

63  
GOLD AND SILVER COMMISSION.

73

FIRST REPORT

OF THE

ROYAL COMMISSION

APPOINTED TO INQUIRE INTO THE

RECENT CHANGES IN THE RELATIVE VALUES  
OF THE PRECIOUS METALS;

WITH MINUTES OF EVIDENCE AND APPENDICES.

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Presented to both Houses of Parliament by Command of Her Majesty.

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LONDON:  
PRINTED FOR HER MAJESTY'S STATIONERY OFFICE,  
BY EYRE AND SPOTTISWOODE,  
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.

And to be purchased, either directly or through any Bookseller, from  
EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C., and  
32, ABINGDON STREET, WESTMINSTER, S.W.; or  
ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; or  
HODGES, FIGGIS, & Co., 101, GRAFTON STREET, DUBLIN.

1887.

5099.] Price 4s. 4d.

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# ROYAL COMMISSIONS.

## I.

*FORIA R.*

Victoria, by the Grace of God of the United Kingdom of Great Britain and Ireland Queen, Defender of the Faith.

To Our right trusty and well-beloved Councillor Arthur James Balfour, Our Secretary for Scotland; Our right trusty and well-beloved Councillor Joseph Chamberlain; Our trusty and well-beloved Charles William Fremantle, Esquire, Companion of Our Most Honourable Order of the Bath (commonly called the Honourable Charles William Fremantle); Our trusty and well-beloved Sir John Lubbock, Baronet; Our trusty and well-beloved Sir Thomas Henry Farrer, Baronet; Our trusty and well-beloved James Richard Bullen Smith, Esquire, Companion of Our Most Exalted Order of the Star of India; Our trusty and well-beloved David Miller Barbour, Esquire; Our trusty and well-beloved John William Birch, Esquire; Our trusty and well-beloved Lionel Louis Cohen, Esquire; Our trusty and well-beloved Leonard Henry Courtney, Esquire; and Our trusty and well-beloved William Henry Houldsworth, Esquire, greeting.

Whereas it has been represented unto Us that it is expedient that a Commission should forthwith issue to inquire into the recent changes in the relative values of the precious metals shown by the decrease in the gold price of silver,

Now know ye, that We, reposing great trust and confidence in your knowledge and ability, do by these Presents authorise and appoint you the said Arthur James Balfour; Joseph Chamberlain; Charles William Fremantle (commonly called the Honourable Charles William Fremantle); Sir John Lubbock; Sir Thomas Henry Farrer; James Richard Bullen Smith; David Miller Barbour; John William Birch; Lionel Louis Cohen; Leonard Henry Courtney; and William Henry Houldsworth to be Our Commissioners for the purposes of the said inquiry.

And We do hereby enjoin you, or any five or more of you, to investigate the causes of the said recent changes in the relative values of the precious metals, and especially to inquire whether the said changes are due—

- (1.) To the depreciation of silver; or
- (2.) To the appreciation of gold; or
- (3.) To both these causes.

If you should find the said changes to be due to the depreciation of silver, you will then inquire whether such depreciation arises from increase of supply or diminution of demand, or from both, and you will endeavour to ascertain the proportions in which these different causes have operated.

If you should find the changes to be due to the appreciation of gold, you will inquire whether the appreciation arises from the diminution of supply or from increase of demand, or from both, and you will endeavour to ascertain the proportions in which these different causes have operated.

Having regard to these different causes and their respective effects, you will next inquire what has been the bearing of the changes in the value of the precious metals on the following matters of practical business:—

### I. *India:*

(a.) Upon the remittances of the Government of India:

(1.) For payments on old or fixed contracts.

(2.) For payments on new or current contracts.

(b.) Upon the persons in India who have to make remittances home in gold.

(c.) Upon the producers, merchants, and taxpayers of India.

(d.) Upon merchants and manufacturers at home who trade with India.

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# ROYAL COMMISSIONS.

## I.

VICTORIA R.

Victoria, by the Grace of God of the United Kingdom of Great Britain and Ireland Queen, Defender of the Faith.

To Our right trusty and well-beloved Councillor Arthur James Balfour, Our Secretary for Scotland; Our right trusty and well-beloved Councillor Joseph Chamberlain; Our trusty and well-beloved Charles William Fremantle, Esquire, Companion of Our Most Honourable Order of the Bath (commonly called the Honourable Charles William Fremantle); Our trusty and well-beloved Sir John Lubbock, Baronet; Our trusty and well-beloved Sir Thomas Henry Farrer, Baronet; Our trusty and well-beloved James Richard Bullen Smith, Esquire, Companion of Our Most Exalted Order of the Star of India; Our trusty and well-beloved David Miller Barbour, Esquire; Our trusty and well-beloved John William Birch, Esquire; Our trusty and well-beloved Lionel Louis Cohen, Esquire; Our trusty and well-beloved Leonard Henry Courtney, Esquire; and Our trusty and well-beloved William Henry Houldsworth, Esquire, greeting.

Whereas it has been represented unto Us that it is expedient that a Commission should forthwith issue to inquire into the recent changes in the relative values of the precious metals shown by the decrease in the gold price of silver.

Now know ye, that We, reposing great trust and confidence in your knowledge and ability, do by these Presents authorise and appoint you the said Arthur James Balfour; Joseph Chamberlain; Charles William Fremantle (commonly called the Honourable Charles William Fremantle); Sir John Lubbock; Sir Thomas Henry Farrer; James Richard Bullen Smith; David Miller Barbour; John William Birch; Lionel Louis Cohen; Leonard Henry Courtney; and William Henry Houldsworth to be Our Commissioners for the purposes of the said inquiry.

And We do hereby enjoin you, or any five or more of you, to investigate the causes of the said recent changes in the relative values of the precious metals, and especially to inquire whether the said changes are due—

- (1.) To the depreciation of silver; or
- (2.) To the appreciation of gold; or
- (3.) To both these causes.

If you should find the said changes to be due to the depreciation of silver, you will then inquire whether such depreciation arises from increase of supply or diminution of demand, or from both, and you will endeavour to ascertain the proportions in which these different causes have operated.

If you should find the changes to be due to the appreciation of gold, you will inquire whether the appreciation arises from the diminution of supply or from increase of demand, or from both, and you will endeavour to ascertain the proportions in which these different causes have operated.

Having regard to these different causes and their respective effects, you will next inquire what has been the bearing of the changes in the value of the precious metals on the following matters of practical business:—

### I. India:

(a.) Upon the remittances of the Government of India:

(1.) For payments on old or fixed contracts.

(2.) For payments on new or current contracts.

(b.) Upon the persons in India who have to make remittances home in gold.

(c.) Upon the producers, merchants, and taxpayers of India.

(d.) Upon merchants and manufacturers at home who trade with India.

II. *The United Kingdom :*

- (a.) Upon the trade of the United Kingdom with other silver-using countries
- (b.) Upon the foreign trade of the United Kingdom generally.
- (c.) Upon the internal trade and industry of the United Kingdom.

If you should come to the conclusion that the aforesaid changes in the values of the precious metals are causing permanent or important evils or inconveniences to any of the interests above referred to, it will be your duty then to inquire whether it is possible to suggest any remedies within the power of the Legislature or the Government, by itself or in concert with other Powers, which would be effectual in removing or palliating the evils or inconveniences thus caused without injustice to other interests and without causing other evils or inconveniences equally great.

Lastly, if you are of opinion that this is possible, you will state the precise form which such remedies should take, and the manner in which they should be applied.

And for the better effecting the purposes of this Our Commission, We do by these Presents give and grant unto you, or any five or more of you, full power to call before you such persons as you shall judge likely to afford you any information upon the subject of this Our Commission; and also to call for, have access to, and examine all such books, documents, registers, and records as may afford you the fullest information on the subject; and to inquire of and concerning the premises by all other lawful way and means whatsoever.

And We do further by these Presents authorise and empower you, or any five or more of you, to visit and personally inspect such places in Our United Kingdom as you may deem expedient for the more effectual carrying out of the purposes aforesaid.

And We do by these Presents will and ordain that this Our Commission shall continue in full force and virtue, and that you, Our said Commissioners, or any five or more of you, may from time to time proceed in the execution thereof, and of every matter and thing therein contained, although the same be not continued from time to time by adjournment.

And We do further ordain that you, or any five or more of you, have liberty to report your proceedings under this Our Commission from time to time, if you shall judge it expedient so to do.

And Our further will and pleasure is that you do, with as little delay as possible report to Us, under your hands and seals, or under the hands and seals of any five or more of you, your opinion upon the several matters herein submitted for your consideration.

And for the purpose of aiding you in such matters, We hereby appoint Our trusty and well-beloved George Herbert Murray, Esquire, to be Secretary to this Our Commission.

Given at Our Court at St. James's, the Twentieth day of September one thousand eight hundred and eighty-six, in the Fiftieth year of Our Reign.

By Her Majesty's Command.

HENRY MATTHEWS.

COMMISSIONS.

II.

VICTORIA R.

Victoria, by the Grace of God of the United Kingdom of Great Britain and Ireland Queen, Defender of the Faith.

To Our right trusty and well-beloved Councillor Farrer, Baron Herschell; Our right trusty and well-beloved Councillor Joseph Chamberlain; Our right trusty and well-beloved Councillor Sir Louis Mallet, Knight, Companion of Our Most Honourable Order of the Bath; Our right trusty and well-beloved Councillor Arthur James Balfour; Our right trusty and well-beloved Councillor Henry Chaplin; Our trusty and well-beloved Charles William Fremantle, Esquire (commonly called the Honourable Charles William Fremantle), Companion of Our Most Honourable Order of the Bath; Our trusty and well-beloved Sir John Lubbock, Baronet; Our trusty and well-beloved Sir Thomas Henry Farrer, Baronet; Our trusty and well-beloved David Miller Barbour, Esquire, Companion of Our Most Exalted Order of the Star of India; Our trusty and well-beloved John William Birch, Esquire; Our trusty and well-beloved Lionel Louis Cohen, Esquire; Our trusty and well-beloved Leonard Henry Courtney, Esquire; and Our trusty and well-beloved William Henry Houldsworth, Esquire, greeting.

