important question of the condition of the currency, and its effect on the level of prices. Some years ago Mr. F. C. Harrison, of the Indian Financial Department, published an article on the "Rupee Census" in the "Economic Journal," and the facts and suggestions then made have been brought up to date year by year. The method employed by him was borrowed from Jevons, on the principle that if the mintage of a certain year formed 20 per cent. of the circulation, the circulation could not exceed five times the amount minted in that year. The theory is no doubt sound, and the method adopted by Mr. Harrison for working it out admirably conceived and ably executed; but what economists require to know is whether the theory is altogether practicably applicable to India, where two such factors as hoarding and melting down coined money are so common, circumstances which might tend to vitiate any general theory. To test this, an attempt has been made to work out the circulation, year by year, on practical lines based on such information as is available for the purpose. The result is given in Appendices E

and F, and the principle and method adopted for arriving at the figures given are explained below.

Appendix E opens with the gross import of Silver and the amount received into the mints for coinage. It is necessary to commence with the year 1835, as all coinage since that date is now legal tender. The figures given are the recorded ones, and show a gross receipt of Rx. 446,644,853 in the sixty-one years from 1835 to 1895, of which Rx. 326,274,410 was taken to the mints. The Custom House returns did not distinguish between bullion and Government Rupees before the year 1893, and some portion of the balance of imports not taken to the mint was in the shape of coined legal tender rupees.

Col. 4 gives the gradual decrease in the circulation of the coinage coined before 1835, which ceased to be legal tender in 1877. Of this coinage about 23 crores is recorded as having been tendered to the mints for recoinage between 1835 and 1876, and remembering that the coinage between 1800 and 1835 amounted to  $65\frac{1}{4}$  crores, it is a fair assumption that the circulation, including the cash balance in the government treasuries, was at least 37 crores in the beginning of 1835, of which 23 crores was recoined and the balance of 14 crores otherwise absorbed, probably mainly in ornaments, during the forty-one years it remained legal tender. The rate of decrease is based on the amount tendered each year for recoinage, which is given in detail in Col. 5, whilst Col. 6 contains the balance otherwise disposed of.

Col. 7 shows the balance of Silver bullion and imported Government Rupees not taken to the mints, and the ante 1835 coin melted down each year. The aggregate of the two amounts to Rx. 134,370,443 for the whole period of sixty-one years, and may be considered to represent an almost absolutely correct figure.

The next point for consideration is how this enormous mass of Silver was disposed of, and in dealing with the balance not taken to the mints the import represented by coined Rupees will be treated as bullion, as, for reasons which will explain themselves hereafter, it is practically immaterial whether the import was entirely Rupees or entirely bullion. Silver bullion is used in the Native States mints for the manufacture of ornaments and for export, and possibly also to a limited extent for hoarding. In order to arrive at the circulation, it is of no real consequence to ascertain in what proportion under each head the net bullion available each year was disposed of, but it is necessary to allot the balance available to one or other of the heads so as not to allot newly coined Rupees for the same purpose again. In this view the Native mints have been first dealt with, and assigned their annual requirements for coinage purposes from the bullion; when a



balance still remains available, it has been assigned to the purpose of making ornaments, and if there is a still further balance, it has been treated as an export.

We now arrive at the second part of the statement, and enter into the uncertain and estimated portion. We have first to ascertain what the annual demand for Silver (coin or bullion) for ornaments was during the whole period. There is practically little to guide us in forming an estimate except the figures for 1894 and 1895. The gross import of bar Silver in 1894 and 1895 was Rx. 15,604,817. Of this Rx. 18,024 went to the Indian Mints, Rx. 1,976,896 was disposed of at the mints of the Native States, and Rx. 852,963 was exported, aggregating Rx. 2,847,883, leaving Rx. 12,756,934 for disposal otherwise. It is well known that a considerable amount of Rupees came out of hoards during the two years in question, their place being taken by uncoined Silver, but it is of course impossible to say what the exact figure was. It will probably be well within the mark to put it down at  $3\frac{1}{4}$  crores for the two years, which leaves  $9\frac{1}{2}$  crores, or  $4\frac{3}{4}$  crores a year for ornaments. This figure has accordingly been accepted as the demand for the two years, and the basis on which the estimate for the whole period has been framed.

The population of all India was about 300 millions in 1895; a demand of Rx. 4,800,000 for ornaments therefore represented a demand of 1 crore of rupees for every 63 millions of people.

In 1835 the population of all India was about 163 millions, and it may fairly be estimated that the individual wealth in the country in 1895 was proportionately at least double what it was in 1835. On this assumption one crore of Rupees for ornaments in 1835 was sufficient for 125 millions of people, and this figure, representing an outlay of Rx. 1,300,000 for that year, has been treated as the starting point, the allotment for each intervening year gradually increasing in proportion to the increase of population and wealth, and working up to the ascertained allotment for 1895. In certain years, *i.e.*, the mutiny and famine years, a smaller allotment has been made, as it is well known that Natives sell their ornaments in times of scarcity; in fact, in the famine years of 1877, 1878, about  $2\frac{1}{4}$  crores of rupees of Silver was tendered at the mints for coinage in excess of the gross import.

The result of this estimate gives a grand total of Rx. 138,163,777 in actual weight of Rupees, representing above 200 crores in value. Of the population of 300 millions in 1895, about 146 millions were females, and of these only about 87 millions were 15 years of age and over. Silver ornaments are not often permanently lost in India, and their wastage is not very considerable, as great care is ordinarily taken of them. If therefore we leave out of considera-

tion all Silver ornaments made before 1835 (the import of Silver between 1800 and 1835 was  $82\frac{1}{2}$  crores), and take a loss on account of wastage of 5 per cent. on the manufacture since that date, we find that every female in the country now possesses on an average Rs. 9 in weight of ornaments, at a value of about Rs. 13 or every female of 15 years and upwards possesses on an average Rs.  $14\frac{3}{4}$  in weight of ornaments, at a value of Rs. 21. These figures at first sight do not appear high, but those who know India are aware of the many millions of the poorer classes whose females do not possess a single ornament of any description, whilst the ornaments of the richer classes are ordinarily in Gold, of which metal  $148\frac{1}{2}$  crores worth was imported between 1835 and 1892. This amount of Gold with the Silver allotted for ornaments and plate, aggregates  $286\frac{1}{2}$  crores in weight alone. The probabilities appear to be that the figures, if erring on either side, err on the side of excess.

Col. 12 shows the portion of the annual demand for ornaments met from coined Rupees. It is a popular notion that these ornaments are almost entirely made from coined money, which is a sort of trade mark guaranteeing the genuineness of the metal. It is probable that most natives endeavour to have their ornaments made out of coined money, but it is equally probable that the silversmith as often as otherwise manages in his own interests to substitute bullion for coins when putting the metal into the melting pot. If this was not the case, it would be quite impossible to account for the enormous amount of Silver bullion brought to the country and not taken to the mints. The statement shows that Rx. 74,109,844 worth of bullion, and Rx. 64,053,933 in coined rupees, were used for the purpose.

Col. 13 gives the annual demand for coinage at the mints of the Native States. This again is an estimate, as no record appears to have been kept of the amount so coined previous to 1891. In 1891 and 1892 the coinage was Rx. 2,657,157, but a considerable part of this was recoinage, which is not distinguished in the returns; the sum of Rx. 1,200,000 therefore probably represents the actual new demand in each of the two years. On this basis, the mintage for the whole period of sixty-one years has been estimated, giving an aggregate total of 44 crores. Of this coinage the probabilities are that the greater portion still remains in circulation in the shape of Native coinage, because the people of the Native States, for obvious reasons, much prefer to hoard or to make their ornaments out of Government Rupees. The population of British India is at least six times that of the Native States minting their own coin, and even in these States the Government Rupee is in considerable circulation. If therefore the present

circulation of Government Rupees is 160 crores, it is very improbable that the circulation of the Native mints exceeds 25 crores, probably very considerably less, and the aggregate coinage of 44 crores allowed for, gives a wide margin for absorption in other ways.

Col. 14 shows the amount of this mintage out of Government Rupees, *i.e.*, the total Native coinage in Col. 13 minus the Native coinage from bullion, Col. 8.

Col. 15 gives the recorded export of Silver by sea, aggregating Rx. 71,578,186 for the whole period. Some portion of this returned to India by sea, and was included without distinction in the sea imports, and some portion returned by land. No allowance has been made in the statement for exports privately made, because the probabilities are that the imports similarly made were at least equal to the exports. The exports as recorded do not distinguish between bullion and coined money, but it is known that a considerable amount of bullion has left India at different periods for China and elsewhere, occasionally for Europe. The bulk of the export has, however, been treated as coined money, the aggregate up to the end of 1892, given in Col. 16, amounting to Rx. 51,589,187, whilst the export of bullion is shown in Col. 10 as Rx. 15,141,899.

We must now refer to the second statement, Appendix F. In Col. 2 we find the circulation of Rupees coined before 1835, which gradually diminished till all disappeared in 1877, when this coinage ceased to be legal tender.

Col. 3 gives the coinage since 1835, including recoinage of the ante 1835 Rupees, Col. 4 giving the totals to date.

Cols. 5 and 6 give the investment of the currency reserve in Government securities, representing an issue of Rupee paper without reserve, and therefore adding to the circulation.

Cols. 7 and 8 give the net import or export of treasure as recorded in the Inland Trade Returns, figures for which are recorded from 1877 only.

Col. 9 gives the annual total of these various columns, and may be accepted as representing a figure as nearly correct as possible.

Col. 10 gives the recorded cash balance in the Government treasuries. This represents so much money locked up, and has therefore been treated as a reduction of the circulation. From 1862 the average of the balances on the last day of every month in the year has been taken, but previous to 1862 this information is not available, and the balance at the end of the financial year has been adopted.

Cols. 11 and 12 give an estimate of the coin hoarded in the country. This is probably the most uncertain of all the heads

dealt with, as there is absolutely no information of any sort to be obtained. It is, however, certain that the popular idea is a very exaggerated form of the truth, and the enormous hoards that are said to exist are frequently, as has often been proved, mere efforts of the imagination. The late Maharajah of Scindia was reported to have hoarded an almost incredible amount, but when he died in 1889, his hoard was found to amount to 4 crores only, and this was turned into Government paper, and the Rupees swelled the circulation. Some years back a man, represented to be the wealthiest individual in the North-West Provinces, was said to have hoarded at least 10 crores of rupees. On his death under half a crore was found. These are two examples out of many. It is possible that the wealthier natives hoard to some extent in Gold, as there was a net import of Rx. 148,490,518 of that metal between 1835 and 1892, and it seems impossible that the whole of this could have been turned into ornaments. The estimate of Silver hoards entered in the statement gives a total of 50 crores of Rupees, and this probably represents the very maximum.

Cols. 13, 14, and 15 give the coin melted in Native mints, and as ornaments and exported, brought up to date each year, from Cols. 13, 14, and 15 of the previous statement (Appendix E).

Col. 16 gives the annual total of all the columns which represent the absorption of the Rupee, and Col. 17 makes the deduction of these heads from the gross calculation, representing the active circulation each year, and Col. 18 gives the index numbers on the basis of the circulation of 1871 = 100. The result is as follows:—

Year.	Active Circulation.	Index Number.	Year.	Active Circulation.	Index Number.
	Rx.			Rx.	
1861 ....	57,183,821	51	1879 ..	136,075,501	120
'62 ...	64,468,467	57			
'63 ...	77,602,002	69	1880 ....	137,079,748	121
'64 ...	91,407,297	81	'81 ....	135,418,684	120
'65 ...	108,255,462	96	'82 ...	136,068,117	120
'66 ...	113,527,955	100	'83 ...	136,637,204	121
'67 ...	115,370,858	102	'84 ...	138,298,508	122
'68 ...	119,631,233	106	'85 ...	144,765,848	128
'69 ...	124,215,944	110	'86 ...	143,719,791	127
			'87 ...	146,681,704	130
1870 ...	118,360,831	105	'88 ...	148,076,249	131
'71 ..	113,127,322	100	'89 ...	156,261,197	138
'72 ..	111,394,516	98			
'73 ...	110,719,184	98	1890 ...	162,559,570	144
'74 ...	114,502,090	101	'91 ...	161,882,324	143
'75 ...	110,268,052	97	'92 ...	168,055,176	148
'76 ...	110,898,953	98	'93 ...	166,904,139	147
'77 ...	127,882,331	113	'94 ...	161,851,025	143
'78 ...	130,823,873	116	'95 ...	164,906,884	146

It is noteworthy that if the active circulation in 1892 is added

to the cash balance in the treasuries it amounts to  $18\frac{1}{2}$  crores which is almost identical with the 180 crores estimated in that year by Mr. E. O. Leech, then Director of the United States Mint, as the circulation of India.

Mr. Harrison, as a result of the working of his theory, concludes that the circulation (including the Government cash balances) was 115 crores from 1876-86, that in 1888-89 it rose to 120 crores, and was about 125 crores in 1892-93. The figures worked out in this paper differ considerably in quantity, but both tend in the same direction of increase. Mr. Harrison, however, allows for an increase of 10 crores only in the seventeen years 1876-92. During that period 173 crores of silver were imported into the country, 2 crores were added to the circulation by the investment of the Currency Reserve, 4 crores came out of Scindia's hoards, about 3 crores were recoined and swelled the circulation from the new Upper Burma province, 3 crores were received on the balance of the inland trade, representing a total of 185 crores. Of this  $24\frac{3}{4}$  crores were exported, and not more than 18 crores could have been required in the Native mints, leaving  $130\frac{1}{4}$  crores to be otherwise disposed of. Mr. Harrison adds 10 crores to the circulation, but it seems almost impossible that the whole of the remainder, *i.e.*, 120 crores, could have been absorbed in ornaments and hoarding during the seventeen years in question.

Looking at the figures given in the statement, in the period under review from 1861 we find the circulation increased very rapidly up to 1866, and from then to 1876 it remained almost at the same figure, with variations each year; the circulation in the latter year being 3 crores under that of the former. In 1877 a very marked rise took place, gradually increasing during the two following years, when it became almost stationary again, up to 1884; a rise then recommenced, and continued up to 1892, after which a contraction set in.

The index numbers have been entered in the diagram, Appendix K, in a dotted line A, and the similarity of the course of the circulation from 1877 with the course taken by Rupee prices after eliminating the effects of the rainfall, as shown in line D, is very marked. It is true that the circulation rose higher than prices in 1877, but it is obvious that, even if prices had remained stationary, the circulation would have had to increase slightly in order to meet the increase in population and wealth of the country, whereas the increase has been out of all proportion to actual requirements. The figures and the course the two have taken, as shown in the diagram, appear to form a peculiar proof of the quantitative theory, and show that the continuous

inflating of the currency has had a marked effect in raising prices. Lord Herschell's committee when sitting to consider the question of the closing of the Indian mints, declared that the open mints attracted more Silver than the country required. This argument has recently been tabooed on the ground that such an event was an impossibility, because India only received Silver in payment for the goods she exported. Economists, however, do not require to be reminded of the flaw in this argument, and the figures given unquestionably prove that the declaration made by the committee was correct.

(f.) *Summary of the Causes of the Fluctuations.*

From the facts and figures given in this section of the paper, it appears that the first and most important factor which has assisted in causing the serious fluctuations in Rupee prices has been the rainfall of the country. But the fluctuations so caused though violent were only temporary, and if all else had remained the same, prices would apparently have resumed their normal condition after the effects of the short supply of rain had passed away. But, as a matter of fact, prices did not resume their normal state, indicating that other causes entered into play in raising prices.

Of the next three suggested factors, we find that though both the extension of railways and the increased demand for exports may have had a tendency to raise prices, that tendency was only temporary, or, if permanent at all, only in a slight degree, whilst on the other hand the competition of a foreign country in India's products had a distinctly deterrent effect against a rise of the prices of the commodities concerned, and in some cases necessitated a fall. Had not this latter factor come into play, it appears evident that the general level of prices of all commodities taken would have risen higher than has actually been the case. A reference to the statement in Section IV above (p. 92), Col. 2, will show that if food commodities alone are taken, and the food supply is the one least affected by outside competition, the rise is considerably higher than the rise shown in Col. 5, the prices of all commodities. Col. 4, the prices of Indian manufactures, shows practically normal figures with a tendency to fall, and it is in manufactures that India has the greatest competition with outside.

The last factor, the condition of the currency, has played an important part in raising prices. The fluctuations caused by this factor are not so violent as those caused by the rainfall, but are more permanent, though now that the inflation of the currency is being reversed, and contraction is setting in, prices will no

doubt continue to fall after the present pressure is removed, provided that the meteorological conditions do not again derange matters, as they are doing in the present year.

### VII.—*Monthly Prices.*

It is a matter of interest to economists generally to trace the effect of the closure of the mints in India on Rupee prices. With this object monthly index numbers have been prepared for the period January, 1891, to July, 1896. The numbers in relation to Gold have also been worked out, and both are entered in a diagram, Appendix L, in which is also entered Mr. Sauerbeck's index numbers of Gold commodities, and index numbers of the Gold price of the Rupee, and of Silver.

The index numbers of Rupee prices in India, (1) in relation to the Rupee, (2) in relation to Gold, are as follows:—

#### *Rupee Prices in relation to the Rupee.*

	1891.	1892.	1893.	1894.	1895.	1896.
January .....	121	141	141	132	130	128
February.....	122	140	141	131	129	129
March .....	124	140	141	129	127	127
April .....	124	141	138	131	126	127
May.....	124	142	139	132	127	130
June .....	124	142	138	133	128	133
July.....	125	142	137	133	128	134
August .....	129	142	137	134	129	—
September .....	131	140	138	132	128	—
October .....	131	138	137	131	129	—
November .....	133	141	136	130	129	—
December .....	144	144	133	129	128	—

#### *Rupee Prices in relation to Gold.*

	1891.	1892.	1893.	1894.	1895.	1896.
January .....	95·2	98·8	89·1	83·6	70·2	76·8
February.....	90·9	95·5	89·0	77·6	70·8	79·2
March .....	91·5	93·9	88·3	76·9	70·6	79·1
April .....	90·4	91·8	86·4	76·2	71·9	77·1
May.....	89·7	93·3	87·6	72·9	72·3	77·6
June .....	90·4	94·4	88·7	74·2	72·6	80·2
July.....	93·5	92·6	91·8	73·4	72·1	81·2
August .....	95·6	89·2	89·0	76·1	73·1	—
September .....	96·2	87·6	89·3	76·4	73·9	—
October .....	95·2	88·0	88·8	74·7	76·0	—
November .....	95·2	90·0	88·7	73·8	76·0	—
December .....	102·7	90·1	86·2	70·7	76·2	—

It will be noticed in the statement of Prices in relation to the Rupee that prices rose all through 1891, in 1892 they were fairly



steady throughout the year, and continued so till July in the following year. In that month, following the closure of the mints, prices began to drop, and though this drop was scarcely perceptible at first, yet the index number in January, 1894, was nine points lower than in January, 1893. Throughout 1894 prices remained fairly steady, with a downward tendency, and again in 1896 up to April, when the index number was only three points lower than in January, 1895, and five points lower than in January, 1894. In May, 1896, prices sprang up three points, and another three in June, and four in July. This rise was due to anticipated short rains, which were unfortunately experienced during the recent rainy season.

The inference to be derived from these figures is that the closing of the mints had an almost immediate effect on prices, probably due to the fact that it was at once realised that the previous continuous inflation of the currency would cease, and as a matter of fact, as has already been shown, a slight contraction of the currency took place during 1893-94.

Looking next at the second statement, giving Rupee prices in relation to Gold, and line C in the diagram, Appendix L, we find that prices had a downward tendency during 1892 and in 1893 before the mints were closed, after which they remained fairly steady for the rest of the year, excepting a temporary rise in July, 1893. In 1894 the fall became very marked, recovery taking place very slowly during 1895 and 1896, beginning from April, 1895. The heavy fall in 1894 was due to the rapid fall in the rupee in that year owing to the procedure adopted in the sale of Council Bills.

If we take the years 1891 and 1892 and the five months of 1893, before the closure of the mints, we find the monthly averages to have been :—

Gold.....	100
Rupee prices .....	92'1
Silver .....	68'6

Taking Rupee prices as the standard, Gold appreciated 7'9, and Silver depreciated 23'5.

In the two years and seven months after the mints were closed the monthly averages were :—

Gold .....	100
Rupee prices .....	77'6
Silver .....	50'0

That is to say, with the Rupee price as the standard, Gold appreciated 22'4, and Silver depreciated 27'6. But, as has already been inferred, the position since the closing of the mints has been

peculiar, as the course adopted by the India Office in regard to the sale of Council Bills caused the Rupee to remain steady for a time, and afterwards to fall very rapidly and heavily, with the result that the consequences were not natural, and therefore not a safe guide of the actual effect of the closing of the mints.

The following figures are the monthly index numbers of Silver and of the Rupee for the period in question :—

	1891.		1892.		1893.		1894.		1895.		1896.	
	Silver.	Rupee.	Silver.	Rupee.	Silver.	Rupee.	Silver.	Rupee.	Silver.	Rupee.	Silver.	Rupee.
January.....	78·9	78·7	70·4	70·1	63·0	63·2	51·7	63·3	44·9	54·0	50·4	61·4
February .....	75·0	74·5	68·2	68·2	63·0	63·1	48·1	59·2	45·1	54·9	50·9	61·4
March .....	73·9	73·8	67·2	67·1	62·6	62·6	44·8	59·6	46·5	55·6	51·5	60·7
April .....	73·1	72·9	65·2	65·1	62·5	62·6	47·3	58·2	50·0	57·1	51·1	60·3
May .....	73·1	72·3	65·9	65·7	62·6	63·0	47·2	55·2	50·3	56·9	51·1	60·1
June .....	73·9	72·9	66·7	66·5	61·4	64·3	47·1	55·8	50·0	56·7	51·6	59·3
July .....	75·6	74·8	65·2	65·2	54·6	67·0	47·1	55·2	50·0	56·3	51·5	59·2
August .....	74·7	74·1	63·0	62·8	55·7	65·0	48·2	56·8	50·0	56·7	50·8	60·6
September.....	74·0	73·4	62·7	62·6	56·1	64·7	48·7	57·9	50·2	57·7	49·9	60·7
October.....	73·8	72·7	64·0	63·8	55·5	64·8	47·8	57·6	50·9	58·9	49·4	61·6
November.....	71·8	71·6	64·0	63·8	52·9	65·2	47·6	56·8	50·6	58·9	49·2	65·2
December .....	72·0	71·3	63·1	63·0	52·6	64·8	45·7	54·8	50·1	59·5	49·2	65·5

Silver = 60·84*d.* per oz. = 100.      Rupee = 23·34*d.* = 100.

#### VIII.—*The Export of Food Grains.*

It will probably be asked how it is that, with the great rise in price of food grains as shown in this paper, it has been possible to export from India at all, remembering also that the Gold price of Silver and of commodities fell in an almost equal degree up to 1893, the fall in the price of wheat and rice exceeding the general fall. These two, wheat and rice, are the only food grains that are exported from India, and they alone need therefore be considered. As regards rice, there are special features in the Burma production in its great suitability for distillation purposes, which render it practically a monopoly. But apart from this, we find that the index number of rice as given by Mr. Sauerbeck fell to 55 in 1895, whereas English Gazette wheat fell to 42. It will therefore be sufficient if we discuss the position of wheat, and the remarks made in so far as prices are concerned, will apply also, only possibly more forcibly, to rice, and explain how its export has been profitable at enhanced Rupee prices.

Indian wheat, as is well known, was not accepted for many years in England, and the export was only nominal. In 1873 the export duty on it was abolished, and in 1873-74 the export was nearly six times that of the previous year, but even then it only

amounted to  $1\frac{3}{4}$  millions of cwt. In 1875, 1876, and 1877 England's crop partially failed, and India helped to fill the gap, the export amounting to nearly  $6\frac{1}{2}$  millions of cwt. in the latter year. In 1878 and 1879 India was visited by famine, and the export fell off. Previous to this English millers had complained that Indian wheat did not suit their mills, and the late Dr. Forbes Watson was deputed to inquire into the matter, the result of which was the issue of a memorandum pointing out the obstacles against the Indian grain gaining popularity in the English market. Since then efforts have been made to remove those obstacles, and with some success, but apart from this, Indian wheat is inferior in quality to other wheats, and commands a lower price. In 1881 England's harvest was again deficient, and in the following year the American crop failed, a syndicate of speculators "cornered" the grain, and Indian exports sprang to nearly 20 millions of cwt. In 1882 the export fell to 14 millions of cwt. In 1883 the American crop was again short, and India's export rose to 21 millions of cwt., Italy assisting in this case by taking a supply for the manufacture of macaroni, a new use of the grain. In 1884 the American and European crops were abundant, and India's export decreased. In 1885 both America and Europe had short crops, and India's export rose to 21 millions of cwt. In 1886 Russia's crop again failed, and India's export amounted to  $22\frac{1}{4}$  millions of cwt., Italy taking over 5 millions. In the following years up to 1890 Europe and America had average crops, and India's export fell away. In 1891 the European crop was short, and Russia's failed entirely, and export was prohibited from that country, with the result that India's export amounted to  $30\frac{1}{4}$  millions of cwt. Since then the American and European crops have been average or above the average, and India's exports have fallen away. From these facts we are probably justified in assuming that Indian wheat is accepted in the European market only when other wheat is not obtainable; in short, that India's production merely fills the gap of the demand less the supply, though possibly this gap may sometimes have been an important one. This point will be referred to later on.

We now come to the question of prices.

The following table gives the total export from India and the amount exported to England, the index numbers of the Rupee prices of Indian wheat taken from the average of the four classes given in Appendix C. These prices have then been converted into Gold at the exchange rate of the year, and their index numbers given. Col. 6 gives the index numbers of the total cost in Rupees of 100 maunds of Cawnpore wheat landed in London, *viâ* Calcutta. This cost includes the wholesale price, the railway and steamer

freights, and shipping charges. Col. 7 converts these prices into Gold at the average exchange rate of the year, and lastly, Col. 8 gives the index numbers of the average of the two classes of wheat given by Mr. Sauerbeck in his Gold prices.

*Wheat.*

1	2	3	4	5	6	7	8
Year.	Export from India.	Import, Indian Wheat into England.	Index Numbers of Price of Indian Wheat.	Index Numbers, Price of Indian Wheat in relation to Gold.	Index Numbers of Total Cost of Indian Wheat Landed in London.	Index Numbers of Total Cost of Indian Wheat Landed in London in relation to Gold.	Index Numbers of Prices of English Wheat.
	cwt.	cwt.	rupee prices.		rupee prices.		
1871	637,099	—	100	100	100	100	102
'72	394,010	161,915	103	105	108	107	105
'73	1,755,954	741,350	111	103	111	108	110
'74	1,069,076	1,069,076	106	102	98	94	102
'75	2,498,185	1,339,376	90	84	89	83	84
'76	5,583,336	3,296,575	84	73	94	81	85
'77	6,340,150	6,106,079	112	101	114	103	101
'78	1,044,709	1,820,881	148	128	104	90	85
'79	2,195,550	889,531	127	107	104	88	83
1880	7,444,375	3,230,144	117	101	105	90	86
'81	19,863,520	7,338,751	101	86	99	84	88
'82	14,144,407	8,463,716	106	90	94	80	85
'83	20,956,495	11,248,988	105	87	94	78	78
'84	15,830,754	7,980,981	93	77	78	65	65
'85	21,060,519	12,175,260	88	70	76	61	61
'86	22,263,320	11,027,143	103	77	84	63	59
'87	13,538,169	8,512,526	129	95	94	69	60
'88	17,610,081	8,166,254	129	91	98	69	62
'89	13,799,224	9,218,218	120	84	93	65	59
1890	14,320,496	9,111,625	124	97	94	74	61
'91	30,303,425	13,011,253	141	105	106	79	69
'92	14,973,453	12,496,335	148	97	98	64	57
'93	12,156,551	6,199,985	130	83	94	60	49
'94	6,887,791	4,767,829	111	64	90	52	41
'95	10,003,114	6,035,430	125	71	93	53	44

The actual effect of the figures given in this table are more clearly shown in the diagram given in Appendix J. In this line A represents the price of wheat in India in relation to Gold, line C, the Gold cost of Cawnpore wheat landed in London, and line B, the selling price of wheat in England.

If we compare the first with the last, we find that the divergence between the Gold price of wheat in India, and in London, on the basis of comparison with the year 1871, is very marked, and it is evident that if all else had remained the same, it would often, more especially since 1887, have been unprofitable to export

wheat to England. But the cost of transit, &c., has decreased so enormously, that when we consider the Gold cost of Indian wheat, landed in London, and its selling price there, the matter assumes an entirely different aspect. The railway freight of 100 maunds of wheat from Cawnpore to Calcutta decreased from Rs. 78 in 1871 to Rs. 48 in 1890, at which it now stands. The steamer freight has varied greatly. It reached its highest point in 1876 at Rs. 133·20, and fell to Rs. 37·43 in 1873. In 1881 it was Rs. 125·52, since which the rate gradually fell to Rs. 54·12 in 1890. It rose to Rs. 82·12 in 1891, and was Rs. 63·81 in 1895.

With these variations, and with the fall in the Gold price of Silver, we find the English selling price of wheat running very evenly with the aggregate cost of landing Cawnpore wheat in London from 1871 to 1886, in several years the lines running absolutely identically. If we take the year 1883 as an example, a year in which the index number of both is 78, and work out the prices, we find that with the charges taken (not necessarily all, as wastage, agency charges, and shipping charges in England have not been included) the result means a profit of nearly 20 per cent. on the outlay to the exporter.

Since 1887 prices have not worked so evenly, but if a profit of nearly 20 per cent. was obtainable in 1883, it is evident that a very large profit was still obtainable in 1891, when the index numbers diverged by 10 points, and exports amounted to  $30\frac{1}{4}$  millions of cwt., the bulk of which was taken for the European Continent.

It was before remarked, for the reasons stated, that India's supply was required in England and Europe only for the purpose of equalising the supply and demand, and the diagram appears to bear out this inference, for it will be noticed that the largest exports were not in the most profitable years, 1882 and 1884 for example; whilst on the other hand the year 1891 is an example of the heaviest export in one of the least profitable years.

In 1893 the total production of wheat in India amounted to 192 millions of cwt., of which 12 millions were exported, representing about 6 per cent. It is hardly possible that this small export could have affected prices in the country one way or the other, and we may infer that the Indian prices of the grain have been fixed on their own merits, and quite irrespective of the Gold price in the London market. But if England requires wheat from India in order to equalise the supply and demand, it is evident that she must accept it at India's price, and this has apparently been done. In other words, India has in reality for many years past (Argentina has possibly taken her place in recent years) fixed the Gold price of wheat in London, Europe, and America. Now the importance

of wheat in England as a commodity requires little or no comment; it is probably the most important of all commodities, and the variations in its price sooner or later necessarily affect the prices of other commodities. If this is admitted, it is evident that India's influence on the price of English wheat has also acted as an influence on all Gold prices. India therefore appears to have played an important part in the general fall of Gold prices, and has even to some extent brought it about by her powers to sell her Silver goods at a lower and lower price, as the Gold price of Silver fell, a fall rendered possible by the demonetization of Silver in the West, and put into force by the system adopted by India for the sale of her Council Bills, coupled with her open mints.

### IX.—*Wages in India.*

In the Blue Book published by the Government of India, "Prices and Wages in India," the reputed wages of certain classes in different localities is given dating back to various dates chiefly from 1873. The population of all India according to the census of 1891 includes—

	Per Cent.
1. Agriculturists .....	61
2. Industrial.....	16
3. Labourers.....	9
4. Profession.....	4
5. Domestic .....	4
6. Commerce .....	3
7. Others .....	3

For the last four, which aggregate 14 per cent. of the whole, no record of wages is apparently kept, but for the first three, the great bulk of the whole, figures are given.

In the following statement the wages of the agricultural labourer at six different selected typical localities are given, and four classes under the heads "Industrial" and "Labourers."

The result, given in the last column, representing the average index numbers of the whole, shows that there has been a distinct tendency to a rise in wages, though that rise has not been regular throughout.

Year.	Agricultural Labourer.						Carpenter, Skilled, Mirzapore.	Unskilled, North-West Provinces, Lahore.	Skilled Black- smith, Madras.	Unskilled Coolies, Murree Brewery, Punjab.	Total.	Aver- age.
	Patna.	Cawn- pore.	Delhi.	Bombay.	Jubbul- pore.	Salem Madras.						
1873....	100	100	100	100	100	100	100	100	100	100	1,000	100
'74....	100	100	100	106	100	100	100	100	100	101	1,007	101
'75....	100	100	89	106	100	100	80	99	98	102	974	97
'76....	100	103	89	106	125	100	80	100	80	102	985	98
'77....	100	103	89	106	125	100	80	100	80	91	974	97
'78....	100	100	89	106	125	100	90	100	93	91	994	99
'79....	100	103	89	106	125	120	90	102	80	88	1,003	100
'80....	100	103	89	106	125	100	100	102	80	88	993	99
'81....	100	103	89	106	125	90	90	102	97	88	990	99
'82....	100	103	89	114	125	90	90	102	97	88	998	100
'83....	100	103	89	122	125	80	90	102	97	110	1,018	102
'84....	107	103	89	124	100	93	90	102	96	110	1,014	101
'85....	129	93	100	122	100	107	100	102	97	110	1,060	106
'86....	129	107	114	122	87	93	100	103	97	95	1,047	105
'87....	136	120	100	122	100	160	100	116	87	95	1,136	114
'88....	129	107	100	122	87	160	100	119	100	95	1,119	112
'89....	129	107	100	122	87	147	100	128	101	95	1,116	112
'90....	129	107	100	122	87	147	120	124	101	95	1,132	113
'91....	129	120	100	122	125	133	120	130	102	95	1,176	118
'92....	129	80	100	122	87	150	100	136	103	95	1,102	110
'93....	129	120	100	122	97	150	150	136	103	95	1,192	119
'94....	129	120	133	122	87	150	120	138	103	95	1,197	120
'95....	129	120	100	122	87	153	100	147	103	95	1,156	116

### X.—*The Course of Silver and the Rupee.*

It is popularly believed that before the mints were closed the Rupee followed Silver, and that since their closure the two have acted independently of each other. Appendix L shows the course of the Rupee and Silver monthly since the mints were closed, and brings out the following facts as quoted from a note by Mr. J. E. O'Connor, C.I.E., Director-General of Statistics in India, who published a diagram and an explanatory note in his last "Review of Trade in India," showing the course of the Rupee and Silver half-monthly from January, 1892, to 30th June, 1896.

"(1.) The price of silver, which seemed to have been steady in the last two months of 1893, fell rapidly and heavily immediately after the announcement in January, 1894, regarding the sale of Council Bills to the highest bidder, and as there was no other reason for the fall, it is not unreasonable to infer that the fall was caused by the fall of the rupee which it followed."

"(2.) Since then every rise or fall in the value of the rupee has been accompanied by a rise or fall, though not exactly a similar rise or fall, in the price of silver."