Whereas We did, by Warrant under Our Royal Sign Manual, bearing date the twentieth day of September one thousand eight hundred and eighty-six, authorise and appoint Our right trusty and well-beloved Councillor Arthur James Balfour, Our then Secretary for Scotland, together with the several gentlemen therein mentioned, or any five or more of them, to be Our Commissioners to inquire into the recent changes in the relative values of the precious metals shown by the decrease in the gold price of silver.

Now know ye, that We have revoked and determined, and do by these presents revoke and determine, the said Warrant, and every matter and thing therein contained.

And whereas We have deemed it expedient that a new Commission should issue for the purposes specified in such Warrant of the twentieth day of September one thousand eight hundred and eighty-six.

Further know ye, that We, reposing great trust and confidence in your ability and discretion, have appointed, and do by these Presents nominate, constitute, and appoint, you the said Farrer, Baron Herschell; Joseph Chamberlain; Sir Louis Mallet; Arthur James Balfour; Henry Chaplin; Charles William Fremantle (commonly called the Honourable Charles William Fremantle); Sir John Lubbock; Sir Thomas Henry Farrer; David Miller Barbour; John William Birch; Lionel Louis Cohen; Leonard Henry Courtney; and William Henry Houldsworth to be Our Commissioners for the purposes of the said inquiry.

And We do hereby enjoin you, or any five or more of you, to investigate the causes of the said recent changes in the relative values of the precious metals, and especially to inquire whether the said changes are due—

- (1.) To the depreciation of silver; or
- (2.) To the appreciation of gold; or
- (3.) To both these causes.

If you should find the said changes to be due to the depreciation of silver, you will then inquire whether such depreciation arises from increase of supply or diminution of demand, or from both, and you will endeavour to ascertain the proportions in which these different causes have operated.

If you should find the changes to be due to the appreciation of gold, you will inquire whether the appreciation arises from the diminution of supply or from increase of demand, or from both, and you will endeavour to ascertain the proportions in which these different causes have operated.

Having regard to these different causes and their respective effects, you will next inquire what has been the bearing of the changes in the value of the precious metals on the following matters of practical business:—

I. *India* :

- (a.) Upon the remittances of the Government of India :
  - (1.) For payments on old or fixed contracts.
  - (2.) For payments on new or current contracts.
- (b.) Upon the persons in India who have to make remittances home in gold.
- (c.) Upon the producers, merchants, and taxpayers of India.
- (d.) Upon merchants and manufacturers at home who trade with India.

II. *The United Kingdom* :

- (a.) Upon the trade of the United Kingdom with other silver-using countries.
- (b.) Upon the foreign trade of the United Kingdom generally.
- (c.) Upon the internal trade and industry of the United Kingdom.

If you should come to the conclusion that the aforesaid changes in the values of the precious metals are causing permanent or important evils or inconveniences to any of the interests above referred to, it will be your duty then to inquire whether it is possible to suggest any remedies within the power of the Legislature or the Government, by itself or in concert with other Powers, which would be effectual in removing or palliating the evils or inconveniences thus caused without injustice to other interests, and without causing other evils or inconveniences equally great.

Lastly, if you are of opinion that this is possible, you will state the precise form which such remedies should take, and the manner in which they should be applied.

And for the better effecting the purposes of this Our Commission, We do by these Presents give and grant unto you, or any five or more of you, full power to call before you such persons as you shall judge likely to afford you any information upon the subject of this Our Commission; and also to call for, have access to, and examine all such books, documents, registers, and records as may afford you the fullest information on the subject; and to inquire of and concerning the premises by all other lawful ways and means whatsoever.

And We do further by these Presents authorise and empower you, or any five or more of you, to visit and personally inspect such places in Our United Kingdom as you may deem expedient for the more effectual carrying out of the purposes aforesaid.

And We do by these Presents will and ordain that this Our Commission shall continue in full force and virtue, and that you, Our said Commissioners, or any five or more of you, may from time to time proceed in the execution thereof, and of every matter and thing therein contained, although the same be not continued from time to time by adjournment.

And We do further ordain that you, or any five or more of you, have liberty to report your proceedings under this Our Commission from time to time, if you shall judge it expedient so to do.

And Our further will and pleasure is that you do, with as little delay as possible, report to Us, under your hands and seals, or under the hands and seals of any five or more of you, your opinion upon the several matters herein submitted for your consideration.

And for the purpose of aiding you in such matters, We hereby appoint Our trusty and well-beloved George Herbert Murray, Esquire, to be Secretary to this Our Commission.

Given at Our Court at St. James's, the Sixth day of May one thousand eight hundred and eighty-seven, in the Fiftieth year of Our Reign.

By Her Majesty's Command.

HENRY MATTHEWS.



## GOLD AND SILVER COMMISSION.

### FIRST REPORT.

TO THE QUEEN'S MOST EXCELLENT MAJESTY.

MAY IT PLEASE YOUR MAJESTY,

We, the undersigned Commissioners appointed to inquire into the recent changes in the relative values of the precious metals, desire humbly to submit to Your Majesty the following Report of the steps which have been taken up to the present date to prosecute the inquiry entrusted to us.

Twenty-four meetings have been held, and twenty witnesses have been examined, notes of whose evidence, with other information relating thereto, are appended.

Following the line of inquiry indicated in the terms of our reference, the investigation was commenced by obtaining such information as was available with regard to the supply of, and the demand for, the precious metals.

The Commission then proceeded to consider how far the conclusions which might be drawn from these statistics were supported by other indirect evidence, such as the prices of commodities.

These two branches of the inquiry occupy the first seven days of the accompanying notes of evidence.

Representations were next invited from those whose interests were said to have been adversely affected by the recent changes in the relative values of the precious metals, or who desired to suggest remedies for the evils alleged to exist.

Their evidence falls under the following heads:—

- (a.) The position of the Government and people of India;
- (b.) The interests of merchants trading with India, China, and other silver-using countries;
- (c.) The effect upon the general trade and industry of the United Kingdom; and
- (d.) The remedies which have been proposed.

We have not completed our inquiry into any of the matters specified above; and it will be observed that a large portion of the evidence already taken represents opinion on one side only of the questions at issue.

This is more particularly the case with regard to those witnesses who have appeared before us to suggest remedies.

We shall endeavour at an early date to obtain the evidence of competent witnesses who take an opposite view; and we may find it necessary to take further evidence on some or all of the points above mentioned. But we have, nevertheless, thought it desirable to submit this preliminary report of our proceedings so far as we have been able to carry them at present.

All which we humbly submit for Your Majesty's gracious consideration.

(Signed)

HERSCHELL.

J. CHAMBERLAIN.

LOUIS MALLET.

ARTHUR JAMES BALFOUR.

HENRY CHAPLIN.

C. W. FREMANTLE.

JOHN LUBBOCK.

D. BARBOUR.

J. W. BIRCH.

LIONEL L. COHEN.

LEONARD COURTNEY.

W. H. HOULDSWORTH.

T. H. FARRER.

GEO. H. MURRAY,

Secretary.

10th June 1887.

## LIST OF WITNESSES.

Date.	Name.	Page.	Date.	Name.	Page.
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" "	Sir HECTOR HAY - -	13	" 25	Mr. H. H. GIBBS -	147
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" "	Mr. J. W. BIRCH -	67	" 9	Mr. H. H. GIBBS -	228
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" 4	Mr. H. WATERFIELD, C.B.	77	" "	Mr. H. H. GIBBS -	261
" 8	Mr. J. K. BYTHELL -	92	" 20	Professor J. SHIELD NICHOLSON.	275
" 11	Mr. J. TALBOYS WHEELER	108	" 23	Mr. H. H. GIBBS -	293
" "	Mr. ROBERT BARCLAY -	110	" "	Mr. SAMUEL SMITH, M.P.	300

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Mr. ROBERT BARCLAY - -	110	Mr. R. H. INGLIS PALGRAVE, F.R.S. -	-
Mr. J. W. BIRCH - -	67	Mr. S. PIXLEY - -	-
Mr. J. K. BYTHELL - -	92	Mr. A. D. PROVAND, M.P. - -	15
Mr. H. H. GIBBS - 147, 171, 183, 228, 261, 293		Mr. A. SAUERBECK - -	4
Mr. R. GIFFEN - -	19, 34	Mr. SAMUEL SMITH, M.P. - -	241, 30
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Sir HECTOR HAY - -	13	Mr. H. WATERFIELD, C.B. - -	77, 12
Mr. D. MCLEAN - -	257	Mr. J. TALBOYS WHEELER - -	10

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APPENDIX I.