The conclusion arrived at is that, since the closure of the mints, the Rupee has become the dominant factor, and, on the whole, determines the price of Silver. The reason why this has been the case is, to quote Mr. O'Connor again, as follows:—



"The demand (of silver) from India is not, it is true, equal to more than about a sixth of the production of silver, but it is a regular and wholesale demand, while all the other demand for silver is of a fitful and more or less retail character, and the silver market, which is of a very sensitive nature, is in its general movements over a period evidently more affected by the Indian demand than by all other demands put together. Therefore when the conditions of trade (or speculation) induce a demand for Council Bills, and a rise in the exchange value of the rupee, and Indian dealers in silver think it will be profitable to import the metal, an immediate effect is produced upon the silver market, which responds to the rise in the value of the rupee by a more or less equivalent rise in the price of silver. There certainly are times when silver is not affected by the rupee, and moves up and down independently and in response to other influences; such movements are of a transitory and fleeting character, and the general movement of the silver line is distinctly responsive to the general movement of the rupee line."

On this point facts and figures appear to bring us to the conclusion that Mr. O'Connor's contention is correct, and that the explanation of the cause of the apparent economic phenomenon is perfectly consistent with the probabilities of the case. But the first point regarding Silver having been the dominant factor in regulating the Exchange value of the Rupee before the mints were closed is another matter, and is not of such certainty as would naturally be inferred.

The monthly fluctuations of Silver and the Rupee in 1891 and 1892 were as follows :—

	1891.		1892.	
	Silver.	Rupee.	Silver.	Rupee.
January .....	78·9	78·7	70·4	70·1
February .....	75·0	74·5	68·2	68·2
March .....	73·9	73·8	67·2	67·1
April .....	73·1	72·9	65·2	65·1
May .....	73·1	72·3	65·9	65·7
June .....	73·9	72·9	66·7	66·5
July .....	75·6	74·8	65·2	65·2
August .....	74·7	74·1	63·0	62·8
September .....	74·0	73·4	62·7	62·6
October .....	73·3	72·7	64·0	63·8
November .....	71·8	71·6	64·0	63·8
December .....	72·0	71·3	63·1	63·0
Total .....	74·3	73·6	65·5	65·3

Here we find the difference between the two in 1891 to have been 0·7, and in 1892 only 0·2. Looking at the monthly figures we find that the difference in January, 1891, was 0·2, in February Silver fell 3·9, but the Rupee fell 4·2, *i.e.*, the Rupee fell first. In March Silver receded 1·1, the Rupee 0·7, *i.e.*, the Rupee having had a start, Silver fell in sympathy. In April the normal differ-

ence of 0·2 was regained. In May Silver remained steady, but the Rupee fell 0·6, *i.e.*, the Rupee fell first. Silver would have followed the Rupee, but other influences came into play, and Silver rose 0·8 in June, and the Rupee being forced to follow rose 0·6. In July the same influences continuing, Silver rose 1·7, and the Rupee following rose 1·9. In August the Rupee dropped to 74·1, but Silver only to 74·7; in September and October both dropped 0·7 each month, the Rupee having already had the start. In November the Rupee fell 1·1, and Silver 1·5, Silver thus arriving at its normal condition of 0·2 higher than the Rupee. In December Silver rose 0·2, but the Rupee did not respond, and fell 0·3, necessitating a heavier fall in January, 1892, in Silver 1·6, than in the Rupee, 1·2. During the other months of 1892 a difference of 0·1 or 0·2 was the normal state, and no particular inference can be drawn. The inference, however, derived from the year 1891 is that the Rupee dominated Silver in regulating the fall in Gold price, and Silver dominated the Rupee in regulating any rise in Gold price.

The reason for this is perfectly intelligible, though at first sight it appears impossible. Before the closure of the mints the balance of trade in India was for the most part paid for by Council Bills and the remittance of Silver to India for coinage purposes. This remitted Silver was therefore equivalent to a remittance of Rupees, and the cost of the Rupee consequently regulated the value of the Silver when laid down at the mints. The Gold price of the Rupee itself was dependent on the amount it fetched at the auction sales of Council Bills. This price was obviously the lowest price at which it was obtainable, and competition only came into play in a very small degree, because unless it was profitable to remit by means of Council Bills, the remittance was made in Silver. But the advantages of remittance of Council Bills is readily intelligible; it avoided risk and a considerable amount of trouble, just as it was advantageous to pay for exports by the remittance of Silver rather than by merchandise. To this extent competition existed; but even this competition was unable to procure a rise beyond a certain point, provided that the price of Silver did not rise, because prices in India had to be considered. The open mints of India attracted silver, *i.e.*, currency, to the country, inflated the currency, and Rupee prices rose; certain of India's commodities could therefore only be exported if assisted by a fall in the Gold price of the Rupee. Bids for Council Bills were accordingly regulated, and the price of Silver had to follow suit, or otherwise it would have been unprofitable to import it into India. The demand for India represented about one-third of the production, and therefore regulated

its general price. Had Silver fallen first, the whole of the remittance to India would have been made in it, and Council Bills would have been neglected. It seems, however, that both fell almost simultaneously, the Rupee taking the lead. When the price of Silver rose for causes independent of the Rupee, the Rupee was forced to follow suit, because the high priced Silver, as compared with the Rupee, would have been unprofitable to export to India, and the competition for Council Bills would have become keen, and have necessarily placed the two on a par. The Rupee itself probably did not at any time take the lead in a rise, because a falling Rupee was necessary to Indian exporters under the strain of rising Rupee prices.

The inference derived from the above is that the open mints of India attracted Silver beyond the wants of the country, and inflated the currency, causing Silver prices to rise; that this rise necessitated a fall in the Gold price of the Rupee, which was rendered possible by the method of the payment of India's Gold debt, under a system of auction sales; that this necessity to continue the fall in the Gold price of the Rupee forced a fall also in the Gold price of Silver, and that consequently a very large share of the currency troubles of the world during the last twenty-five years, *i.e.*, since the demonetization of Silver, has been due to India's open mints, coupled with her system of the payment of her Gold debt.

#### XI.—*The Closure of the Mints.*

The question whether India did wisely in closing her mints to the free coinage of Silver is one that still carries a considerable difference of opinion, and there are many who continue to hold that the measure was an unwise one, and should never have been adopted. Let us therefore glance at the effects produced by the action taken. In the first place, not a trace of anything prejudicial to the welfare and prosperity of the country is as yet apparent on the surface, and all that can be seen appears to be of a beneficial and salutary character. India is no longer the refuse sink of the world for Silver, and it is difficult to estimate to what extent the circulation of the country would have expanded and to what height prices would eventually have risen if the mints had not been closed. There is no doubt that the fluctuations in the rate of exchange from 1874 onwards caused considerable difficulties in the management of the trade of the country, though the continuous fall in the Gold value of the Rupee must for a time have worked beneficially for exporters; but this obviously led to the increase of the circulation, and the consequent rise in prices, and though this rise

was apparently not felt in the exports for many years, still the high prices of 1889 to 1892 were beginning to have a deterrent effect on exports, and, within a few years, with open mints into which Silver was poured, the external trade of the country would have suffered severely. The closure of the mints put a stop to this undue expansion of the currency, and the rise in prices was checked. Exchange, at the same time, when left to itself, was fairly steady from January, 1895, to November, 1896, with a gradual progressive rise, and in spite of the unfortunate short rainfall of the present year, it appears probable that by the end of the present cold season the Rupee will have nearly reached the maximum point it can reach under the present official order, *i.e.*, 16*d.*, and had the country been blessed with a normal rainfall, prices would probably also have readjusted themselves sufficiently to encourage and increase the export trade of the country. The present difficulty in this respect is, however, only temporary, and assuming that the mints remain closed, prices will resume their normal level, falling as the circulation contracts; and the resultant trade and prosperity of the country will prove the immense benefit derived by the action taken. When the Rupee reaches its maximum limit, 16*d.*, or whatever figure it is decided to fix it at, it will be necessary to make it permanent by the establishment of a Gold standard, which can be done without difficulty, and without interfering with the interests of England or any other country by the imitation of the simple process adopted by Java, namely, the abolition of the present system of the auction sales of Council Bills, and making Rupees exchangeable for Gold or *vice versâ* at the rate fixed at some specified bank or other place in London, a small reserve of Gold being held to cover any possible balance of trade against India.

India's interests would of course be best served by the establishment of universal monometallism of either metal, or by bimetallism, and as the former is absolutely impracticable, she lends her weight to the latter. Bimetallism is also thought to be impracticable by many, because England declines to become a partner in it. Every one, even the most enthusiastic of bimetallists, must recognize that there are difficulties in England accepting the doctrine, and recent events have shown that its establishment is as far distant as ever if England's co-operation is a *sine quâ non*. But there are many, and an important section, who consider that England's partnership is not a necessity to success, and this certainly appears to be the more sensible view to adopt. If the United States, the Latin Union, and India jointly agreed to the free coinage of Silver, there would be every chance, in fact almost certainty, of success, and under such conditions India

would no doubt be willing to re-open her mints. It seems therefore that the proper course for bimetallists to take now is to do their utmost to bring about such a result, and with the powerful Silver party in the States, and the anxiety of France to place her enormous stock of undervalued Silver on a par basis, it would appear that such a result is far from impossible or even improbable, provided that England and Germany will give guarantees to assist all in their power in the maintenance of the system, and this would probably be possible by some device regulating the rate of discount when necessary. Until, however, bimetallism on some sound and assured basis is established, India should, and probably will, keep her mints closed.

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APPENDIX A.—*The Production and Manufactures of India; relative importance of each, 1893.*

1	2	3	4	5	6	7	8	9	10	11	12
Crop.	British India and Mysore.	Yield per Acre.	Total Production.	Average Price per Cwt.	Value of Production.	Native States without Mysore.	Production.	Value of Production.	Total Value Production all India.	Per-centage of each Total.	Per-centage of each State-ment of Press.
	acres.	lbs.	cwt.	rupees.	rupees.	acres.	cwt.	rupees.	rupees.		
SECTION I.											
1. Rice .....	69,115,741	1,122	692,391,619	4.26	2,94,95,88,297	6,000,000	60,107,143	25,60,56,429	3,20,56,44,726	34.5	30
2. Wheat .....	22,219,115	787	156,128,959	3.05	47,61,98,325	5,164,000	36,286,321	11,06,73,279	58,68,66,604	6.3	5
3. Ragi .....	5,940,571	1,011	53,624,261	5.00	26,81,21,305	2,000,000	17,875,000	8,93,75,000	35,74,96,305	3.9	2
4. Jawar .....	20,181,951	576	103,792,891	2.53	26,25,96,014	8,000,000	41,142,857	10,40,91,428	36,66,87,442	4.0	3
5. Bajra .....	10,245,045	463	42,852,284	2.72	11,51,98,212	6,000,000	24,803,571	6,74,66,713	18,26,64,925	2.0	2
6. Gram .....	11,030,812	549	54,070,677	3.20	17,30,26,166	5,000,000	24,508,929	7,84,28,573	25,14,54,789	2.7	2
7. Maize .....	5,274,749	784	89,923,243	2.31	8,52,92,691	2,000,000	14,000,000	3,23,40,000	11,76,32,691	1.3	1
8. Barley .....	4,854,530	664	28,720,428	2.33	6,70,58,397	1,000,000	5,928,571	1,38,13,570	8,08,71,967	0.9	1
9. Other grains and pulses .....	37,410,045	626	209,095,430	3.33	69,62,87,782	10,000,000	55,892,857	18,61,23,214	88,24,10,996	9.5	5
10. Sugar .....	3,069,106	2,301	63,053,687	5.56	35,05,78,500	1,000,000	20,544,643	11,42,28,215	46,48,06,715	5.0	4
11. Spices .....	1,102,104	150	1,476,032	2.64	3,04,65,700	300,000	401,786	82,92,863	3,87,58,563	0.4	1
12. Miscellaneous food .....	2,858,833	550	13,939,805	2.50	3,49,74,712	1,500,000	7,366,071	1,84,15,177	5,33,89,889	0.6	1
13. Orchards and gardens .....	2,856,532	—	—	—	—	1,500,000	—	—	—	—	—
14. Meat .....	—	—	—	—	—	—	—	—	—	—	2
15. Ghee .....	—	—	—	—	—	—	—	—	—	—	1
Total food .....	196,159,184	—	1,458,679,316	—	5,50,93,81,101	49,464,000	308,857,749	1,07,93,04,461	6,58,86,85,562	71.1	60
SECTION II.											
16. Tea .....	391,120	345	1,204,789	59.70	7,19,23,903	7,837	18,713	11,19,166	7,30,43,069	0.8	1
17. Coffee .....	260,520	142	330,302	71.80	2,37,15,684	6,242	40,559	29,12,136	2,66,27,820	0.3	1
18. Cotton .....	10,509,263	92	8,632,609	21.83	18,94,49,854	5,562,500	4,479,911	9,77,96,458	28,62,46,312	3.1	3
19. Jute .....	2,230,570	1,463	29,136,821	6.42	18,70,58,391	—	—	—	18,70,58,391	2.0	2
20. Indigo .....	1,535,613	164	224,862	318.20	7,05,51,088	100,000	14,643	46,59,403	7,52,10,491	0.8	2
21. Opium .....	556,255	14.1	70,029	819.01	5,73,60,754	381,444	48,021	3,98,34,001	9,66,94,755	1.0	2
22. Tobacco .....	1,220,066	1,560	16,993,777	11.00	18,69,31,547	400,000	5,571,429	6,12,85,719	24,82,17,266	2.6	2
23. Lined .....	4,322,324	334	12,889,788	5.48	7,06,36,038	4,405,000	13,136,336	7,19,87,138	14,26,23,176	1.6	1
24. Tili .....	3,360,688	325	9,752,005	6.55	6,38,75,633	1,000,000	2,901,786	1,90,06,698	8,28,82,331	0.9	1
25. Other seeds .....	7,420,828	380	25,211,702	7.65	19,28,69,520	5,129,000	17,401,964	13,31,25,025	32,59,94,545	3.5	2





B.—*Area of Cultivation in*

Province.	Rice.	Wheat.	Barley.	Jawar.	Bajra.	Ragi.
Madras .....	6,710,212	18,621	3,343	4,570,378	2,857,900	1,622,563
Bombay .....	2,418,937	2,459,131	59,898	7,879,059	4,845,030	639,774
Bengal .....	38,200,300	1,620,200	1,048,200	460,300*	—	802,700
North-West Provinces } and Oudh .....	7,902,582	4,894,796	2,059,315	527,831	560,758	329,031
Punjab .....	816,341	8,300,826	1,581,215	2,116,268	1,762,096	11,454
Central Provinces .....	4,473,344	3,934,555	14,332	1,285,707	28,306	16,315
Burma .....	6,399,151	20,969	—	636,286	53,235	—
Assam .....	1,322,131	18	—	—	—	—
Berar .....	37,050	928,481	5	2,105,016	70,734	—
Coorg, Ajmere, and } Manpur .....	76,512	38,541	87,632	72,673	21,781	1,609
Mysore .....	759,181	2,977	590	525,433	45,205	2,517,125
Native States (without } Mysore) .....	6,000,000	5,164,000	1,000,000	8,000,000	6,000,000	2,000,000
Total .....	75,115,741	27,383,115	5,854,530	28,181,951	16,245,045	7,940,571
	Sugar.	Cotton.	Jute.	Indigo.	Opium.	Coffee.
Madras .....	140,613	1,723,985	—	442,439	17	59,156
Bombay .....	86,959	3,187,588	—	13,303	—	61
Bengal .....	1,083,400	201,200	2,228,200	614,200	291,700	—
North-West Provinces } and Oudh .....	1,322,368	1,311,932	—	364,262	251,541	—
Punjab .....	327,604	890,144	—	101,144	9,726	—
Central Provinces .....	35,988	724,164	—	—	—	—
Burma .....	13,587	147,963	329	190	—	595
Assam .....	17,432	3,528	2,041	—	—	—
Berar .....	5,315	2,184,770	—	77	—	—
Coorg, Ajmere, and } Manpur .....	723	63,464	—	28	3,271	63,689
Mysore .....	35,117	70,525	—	—	—	137,019
Native States (without } Mysore) .....	1,000,000	5,562,500	—	100,000	381,444	6,242
Total .....	4,069,106	16,071,763	2,230,570	1,635,643	937,699	266,762

\* A portion of

*each Province, 1893-94.*

Maize.	Gram.	Other Grains and Pulses.	Linseed.	Til.	Other Seeds.	Spices.
71,483	131,130	5,573,282	40,358	777,573	1,063,140	373,269
146,458	854,252	3,090,100	381,919	466,684	1,500,245	213,767
2,031,600	1,397,200	5,895,800	777,200	520,000	2,956,600	236,900
1,450,988	3,533,118	15,651,429	742,062	204,542	204,121	63,643
1,312,196	3,135,385	2,810,395	41,849	232,220	910,650	26,376
58,968	1,085,615	3,101,940	1,759,285	532,671	282,872	35,664
131,673	42,108	165,237	295	424,590	1,875	17,877
—	—	67,477	—	17	197,471	—
978	256,236	366,160	578,428	85,309	87,792	31,629
67,769	35,629	40,104	869	41,620	3,694	795
2,636	560,139	648,121	59	75,462	222,368	102,184
2,000,000	5,000,000	10,000,000	4,405,000	1,000,000	5,129,000	300,000
7,274,749	16,030,813	47,410,045	8,727,324	4,360,688	12,559,828	1,402,104
Tea.	Tobacco.	Others. <i>Food.</i>	Others. <i>Non Food.</i>	Orchards.	Fodder.	Total.
5,784	125,062	—	366,119	650,093	83,518	27,410,038
—	98,493	86	155,571	176,955	33,795	28,708,070
110,800	730,500	1,704,200	513,500	889,800	129,700	64,444,200
8,418	85,984	243,885	180,498	308,705	721,802	42,923,611
9,237	68,153	331,168	72,407	123,101	655,994	25,645,949
—	22,180	278,994	73,419	94,107	282,261	18,120,687
883	55,524	211,165	48,080	266,305	637	8,641,554
255,998	13	36,484	32,097	184,801	—	2,119,508
—	20,660	2,044	14,243	16,202	—	6,791,129
—	38	11,267	2,382	201	1,258	635,549
—	13,454	39,540	28,150	146,262	5,234	5,936,781
7,837	400,000	1,500,000	600,000	1,500,000	800,000	67,856,023
398,957	1,620,066	4,358,833	2,086,466	4,356,532	2,714,199	299,233,099

this is bajra.

C.—*Index Numbers (or Percentages) of Rupee Prices. The Year 1871 = 100.*

No. of Article	1	2	3	4	5	6	7	8
Name of Commodity.	Rice.							
	Monghyr, Calcutta.	Common, Bengal, Eastern Division.	Common, Calcutta.	Common, Patna.	Common, Bengal, Deltaic Division.	Common, Bengal, Orissa Division.	Common, Madras, S. B. Coast Division.	Common, Madras, Salem.
Average rupee Price, 1871 = 100.	Rs. 2, 2, 6 per maund.	22, 59 seers per rupee.	20 seers per rupee.	22, 89 seers per rupee.	21, 39 seers per rupee.	29, 66 seers per rupee.	19, 92 seers per rupee.	19, 69 seers per rupee.
1861.....	87	66	101	81	80	89	128	155
'62.....	81	70	101	65	76	90	150	157
'63.....	84	77	103	61	78	98	138	142
'64.....	110	87	131	65	93	88	137	148
'65.....	131	127	157	99	127	135	158	172
'66.....	194	137	174	131	167	303	172	191
'67.....	116	101	118	100	110	181	214	245
'68.....	116	95	133	65	108	95	161	186
'69.....	113	114	131	112	108	123	162	177
1870.....	101	99	126	83	102	100	145	157
'71.....	100	100	100	100	100	100	100	100
'72.....	105	84	105	102	103	104	115	106
'73.....	117	93	164	130	107	91	113	116
'74.....	162	157	167	144	160	122	148	138
'75.....	133	118	139	96	127	116	129	121
'76.....	123	127	162	130	108	111	170	157
'77.....	162	148	169	126	139	169	250	280
'78.....	195	196	189	156	189	217	223	235
'79.....	182	193	190	152	181	189	169	190
1880.....	131	112	139	121	123	144	138	156
'81.....	95	84	118	96	93	98	125	126
'82.....	96	86	125	104	93	99	116	126
'83.....	123	106	126	129	108	111	116	122
'84.....	151	142	169	162	143	149	132	134
'85.....	163	145	200	139	152	162	150	159
'86.....	124	137	139	122	126	150	130	142
'87.....	116	118	111	101	107	134	134	134
'88.....	126	162	120	122	113	141	133	137
'89.....	156	155	148	152	152	174	149	140
1890.....	164	145	148	131	148	151	171	152
'91.....	159	145	150	131	142	161	180	184
'92.....	184	190	181	164	182	223	199	203
'93.....	200	212	201	140	191	202	194	196
'94.....	188	191	198	145	173	190	164	169
'95.....	160	141	165	124	138	137	165	165
Total .....	4,748	4,450	5,101	4,084	4,452	4,946	5,378	5,618
Average ...	135	127	146	117	127	141	153	161

C—*Contd. Index Numbers (or Percentages) of Rupee Prices. The Year 1871 = 100.*

No. of Article	9	10	11	12	13	14	15	16 to 30
Name of Commodity.	Rice.							
	Common, N.W.P., Eastern Division.	Common, N.W.P., Central Division.	Common, Burma, Rangoon.	Common, Burma, Tenuasserim Division.	Common, Central Provinces, Nagpur.	Common, Central Provinces, Jubbulpore.	Common, Hyderabad, Bolaram.	Aggregate of 1 to 15.
Average rupee. Price 1871 = 100.	16,03 seers per rupee.	17,07 seers per rupee.	18,0 seers per rupee.	23,23 seers per rupee.	18,6 seers per rupee.	16,06 seers per rupee.	9,94 seers per rupee.	
1861.....	91	127	163	97	93	70	72	1,500
'62.....	88	102	108	101	93	115	70	1,467
'63.....	94	102	108	101	88	115	88	1,477
'64.....	101	121	123	101	144	123	101	1,673
'65.....	128	140	123	105	169	146	90	2,007
'66.....	139	123	108	97	206	196	116	2,454
'67.....	108	123	136	102	206	143	104	2,107
'68.....	106	120	136	103	210	144	92	1,870
'69.....	130	140	149	105	173	174	96	2,007
1870.....	104	120	163	102	118	151	95	1,769
'71.....	100	100	100	100	100	100	100	1,500
'72.....	109	122	105	124	103	111	104	1,602
'73.....	115	130	133	127	106	106	100	1,748
'74.....	125	131	171	136	96	119	86	2,062
'75.....	86	107	115	112	102	92	83	1,676
'76.....	85	94	108	113	107	87	90	1,772
'77.....	109	127	127	123	127	109	146	2,315
'78.....	153	188	163	153	157	149	130	2,693
'79.....	119	143	169	171	144	128	107	2,417
1880.....	95	118	145	180	126	99	103	1,930
'81.....	89	119	129	142	100	89	104	1,607
'82.....	91	115	123	115	95	96	106	1,586
'83.....	104	124	140	137	93	91	102	1,732
'84.....	121	139	141	150	126	107	93	2,064
'85.....	110	118	120	134	121	93	90	2,056
'86.....	106	124	126	146	135	122	97	1,926
'87.....	107	132	139	145	152	121	99	1,850
'88.....	112	144	147	181	150	146	105	2,039
'89.....	132	147	147	191	160	159	115	2,277
1890.....	129	141	151	176	187	129	106	2,229
'91.....	130	158	169	176	149	112	99	2,245
'92.....	143	153	172	206	168	127	124	2,622
'93.....	135	155	132	181	158	115	104	2,516
'94.....	131	155	120	168	154	116	97	2,359
'95.....	128	147	120	160	156	111	94	2,111
Total .....	3,953	4,549	4,729	4,766	4,772	4,211	3,508	69,265
Average ...	113	130	135	136	136	120	100	1,979

C—Contd. *Index Numbers (or Percentages) of Rupee Prices. The Year 1871 = 100.*

No. of Article	31	32	33	34	35	36	37	38
Name of Commodity.	Wheat.					Jawar.		
	Common, N.W.P., Cawnpore.	Common, Punjab, Delhi.	Common, Central Provinces, Nagpur.	1st Quality, Central India, Nusseerabad.	Flour, Bombay, Poona.	Bombay.	Madras, Salem.	Hyderabad, Bolaram.
Average rupee, Price, 1871 = 100.	24,11 seers per rupee.	21,87 seers per rupee.	18,7 seers per rupee.	Rs. 2,75 per maund.	Rs. 4,75 per maund.	Rs. 2,53 per maund.	44,23 seers per rupee.	13,69 seers per rupee.
1861.....	139	148	65	119	56	83	211	51
'62.....	87	83	89	113	68	84	211	64
'63.....	84	86	117	101	91	115	192	85
'64.....	122	102	156	100	99	138	165	90
'65.....	143	110	144	121	108	119	211	73
'66.....	171	112	208	122	109	142	273	101
'67.....	143	103	208	112	93	136	383	79
'68.....	120	104	141	111	87	102	269	71
'69.....	209	187	185	229	117	135	237	69
1870.....	156	169	141	152	127	112	198	74
'71.....	100	100	100	100	100	100	100	100
'72.....	125	105	97	98	104	104	96	81
'73.....	145	115	86	99	85	85	192	76
'74.....	139	114	78	92	69	78	196	49
'75.....	103	102	74	83	81	79	175	55
'76.....	96	89	82	69	92	91	142	66
'77.....	149	118	98	84	114	162	534	136
'78.....	172	155	144	121	137	159	394	141
'79.....	169	155	157	126	146	144	279	104
1880.....	130	125	109	104	118	98	213	73
'81.....	117	112	91	86	101	72	163	51
'82.....	129	117	95	84	88	83	158	47
'83.....	129	115	93	84	86	85	141	49
'84.....	109	109	78	76	85	93	163	68
'85.....	107	97	81	66	77	88	208	62
'86.....	122	115	99	75	83	91	186	56
'87.....	146	148	110	112	96	90	154	62
'88.....	148	148	111	111	97	101	163	69
'89.....	144	126	116	94	97	97	169	66
1890.....	156	133	112	96	95	91	192	69
'91.....	166	157	129	112	91	93	243	68
'92.....	169	152	157	116	110	116	283	87
'93.....	156	135	124	105	101	118	243	94
'94.....	135	106	113	90	85	117	220	88
'95.....	149	128	124	101	81	107	203	68
Total .....	4,784	4,280	4,112	3,664	3,374	3,708	7,660	2,642
Average ....	137	122	117	105	96	106	219	75

C—Contd. *Index Numbers (or Percentages) of Rupee Prices. The Year 1871 = 100*

No. of Article	39	40	41	42	43	44	45	46
Name of Commodity.	Ragi.		Gram.		Bajra.		Maize.	Barley.
	Madras, South-East Coast Division.	Mysore.]	Punjab, Central Division.	North-West Provinces, Central Division.	Bombay, Deccan Division.	Madras, Salem.	Chota Nagpur.	Delhi.
Average rupee, Price, 1871 = 100.	40,0 seers per rupee.	55,6 seers per rupee.	23,53 seers per rupee.	25,55 seers per rupee.	17,51 seers per rupee.	34,16 seers per rupee.	31,86 seers per rupee.	30,79 seers per rupee.
1861.....	154	182	135	126	68	173	114	181
'62.....	169	200	59	77	78	162	116	71
'63.....	152	182	54	74	120	141	159	70
'64.....	143	205	71	106	175	125	159	91
'65.....	164	216	85	111	139	158	152	108
'66.....	203	265	81	118	153	208	199	99
'67.....	272	505	113	95	110	275	118	99
'68.....	199	331	139	92	70	197	76	99
'69.....	179	177	226	254	84	169	100	188
1870.....	161	152	156	124	104	141	86	127
'71.....	100	100	100	100	100	100	100	100
'72.....	111	121	114	104	104	100	100	100
'73.....	132	150	87	117	81	141	87	111
'74.....	165	185	75	123	63	148	142	109
'75.....	146	210	80	98	70	135	98	100
'76.....	197	378	65	74	98	170	90	86
'77.....	407	735	72	109	171	458	93	98
'78.....	305	505	149	170	158	297	122	151
'79.....	211	224	160	167	158	210	120	154
1880.....	161	187	132	122	93	172	87	119
'81.....	131	221	121	112	59	134	80	107
'82.....	120	261	86	96	68	140	87	113
'83.....	120	198	73	90	75	123	103	111
'84.....	129	202	68	95	90	137	132	113
'85.....	163	241	77	90	102	172	125	84
'86.....	135	202	86	90	85	161	103	101
'87.....	138	149	109	106	79	125	97	149
'88.....	140	165	117	134	93	138	139	150
'89.....	147	187	90	110	105	146	128	127
1890.....	168	198	104	125	92	142	116	148
'91.....	205	262	120	148	91	183	140	158
'92.....	243	291	122	122	112	224	155	137
'93.....	227	242	96	111	88	205	164	113
'94.....	186	222	69	108	98	172	156	102
'95.....	160	212	96	126	85	152	163	129
Total .....	6,143	8,463	3,587	4,024	3,524	6,034	4,206	4,103
Average ....	175	242	102	115	101	172	120	117

*C—Contd. Index Numbers (or Percentages) of Rupee Prices. The Year 1871 = 100.*

No. of Article	47	48	49	50	51	52	53	54
Name of Commodity.	Other Grains.					Vegetables.	Sugar.	
	Arhar, Allahabad.	Arhar, N.W.P., Sub-Montano Division.	Mung Dal, Lucknow.	Masur, Lucknow.	Chenna, Cawnpore.	Potatoes, Bombay.	Gurputty, Calcutta.	Dhulloah, Calcutta.
Average rupee, Price, 1871 = 100.	19,95 seers per rupee.	20,50 seers per rupee.	Rs. 3,11,7 per maund.	Rs. 2,3,2 per maund.	Rs. 2,0,6 per maund.	Rs. 3,4,3 per maund.	Rs. 8,7 per maund.	Rs. 7,9 per maund.
1861.....	63	86	79	—	—	74	80	90
'62.....	64	70	83	—	—	80	92	97
'63.....	68	65	110	—	—	64	90	89
'64.....	77	89	150	—	—	97	100	96
'65.....	78	103	151	—	—	119	89	92
'66.....	110	111	135	—	—	120	95	96
'67.....	74	91	111	—	—	185	83	90
'68.....	69	83	91	—	—	271	86	91
'69.....	122	150	116	—	—	163	90	97
1870.....	92	96	108	—	—	154	91	101
'71.....	100	100	100	100	100	100	100	100
'72.....	110	113	113	100	100	106	94	99
'73.....	126	113	81	100	100	99	97	89
'74.....	136	148	74	100	100	106	84	90
'75.....	102	124	73	100	100	101	83	90
'76.....	73	85	67	106	96	110	82	84
'77.....	94	111	122	165	183	126	102	109
'78.....	211	212	190	218	223	227	102	106
'79.....	181	190	120	195	218	129	105	113
1880.....	103	130	90	125	147	110	105	115
'81.....	97	112	93	123	136	123	101	106
'82.....	93	117	95	146	123	110	99	106
'83.....	81	106	90	139	112	98	98	108
'84.....	92	121	88	160	118	101	92	101
'85.....	99	108	85	164	121	101	93	99
'86.....	97	89	85	161	120	111	94	100
'87.....	103	98	110	167	151	103	90	94
'88.....	111	103	129	189	157	106	77	85
'89.....	102	97	119	176	143	136	92	106
1890.....	102	106	126	194	173	235	102	106
'91.....	111	125	152	194	169	135	89	99
'92.....	95	108	123	188	153	143	92	98
'93.....	95	107	94	164	124	100	105	112
'94.....	98	100	106	171	133	103	98	104
'95.....	114	135	111	178	150	73	87	94
Total .....	3,543	3,902	3,770	3,823	3,450	4,319	3,267	3,452
Average ...	101	111	108	153	138	123	93	99



*C—Contd. Index Numbers (or Percentages) of Rupee Prices. The Year 1871 = 100*

No. of Article	55	56	57	58	59	60		
Name of Commodity.	Sugar.		Spices.	Ghee. Export Bombay.	Meat.		Total Food	
	Jaggery Cane, Madras.	Jaggery, Palmyra, Madras.	Ginger. Export Accounts.		Mutton, Bombay.	Beef, Bombay.	Total.	Average Index Number.
Average rupee, Price, 1871 = 100.	Rs. 23,6 per candy.	Rs. 16,5 per candy.	Rs. 0'080 per lb.	Rs. 32,58 per maund.	Rs. 0'52 per seer.	Rs. 0'49 per seer.		
1861.....	116	145	127	94	65	45	6,069	105
'62.....	120	151	182	96	71	43	5,814	100
'63.....	123	155	186	82	77	45	5,931	102
'64.....	119	148	184	104	50	47	6,604	114
'65.....	123	155	97	127	55	58	7,423	128
'66 ..	130	165	106	138	112	95	8,885	153
'67.....	119	148	105	135	117	92	8,408	145
'68.....	92	110	107	124	117	92	7,281	126
'69.....	137	172	102	125	110	98	8,241	142
1870.....	116	144	97	125	125	108	7,083	122
'71.....	100	100	100	100	100	100	6,000	100
'72.....	101	127	140	120	96	103	6,390	106
'73 ..	89	101	186	105	83	90	6,744	112
'74.....	89	108	215	89	117	92	6,497	125
'75 ..	89	99	199	106	107	80	6,494	108
'76.....	93	108	186	108	102	88	6,917	115
'77.....	135	145	186	117	85	86	9,934	166
'78.....	112	139	157	116	98	92	10,869	181
'79.....	119	148	204	113	87	72	9,512	160
1880.....	113	144	169	110	83	80	7,532	126
'81.....	112	136	165	110	90	76	6,552	109
'82.....	105	127	195	122	94	82	6,558	109
'83.....	102	116	221	128	96	88	6,722	112
'84.....	85	108	227	136	102	84	7,490	125
'85.....	89	102	185	132	98	80	7,508	125
'86.....	94	117	155	131	96	84	7,176	120
'87.....	88	101	205	131	96	86	7,193	120
'88.....	98	116	179	139	94	80	7,765	130
'89.....	113	139	132	142	96	76	8,172	136
1890.....	90	100	124	135	96	82	8,266	138
'91.....	91	105	197	126	98	77	8,624	144
'92.....	107	113	312	132	96	81	9,681	161
'93.....	119	135	403	134	96	68	9,210	153
'94.....	93	102	292	128	84	80	8,477	141
'95.....	99	99	256	124	54	48	7,928	132
Total .....	3,720	4,428	6,233	4,148	3,243	2,778	266,950	—
Average ....	106	127	178	120	93	79	—	—