(Statement put in by Mr. Stewart

A TABLE showing the MONTHLY FLUCTUATIONS, in LONDON, in the PRICE

Year	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1833	58½	58½	58½	58½	59½	58½	59½-59½	59½	59½	59½	59½	59½
1834	59½	59½	60	59½	59½	59½	60½-60½	60½	60½	59½	59½	59½-59½
1835	59½	60	60	59½	59½	59½-59½	59½	59½	60½	59½	59½	59½
1836	59½-59½	59½-60	59½-60½	59½-60½	60	60½	60-60½	60½-60½	60½-60½	60½-60½	60½	59½-60
1837	60½-60½	60	60	59½-59½	59½-59½	59½	59½-59½	59-59½	59½-59½	59-59½	59½-59½	59½
1838	59½	59½	59½	59½-59½	59½	59½	59½	59½	59½	60½	59½-59½	60-60½
1839	60½-60½	60½	60½-60½	60-60½	60½-60½	60½	60½-60½	60½	60½	60½	60½-60½	60½
1840	60½-60½	60½	60½-60½	60½-60½	60½-60½	60½	60½-60½	60½-60½	60½-60½	60½-60½	60½	60½-60½
1841	60½	60½	60	60	60½	60½-60½	59½-60	60½	60½	60½-60½	59½	59½
1842	59½	59½-59½	59½	59½-59½	59½-59½	59½-60	59½	59½-59½	59½-59½	59½-59½	59½-59½	59½-59½
1843	59½-59½	59-59½	59-59½	59½	59½	59½-59½	59½	59½	59½	59½	59½	59½
1844	59½-59½	59½	59½	59½	59½	59½	59½-59½	59½	59½	59½	59½	59½
1845	59½	59½-59½	58½-59½	58½	58½-60½	59-59½	60½-59½	59½-59½	60½	59½-59½	59½-59½	59½-59½
1846	59½	59½	59½	59	59	59	59½	59½	59½	59½-59½	60½	60½
1847	60½-60½	60½	60½	59½-60½	58½-59½	59-59½	59½-60	59½-60	60½-59½	59½-59½	59½	59½
1848	59½-59½	59½-59½	59½-59½	58½-59½	59½-60	59½-59½	60½-59½	59½-59½	59½	59½-59½	59½-59½	59½
1849	59½-59½	59½	60-60½	59½-60	59½	59½-59½	59½-59½	59½-59½	60½-59½	59½-59½	59½	59½-59½
1850	59½-59½	59½-59½	59½-59½	59½	59½	59½	60½-59½	59½	60-60½	60½-60½	60½-61½	61½
1851	61½	61½-61½	61½	61½	61½-61½	60½-61½	60½-61	60½-61	60½-60½	60-60½	60½	60½
1852	60½-60½	60½	60½	59½-60	59½	59½-60½	60½	60½	60½	60½-61½	61½-61½	61½-61½
1853	61½	61½	61½	61½	60½-61½	60½-61½	61½-61½	61½-61½	61½-61½	61½-61½	61½-61½	61½-61½
1854	61½-61½	61½	61½	61½-61½	60½-61½	61½-61½	61½	61½	61-61½	61½-61½	61½-61½	61½
1855	61½-61½	61½-61½	60½	60½	61½-61½	61½	61½-61½	61½	61½	61½	60-61½	61½
1856	60½-61½	61½-61½	60½-61	60½-61	61-61½	60½-61½	60½	61½-61½	61½-61½	62	62½	61½-61½
1857	62½	61½-61½	61½-61½	61½-61½	61-61½	61½	61½-61½	61½-62	61½	61½	61½-61½	62-62½
1858	61½	61½-61½	61½	61½-61½	61½-61½	61½-61½	61½-61½	60½-61	60½	61½-61½	61½-61½	61½-61½
1859	61½-62	61½	61½-62½	61½-62½	62½-62½	62-62½	62-62½	61½-62	61½-62	61½-62	62	62
1860	62-62½	62-62½	61½-62½	61½	61½	61½-61½	61½	61½-61½	61½	61½-61½	61½-61½	61½-61½
1861	61½-61½	61½-61½	60½-61	60½-61½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-61½	61-61½
1862	61-61½	61½-61½	61½-61½	61½-61½	61½-61½	61-61½	61-61½	61½-61½	61½-61½	61½-61½	61½-61½	61½-61½
1863	61½-61½	61½-61½	61½-61½	61-61½	61½-61½	61-61½	61-61½	61-61½	61-61½	61½-61½	61½-61½	61½-61½
1864	61½-62½	61½-61½	61½-61½	61½-61½	60½-61½	61½-61½	61½-61½	61-61½	61½-61½	60½-61½	60½-61½	61½
1865	61½-61½	61½-61½	61-61½	60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-61	61½-61½	61½-61½	61½-61½
1866	61½-61½	60½-61½	60½-61	61-61½	61-62	61½-62½	60½-61½	60½-60½	60½-61	60½-61	60½-61	60½-60½
1867	60½	60½	60½-60½	60½-61½	60½-60½	60½-60½	60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½
1868	60½-60½	60½-60½	60½-61½	60½-60½	60½-60½	60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½
1869	60½-60½	60½-61	60½-60½	60½-60½	60-60½	60-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½
1870	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½
1871	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-60½	60½-61	60½-60½
1872	60½-61½	60½-61½	60½-60½	60½-60½	60½-60½	60-60½	60½-60½	60-60½	60½-60½	60-60½	60-60½	59½-60½
1873	59½-59½	59½-59½	59½-59½	59½	59½-59½	59½-59½	59½-59½	58½-59½	58½-59½	58½-59	57½-58½	58-58½
1874	58-59½	58½-59	58½-59½	58½-59½	58½-58½	58½-58½	58½-58½	57½-58½	57½-58	57½-57½	57½-58½	57½-57½
1875	57½-57½	57½-57½	57-57½	57½-57½	56½-57	56½-56½	55½-56½	56-56½	56½-56½	56½-57½	56½-56½	56½-56½
1876	54½-56½	55-54½	52½-54½	53½-54	52-54	50-52	46½-51½	50½-53½	51½-52½	53-53½	53½-55	54½-56½
1877	56½-58½	56-57½	53½-56½	53½-55	53½-54½	53½-54	53½-54	54-54½	54½-55½	54½-55½	54-55	53½-54½
1878	53½-54	53½-54½	54-55	53½-54½	53½-53½	52½-53½	52½-53½	52½-52½	51½-52½	49½-51½	50½-50½	49½-50½
1879	49½-51	49½-50½	48½-50½	49½-50½	50-51½	51½-53	51-52½	51½-51½	51½-51½	51½-52½	53-53½	52½-53
1880	52½-53½	52-52½	51½-52½	51½-52½	52½-53	52½-52½	53½-52½	52½-52½	52½-52½	51½-52½	51½-51½	51½-52
1881	51-51½	51½-52½	52-52½	52-52½	51½-52	51-51½	50½-52½	51½-51½	51½-51½	51½-52½	51½-52	51½-52
1882	51½-52½	52-52½	51½-52½	52½-52½	52½-52½	51½-52½	51½-52	51½-52½	51½-52½	51½-51½	50½-51½	50-50½
1883	50-50½	50½-51	50½-51½	50½-50½	50½-50½	50½-50½	50½-50½	50½-50½	50½-50½	50½-51	50½-50½	50½-51
1884	50½-51	51-51½	50½-51½	50½-51	50½-50½	50½-50½	50½-50½	50½-50½	50½-50½	50½-50½	49½-50½	49½-50½
1885	49½-50	48½-49½	49-49½	49½-49½	48½-50	49-49½	49½-49½	48½-49½	47½-48½	47½-47½	47½-47½	46½-47½
1886	46½-47	46½-46½	46½-46½	46½-46½	44½-46	44½-46	43-44½	44-45	43½-45	44½-45	45½-47	46-46½

\* Including bills on China for this year only. (The East India Company had the monopoly of the trade with China up to 1833.)

APPENDIX I.

*Pisley.* See Question 189.)

of BAR SILVER per Oz. Std. from January 1833 to December 1886.

Yearly Average.	Silver coined in England.	Amount of Bills and Telegraphic Transfers drawn in England on Indian Governments.	Export of Silver to the East.	Imports of Silver in Bars and Coin.	Average Bank Rate of Discount.	REMARKS.
59½	£ 140	£ 55,510*	£ 1,895,028†			Continuance of East India Company. Slavery abolished; compensation to owners, 30,000,000l. Renewal of bank charter; bank notes a legal tender.
59½	432,775	399,253	2,145,465			Great importation of gold into New York. Substitution of metallic currency for paper in the United States.
59½	144,665	782,303	2,036,167			Extinction of United States national debt. Bank of United States wound up, owing to refusal of congress to re-charter it.
60	497,719	2,045,354	2,610,101			Banking and commercial embarrassments in United States. Spanish Civil War.
59½	75,585	2,042,232	2,610,190			Commencement of panic in London. Discontinuation refused. Many houses trading with the United States stop payment. Accession of Queen Victoria. Rebellion in Canada.
59½	174,042	1,706,184	1,945,364			Resumption of specie payments in United States. Famine in various parts of British India. Afghan War.
60½	390,654	2,340,592	1,786,268			Banks in United States suspend payments in specie. War with China.
60½	207,900	1,489,525	1,841,335			Misunderstanding with France. Treaty of London for settlement of Eastern question.
60½	89,641	1,174,460	2,145,292			Great depression in every branch of manufacturing industry.
59½	102,852	2,589,233	4,704,873			Peace with China. Income Tax Act passed.
59½	230,580	1,197,483	2,752,472			Treaty of commerce opens China to all nations.
59½	810,632	2,301,731	2,495,959			Bank Charter Act passed. Consols 10½. Prior to September this year the bank never reduced the rate below 4 per cent.
59½	647,658	2,513,951	2,030,222			Railway mania. Sikh War.
59½	559,548	2,065,700	1,973,321			Commercial and railway panic. Repeal of corn laws.
59½	125,730	2,097,042	4,204,303			Year of panic. 10,000,000l. granted for relief of famine in Ireland. Gold discovered in California.
59½	35,442	1,541,304	2,306,307			Sikh War.
60½	119,692	1,480,195	2,271,309			First importation of Californian gold into England. Annexation of the Punjab.
60½	129,099	2,035,118	5,023,059			Average of Consols 9½.
61	37,868	2,236,453	1,715,100			Discovery of gold in Australia.
60½	189,396	2,777,623	2,447,450			Consols touched 102, and averaged 90½.
61½	701,544	2,317,122	2,117,950			Australian Mint established.
61½	140,880	2,260,265	2,023,490			Russian War began.
61½	195,510	2,000,878	6,431,733			Loan of 16,000,000l. Fall of Sebastopol.
61½	462,522	1,484,040	12,113,991			Russian War ends.
61½	373,230	2,319,711	16,731,915			Panic. Suspension of Bank Act. Indian Mutiny. Loan of 1,000,000l. to East India Company.
61½	445,890	622,499	4,753,933	3,700,000		End of Indian Mutiny.
62½	647,064	25,901	14,322,521	14,772,460		Loan of 5,215,522l. to East India Company.
61½	216,403	4,694	8,478,739	10,394,000		Commercial treaty with France.
60½	209,484	797	6,824,307	8,590,000		Financial depression in India. American Civil War begins.
61½	143,513	1,193,729	10,091,460	11,753,000		Great distress in cotton manufacturing districts. Panic.
61½	151,173	6,941,376	8,203,011	10,833,150		Large exports of gold to the continent to pay for silver.
61½	535,194	8,979,521	6,264,004	10,227,300		13,200,000l. silver exported from France.
61½	501,732	6,789,473	3,536,058	6,980,000		Close of American War.
61½	463,416	8,098,899	2,235,326	10,378,000		Commercial and Joint Stock Companies panic. Bank declined to sell bar gold.
60½	103,342	5,613,746	642,912	8,020,000		Great decline in export of silver; only 2,500,000l. sent from France.
60½	301,220	4,137,235	1,635,642	7,716,420		Abyssinian Expedition.
60½	76,422	3,705,741	2,322,943	6,750,000		Distress in Lancashire.
60½	336,798	6,660,122	1,579,473	10,642,000		Franco-Prussian War. Panics.
60½	701,514	8,443,609	3,712,473	16,520,000		8,500,000l. gold exported to Hanse towns. Peace between France and Germany.
60½	1,243,236	10,310,330	5,654,451	11,140,500		8,050,000l. gold exported to Hanse towns. Commencement of decline in price of silver.
60½	1,031,874	12,959,005	2,407,576	12,302,220		10,000,000l. gold exported to Hanse towns. German Government announces the demeritisation of silver.
60½	800,304	12,255,978	7,092,726	11,797,990		Enormous increase of bullion in Bank of France, 23,000,000l., mostly gold.
60½	594,062	10,841,312	3,714,404	9,503,757		Heavy commercial failures. Large export of gold to Germany. Continued decline in price of silver.
60½	322,364	11,513,233	10,914,407	13,535,603		Remarkable fluctuations in rates of Indian exchanges and bar silver, the latter having touched the lowest price on record.
60½	290,942	8,637,630	17,007,469	21,625,652		Great famine in India. Russo-Turkish War.
60½	613,068	13,978,284	5,342,577	11,453,105		General depression in trade. Large bank failures. Russo-Turkish War ended.
61½	249,054	14,705,700	7,034,927	10,630,012		Suspension of sales by German Government. Marked diminution in production of Californian mines.
61½	701,508	15,423,092	6,132,520	6,227,471		Consols touched 100½. Reported existence of large quantities of gold in South India.
61½	397,122	16,273,677	4,222,000	6,902,320		Meeting of conference in Paris respecting bi-metallicism, which adjourned without coming to any practical conclusion.
61½	300,680	12,063,665	6,422,379	2,943,373		War with Egypt.
60½	1,274,322	14,908,900	7,122,454	9,468,002		Completion of Italian order for gold.
60½	622,542	16,906,112	2,412,522	9,546,490		War in Egypt; income tax increased. Franco-Chinese complications.
60½	720,912	11,012,000	2,210,922	2,277,021		Suspension of the coinage of the Bland dollar, recommended by the President of the United States.
60½	417,264	11,791,000	2,222,222	2,126,222		Great depression in trade.

\* The above totals from 1833 to 1850 include exports from other countries as well as England, from 1851 to 1875 from Southampton only, from 1876 shipment to Southampton, Venice, and Marseilles.

APPENDIX II.

Tables put in by Sir Hector Hay. See Questions 290, 295!  
(a) GOLD (IN £ MILLIONS).

Year	ESTIMATED PRODUCTION OF THE WORLD.						ENGLAND.		INDIA.		COINAGE OF SOVEREIGNS.			COINAGE OF PRINCIPAL FOREIGN COUNTRIES.								
	Australia.	United States.	Mexico and South America.	Russia.	Other Countries.	Total.	Imports.	Exports.	Imports.	Exports.	Royal Mint.	Australia.	Total Sovereigns.	United States.	Germany.	Russia.	France.	Belgium.	Italy.	Austria.	Total Foreign.	
1853	20.6	15.	1.	2.4	.5	36.5		4.3	1.3	2.	8.7	—	8.7	11.4			1.1					15.1
1853	14.1	13.	1.	2.4	.5	31.		12.7	1.1	1.5	12.	—	12.	7.9			12.4			1.	.4	20.8
1854	9.5	12.	1.	2.4	.5	25.4		16.5	.9	1.2	4.1	—	4.1	5.2			21.1			1.	.3	26.7
1855	12.1	11.	1.	2.4	.5	27.		11.8	2.5	.8	9.	.3	9.5	5.8			18.			1.	.4	24.3
1856	14.3	11.	1.	2.7	.5	29.5		12.	2.2	1.1	6.	1.2	7.2	7.3			20.3			.3	.3	23.1
1857	11.4	11.	1.	2.7	.5	26.6		15.	2.8	.8	4.8	.5	5.3	3.2			22.9			1.	.3	26.3
1858	10.7	10.	.9	2.7	.5	24.8	22.3	12.6	4.4	.6	1.2	1.3	2.5	6.	.3	.3	15.5			.2	.2	25.2
1859	10.6	10.	.9	2.7	.5	24.9	22.3	18.1	4.3	.9	2.6	1.2	3.8	3.5	.3	.3	23.1			.2	.2	25.4
1860	10.5	9.2	.9	2.7	.5	23.8	12.6	15.6	4.2	0.1	3.1	1.3	4.7	3.3			17.1			.2	.2	23.9
1861	9.2	8.5	.9	3.	.5	22.6	12.2	11.2	5.2	.7	2.2	1.7	3.9	10.1			3.9			.2	.2	17.1
1862	9.2	7.8	.8	3.	.5	21.4	12.9	16.	6.0	1.0	7.8	2.5	10.3	9.1			6.6		1.6	.2	.2	22.3
1863	8.9	8.	.8	3.1	.5	21.3	19.1	15.3	9.	1.1	7.	1.5	8.5	4.1			8.4		1.6	.1	.1	19.8
1864	9.1	9.2	.8	3.	.5	22.6	16.9	13.8	9.8	1.9	9.5	2.7	12.2	4.2			10.9			.5	.2	21.6
1865	8.2	10.8	.8	3.3	.5	24.	24.5	8.5	6.4	2.7	2.4	2.2	4.7	5.			8.4		2.7	.2	.2	16.1
1866	6.8	10.7	.8	3.4	.5	24.2	23.5	12.7	4.9	.2	5.1	2.9	8.	5.7			14.6			.2	.2	24.6
1867	6.3	10.8	.7	3.4	.5	22.2	15.8	7.9	4.8	.2	.5	2.4	3.9	5.6			7.9	1.1		.2	.2	18.1
1868	9.7	9.8	.6	3.6	.5	24.	12.1	12.7	5.2	—	1.6	2.2	3.8	3.6			13.6	1.1		.2	.2	21.4
1869	9.2	9.9	.5	4.	.5	24.2	12.8	8.5	5.7	.1	7.4	1.3	8.7	4.4			9.8	1.		.2	.1	18.
1870	7.7	10.6	.5	4.5	.5	23.8	18.2	10.	2.2	.5	2.2	1.2	3.5	4.5			2.2	2.5		.2	.2	15.1
1871	9.6	7.4	1.	4.8	.5	23.3	21.6	20.5	2.2	.5	9.9	2.2	12.7	4.2			2.	1.8		.2	.2	9.2
1872	7.9	8.1	1.	4.6	.5	22.	18.5	19.7	3.6	—	15.2	2.7	18.	4.2	20.7	1.2	—	—	—	.2	.2	27.1
1873	8.	8.2	1.	4.5	.5	22.2	20.6	19.	2.6	.1	3.4	2.2	5.7	7.	22.7	2.2	—	—	—	.2	.2	20.2
1874	7.2	8.2	1.	4.5	.5	21.5	18.	10.6	1.6	.2	1.5	3.4	4.9	10.1	4.6	2.7	1.	2.4		.2	.2	22.4
1875	7.5	8.5	1.	4.5	.6	22.1	23.	18.6	2.1	.2	.2	4.	4.2	6.7	8.1	3.	9.4	2.2		.1	.4	21.
1876	7.2	9.	1.	4.5	.6	22.2	22.	14.	1.8	.2	4.7	3.9	8.5	7.6	7.8	4.5	7.	1.6		.1	.4	20.1
1877	6.7	9.5	1.2	5.4	.6	23.4	15.	20.	1.4	1.2	2.2	3.1	4.1	8.7	5.5	4.9	10.2	4.7		.2	.6	24.2
1878	6.5	8.	1.5	5.4	.7	22.1	21.	14.	1.6	1.1	2.2	3.5	5.8	10.5	9.1	5.2	7.4	2.		.2	.5	23.
1879	6.2	8.2	1.5	5.5	.8	20.6	12.2	16.5	1.5	2.4	—	4.1	4.1	8.2	1.7	5.5	1.	—		.1	.2	16.9
1880	6.8	7.	1.5	5.4	.8	21.2	9.	11.5	2.	.2	4.1	4.5	8.6	11.2	1.4	4.2	—	—		.1	.4	17.9
1881	6.7	6.6	1.6	4.8	.9	20.6	10.	15.5	2.7	—	—	3.7	3.7	12.7	.8	4.	.9	—		.7	.4	22.5
1882	6.5	6.2	1.7	4.7	1.	20.2	14.4	12.1	4.2	—	—	3.2	3.2	17.9	.7	3.2	1.5	.4		5.6	.5	20.9
1883	4.2	6.1	1.7	5.	1.	19.6	7.7	6.5	5.1	.2	1.4	3.2	4.7	7.2	4.	4.6	—	—		.2	.5	16.5
1884	5.9	5.5	1.7	5.	1.	19.1	10.2	11.7	5.5	—	2.2	4.5	6.2	5.6	2.2	3.5	—	—		.1	.4	12.4
1885	6.	5.2	1.2	5.	1.	19.2	12.4	11.5	4.6	.1	3.	4.5	7.5	4.9	.4	4.	—	—		.1	.5	9.9