C—Contd. *Index Numbers (or Percentages) of Rupee Prices. The Year 1871 = 100.*

No. of Article	61	62	63	64	65	66	67	68	69
Name of Commodity.	Tea and Coffee.		Cotton.			Jute.		Indigo.	
	Tea.	Coffee.	Dhawalwar.	Broach.	Dhollera.	Picked.	Double Triangle, M.	Bengal, Good.	Consuming.
Average rupee, Price. 1871 = 100.	Rs. 0.85 per lb.	Rs. 26.31 per cwt.	Rs. 217 per candy.	Rs. 222 per candy.	Rs. 203 per candy.	Rs. 33,12,3 per bale.	Rs. 24,9 per bale.	Rs. 307,5 per maund.	Rs. 253,7 per maund.
1861.....	102	93	81	80	76	46	45	89	78
'62.....	89	104	188	145	153	57	56	102	92
'63.....	86	105	270	241	246	68	75	80	85
'64.....	94	105	292	264	288	71	71	80	71
'65.....	82	96	190	166	171	63	57	83	76
'66.....	61	100	176	149	167	67	72	86	76
'67.....	104	100	112	109	105	57	75	92	78
'68.....	98	94	105	105	108	55	72	103	93
'69.....	96	102	141	134	138	58	76	105	100
1870.....	99	103	125	125	122	107	97	102	100
'71.....	100	100	100	100	100	100	100	100	100
'72.....	103	108	119	121	116	87	88	96	97
'73.....	104	128	97	106	99	70	74	89	82
'74.....	108	176	87	92	86	84	103	92	89
'75.....	106	151	88	97	85	68	88	85	77
'76.....	108	151	80	86	84	74	92	88	77
'77.....	108	171	89	94	94	87	107	84	77
'78.....	107	170	93	91	96	82	108	79	73
'79.....	96	174	95	105	103	78	106	100	95
1880.....	80	169	98	111	103	91	122	96	96
'81.....	86	161	88	100	94	82	111	92	96
'82.....	78	152	95	102	96	61	85	92	92
'83.....	79	154	80	92	84	65	93	97	91
'84.....	76	153	88	100	93	69	98	92	87
'85.....	72	140	92	100	99	61	94	94	85
'86.....	72	138	84	96	91	71	90	73	87
'87.....	69	192	93	103	96	77	98	68	76
'88.....	66	200	97	109	103	89	113	76	89
'89.....	60	222	100	110	107	106	133	72	84
1890.....	58	239	98	107	99	86	109	71	74
'91.....	60	231	81	93	87	90	106	69	68
'92.....	62	240	87	94	88	121	150	85	96
'93.....	63	264	99	110	103	112	139	95	104
'94.....	65	268	87	97	91	112	148	89	90
'95.....	67	289	91	103	95	102	136	91	93
Average ....	2,964	5,543	3,986	4,037	3,966	2,774	3,337	3,087	3,024
Total .....	85	158	114	115	113	79	97	88	86

C—Contd. *Index Numbers (or Percentages) of Rupee Prices. The Year 1871 = 100.*

No. of Article	70	71	72	73	74	75	76	77
Name of Commodity.	Opium.		Tobacco.		Seeds.			
	Behar.	Malwa.	Central India, Nuseerabad.	Bombay.	Linseed, Bold.	Til.	Rape, Yellow, Mixed.	Castor.
Average rupee, Price. 1871 = 100.	Rs. 1331 per chest.	Rs. 1433 per chest.	Rs. 0'51 per seer.	Rs. 1,01 per seer.	Rs. 4,7'4 per maund.	Rs. 6,01 per cwt.	Rs. 4,75 per maund.	Rs. 4,93 per cwt.
1861 .....	139	107	66	56	84	86	107	97
'62.....	111	111	64	61	87	88	86	97
'63.....	105	110	85	61	92	91	80	97
'64.....	77	101	83	94	92	91	88	95
'65.....	74	100	92	141	98	85	80	86
'66.....	101	117	108	116	112	112	76	96
'67.....	100	111	66	138	107	95	67	109
'68.....	105	103	45	125	105	100	81	109
'69.....	97	100	86	118	108	100	92	93
1870 .....	85	100	68	114	103	99	98	102
'71.....	100	100	100	100	100	100	100	100
'72.....	108	94	94	100	106	100	107	114
'73.....	98	93	96	99	105	100	96	107
'74.....	93	91	128	93	111	100	82	93
'75.....	95	88	119	84	92	96	79	91
'76.....	98	90	98	83	94	100	89	88
'77.....	98	95	94	93	102	119	99	123
'78.....	96	119	98	111	106	127	101	137
'79.....	89	115	98	103	112	121	100	100
1880.....	102	122	98	87	104	117	89	115
'81.....	102	112	98	84	96	114	83	95
'82.....	95	100	90	84	85	100	86	92
'83.....	95	86	79	83	87	112	104	94
'84.....	98	87	88	84	96	120	91	92
'85.....	96	83	88	83	96	116	77	89
'86.....	88	84	81	84	100	110	75	98
'87.....	82	84	79	83	96	112	77	89
'88.....	83	93	70	85	98	120	81	102
'89.....	88	92	70	83	109	125	103	137
1890.....	80	82	96	79	104	122	93	127
'91.....	79	81	98	79	104	120	98	109
'92.....	91	83	104	80	119	131	96	114
'93.....	86	82	106	87	123	132	98	116
'94.....	94	87	98	76	127	130	94	92
'95.....	107	96	106	70	126	135	104	96
Total .....	3,335	3,399	3,137	3,201	3,586	3,826	3,157	3,598
Average ....	95	97	90	91	102	109	90	103

C—Contd. *Index Numbers (or Percentages) of Rupee Prices. The Year 1871 = 100.*

No. of Article	78	79	80	81	82	83	84
Name of Commodity.	Miscellaneous.						
	Saltpetre, 5 per Cent. Refined.	Cutch, Rangoon.	Myrabolams.	Manure, Animal Bones.	Coal.	Raw Silk, Surdales.	Raw Wool.
Average rupee, Price. 1871 = 100.	Rs. 7,4 per maund.	Rs. 6,87 per cwt.	Rs. 3,14 per cwt.	Rs. 25,21 per ton.	Rs. 6 per maund.	Rs. 22,5 per seer.	Rs. 0'335 per lb.
1861.....	99	119	74	—	133	77	69
'62.....	105	124	74	—	133	82	100
'63.....	111	119	79	—	133	83	150
'64.....	100	120	83	—	133	77	146
'65.....	82	120	80	—	133	101	107
'66.....	76	130	90	—	133	106	111
'67.....	66	164	97	—	133	104	111
'68.....	72	169	103	—	117	112	91
'69.....	82	157	113	—	117	112	106
1870.....	95	122	111	99	100	109	107
'71.....	100	100	100	100	100	100	100
'72.....	108	107	96	92	100	100	124
'73.....	99	103	100	101	100	95	134
'74.....	84	107	92	127	75	76	142
'75.....	77	118	118	129	58	58	138
'76.....	76	133	118	136	58	98	135
'77.....	93	141	142	127	54	100	126
'78.....	91	123	136	127	54	78	121
'79.....	85	143	134	138	54	77	117
1880.....	93	202	132	149	54	77	136
'81.....	92	192	120	154	52	80	120
'82.....	88	191	122	142	52	83	107
'83.....	82	167	127	191	52	72	101
'84.....	73	167	134	168	52	66	113
'85.....	74	164	139	185	52	59	112
'86.....	81	201	127	191	52	87	113
'87.....	82	227	112	192	50	83	119
'88.....	85	230	125	198	48	74	126
'89.....	89	211	126	209	52	81	137
1890.....	86	220	139	212	52	81	137
'91.....	86	221	162	212	49	75	134
'92.....	94	239	159	202	50	72	136
'93.....	101	250	165	214	49	86	134
'94.....	118	265	141	228	51	75	132
'95.....	124	293	130	236	64	72	132
Total .....	3,149	5,859	4,100	4,259	2,749	2,968	4,224
Average ....	90	167	117	164	78	85	121

C—Contd. *Index Numbers (or Percentages) of Rupee Prices. The Year 1871 = 100.*

No. of Article	85	86	87	88	89		
Name of Commodity.	Hides and Skins.			Timber.		Total Raw Produce and Materials.	
	Raw Hides, Buffalo, Patna, Slaughtered, Arsenic.	Raw Hides, Cow, Burdwan, Slaughtered.	Raw Skins, Goat, Calcutta.	Bamboos, Calcutta.	Teak, Rangoon.	Total.	Average Index Number.
Average rupee, Price. 1871 = 100.	Rs. 5,94 per lb.	Rs. 49,4 per corgé.	Rs. 67,1 per 100.	Rs. 13,14,2 per 100.	Rs. 81,7 per ton.		
1861.....	100	83	58	—	117	2,361	87
'62.....	96	83	51	—	126	2,665	99
'63.....	95	85	67	—	89	2,988	111
'64.....	100	79	73	—	81	3,049	113
'65.....	87	77	68	—	107	2,702	100
'66.....	84	77	72	—	74	2,745	102
'67.....	87	77	62	—	64	2,590	96
'68.....	97	86	55	—	133	2,641	98
'69.....	101	90	79	—	99	2,800	104
1870.....	112	94	101	—	112	2,911	104
'71.....	100	100	100	100	100	2,900	100
'72.....	119	106	107	95	95	3,007	104
'73.....	122	105	98	93	101	2,894	100
'74.....	119	101	101	158	115	3,005	104
'75.....	102	89	101	130	102	2,809	97
'76.....	101	79	110	158	94	2,876	99
'77.....	99	75	117	90	84	2,982	103
'78.....	84	71	110	115	83	2,987	103
'79.....	105	70	103	143	83	3,042	105
1880.....	115	79	110	115	86	3,148	109
'81.....	118	89	106	115	96	3,028	104
'82.....	112	88	122	115	117	2,924	101
'83.....	100	96	121	115	123	2,922	101
'84.....	103	92	108	115	125	2,928	101
'85.....	103	89	115	122	100	2,879	99
'86.....	103	79	128	115	101	2,900	100
'87.....	97	75	129	111	103	2,954	102
'88.....	94	71	147	126	105	3,103	107
'89.....	86	66	142	126	108	3,234	112
1890.....	72	67	140	122	112	3,164	109
'91.....	72	69	156	122	99	3,110	107
'92.....	77	75	193	122	98	3,358	116
'93.....	78	84	166	86	103	3,435	118
'94.....	85	92	175	130	107	3,451	119
'95.....	102	110	213	158	107	3,648	126
Total .....	3,427	2,948	3,904	2,997	3,549	104,140	3,660
Average ....	98	84	112	120	103	3,051	105

*C—Contd. Index Numbers (or Percentages) of Rupee Prices. The Year 1871 = 100.*

No. of Article	90	91	92	93	94	95	96
Name of Commodity.	Cotton Goods.		Jute Goods.		Oils.		Silk Piece Goods, Corah No. 1.
	Yarn, 1, 203.	T. Cloth, 44-inch.	Bags, No. 2, Twill.	Bags for California.	Castor.	Cocoanut.	
Average rupee, Price. 1871 = 100.	8,5 annas per lb.	10,5 annas per lb.	Rs. 23,1 per 100.	Rs. 11,2 per 100.	Rs. 11,3 per maund.	Rs. 17,5 per maund.	Rs. 146,5 per corgé.
1861.....	—	—	77	96	109	—	87
'62.....	—	—	82	104	114	—	85
'63.....	—	—	90	115	99	—	84
'64.....	—	—	99	127	96	—	87
'65.....	—	—	98	109	91	—	86
'66.....	—	—	99	106	104	—	91
'67.....	—	—	94	86	107	—	106
'68.....	104	—	87	74	109	—	108
'69.....	96	—	93	81	96	—	107
1870.....	99	103	113	114	101	—	106
'71.....	100	100	100	100	100	100	100
'72.....	101	91	95	102	112	76	104
'73.....	98	84	81	79	111	71	105
'74.....	102	86	77	75	104	80	98
'75.....	83	74	77	83	85	69	82
'76.....	82	66	72	64	81	86	89
'77.....	88	76	82	87	114	86	79
'78.....	81	71	83	90	121	106	87
'79.....	79	69	75	76	104	86	93
1880.....	86	73	82	86	90	115	87
'81.....	87	77	100	114	82	86	88
'82.....	80	71	91	91	81	86	91
'83.....	76	68	83	100	87	86	87
'84.....	74	65	90	85	83	86	75
'85.....	72	63	77	69	77	86	70
'86.....	74	67	84	84	82	86	98
'87.....	72	66	110	97	80	75	107
'88.....	80	66	121	115	88	71	110
'89.....	81	67	113	119	109	71	121
1890.....	75	67	105	106	105	69	108
'91.....	70	68	100	99	111	69	105
'92.....	67	65	113	118	110	63	103
'93.....	76	69	103	110	111	74	110
'94.....	72	71	104	116	106	74	113
'95.....	70	70	104	117	105	80	111
Total .....	2,325	1,913	3,254	3,394	3,465	2,037	3,368
Average ....	83	74	93	97	99	81	96

*C—Contd. Index Numbers (or Percentages) of Rupee Prices. The Year 1871 = 100.*

No. of Article	97	98	99	100				
Name of Commodity.	Hides and Skins.			Shellac, 1st Orange.	Total Manufactures.		Grand Total.	
	Tanned Hides, Cow.	Tanned Skins, Goat.	Tanned Skins, Sheep.		Total.	Average Index Number.	Total.	Average Index Number.
Average rupee, Price. 1871 = 100.	7,5 annas per lb.	19,7 annas per lb.	13,8 annas per lb.	Rs. 47,4 per maund.				
1861.....	91	92	93	100	745	93	9,175	99
'62.....	91	79	100	113	768	96	9,247	99
'63.....	93	106	99	108	794	99	9,713	104
'64.....	87	116	96	96	804	100	10,457	112
'65.....	84	108	101	66	743	93	10,868	117
'66.....	84	113	100	56	753	94	12,383	133
'67.....	84	98	99	53	727	91	11,725	126
'68.....	93	87	94	57	813	90	10,735	114
'69.....	98	90	83	59	803	89	11,844	126
1870.....	107	96	87	78	1,004	100	10,998	115
'71.....	100	100	100	100	1,100	100	10,000	100
'72.....	93	103	98	116	1,091	99	10,488	105
'73.....	93	91	80	141	1,034	94	10,672	107
'74.....	99	86	77	202	1,086	99	11,588	116
'75.....	107	95	85	193	1,033	94	10,336	103
'76.....	100	90	77	106	913	83	10,706	107
'77.....	85	85	82	68	932	85	13,848	138
'78.....	80	91	82	62	954	87	14,810	148
'79.....	98	97	103	99	979	89	13,533	135
1880.....	100	95	112	140	1,066	97	11,746	117
'81.....	101	98	97	128	1,058	96	10,638	106
'82.....	104	96	105	103	999	91	10,481	105
'83.....	107	95	105	106	1,000	91	10,644	106
'84.....	107	90	99	88	942	86	11,360	114
'85.....	99	97	103	70	883	80	11,270	113
'86.....	104	100	94	66	939	85	11,015	110
'87.....	108	105	101	65	986	90	11,133	111
'88.....	89	110	107	74	1,031	94	11,899	119
'89.....	91	115	108	125	1,120	102	12,526	125
1890.....	92	110	99	119	1,055	96	12,485	125
'91.....	91	109	103	106	1,031	94	12,765	128
'92.....	89	109	113	118	1,068	97	14,107	141
'93.....	101	126	132	148	1,160	106	13,805	138
'94.....	116	129	127	175	1,203	109	13,131	131
'95.....	120	127	123	200	1,227	111	12,803	128
Total .....	3,386	3,534	3,464	3,704	33,844	3,300	404,934	—
Average ....	97	101	99	106	1,026	93	—	—



D.—*Index Numbers of*

Name of Province.	Approximate Cultivated Area (1,000,000 Acres).	Average Rainfall in Thirty-five Years, 1861-95, = 100 inches.	1861.	1862.	1863.	1864.
1. Punjab plains .....	28	22.2	109	138	134	89
2. North-West Provinces and Oudh .....	43	39.8	108	100	93	64
3. Madras (Malabar and Carnatic) } and Mysore .....	33	60.1	109	114	113	97
4. North, West, and Lower Bengal } .....	65	53.8	127	94	96	80
5. Assam and Eastern Bengal.....		97.5	99	100	88	89
6. Central Provinces and Berar .....	25	43.9	123	91	87	78
7. Bombay (North Deccan, Kou- kan, and Ghats) .....	29	86.8	121	103	105	92
8. Rajputana and Central India ...	68	36.3	111	139	116	78
9. Hyderabad .....		31.5	64	95	84	91
10. Lower Burma .....	9*	139.6	116	122	132	114
Total .....	—	—	1,087	1,096	1,048	872
Average .....	—	—	109	110	105	87
11. Orissa Division and North Circars .....	—	48.6	99	131	80	80
12. Madras, Carnatic, and Mysore } (included above) .....	—	32.5	88	103	99	88
13. Sindh, Gujrat, and Cutch .....	—	22.2	51	99	112	154

	1878.	1879.	1880.	1881.	1882.	1883.
1. Punjab plains .....	114	76	73	100	96	77
2. North-West Provinces and Oudh .....	86	124	67	90	84	73
3. Madras (Malabar and Carnatic) } and Mysore .....	118	100	100	79	121	107
4. North, West, and Lower Bengal.....	100	102	109	107	91	86
5. Assam and Eastern Bengal.....	111	104	113	127	104	92
6. Central Provinces and Berar .....	114	94	86	106	104	127
7. Bombay (North Deccan, Kou- kan, and Ghats) .....	130	101	73	90	88	113
8. Rajputana and Central India.....	93	99	79	98	106	82
9. Hyderabad .....	133	106	98	86	100	132
10. Lower Burma .....	97	100	102	101	104	97
Total .....	1,096	1,006	900	984	998	986
Average.....	110	101	90	98	100	99
11. Orissa Division and North Circars .....	131	97	108	97	106	99
12. Madras, Carnatic, and Mysore } (included above) .....	112	101	116	88	110	115
13. Sindh, Gujrat, and Cutch .....	168	91	94	125	111	95

\* For all

*Rainfall in India, 1861-95.*

1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.
116	90	89	70	102	75	78	111	94	91	132	100	110
92	87	134	67	89	128	137	103	89	121	99	79	56
98	84	83	84	96	92	109	107	96	124	84	72	108
100	103	110	94	96	105	124	87	80	106	93	103	98
93	101	99	90	94	98	98	104	79	104	102	96	94
94	81	108	71	95	105	79	107	83	96	109	80	90
99	99	97	93	98	98	77	102	90	121	111	77	76
90	94	125	56	97	96	114	98	100	105	120	105	60
90	80	85	75	107	115	52	110	83	95	103	54	82
113	106	106	109	98	93	113	90	93	84	105	87	101
985	925	1,036	809	972	1,005	981	1,019	887	1,047	1,058	853	875
98	92	104	81	97	100	98	102	89	105	106	85	87
75	100	104	83	83	103	81	124	91	107	103	84	92
88	92	77	93	93	103	101	113	91	130	80	55	112
102	98	77	95	137	90	82	99	85	93	107	94	51

1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	Total.
98	100	109	90	85	92	107	85	113	136	134	87	3,500
105	112	106	101	115	109	114	109	95	119	149	96	3,500
94	106	96	105	107	112	88	85	113	101	97	101	3,500
79	106	116	98	98	100	110	87	89	129	104	83	3,500
82	96	112	98	104	129	110	83	108	103	104	92	3,500
126	102	98	129	88	102	101	112	116	116	111	91	3,500
100	94	110	111	106	110	116	86	121	102	102	88	3,500
117	99	90	115	90	106	93	95	120	122	114	78	3,500
106	103	131	99	81	114	109	75	160	170	112	120	3,500
93	99	93	90	103	90	89	98	88	99	103	82	3,500
1,000	1,017	1,061	1,036	977	1,064	1,037	915	1,123	1,197	1,130	918	35,000
100	102	106	104	98	106	104	91	112	120	113	92	—
91	90	135	87	83	112	107	97	105	138	100	107	3,500
106	99	115	120	98	111	96	80	98	117	98	114	3,500
128	75	103	93	83	89	81	77	126	118	147	70	3,500

Burma.