## (b) SILVER (IN £ MILLIONS).

	ESTIMATED PRODUCTION OF THE WORLD.					ENGLAND.		INDIA.		COINAGE OF THE PRINCIPAL COUNTRIES.								Total Coinage.		
	United States.	Mexico and South America.	Germany.	Other Countries.	Total.	Imports.	Exports.	Imports.	Exports.	Royal Mint.	India.	United States.	Germany.	Russia.	France.	Belgium.	Italy.		Austria.	
1852	—	6	4	1.7	8.1	—	6	3.7	2.8	—	5.2	—	—	—	2.5	—	—	—	1	9.1
1853	—	6	4	1.7	8.1	—	6.1	5.6	2	—	5.9	1.8	—	—	—	—	—	—	—	9.2
1854	—	6	4	1.7	8.1	—	6	3.8	1.5	—	5.9	1.7	—	—	—	—	—	—	—	7.9
1855	—	6	4	1.7	8.1	—	7	1.1	1.1	—	1.9	—	—	—	—	—	—	—	—	8.8
1856	—	6	5	1.7	8.8	—	12.8	8.8	6	—	7.8	1	—	—	—	—	—	—	—	11
1857	—	6	5	1.7	8.2	—	12.5	12.2	1.1	—	11.2	—	—	—	—	—	—	—	—	13.4
1858	—	6	5	1.7	8.2	—	7.1	12	2	—	12.7	—	—	—	—	—	—	—	—	21.1
1859	—	6	5	1.7	8.2	—	14.8	17.6	8.4	—	6.6	1.2	—	—	—	—	—	—	—	17.9
1860	—	6	6	1.7	8.3	—	10.4	10	9	—	10.7	—	—	—	—	—	—	—	—	19.7
1861	—	6	6	1.6	8.6	—	8.6	9.6	6.4	—	5.3	—	—	—	—	—	—	—	—	12.9
1862	—	6	6	1.6	9.1	—	11.7	12.8	9.8	—	7.5	—	—	—	—	—	—	—	—	12.2
1863	—	6	6	1.6	9.9	—	10.9	11.2	12.6	—	9.4	—	—	—	—	—	—	—	—	12.6
1864	—	6	6	1.6	10.4	—	10.8	9.8	14	—	12	—	—	—	—	—	—	—	—	12.6
1865	—	6	6	1.6	10.5	—	7	6.6	11.8	—	10.9	—	—	—	—	—	—	—	—	16.4
1866	—	6	6	1.6	10.4	—	10.9	8.9	10.2	—	14.6	—	—	—	—	—	—	—	—	21.2
1867	—	6	6	1.6	10.1	—	8	6.4	9.7	—	6.2	—	—	—	—	—	—	—	—	17.5
1868	—	6	6	1.6	9.8	—	7.7	7.5	7	—	4.2	—	—	—	—	—	—	—	—	12.5
1869	—	6	6	1.6	9.8	—	8.7	7.9	10	—	5.3	—	—	—	—	—	—	—	—	12.5
1870	—	6	6	1.6	11.1	—	10.6	8.9	8.3	—	7.5	—	—	—	—	—	—	—	—	17.1
1871	—	6	6	1.2	11.8	—	16.5	12	2.7	—	1.7	—	—	—	—	—	—	—	—	9
1872	—	6	6	1.2	11.7	—	11	10.5	8	—	1.7	—	—	—	—	—	—	—	—	5.9
1873	—	6	6	1.2	12.8	—	12	10	1.9	—	1.2	—	—	—	—	—	—	—	—	20.2
1874	—	6	6	1.2	12.6	—	12.3	12	4.1	—	2.4	—	—	—	—	—	—	—	—	12.4
1875	—	6	6	1.2	12.8	—	10	9	6	—	4.9	—	—	—	—	—	—	—	—	20.6
1876	—	6	6	1.2	12.4	—	12	14	3.5	—	1.9	—	—	—	—	—	—	—	—	22.2
1877	—	6	6	1.2	17.4	—	20	19	10	—	2.8	—	—	—	—	—	—	—	—	12.9
1878	—	6	6	1.2	16.1	—	11	11.2	12.8	—	1.1	—	—	—	—	—	—	—	—	22.1
1879	—	6	6	1.2	15.8	—	10.5	11	5.6	—	7.3	—	—	—	—	—	—	—	—	20.2
1880	—	6	6	1.2	17.5	—	8.5	7.2	9.6	—	1.6	—	—	—	—	—	—	—	—	19.5
1881	—	6	6	1.2	12.2	—	8.7	7	5.2	—	1.4	—	—	—	—	—	—	—	—	14.1
1882	—	6	6	1.2	20.5	—	9.1	8.9	6.5	—	1.1	—	—	—	—	—	—	—	—	10
1883	—	6	6	1.2	20.6	—	9.3	8.7	8.3	—	8	—	—	—	—	—	—	—	—	16.2
1884	—	6	6	1.2	20.2	—	9.5	9.7	7.4	—	1	—	—	—	—	—	—	—	—	12.2
1885	—	6	6	1.2	21.2	—	9.2	9.6	9.1	—	1.8	—	—	—	—	—	—	—	—	14.2

## APPENDIX III.

*Papers put in by Mr. Giffen.*

See QUESTION 472.

(A.)—ESTIMATED AMOUNT of the production of GOLD and SILVER in each of the under-mentioned periods and years.

[From Soetbeer's "Materialien," &amp;c., p. 1.]

PERIODS.	WEIGHT.				VALUE.					
	Gold. Kilo- grammes.	Silver. Kilo- grammes.	Proportion.		Gold. (Thousands of Marks.)	Silver. (Thousands of Marks.)	Proportion.		Gold and Silver. Thousands of Marks.	Value in Gold of one Kilo- gramme of Silver. Marks.
			Gold. %	Silver. %			Gold. %	Silver. %		
(Annual Average.) 1493-1520	5,800	47,000	11·0	89·0	16,182	12,220	57·0	43·0	28,402	260
1521-1544	7,160	90,200	7·4	92·6	19,976	22,370	47·2	52·8	42,346	248
1545-1560	8,510	311,600	2·7	97·3	23,742	76,965	28·6	71·4	100,707	247
1561-1580	6,840	299,500	2·2	97·8	19,088	72,779	20·8	79·2	91,862	248
1581-1600	7,380	418,900	1·7	98·3	20,590	98,860	17·2	82·8	119,450	236
1601-1620	8,520	422,900	2·0	98·0	23,771	96,421	19·8	80·2	120,192	228
1621-1640	8,300	398,600	2·1	97·9	23,157	78,326	22·8	77·2	101,483	199
1641-1660	8,770	366,300	2·3	97·7	24,468	70,380	25·8	74·2	94,798	192
1661-1680	9,260	337,000	2·7	97·3	25,835	62,682	29·2	70·8	88,517	186
1681-1700	10,765	341,900	3·1	96·9	30,034	63,593	32·1	67·9	93,627	186
1701-1720	12,820	355,600	3·5	96·5	35,768	66,075	35·5	64·5	100,843	183
1721-1740	19,080	431,200	4·2	95·8	53,233	79,772	40·0	60·0	133,005	185
1741-1760	24,610	538,145	4·4	95·6	68,662	100,764	40·5	59·5	169,426	189
1761-1780	20,705	652,740	3·1	96·9	57,767	124,021	31·6	68·4	161,788	190
1781-1800	17,790	879,060	2·0	98·0	49,634	162,626	28·4	71·6	212,260	185
1801-1810	17,778	894,150	1·9	98·1	49,600	160,058	28·7	71·3	209,658	179
1811-1820	11,445	540,770	2·1	97·9	31,932	97,389	24·7	75·3	129,321	180
1821-1830	14,216	460,560	3·0	97·0	39,663	81,519	32·7	67·3	121,182	177
1831-1840	20,289	596,450	3·3	96·7	56,606	105,572	34·9	65·1	162,178	177
1841-1850	54,759	780,415	6·6	93·4	152,777	137,353	52·7	47·3	290,130	176
1851-1855	199,388	886,115	18·4	81·6	556,808	160,387	77·6	22·4	716,695	181
1856-1860	201,750	904,990	18·2	81·8	562,899	164,709	77·4	22·6	727,608	182
1861-1865	185,057	1,101,150	14·4	85·6	516,826	199,308	72·1	27·9	715,634	181
1866-1870	195,026	1,339,085	12·7	87·3	544,139	239,696	69·4	30·6	783,835	179
1871-1875	173,904	1,969,425	8·1	91·9	485,207	344,649	58·5	41·5	829,856	175
1876-1880	172,414	2,450,252	6·6	93·4	481,045	382,062	55·7	44·3	863,107	156
1881-1885	149,137	2,861,709	5·0	95·0	416,098	428,760	49·3	50·7	844,858	150



## (B.)—DETAILED ESTIMATE of the PRODUCTION of GOLD and SILVER in the under-mentioned PERIODS and YEARS.

[From Soetbeer's Materialien, &amp;c., p. 2.]

## GOLD (in kilogrammes).

Periods.	United States.	Australia.	Russia.	Mexico, Colombia, Brasil.	Other Countries.	Total.	Estimate of the Director of the U.S. Mint.	
Annual Average.	1851-1855	88,800	69,573	24,730	7,710	8,575	199,388	—
	1856-1860	77,100	82,392	26,570	7,000	8,668	201,750	—
	1861-1865	66,700	77,634	24,084	7,650	8,989	185,057	—
	1866-1870	76,000	73,526	30,050	6,940	8,510	195,026	—
	1871-1875	59,500	63,139	33,380	7,240	10,655	173,904	—
Years.	1876	60,000	49,156	33,600	7,200	16,000	165,956	—
	1877	70,300	45,045	41,000	7,100	16,000	179,445	171,453
	1878	76,800	43,747	42,100	7,200	16,000	185,847	179,175
	1879	58,300	43,307	42,600	7,100	16,000	167,307	163,675
	1880	54,200	45,215	41,400	6,700	16,000	163,515	160,152
	1881	52,200	45,564	38,500	6,600	16,000	158,864	155,016
	1882	48,900	44,075	32,700	6,300	16,500	148,475	148,939
	1883	45,140	40,705	35,800	6,400	16,500	144,545	141,733
	1884	46,343	42,400	32,908	8,000	16,500	146,151	143,381
	1885	47,850	—	—	—	—	—	—

## SILVER (in kilogrammes).

Periods.	Mexico.	Peru, Bolivia, Chile.	United States.	Germany.	Other Countries.	Total.	Estimate of the Director of the U.S. Mint.	
Annual Average.	1851-1855	466,100	218,600	8,300	48,960	144,155	886,115	—
	1856-1860	447,800	190,400	6,200	61,510	199,080	904,990	—
	1861-1865	473,000	191,100	174,000	68,320	194,730	1,101,150	—
	1866-1870	520,900	229,800	301,000	89,125	198,260	1,339,085	—
	1871-1875	601,800	374,700	564,800	143,080	285,045	1,969,425	—
Years.	1876	601,000	350,000	933,000	139,779	300,000	2,323,779	—
	1877	634,000	350,000	957,000	147,612	300,000	2,388,612	2,174,610
	1878	644,000	350,000	1,089,376	167,988	300,000	2,551,364	2,383,573
	1879	699,000	350,000	981,000	177,507	300,000	2,507,507	2,318,731
	1880	701,000	350,000	942,937	186,011	300,000	2,479,938	2,326,941
	1881	721,000	350,000	1,034,649	186,990	300,000	2,592,639	2,458,322
	1882	738,000	390,000	1,126,083	214,982	300,000	2,769,065	2,690,573
	1883	739,000	310,000	1,111,457	235,063	300,000	2,695,530	2,812,972
	1884	785,000	450,000	1,174,305	248,117	300,000	2,957,322	2,770,610
	1885	—	—	1,341,000	278,000	(340,000)	—	—

## (C.)—DETAILED ESTIMATE OF THE PRODUCTION OF GOLD AND SILVER IN THE UNDER-MENTIONED PERIODS AND YEARS.

[From Soetbeer's Materialien, &amp;c., p. 3.]

## GOLD (in Thousands of Marks).

Periods.	United States.	Australasia.	Russia.	Mexico, Colombia, Brazil.	Other Countries.	Total.	Estimate of the Director of the U.S. Mint.	
Annual Average.	1851-1855	247,752	194,124	68,997	21,511	39,924	556,308	—
	1856-1860	215,109	229,891	74,130	19,580	24,240	569,899	—
	1861-1865	186,098	216,617	67,194	21,343	25,079	516,326	—
	1866-1870	219,040	205,158	83,840	19,863	23,948	544,139	—
	1871-1875	166,005	176,145	93,180	20,200	29,727	485,207	—
Years.	1876	167,400	137,155	93,744	20,088	44,640	463,027	—
	1877	196,187	125,684	114,390	19,809	44,640	500,660	113,947
	1878	214,272	122,063	117,459	20,088	44,640	518,522	119,023
	1879	162,657	120,837	118,854	19,809	44,640	466,797	108,736
	1880	151,218	126,161	115,506	18,693	44,640	456,218	106,987
	1881	145,638	127,134	107,415	18,414	44,640	443,241	108,023
	1882	136,481	122,981	91,233	17,577	46,035	414,257	98,985
	1883	125,941	113,575	99,682	17,856	46,035	403,289	94,197
	1884	129,297	118,296	91,813	22,320	46,035	407,761	95,393
	1885	133,501	—	—	—	—	—	—

## SILVER (in Thousands of Marks).

Periods.	Mexico.	Peru, Bolivia, Chile.	United States.	Germany.	Other Countries.	Total.	Estimate of the Director of the U.S. Mint.	
Annual Average.	1851-1855	84,364	39,567	1,502	8,862	26,092	160,387	—
	1856-1860	81,500	34,653	1,128	11,195	36,238	164,709	—
	1861-1865	85,618	34,589	31,494	12,366	35,246	199,308	—
	1866-1870	93,241	41,184	58,879	15,958	35,489	239,696	—
	1871-1875	105,315	65,572	98,840	25,039	49,883	344,649	—
Years.	1876	94,357	54,950	146,481	21,945	47,100	364,838	—
	1877	102,708	56,700	155,034	23,918	48,600	386,955	31,041
	1878	99,820	54,250	168,853	26,088	46,500	395,461	84,238
	1879	106,248	53,200	149,112	26,981	45,600	381,141	83,735
	1880	107,954	53,900	145,220	28,646	46,200	381,920	85,321
	1881	110,813	53,550	158,301	28,609	45,900	396,673	102,168
	1882	112,914	59,670	172,291	32,892	45,900	423,667	111,822
	1883	110,850	76,500	166,719	35,259	45,000	434,328	116,923
	1884	117,750	67,500	176,130	37,218	45,000	443,598	115,148
	1885	—	—	178,704	40,032	(48,960)	—	—

(D.)—STATEMENT of the AMOUNT of GOLD in the under-mentioned BANKS and STATE TREASURIES on the 31st December in each Year named.

[From Soetbeer's "Materialien," &c., p. 70; with the exception of the general total which is here inserted, subject to the observation that prior to 1879, there was a certain amount of gold in reserve in the United States not here accounted for, so that the total is not quite on a uniform basis throughout.]

YEARS.	Bank of England and Scotch and Irish Banks of Issue.	Australian Banks.	Bank of the Netherlands.	Belgian National Bank.	Bank of France.	Swiss Banks of Issue.	Italian Banks of Issue and Italian Treasury.	Austro-Hungarian Bank.	National and other Banks of Issue in Sweden.	Norwegian Bank.	Danish National Bank.	Russian National Bank.	United States Treasury, and Banks of Issue in that Country.	TOTAL.
	Thousands of Marks.	Thousands of Marks.	Thousands of Marks.	Thousands of Marks.	Thousands of Marks.	Thousands of Marks.	Thousands of Marks.	Thousands of Marks.	Thousands of Marks.	Thousands of Marks.	Thousands of Marks.	Thousands of Marks.	Thousands of Marks.	Thousands of Marks.
1872	622,012	—	47,548	30,308	526,960	—	73,508	138,808	7,490	—	17,105	597,182	—	2,060,911
1873	595,442	158,098	67,953	30,245	489,040	—	73,173	141,055	16,780	23,381	32,122	618,207	—	2,245,946
1874	581,932	165,514	94,006	46,755	809,680	—	72,777	145,488	17,873	21,894	37,530	639,172	—	2,682,616
1875	596,241	172,594	117,726	62,324	939,440	—	53,805	135,708	22,015	16,024	43,133	643,459	—	2,809,519
1876	781,043	192,107	109,239	68,232	1,224,320	—	60,396	140,444	21,462	24,772	50,591	391,183	—	3,008,889
1877	646,861	174,773	85,866	48,960	941,680	—	61,444	134,752	19,710	16,351	37,979	396,436	—	2,567,812
1878	719,123	167,305	75,878	49,064	786,880	—	63,493	134,749	16,500	14,572	42,375	443,239	—	2,513,172
1879	693,410	206,185	124,823	57,808	593,280	—	64,343	117,364	22,566	19,939	47,237	433,316	666,457	3,096,077
1880	632,672	243,673	96,665	58,450	451,415	—	62,093	130,021	23,280	26,046	59,048	545,077	1,065,257	3,393,697
1881	554,710	224,950	30,869	61,872	524,557	—	57,044	137,451	22,109	23,784	54,902	545,093	1,238,603	3,475,944
1882	575,593	215,761	8,964	57,508	771,585	26,558	61,759	158,845	23,370	25,200	54,241	545,102	1,093,912	3,617,898
1883	593,017	210,712	39,962	57,508	760,443	31,521	438,844	155,864	23,291	25,985	54,829	545,102	1,147,352	4,133,930
1884	567,579	233,668	46,150	52,740	801,135	37,506	493,026	157,644	24,091	26,126	52,323	545,103	1,166,697	4,253,788
1885	564,324	263,560	81,437	55,600	925,932	39,330	396,300	133,145	24,592	21,334	52,047	545,107	1,408,056	4,517,264

(E.)—ESTIMATED AMOUNT of the GOLD and SILVER coined in each of the under-mentioned COUNTRIES down to 1885.

[From Soetbeer's "Materialien," &amp;c., p. 77.]

Countries.	Coinage of the Precious Metals down to the End of 1885.					
	Gold.		Silver.		Gold and Silver.	
	Millions of Marks.	Per-centage Proportion.	Millions of Marks.	Per-centage Proportion.	Millions of Marks.	Per-centage Proportion.
Great Britain	2,220	16·61	432	5·51	2,652	12·50
British Colonies, excluding India	680	5·09	66	0·84	746	3·52
Netherlands	80	0·60	269	3·43	349	1·65
France, Italy, Belgium, Switzerland	4,195	31·39	3,200	40·80	7,395	34·87
Austria-Hungary	160	1·20	370	4·72	530	2·50
Germany	1,744	13·05	692	8·87	2,436	11·43
Scandinavia	115	0·86	42	0·54	157	0·74
Russia	770	5·76	280	3·57	1,050	4·95
United States	2,464	18·44	1,292	16·47	3,756	17·71
Other Countries in Europe and America	986	7·00	1,000	12·75	1,986	9·13
Total	13,364	100·00	7,843	100·00	21,207	100·00

(F.)—CHINA (see Questions 499 and 597).

(i.)—STATEMENT showing the EXCESS of IMPORTS over EXPORTS (+) or EXPORTS over IMPORTS (−) of GOLD into or from CHINA in TRADE with UNITED KINGDOM, FRANCE, BRITISH INDIA, and the UNITED STATES, in the under-mentioned Years.