E.—*Disposal of Silver*

1 Year.	2 Gross Import of Silver.	3 Silver Bullion Received into Mints.	4 Decrease in Circulation of ante 1835 Coin. See Col. 2 of Appendix J.	5 6 Ante 1835 Coin. How Disposed of.		7 Balance Silver Bullion, Col. 2 — Col. 3, and ante 1835 Coin Melted Down, Col. 6.
				Re-coined.	Melted Down.	
	Rx.	Rx.	Rx.	Rx.	Rx.	Rx.
1835.....	1,833,673	1,410,460	2,000,000	1,520,981	479,019	902,232
'36.....	1,640,840	1,526,332	2,700,000	2,687,402	12,698	133,106
'37.....	2,215,020	2,123,069	1,300,000	1,236,676	63,324	155,275
'38.....	2,850,380	2,337,770	1,100,000	1,009,096	90,904	603,514
'39.....	1,937,022	2,325,118	1,400,000	1,004,144	395,856	7,760
1840.....	1,707,483	1,932,954	1,100,000	870,065	239,935	4,464
'41.....	1,678,086	2,108,085	2,100,000	1,596,878	503,122	73,173
'42.....	3,235,011	3,045,023	800,000	587,990	212,010	401,998
'43.....	4,743,740	4,516,599	1,000,000	972,890	27,110	254,251
'44.....	3,176,048	3,898,958	1,700,000	894,524	805,476	82,566
'45.....	1,961,357	1,820,676	1,100,100	820,467	279,533	420,214
'46.....	2,087,082	2,277,038	1,200,000	717,900	482,100	292,144
'47.....	922,185	729,422	1,000,000	765,509	234,491	427,254
'48.....	2,798,628	2,093,893	600,000	588,014	11,986	716,721
'49.....	2,235,792	2,014,906	1,000,000	471,957	528,043	748,929
1850.....	2,656,498	2,308,384	1,200,000	941,488	258,512	606,626
'51.....	3,713,280	3,725,910	1,200,000	929,518	270,482	257,852
'52.....	5,490,237	5,493,757	1,000,000	392,684	607,316	603,786
'53.....	3,770,643	3,409,946	1,000,000	646,610	353,390	714,087
'54.....	1,145,137	553,057	1,200,000	531,859	668,141	1,260,221
'55.....	8,792,793	8,291,603	800,000	343,348	456,652	957,842
'56.....	12,237,695	10,938,404	1,000,000	300,000	700,000	1,999,271
'57.....	12,985,332	11,305,863	900,000	320,000	580,000	2,259,469
'58.....	8,379,692	5,924,730	700,000	100,000	600,000	3,049,962
'59.....	12,068,926	9,358,676	2,600,000	1,660,000	940,000	3,650,250
1860.....	6,434,636	4,025,065	500,000	100,000	400,000	2,809,571
'61.....	9,761,545	8,104,169	1,000,000	200,000	800,000	2,457,376
'62.....	13,627,401	11,253,139	500,000	80,000	420,000	2,794,262
'63.....	14,037,169	9,616,236	300,000	50,000	280,000	4,670,933
'64.....	11,488,320	8,895,241	800,000	200,000	600,000	3,193,079
'65.....	20,184,407	14,367,897	400,000	20,000	380,000	6,196,510
'66.....	8,655,432	5,750,197	200,000	60,000	140,000	3,045,235
'67.....	6,999,450	4,249,241	200,000	50,000	150,000	2,900,209
'68.....	9,978,978	5,780,572	200,000	40,000	160,000	4,358,406
'69.....	8,264,408	6,640,712	200,000	70,000	130,000	1,753,696
1870.....	2,662,237	981,556	200,000	60,000	140,000	1,820,681
'71.....	8,007,525	4,173,512	200,000	20,000	180,000	4,014,013
'72.....	1,934,214	1,899,786	200,000	50,000	150,000	184,428
'73.....	4,143,726	2,669,099	100,000	20,000	80,000	1,554,627
'74.....	6,051,810	4,694,185	135,000	40,000	95,000	1,452,625
'75.....	3,464,341	2,008,945	50,000	20,000	30,000	1,485,396
'76.....	9,992,408	7,865,988	25,000	10,000	15,000	2,141,420
'77.....	15,776,532	17,239,095	90,000	...	90,000	— 1,372,563
'78.....	5,593,099	6,557,359	...	...	...	— 963,660
'79.....	9,605,001	9,471,786	...	...	...	133,215
1880.....	5,316,156	3,185,210	...	...	...	2,130,946
'81.....	6,466,389	2,213,557	...	...	...	4,252,832
'82.....	8,358,022	5,137,489	...	...	...	3,220,533
'83.....	7,408,506	3,238,623	...	...	...	4,169,883
'84.....	9,110,025	6,444,363	...	...	...	2,665,662
'85.....	12,386,260	8,969,568	...	...	...	3,416,692
'86.....	8,219,761	4,760,299	...	...	...	3,459,462
'87.....	10,589,802	10,525,379	...	...	...	64,423
'88.....	10,725,872	6,806,730	...	...	...	3,919,142
'89.....	12,388,474	8,047,537	...	...	...	4,340,937
1890.....	15,433,654	12,624,320	...	...	...	2,809,334
'91.....	10,603,733	6,238,673	...	...	...	4,365,060
'92.....	15,228,021	12,140,019	...	...	...	3,088,002
'93.....	15,314,726	4,205,236	...	...	...	11,109,490
'94.....	7,824,927	18,024	...	...	...	7,806,903
'95.....	8,338,716	...	...	...	...	8,338,716

\* Includes exports and

*Bullion Imports.*

8			9	10	11	12	13	14	15	16
Silver Bullion, Col. 7. How disposed of.					Annual Demand for Ornaments.	Amount of Coin Melted for Ornaments, Col. 11 — Col. 9.	Amount Annually Required for Native Mints.	Amount Coined. Rupees Melted Down in Native Mints, Col. 13 — Col. 8.	Silver Exported.	Rupees Exported, Col. 15 — Col. 10.
Native Mintage.	Ornaments.	Exported.	Rx.	Rx.	Rx.	Rx.	Rx.	Rx.	Rx.	Rx.
200,000	702,232	...	...	1,300,000	597,768	200,000	...	221,777	221,777	221,777
133,106	...	...	...	1,300,000	1,300,000	200,000	66,894	307,958	307,958	307,958
155,275	...	...	...	1,300,000	1,300,000	200,000	44,725	248,076	248,076	248,076
250,000	353,514	...	...	1,300,000	946,486	250,000	...	205,250	205,250	205,250
7,760	...	...	...	1,300,000	1,300,000	250,000	242,240	286,551	286,551	286,551
4,464	...	...	...	1,300,000	1,300,000	250,000	245,536	305,813	305,813	305,813
73,173	...	...	...	1,400,000	1,400,000	250,000	176,827	394,858	394,858	394,858
250,000	151,998	...	...	1,400,000	1,248,002	250,000	...	282,566	282,566	282,566
254,251	...	...	...	1,400,000	1,400,000	350,000	95,749	1,047,699	1,047,699	1,047,699
82,566	...	...	...	1,400,000	1,400,000	350,000	267,434	1,187,486	1,187,486	1,187,486
350,000	70,214	...	...	1,400,000	1,329,786	350,000	...	1,028,867	1,028,867	1,028,867
292,144	...	...	...	1,500,000	1,500,000	350,000	57,856	708,833	708,833	708,833
350,000	77,254	...	...	1,500,000	1,422,746	350,000	...	1,416,376	1,416,376	1,416,376
450,000	266,721	...	...	1,500,000	1,233,279	450,000	...	2,484,724	2,484,724	2,484,724
450,000	298,929	...	...	1,500,000	1,201,071	450,000	...	962,185	962,185	962,185
450,000	156,626	...	...	1,600,000	1,443,374	450,000	...	539,273	539,273	539,273
257,852	...	...	...	1,600,000	1,600,000	450,000	192,148	817,923	817,923	817,923
450,000	153,786	...	...	1,700,000	1,546,214	450,000	...	885,203	885,203	885,203
500,000	214,087	...	...	1,700,000	1,485,913	500,000	...	1,464,899	1,464,899	1,464,899
500,000	760,221	...	...	1,700,000	939,779	500,000	...	1,115,537	1,115,537	1,115,537
500,000	467,842	...	...	1,700,000	1,242,158	500,000	...	598,418	598,418	598,418
500,000	1,499,271	...	...	1,800,000	300,729	500,000	...	1,164,448	1,164,448	1,164,448
500,000	800,000	959,469	...	800,000	...	500,000	...	766,384	766,384	766,384
600,000	800,000	1,649,962	...	800,000	...	600,000	...	651,350	651,350	651,350
600,000	900,000	2,150,250	...	900,000	...	600,000	...	921,363	921,363	921,363
600,000	1,900,000	309,571	...	1,900,000	...	600,000	...	1,106,627	1,106,627	1,106,627
600,000	1,837,376	...	...	2,000,000	142,624	600,000	...	675,089	675,089	675,089
600,000	2,000,000	194,262	...	2,000,000	...	600,000	...	1,077,244	1,077,244	1,077,244
700,000	2,000,000	1,970,933	...	2,000,000	...	700,000	...	1,240,450	1,240,450	1,240,450
700,000	2,000,000	493,079	...	2,000,000	...	700,000	...	1,409,522	1,409,522	1,409,522
700,000	1,800,000	3,696,510	...	1,800,000	...	700,000	...	1,515,734	1,515,734	1,515,734
700,000	1,200,000	1,145,235	...	1,200,000	...	700,000	...	1,692,329	1,692,329	1,692,329
700,000	2,200,000	209	...	2,200,000	...	700,000	...	1,405,488	1,405,488	1,405,488
800,000	1,800,000	1,758,406	...	1,800,000	...	800,000	...	1,377,956	1,377,956	1,377,956
800,000	953,696	...	...	2,200,000	1,246,304	800,000	...	946,264	946,264	946,264
800,000	1,020,681	...	...	2,300,000	1,279,319	800,000	...	1,720,313	1,720,313	1,720,313
800,000	2,400,000	814,013	...	2,400,000	...	800,000	...	1,487,209	1,487,209	1,487,209
184,428	...	...	...	2,500,000	2,500,000	800,000	615,572	1,219,070	1,219,070	1,219,070
900,000	654,627	...	...	2,600,000	1,945,373	900,000	...	1,647,902	1,647,902	1,647,902
900,000	552,625	...	...	2,700,000	2,147,375	900,000	...	1,409,608	1,409,608	1,409,608
900,000	585,396	...	...	2,800,000	2,214,604	900,000	...	1,908,986	1,908,986	1,908,986
900,000	1,241,420	...	...	2,900,000	1,658,580	900,000	...	2,793,536	2,793,536	2,793,536
...	1,372,563	...	...	1,000,000	1,000,000	900,000	900,000	1,100,197	1,100,197	1,100,197
...	963,660	...	...	1,100,000	1,100,000	1,000,000	1,000,000	1,623,005	1,623,005	1,623,005
133,215	...	...	...	963,660	963,660	1,000,000	866,785	1,735,259	1,735,259	1,735,259
1,000,000	1,130,946	...	...	1,200,000	1,200,000	1,000,000	...	1,423,582	1,423,582	1,423,582
1,000,000	3,252,832	...	...	3,400,000	2,169,054	1,000,000	...	1,087,339	1,087,339	1,087,339
1,000,000	2,920,533	...	...	3,500,000	147,168	1,000,000	...	877,795	877,795	877,795
1,100,000	3,069,883	...	...	3,600,000	1,279,467	1,100,000	...	1,003,355	1,003,355	1,003,355
1,100,000	1,565,662	...	...	3,700,000	530,117	1,100,000	...	1,864,394	1,864,394	1,864,394
1,100,000	2,316,692	...	...	3,800,000	2,134,338	1,100,000	...	779,631	779,631	779,631
1,100,000	2,359,462	...	...	3,900,000	1,483,308	1,100,000	...	1,064,023	1,064,023	1,064,023
64,423	...	...	...	4,000,000	1,540,538	1,100,000	1,035,577	1,361,052	1,361,052	1,361,052
1,200,000	2,719,142	...	...	4,100,000	4,000,000	1,200,000	...	1,479,193	1,479,193	1,479,193
1,200,000	3,140,937	...	...	4,200,000	1,380,858	1,200,000	...	1,450,598	1,450,598	1,450,598
1,200,000	1,609,334	...	...	4,300,000	1,059,063	1,200,000	...	1,258,518	1,258,518	1,258,518
1,105,938	3,259,122	...	...	4,400,000	2,690,666	1,105,938	...	1,581,549	1,581,549	1,581,549
1,551,219	1,536,783	...	...	4,500,000	1,140,878	1,551,219	...	2,364,452	2,364,452	2,364,452
1,993,733	4,600,000	4,515,757*	...	4,600,000	2,963,217	1,993,733	...	1,594,908	1,594,908	1,594,908
879,316	4,700,000	2,227,537*	...	4,700,000	...	879,316	...	1,495,698	1,495,698	1,495,698
1,097,560	4,800,000	2,441,136*	...	4,800,000	...	1,097,560	...	1,756,494	1,756,494	1,756,494

decrease in hoards.