Year.	United Kingdom.	France.	British India.*	United States.†	Total Excess Imports (+), Exports (−).		
	Thousand £.	Thousand £.	Thousand £.	Thousand £.	Thousand £.		
1858	— 35	—	— 1,559	} No returns.	—		
1859	—	—	— 2,768				
1860	—	—	— 1,770				
1861	— 5	—	— 1,124				
1862	—	—	— 1,788				
1863	—	—	— 2,256				
1864	—	Not distinguished‡	— 1,954			+ 442§	— 1,546
1865	— 1	” ‡	— 2,945			+ 767§	— 1,187
1866	— 2	” ‡	— 2,318			+ 696	— 2,250
1867	— 4	” ‡	— 2,343			+ 416	— 2,404
1868	— 1	—	— 2,479	+ 257	— 2,090		
1869	— 1	Not distinguished‡	— 1,501	+ 514	— 1,966		
1870	— 62	+ 251‡	— 1,477	+ 428§	— 1,074		
1871	— 1	Not distinguished‡	— 1,505	+ 408§	— 885		
1872	—	+ 9‡	— 1,332	+ 326	— 1,180		
1873	— 129	Not distinguished‡	— 859	+ 780	— 598		
1874	— 283	” ‡	— 813	+ 665	— 323		
1875	— 342	+ 42‡	— 1,084	+ 556	— 540		
1876	— 808	Not distinguished‡	— 1,033	+ 151	— 1,233		
1877	— 187	— 84	— 406	+ 80	— 1,761		
1878	— 480	— 86	— 845	+ 234	— 443		
1879	— 809	— 1,069	— 833	+ 134	— 1,177		
1880	— 14	+ 439	— 1,184	+ 60	— 2,651		
1881	— 20	Not distinguished‡	— 1,549	+ 79	— 686		
1882	+ 4	” ‡	— 1,377	+ 69	— 1,500		
1883	— 194	” ‡	— 1,168	+ 99	— 1,274		
1884	— 69	— 186	— 1,361	+ 72	— 1,290		
1885	— 1,191	—	— 926	+ 124	— 1,492		
				+ 92	—		

\* From 1858 to 1866 years ended 30th April. From 1867 years ended 31st March.

† Years ended 30th June.

‡ For these years the imports of gold from China into France are not separately stated, but they are believed to have been small. The excess given in the table may, therefore, require a slight correction.

§ The excess of imports from the United States in 1862 and 1864, includes the excess of imports from the United States into Japan, and in 1869 and 1870 the excess of imports into Singapore.

Note.—Foreign moneys have been converted at the following rates:—France at the rate of 25, Rupees at the rate of 10, and Dollars at the rate of 4½ to the £ sterling.

(ii.)—STATEMENT showing the EXCESS of IMPORTS over EXPORTS (+) or EXPORTS over IMPORTS (−) of SILVER into or from CHINA in TRADE with UNITED KINGDOM, FRANCE, BRITISH INDIA, and the UNITED STATES in the under-mentioned Years.

Year.	United Kingdom.	France.	British India.*	United States.†	Total Excess, Imports (+) Exports (−).
	Thousand £.	Thousand £.	Thousand £.	Thousand £.	Thousand £.
1858	+1,565	+77	−809	} No returns.	
1859	+4,043	+151	−2,199		
1860	+1,937	+492	−244		
1861	+1,022	+218	−215		
1862	+3,806	+155	−1,597	+234§	+2,598
1863	+2,588	+827	−899	Not distinguished.	
1864	+1,698	+527‡	−513	+368§	+2,080
1865	+863	+234‡	−194	+228	+1,131
1866	+390	+205‡	−4,817	+1,042	−3,180
1867	+261	+35	−5,295	+1,032	−3,967
1868	+829	+81	−4,405	+1,092	−2,403
1869	+1,670	+158‡	−2,937	+1,066§	−43
1870	−88	+23‡	−3,696	+818§	−2,943
1871	−2,812	− ‡	−1,242	+417	−3,637
1872	−23	−52	−1,190	+520	−745
1873	−187	Not distinguished.	−42	+826	
1874	−347	−1	−901	+1,390	+141
1875	+750	+841‡	−251	+1,224	+2,064
1876	+1,234	+1,336‡	−335	+1,571	+3,806
1877	+2,048	+178‡	+143	+2,979	+5,348
1878	+1,620	+106‡	−1,714	+3,242	+3,254
1879	+178	+140	−1,808	+1,461	−29
1880	+1,102	+66	−2,616	+1,259	−189
1881	+951	+106	−123	+647	+1,581
1882	+402	+173‡	−1,505	+820	−110
1883	+861	+216	−1,247	+1,375	+1,205
1884	+761	+50	−527	+1,821	+2,105
1885	+374		−1,011	+2,943	

\* From 1858 to 1866 years ended 30th April. From 1867 years ended 31st March.

† Years ended 30th June.

‡ For these years the imports of silver from China into France are not separately stated, but they are believed to have been small. The excess given in the table may therefore require a slight correction.

§ The excess of imports from the United States in 1862 and 1864 includes the excess of imports from the United States into Japan, and in 1869 and 1870 the excess of imports into Singapore.

NOTE.—Foreign moneys have been converted at the following rates:—francs at the rate of 25, rupees at the rate of 10, and dollars at the rate of 4½ to the £ sterling.

(G.)—STATEMENT showing the VALUE of SILVER ORE, or ORE of which the greater part in VALUE is SILVER, imported into the UNITED KINGDOM in each Year from 1855 to 1885 inclusive. (See Question 653.)

Year.	Value.	Year.	Value.	Year.	Value.
1855	£ 564,580	1866	£ 275,599	1876	£ 499,775
1856	354,970	1867	165,587	1877	562,537
1857	299,511	1868	147,690	1878	529,785
1858	209,154	1869	178,398	1879	724,515
1859	342,637	1870	299,726	1880	633,360
1860	382,806	1871	958,956	1881	688,176
1861	289,373	1872	2,168,010	1882	750,079
1862	331,564	1873	1,020,598	1883	1,030,542
1863	272,826	1874	769,355	1884	1,089,768
1864	251,568	1875	545,164	1885	1,085,227
1865	332,391				

(H.)—TABLE showing the (AVERAGE) PER-CENTAGE of YEARLY PRICES to the MEAN PRICE of STAPLE ARTICLES in the NEW YORK MARKET from 1825 to 1880, and indicating the ANNUAL VARIATIONS in the Purchasing Value of Money measured by the Prices of the Commodities named.

Taken from the Ninth Report of the Director of the Mint, United States (see Question 743).

Year.	Per-centage to Mean of Staple Articles.	Year.	Per-centage to Mean of Staple Articles.	Year.	Per-centage to Mean of Staple Articles.	Year.	Per-centage to Mean of Staple Articles.
1825	104·4	1839	108·8	1853	99·4	1867	118·0
1826	102·2	1840	95·8	1854	107·0	1868	107·6
1827	101·2	1841	92·6	1855	111·1	1869	108·2
1828	98·9	1842	81·0	1856	112·2	1870	112·1
1829	96·6	1843	80·0	1857	119·8	1871	108·1
1830	92·6	1844	82·7	1858	99·7	1872	112·6
1831	97·4	1845	86·3	1859	100·6	1873	107·6
1832	99·0	1846	85·7	1860	100·8	1874	106·8
1833	96·1	1847	92·6	1861	98·0	1875	98·8
1834	88·6	1848	82·8	1862	111·6	1876	94·2
1835	99·1	1849	83·5	1863	119·4	1877	98·6
1836	109·6	1850	86·9	1864	110·1	1878	88·0
1837	100·2	1851	89·3	1865	123·0	1879	94·7
1838	101·0	1852	91·0	1866	119·1	1880	90·3

## APPENDIX IV.

Papers put in by Mr. A. Sauerbeck. See Question 904.

(A.) THE COURSE OF PRICES OF COMMODITIES IN ENGLAND, FROM THE STATISTICAL SOCIETY'S JOURNAL.

## SUMMARY OF INDEX NUMBERS. GROUPS OF ARTICLES, 1867-77 = 100.

	Vegetable Food (Corn, &c.).	Animal Food (Meat, &c.).	Sugar, Coffee, and Tea.	Total Food.	Minerals.	Textiles.	Sundry Materials.	Total Materials.	Grand Total of 45 commodities.	Silver.*	Average Index Nos. of Prices for 10 Years.	
1846	106	81	98	95	92	77	86	85	89	97.5	1837-46	98
1847	129	98	87	105	94	78	86	86	95	98.1	1838-47	98
1848	92	83	69	84	78	64	77	78	78	97.8	1839-48	91
1849	79	71	77	76	77	67	75	73	74	98.2	1840-49	88
1850	74	67	87	75	77	78	80	78	77	98.7	1841-50	86
1851	73	68	84	74	75	75	79	76	75	99.9	1842-51	83
1852	80	69	75	75	80	78	84	81	78	99.9	1843-52	82
1853	100	82	87	91	105	87	101	97	95	101.2	1844-53	83
1854	120	87	85	101	115	88	109	104	102	101.1	1845-54	85
1855	120	87	89	101	109	84	109	101	101	100.7	1846-55	86
1856	109	88	97	99	110	89	109	102	101	101.0	1847-56	88
1857	103	89	119	102	108	92	119	107	105	101.5	1848-57	89
1858	87	88	97	88	96	84	102	94	91	101.0	1849-58	90
1859	85	85	102	89	98	88	107	98	94	102.0	1850-59	92
1860	99	91	107	98	97	90	111	100	99	101.4	1851-60	94
1861	102	91	96	97	91	92	109	99	98	99.9	1852-61	96
1862	98	86	98	94	91	123	106	107	101	100.9	1853-62	99
1863	87	85	99	89	98	149	101	115	103	101.1	1854-63	100
1864	79	89	106	88	96	162	98	119	105	100.9	1855-64	100
1865	84	97	97	91	91	134	97	108	101	100.8	1856-65	100
1866	95	96	94	95	91	130	99	107	102	100.5	1857-66	100
1867	115	89	94	101	87	110	100	100	100	99.7	1858-67	99
1868	113	88	96	100	85	106	102	99	99	99.6	1859-68	100
1869	91	96	98	94	89	109	100	100	98	99.6	1860-69	101
1870	88	98	95	93	89	106	99	99	96	99.6	1861-70	100
1871	94	100	100	98	98	103	105	101	100	99.7	1862-71	100
1872	101	101	104	102	127	114	108	115	109	99.2	1863-72	101
1873	106	109	106	107	141	108	106	114	111	97.4	1864-73	102
1874	105	108	105	104	116	92	96	100	102	95.8	1865-74	102
1875	98	108	100	100	101	88	92	93	96	93.8	1866-75	101
1876	92	108	98	99	90	85	95	91	95	86.7	1867-76	101
1877	100	101	103	101	84	85	94	89	94	90.2	1868-77	100
1878	95	101	90	96	74	78	86	81	87	86.4	1869-78	99
1879	87	94	87	90	73	74	85	78	88	84.2	1870-79	97
1880	89	101	88	94	79	81	89	84	88	85.9	1871-80	96
1881	84	101	84	91	77	77	86	80	85	85.0	1872-81	95
1882	84	104	76	89	79	78	85	80	84	84.9	1873-82	93
1883	82	103	77	89	76	70	84	77	82	83.1	1874-83	90
1884	71	97	63	79	66	68	81	73	76	83.3	1875-84	87
1885	68	88	63	74	66	65	76	70	72	79.9	1876-85	85
											1877-86	82