F.—*Circulation*

1	2	3	4	5	6	7	8	9
Year.	Approximate Circulation of Rupees, including Cash Balance in Treasuries Coined before 1835.	Coinage since 1835, Bullion and Old Coins before 1835.	Coinage to Date.	Issue of Paper Money without Coin Reserve.	Issue of Paper Money without Coin Reserve to Date.	Net Import of Treasure Inland.	Ditto to Date.	Total Cols. 2+4+6+8 = Gross Circulation.
	Rx.	Rx.	Rx.	Rx.	Rx.	Rx.	Rx.	Rx.
1835...	35,000,000	2,329,020	2,329,020	...	...	...	...	37,329,020
'36...	32,300,000	3,372,189	6,201,209	...	...	...	...	38,501,209
'37...	31,000,000	3,375,576	9,576,785	...	...	...	...	40,576,785
'38...	29,900,000	3,970,619	13,547,404	...	...	...	...	43,447,404
'39...	28,500,000	3,069,967	16,617,371	...	...	...	...	45,117,371
1840...	27,400,000	2,924,670	19,541,941	...	...	...	...	46,941,941
'41...	25,300,000	3,760,264	23,302,205	...	...	...	...	48,602,205
'42...	24,500,000	3,294,786	26,596,991	...	...	...	...	51,096,991
'43...	23,500,000	4,696,814	35,966,509	...	...	...	...	54,759,695
'44...	21,800,000	3,856,218	39,822,727	...	...	...	...	57,766,509
'45...	20,700,000	2,920,352	42,743,579	...	...	...	...	60,522,747
'46...	19,500,000	1,782,257	44,525,836	...	...	...	...	62,243,579
'47...	18,500,000	2,578,666	47,104,702	...	...	...	...	63,025,836
'48...	17,900,000	2,411,208	49,515,910	...	...	...	...	65,004,702
'49...	16,900,000	2,616,417	52,132,327	...	...	...	...	66,415,910
1850...	15,700,000	4,248,491	56,380,818	...	...	...	...	67,832,327
'51...	14,500,000	5,509,965	61,890,783	...	...	...	...	70,880,818
'52...	13,500,000	5,253,437	67,144,220	...	...	...	...	75,393,783
'53...	12,500,000	1,365,901	68,510,121	...	...	...	...	79,641,220
'54...	11,300,000	6,973,659	75,483,780	...	...	...	...	79,810,121
'55...	10,500,000	10,779,286	86,263,066	...	...	...	...	85,993,780
'56...	9,500,000	12,551,303	98,814,369	...	...	...	...	95,763,066
'57...	8,600,000	6,542,267	105,356,636	...	...	...	...	107,414,369
'58...	7,900,000	10,677,924	116,034,560	...	...	...	...	113,256,636
'59...	5,300,000	5,192,328	121,226,888	...	...	...	...	121,334,560
1860...	4,800,000	7,070,830	128,297,718	...	...	...	...	126,026,888
'61...	3,800,000	9,251,468	137,549,186	...	...	...	...	132,097,718
'62...	3,300,000	11,477,425	149,026,611	+ 684,886	684,886	...	...	140,849,186
'63...	3,000,000	10,568,423	159,385,034	+ 1,802,392	2,487,278	...	...	152,711,497
'64...	2,200,000	14,224,937	173,609,971	+ 1,087,239	3,574,517	...	...	164,072,312
'65...	1,800,000	5,836,754	179,446,725	+ 405,736	3,980,253	...	...	178,984,488
'66...	1,600,000	4,031,182	183,477,907	- 728,198	3,252,055	...	...	185,026,978
'67...	1,400,000	3,924,925	187,402,835	...	3,252,055	...	...	188,129,962
'68...	1,200,000	7,191,437	194,594,282	+ 660,951	2,913,006	...	...	191,854,890
'69...	1,000,000	1,456,094	196,030,366	- 309,665	3,603,351	...	...	199,507,298
1870...	800,000	1,408,291	197,438,677	- 376,150	3,227,201	...	...	200,433,737
'71...	600,000	3,698,824	201,137,501	+ 2,682,175	5,909,876	...	...	201,265,878
'72...	400,000	2,087,904	203,225,405	- 215,423	5,693,953	...	...	207,446,877
'73...	300,000	4,614,781	207,840,186	...	5,693,953	...	...	209,229,355
'74...	165,000	2,517,795	210,357,981	...	5,693,953	...	...	213,699,139
'75...	115,000	6,249,388	216,607,369	...	5,693,953	...	...	216,166,934
'76...	90,000	16,090,843	232,698,212	+ 304,137	5,998,090	+ 93,220	93,220	222,391,322
'77...	...	7,143,189	239,841,401	- 304,844	5,693,246	+ 94,212	187,432	238,789,522
'78...	...	10,172,035	250,013,436	+ 305,871	5,999,117	+ 219,166	406,598	245,722,079
'79...	...	4,088,691	254,102,127	- 2,042	5,997,075	+ 255,535	602,133	256,416,151
1880...	...	1,547,329	255,649,456	- 4,657	5,992,418	- 21,714	640,419	260,761,335
'81...	...	5,764,354	261,413,810	+ 7,579	5,999,997	+ 209,996	830,415	262,282,293
'82...	...	3,193,872	264,547,682	...	5,999,997	- 198,588	631,827	268,261,222
'83...	...	5,543,849	270,091,531	+ 3	6,000,000	+ 292,217	944,044	271,199,506
'84...	...	9,932,797	279,915,328	- 250	5,999,750	+ 206,454	1,150,498	277,035,575
'85...	...	4,552,896	284,468,224	- 250	5,999,500	+ 164,886	1,315,384	287,065,576
'86...	...	10,313,834	294,782,058	- 250	5,999,250	+ 413,333	1,728,717	291,783,708
'87...	...	6,800,992	301,583,050	- 247	5,999,003	+ 704,059	2,432,776	302,510,025
'88...	...	8,217,268	309,800,318	- 17,000	5,982,003	+ 49,125	2,491,901	310,014,829
'89...	...	13,051,281	322,851,599	+ 17,995	5,999,998	+ 130,006	2,611,907	318,261,222
1890...	...	5,360,014	328,211,613	+ 999,998	6,999,996	+ 134,480	2,746,367	331,463,501
'91...	...	12,509,200	340,720,813	+ 1,000,004	8,000,000	- 2,166	2,744,201	337,957,976
'92...	...	4,582,972	345,303,785	...	8,000,000	+ 47,817	2,791,418	351,465,014
'93...	...	43,999	345,347,784	...	8,000,000	+ 77,302	3,774,066	356,095,203
'94...	...	...	345,347,784	...	8,000,000	+ 905,344	3,774,066	357,121,850
'95...	...	...	345,347,784	...	8,000,000	- 64,189	4,433,349	357,781,133

\* From 1835 to 1862 the cash balance on last day of financial year; from 1863 the average on last day of each month.

of India.

10	11	12	13	14	15	16	17	1
*Average of Cash Balance at Treasuries on Last Day of each Month.	Coin Hoarded each Year.	Coin Hoarded to Date.	Coin Melted in Native Mints to Date, Col. 14 of Appendix E.	Coin Melted into Ornaments to Date, Col. 12 of Appendix E.	Rupees Exported to Date, Col. 16 of Appendix E.	Total Cols. 10, 12, 13, 14, and 15.	Active Circulation, Col. 9 — Col. 16.	Index Number on Basis of 1871.
Rx.	Rx.	Rx.	Rx.	Rx.	Rx.	Rx.	Rx.	
10,898,614	300,000	300,000		597,768	221,777	12,018,159	25,510,861	...
10,510,884	300,000	600,000	66,894	1,897,768	529,735	13,605,281	24,895,928	...
10,622,093	300,000	900,000	111,619	3,197,768	777,811	15,609,291	24,967,494	...
9,502,714	300,000	1,200,000	111,619	4,144,254	953,061	15,942,648	27,504,756	...
9,464,875	300,000	1,500,000	353,859	5,444,254	1,269,612	18,032,600	27,081,771	...
8,931,799	300,000	1,800,000	599,395	6,744,254	1,575,425	19,650,872	27,291,068	...
8,555,957	400,000	2,200,000	776,322	8,144,254	1,970,783	21,416,716	27,155,489	...
8,531,375	400,000	2,600,000	776,322	9,392,256	2,252,849	21,852,702	26,244,289	...
11,021,358	400,000	3,000,000	871,971	10,792,256	3,300,548	25,986,133	25,783,562	...
11,337,979	400,000	3,400,000	1,139,405	12,192,256	4,488,033	32,557,674	24,982,947	...
9,554,957	400,000	3,800,000	1,139,405	13,522,042	5,516,901	33,532,405	26,990,322	...
11,101,871	400,000	4,200,000	1,197,261	15,022,042	6,225,734	37,746,908	24,496,671	...
10,937,626	400,000	4,600,000	1,197,261	16,444,788	7,612,110	39,921,785	23,204,051	...
11,042,456	400,000	5,000,000	1,197,261	17,678,067	10,136,834	45,344,618	19,960,084	...
12,433,234	400,000	5,400,000	1,197,261	18,379,138	11,089,019	48,998,652	17,417,258	...
12,871,571	500,000	5,900,000	1,197,261	20,322,512	11,628,292	51,919,638	15,915,689	...
14,582,077	500,000	6,400,000	1,389,409	21,922,512	12,476,215	56,970,213	13,910,605	...
15,389,135	500,000	6,900,000	1,389,409	23,468,726	13,361,418	60,508,683	14,882,095	...
14,067,461	500,000	7,400,000	1,389,409	24,954,459	14,826,317	62,637,826	17,006,394	...
10,169,800	500,000	7,900,000	1,389,409	25,894,418	15,941,854	61,295,531	18,514,390	...
12,846,223	600,000	8,500,000	1,389,409	27,136,576	16,340,272	66,412,430	19,571,300	...
13,870,975	600,000	9,100,000	1,389,409	27,437,305	17,704,720	69,508,409	26,254,659	...
14,611,359	600,000	9,500,000	1,389,409	27,437,305	17,511,633	70,449,708	36,964,661	...
10,707,020	600,000	10,000,000	1,389,409	27,437,305	16,513,025	65,746,757	47,609,879	...
16,801,712	600,000	10,700,000	1,389,409	27,437,305	15,284,136	71,012,562	50,321,998	...
14,608,120	600,000	11,300,000	1,389,409	27,437,305	16,081,192	70,216,026	55,810,862	...
17,883,278	600,000	11,900,000	1,389,409	27,579,929	16,756,281	74,973,977	57,188,821	51
17,872,118	600,000	12,500,000	1,389,409	27,579,929	17,639,263	76,930,819	64,468,467	57
16,731,377	700,000	13,200,000	1,389,409	27,579,929	16,908,780	75,109,495	77,602,003	69
12,070,454	700,000	13,900,000	1,389,409	27,579,929	17,825,223	72,665,015	91,407,297	81
12,215,241	700,000	14,600,000	1,389,409	27,579,929	15,644,447	70,729,026	108,255,462	96
11,738,144	800,000	15,400,000	1,389,409	27,579,929	16,191,541	71,499,023	113,527,955	100
10,792,946	800,000	16,200,000	1,389,409	27,579,929	17,596,820	72,759,104	115,370,558	102
9,337,949	800,000	17,000,000	1,389,409	27,579,929	17,211,370	72,223,657	119,631,335	106
9,813,078	900,000	17,100,000	1,389,409	28,926,353	18,162,634	75,291,354	124,215,944	110
12,694,998	900,000	18,000,000	1,389,409	30,105,552	19,582,947	82,072,900	118,360,831	105
17,087,452	1,000,000	19,000,000	1,389,409	30,105,552	20,556,143	88,138,556	113,127,312	100
19,566,615	1,100,000	20,100,000	2,004,981	32,605,552	21,775,213	96,052,361	111,394,516	98
17,331,153	1,100,000	21,300,000	2,004,981	34,550,725	23,423,115	98,510,174	110,719,184	98
13,261,045	1,200,000	22,400,000	2,004,981	36,698,300	24,832,723	99,107,030	114,502,090	101
14,539,287	1,300,000	23,700,000	2,004,981	38,912,904	26,741,709	105,898,881	110,268,053	97
14,280,659	1,400,000	25,100,000	2,004,981	40,571,484	29,535,245	111,492,369	110,898,953	93
11,567,847	500,000	25,600,000	2,004,981	40,138,921	30,635,442	110,907,191	127,882,331	113
12,399,517	400,000	26,000,000	3,904,981	40,335,261	32,258,447	114,898,206	130,823,873	116
13,639,917	400,000	26,400,000	4,771,766	41,535,261	33,993,706	120,340,650	136,075,501	120
11,934,218	1,400,000	27,800,000	4,771,766	43,704,315	35,471,288	123,631,587	137,079,748	121
12,435,733	1,500,000	29,300,000	4,771,766	43,551,183	36,504,627	126,864,609	135,418,684	120
14,010,967	1,600,000	30,900,000	4,771,766	45,130,950	37,382,422	132,106,105	136,468,117	120
13,143,692	1,700,000	32,600,000	4,771,766	45,661,067	38,385,777	134,562,302	136,637,204	121
11,519,725	1,800,000	34,400,000	4,771,766	47,795,105	40,250,171	138,737,097	138,298,508	122
10,919,450	1,900,000	36,300,000	4,771,766	49,278,713	41,039,802	142,299,731	144,765,845	123
12,078,475	2,000,000	38,300,000	4,771,766	50,819,251	42,093,825	148,063,317	143,719,791	127
11,347,850	2,100,000	40,400,000	5,807,343	54,819,351	43,154,877	155,829,321	146,681,704	130
12,397,058	2,200,000	42,600,000	5,807,343	56,200,109	44,934,070	161,938,580	148,076,249	131
11,051,842	—1,700,000†	40,900,000	5,807,343	57,259,172	46,384,168	162,003,025	156,261,197	133
12,303,567	2,400,000	43,300,000	5,807,343	59,949,838	47,643,186	168,903,934	162,559,570	144
14,152,858	2,500,000	45,800,000	5,807,343	61,090,716	49,224,735	176,075,652	161,882,324	143
13,559,375	2,600,000	48,400,000	5,807,343	64,053,933	51,589,187	183,409,838	168,055,176	145
14,966,542	2,700,000							
—2,920,819		48,179,151	5,807,343	64,053,933	53,184,095	186,191,064	166,904,139	147
21,978,192	2,800,000							
—1,972,342		49,006,809	5,807,343	64,053,933	54,424,548	195,270,825	161,851,025	143
17,366,258	2,900,000							
—1,843,418		50,003,391	5,807,343	64,053,933	55,583,324	192,874,249	164,006,884	146

† Four crores were received out of hoards from the Maharajah of Scindia.

‡ Import of Government Rupees by sea.



POSTSCRIPT.—Some of the figures necessary for the completion of the year 1896 were not obtained in time to include in the statements and diagrams attached to this paper. They are now accordingly given as a postscript:—

*Rupee Prices, 1896—Index Numbers.*<sup>1</sup>

August .....	= 136
September .....	= 145
October .....	= 160
November .....	= 171
December .....	= 166

Index number for the whole year 1896 = 140.

Food grains rose in price very considerably during the year, whilst the average for raw products other than food grains and manufactures was lower than in the previous year, the net result of the whole showing a rise of about  $9\frac{1}{3}$  per cent.

*Rainfall during 1896—Index Numbers.*

1. Punjab plains .....	= 60
2. North-West Provinces and Oudh .....	= 60
3. Madras (Malabar and Carnatic) and Mysore ....	= 110
4. North, West, and Lower Bengal .....	= 81
5. Assam and Eastern Bengal ..	= 80
6. Central Provinces and Berar .....	= 101
7. Bombay (North Deccan, Koukan, and Ghats).....	= 110
8. Rajputana and Central India .....	= 83
9. Hyderabad.....	= 74
10. Lower Burma .....	= 99
Rainfall for all India index number .....	= 68

*Rupee circulation for 1896—About Rx. 168,000,000.*

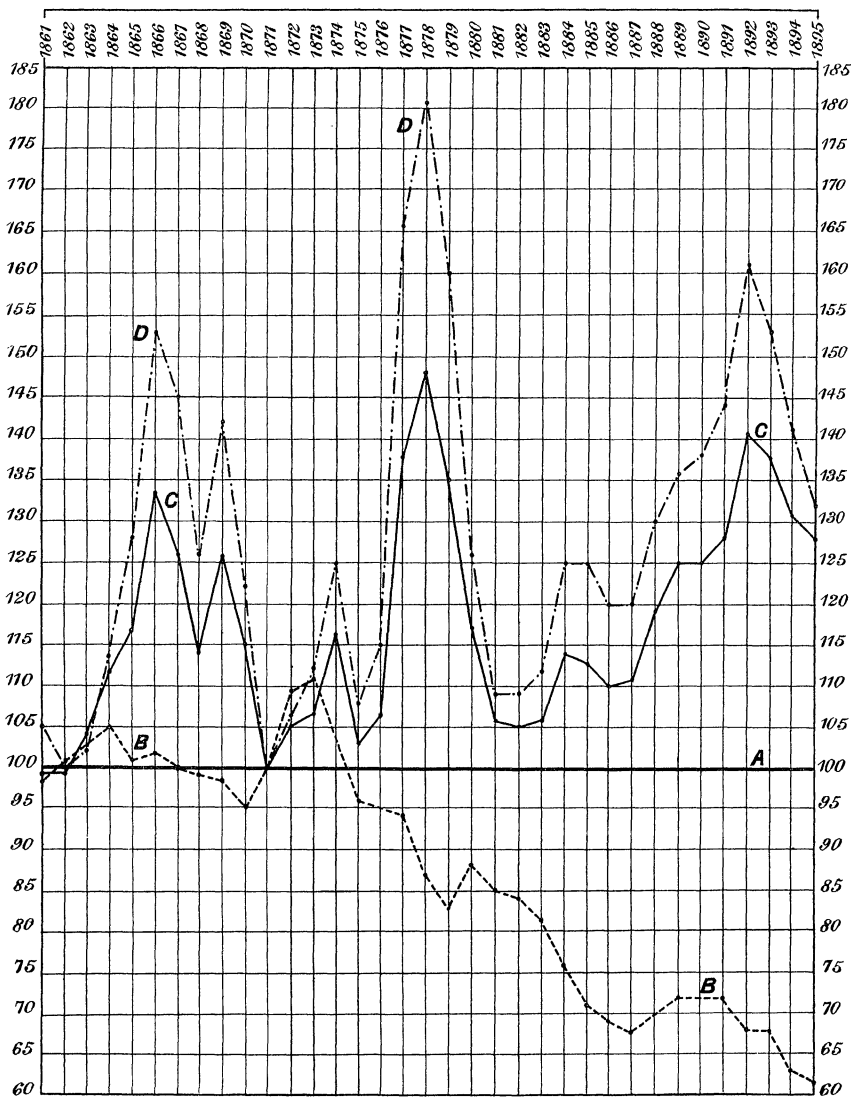
*Remarks.*

The fall in Rupee prices, which had been in steady progress since the end of 1892, received a check in May, 1896. Indian grain dealers apparently anticipated a short rainfall for the year, as they then commenced the purchase and storage of grain, causing the price to rise. This rise continued, though only in a comparatively modified form, throughout the rainy months of June, July, and August, during which time it was early recognised that India would be visited with scarcity, even if considerable rain fell in the later months. But even this hope was not realised, and the scarcity resolved itself into famine, and prices of food grains made a great spring upwards during August, continuing to rise

<sup>1</sup> See p. 111.

# APPENDIX G.

RUPEE PRICES TO THE RUPEE AND GOLD PRICES TO GOLD.

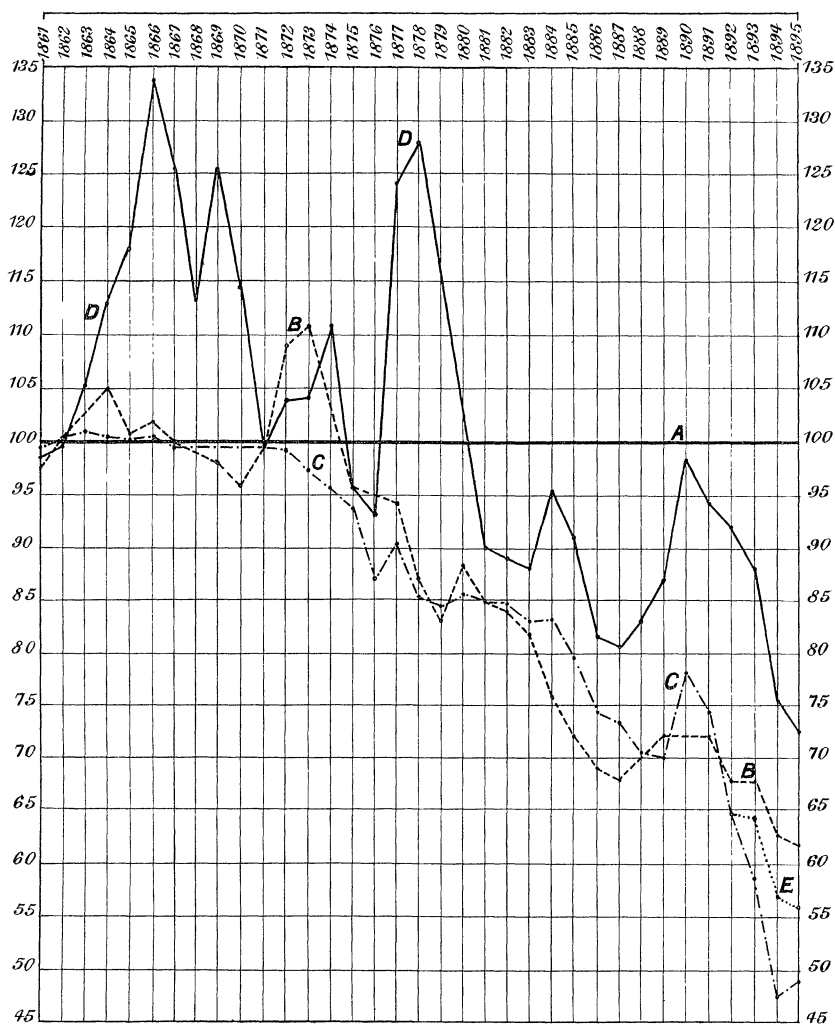


- A ————— = { Gold in relation to gold prices.  
 Rupee in relation to Rupee prices.  
 B - - - - - = Gold prices.  
 C ————— = Rupee prices—all.  
 D - - - - - = Rupee prices—food only.



## APPENDIX H.

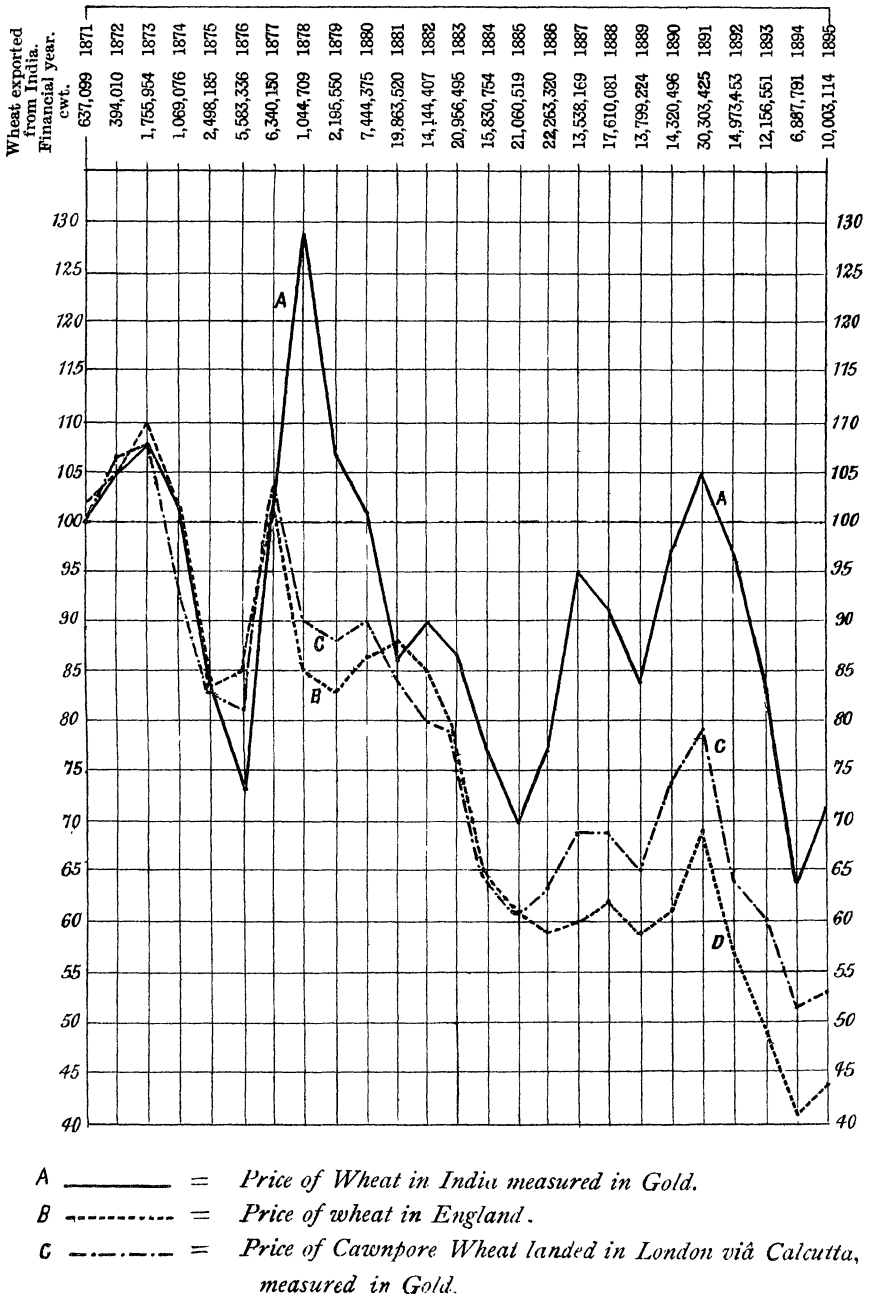
COURSE OF PRICES OF GOLD AND RUPEE COMMODITIES, AND OF SILVER AND THE RUPEE IN  
RELATION TO GOLD.



- A** ————— = *Gold.*  
**B** - - - - - = *Gold prices.*  
**C** - . - . - = *Silver.*  
**D** ————— = *Rupee prices in relation to Gold.*  
**E** ..... = *Rupee.*

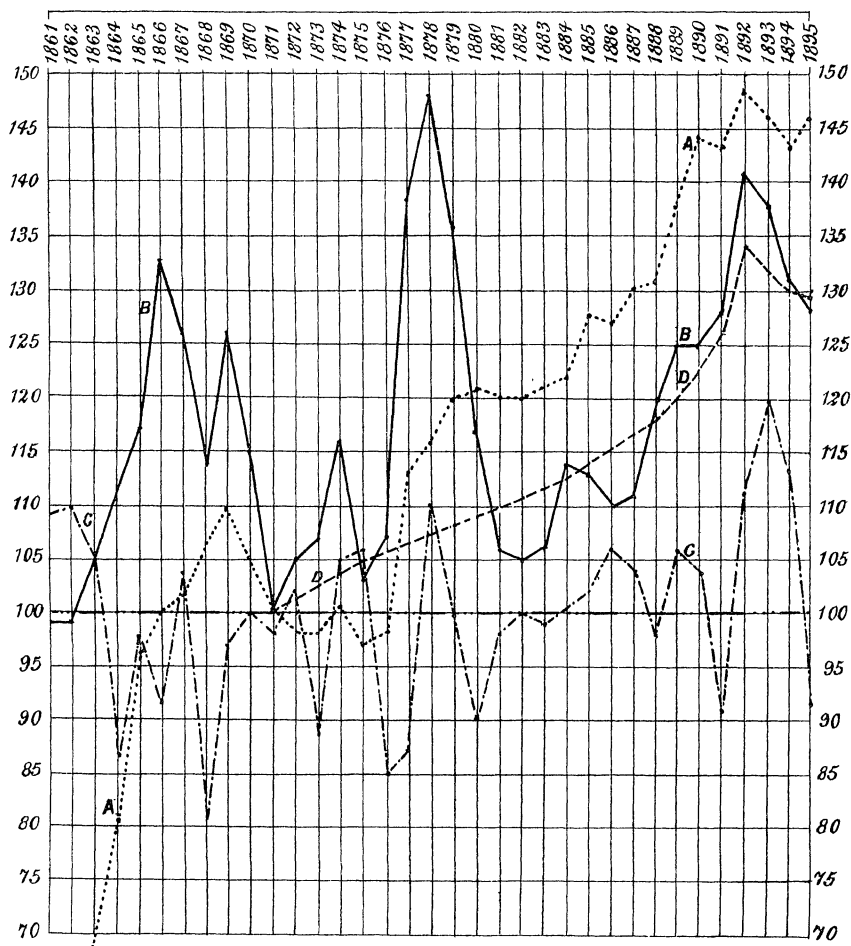
# APPENDIX J.

INDEX NUMBERS GIVING PRICES OF WHEAT IN ENGLAND AND IN INDIA.



# APPENDIX K.

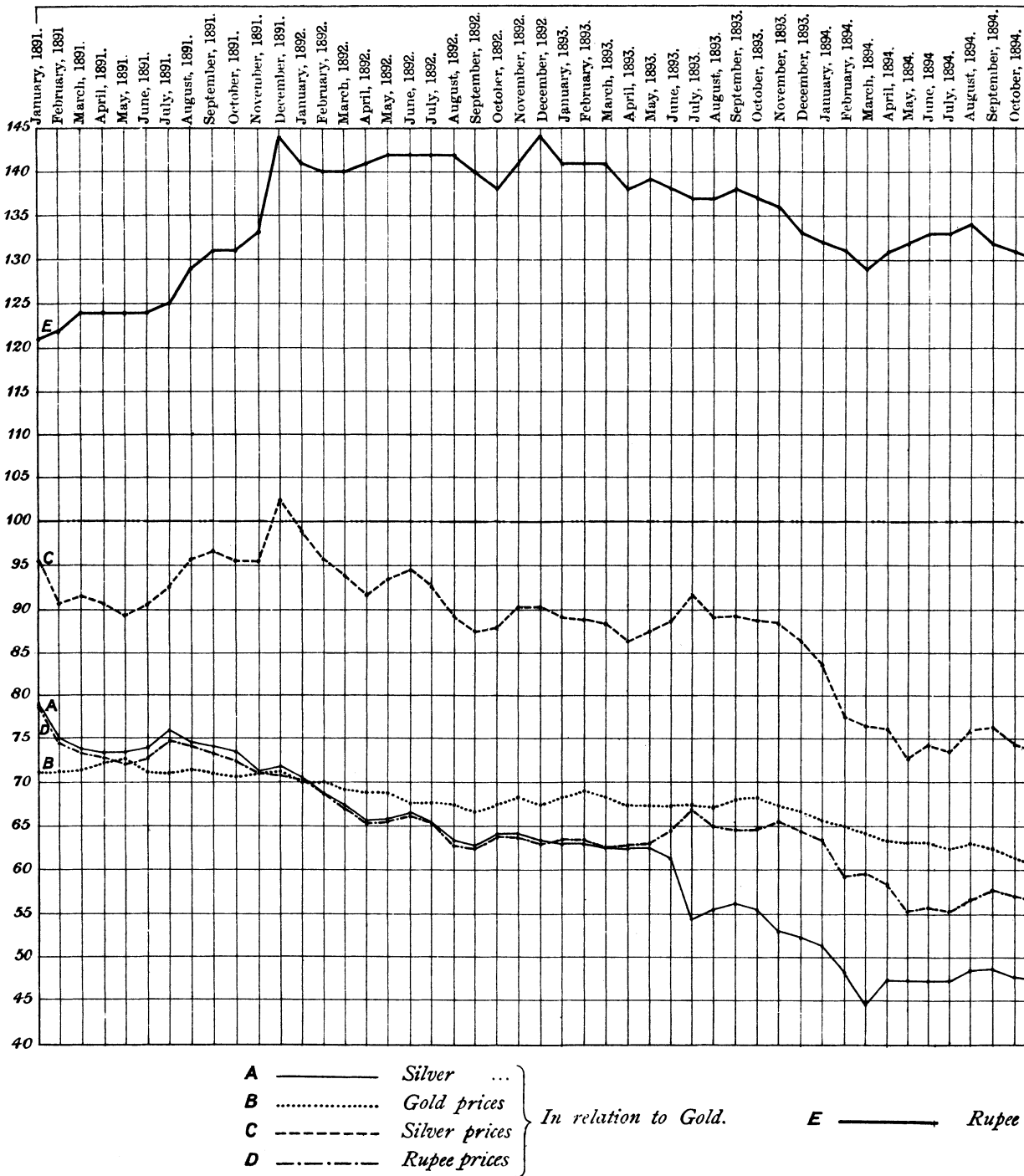
THE COURSE OF RUPEE PRICES, THE RAINFALL, AND THE CIRCULATION.



- A ..... = Circulation.  
 B ————— = Silver (Rupee) prices.  
 C - . - . - . = Rainfall of India.  
 D - - - - - = Rupee prices after eliminating effects of Rainfall.

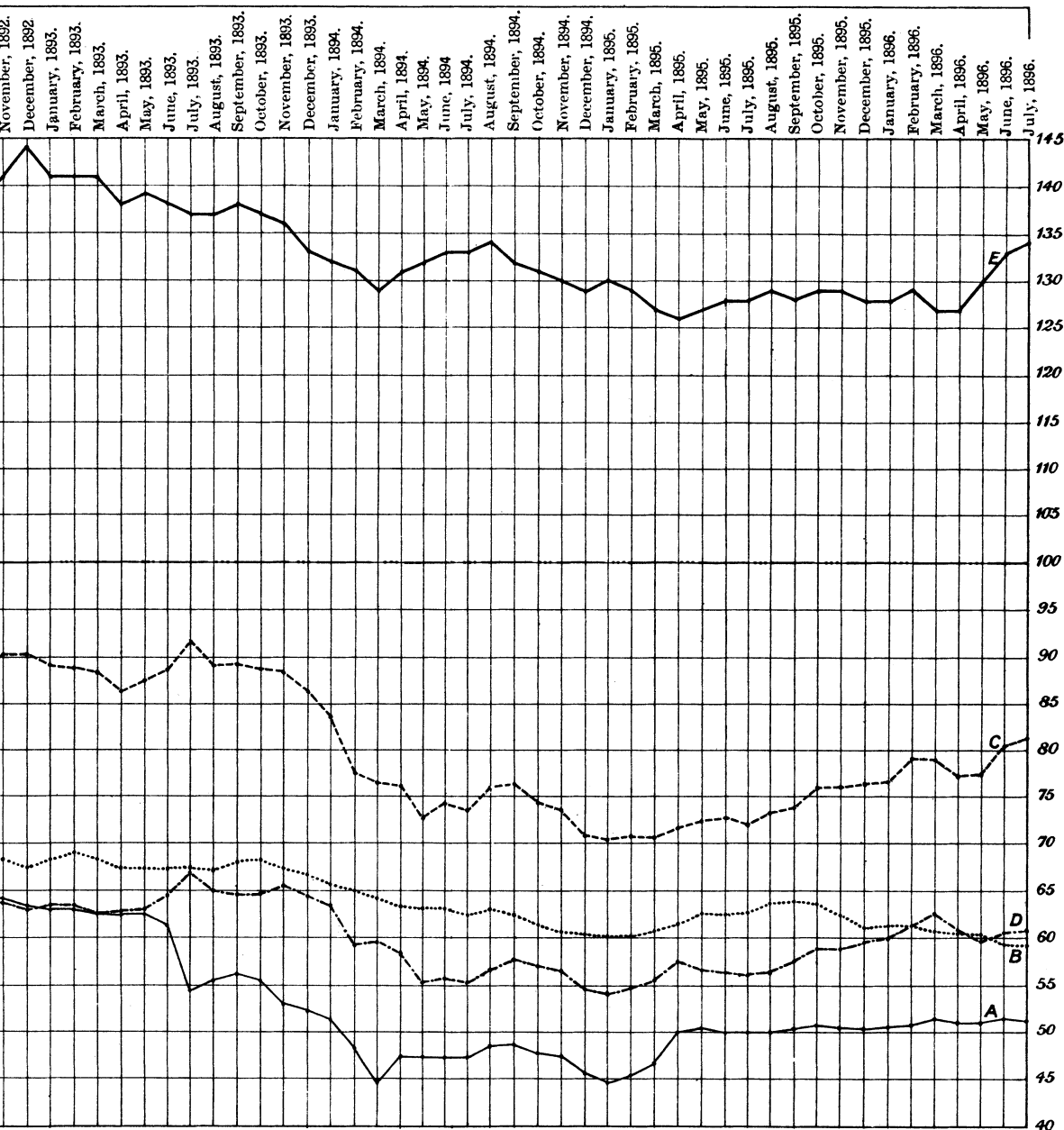
# APPENDIX L.

## MONTHLY PRICES-GOLD AND SILVER COMMODITIES, SILVER, AND



# APPENDIX L.

S-GOLD AND SILVER COMMODITIES, SILVER, AND THE RUPEE.



*In relation to Gold.*

*E ————— Rupee prices in relation to the Rupee.*

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heavily till December, 1896, when a slight fall took place. The rise in price during the year was therefore solely due to meteorological conditions, and not to the state of the currency. The circulation, however, increased during the year, though not till towards its close, owing to the reduction of the government cash balances by about 5 crores, and to the investment of 2 crores of Rupees of the currency reserve.

The rainfall for the year (86) gives a lower index number than in any year since 1861 (the first year considered) except 1868 (81) and 1875 (85), but the deficiency from a productive point of view was actually probably greater than in either of those years, as a considerable part of the rain fell at a time when it was not required; for example, the Central Provinces received a rainfall above the normal, and yet the famine in that province is reported to be worse, especially in the Jubbulpore division, than in any other part of India, except in certain tracts of the North-West Provinces and Oudh.

During the latter and most important months of the year the currency experiment did not receive fair play. Famine and plague combined disorganised trade, the demand for Council Bills fell away, and the full amount offered for sale week after week was not taken up, and all competition disappeared. The result was that though the Rupee continued its upward rise in its gold value, the final point of 16*d.* to the Rupee was not reached, as might otherwise have been the case.

F. J. A.

CALCUTTA,

3rd March, 1897.