TABLE OF AVERAGE OF INDEX NUMBERS (PER-CENTAGES), 1867-77 = 100.

Periods.	Corn, &c.	Meat and Butter.	Sugar, Coffee, and Tea.	Total Food.	Minerals.	Textiles.	Sundry Materials.	Total Materials.	Grand Total.	Silver.*
1818-27	109	90	151	111	128	105	106	112	111	98†
1828-37	95	78	127	96	97	94	92	91	93	98†
1838-47	102	80	122	99	98	82	93	90	93	98
1848-57	95	79	87	88	93	80	94	89	89	100
1858-66	91	89	100	92	94	117	103	105	99	100.9
1867-77	100	100	100	100	100	100	100	100	100	96.4
1878-85	82	99	79	88	74	78	84	78	82	84.1
1885	68	88	63	74	66	65	76	70	72	79.9
1853-77	100	93	99	97	100	104	103	102	100	99
1848-52	80	72	78	77	77	72	79	76	76.4	99

\* Silver compared with 60.84d. per oz., being the parity between gold and silver at 1:15½.

† Silver 1818-27, approximate value.

(B.) PRINCIPAL ARTICLES, FOOD, and RAW MATERIALS according to FIGURES published in the STATISTICAL SOCIETY'S JOURNAL.

	Prices.			Index Nos., 1885. — 1867-77 = 100.	Values of Imports and Home Production.	
	Average, 1853-77.	Average, 1867-77.	1885.		Mill. £ and dec. altered to 1885 Level.	Mill. £ and dec., average Quantities of 1883-85 at average values of 1867-77.
Wheat, English - - - qtr. s.	54	54½	82½	60	45.82	74.80
„ American - - - „	—	56	85	62		
Flour, town made, white - - 280 lbs. „	46½	46	29	63	—	—
Barley, English - - - qtr. „	87	89	30	77	20.48	26.60
Oats - - - „	25	26	30½	79	25.60	32.40
Maize, American, mixed - - „	33½	32½	28	71	7.81	11
Potatoes, good English - - ton. „	108	117	75	64	18.05	28.20
Rice, Rangoon (or Madras) - - cwt. „	10½	10	7	70	2.45	3.50
Beef, prime - - - 8 lbs. d.	53	59	52	88	39.95	45.40
„ middling - - - „	45½	50	44	88		
Mutton, prime - - - „	58½	63	56	89	17.31	19.90
„ middling - - - „	51½	55	47	85		
Pork, large or small - - - „	51	52	45	87	19.74	22.40
Bacon, Waterford - - - cwt. s.	69½	74	68	92		
Butter, Friesland, fine - - „	117	125	111	89	20.74	23.30
Sugar, West Indian, refining - - „	28½	28	18½	59	18.42	30.20
„ beet - - - „	—	24	14			
„ Java - - - „	29½	28½	17½	62	8.06	4.70
Coffee, plantation (low middling) - - „	76	87	60	65		
„ Brazil (good) - - - „	58	64	39	64	9.92	15.50
Tea, Congou, common - - - lb. d.	11½	11½	6½			
„ average import price - - - „	17½	17½	12	60	16.02	26.70
Iron, Scotch pig - - - ton. s.	64	69	42			
„ bars - - - „	8	8½	42	59	4.16	7.30
Copper, Chili, bars - - - „	87	75	48	57		
„ English tough oak - - - „	98	81	47	—	3.07	3.70
Tin, Straits - - - „	112	105	87	88		
Lead, English pig - - - „	21½	20½	11½	57	1.71	3
Coals, Wallsend Hetton, in London - - „	20½	22	16½	75	54.83	74.10
„ average export price - - - „	10½	12½	9	72		
Cotton, middling Uplands - - - lb. d.	10½	9	5½	62	35.59	57.40
„ fair Dhollerah - - - „	7½	6½	4	63		
Flax, Russian - - - ton. £	49	47	34½	73	3.80	5.20
Hemp, Manilla, fair - - - „	38	43	35	82	2.05	2.50†
„ St. Petersburg clean - - - „	36	35	29			
Jute, good medium - - - „	19½	19	12	63	3.84	5.30
Wool, Merino, Pt. Phillip fleece - - lb. d.	21½	21½	16½	73	25.88	41.60
„ Adelaide grease - - - „	10½	9	6			
„ Lincoln half-hogs - - - „	19½	19½	9	50	2.09	3.80
Silk, Tsatlee - - - „	22	23	12	55		
Hides, River Plate, dry - - - „	9½	9	8	95	9.50	10†
„ salted - - - „	—	7	6			
Leather, crop hides, 30-45 lbs. - - - „	15½	16	15	94	1.75	2.30†
Tallow, St. Petersburg Y. C. - - cwt. s.	48½	45	38	76		
„ town - - - „	49	45	30½	77	1.16	1.50
Oil, palm - - - ton. £	40½	39	30			
„ olive - - - ton. „	53	50	39	78	0.94	1.30
„ linseed - - - ton. „	33	30	22	78	4.53	6.30†
Seeds, linseeds - - - qtr. s.	60	60	44			
Petroleum - - - gall. d.	—	12½	6½	55	1.87	3.40
Soda, crystals - - - ton. s.	—	92	55	60	1.86	3.10†
Nitrate of soda - - - cwt. s.	15	14	10½	75	1.05	1.40
Indigo, Bengal, good consuming - - lb. „	6½	7½	5½	72	2.16	3
Timber, hewn - - - load. „	66	60	48	81	14.01	17.30†
„ sawn or split - - - „	57	54	45			
45 commodities, Total - - - -	—	—	—	3,284	439.72	617.40
Average - - - -	—	—	—	71.9	71.2	100

\* Included with wheat.

† Imports only.

‡ Exports of Alkali.



(C.) SUNDRY ARTICLES, FOOD and RAW MATERIALS.

(Prices marked thus \* are from market quotations ; all other prices are from the Board of Trade Returns.

	Prices.		Index Nos., 1885. 1867-77 = 100.	Value of Imports or Exports.		
	Average, 1867-77.	1885.		1885, Actual Mill. £ and dec.	1885, altered to the Level of 1867-77.	
Beer and ale, exported	brl. s.	79.07	75.84	95	1.65	1.74
Bones, except whalebone	ton £	6.42	5.92	92	0.44	0.48
Brimstone	cwt. s.	6.78	5.09	76	0.18	0.24
Bristles	lb. d.	37.08	33.92	92	0.42	0.46
Caoutchouc	cwt. £	9.82	11	112	1.98	1.77
Cheese	" "	2.98	2.22	76	4.07	5.35
Cocoa	lb. d.	6.65	8.43	127	0.82	0.65
Curraats	cwt. s.	24.92	25.85	104	1.46	1.40
Cutch	ton £	21.55	21.42	100	0.56	0.56
Cochineal	cwt. "	13.34	6	45	0.09	0.20
Drugs, bark, Peruvian	" "	10.90†	6.83	63	0.87	1.38
" sulphate of quinine	oz. s.	7.50*	8.25*	43	?	?
" opium	lb. "	20.64†	12.85	62	0.46	0.74
Dyewood, logwood, Jamaica	ton £	5.36*	4.87*	91	0.53	0.58
Eggs	doz. d.	8.92	8.42	94	2.93	3.11
Feathers, ornamental	lb. s.	48.96†	39.78	81	1.50	1.85
Fish, imported	cwt. "	25.48	26.24	103	2	1.94
" herrings, exported	brl. "	28.69	24.55	86	2.02	2.35
Guano	ton £	11.41	9.70	85	0.25	0.29
Gutta-percha	cwt. "	8.35	6.45	77	0.35	0.45
Hair, goats'	lb. d.	32.60	15.91	49	0.95	1.94
Hops	cwt. £	4.50	3.75	84	1	1.19
Lard	" "	55.70	36.88	66	1.61	2.15
Oil, cocoa-nut	ton £	40.25	29.78	74	0.28	0.37
" rapeseed	" "	39 *	25.75*	66	0.37*	0.66
" sperm	tun "	92.60	47.62	51	0.08	0.16
" train	" "	85.22	26.52	75	0.45	0.60
" turpentine	ton "	30.18	25.16	83	0.39	0.47
Oil-seed cake	" "	9.13	7.13	78	2.03	2.60
Onions	bush. s.	4.43†	2.78	63	0.49	0.78
Oranges	" "	9.12	6.80	75	1.48	1.97
Quicksilver	bottle £	11.41*	6 *	53	0.33	0.62
Raisins	cwt. s.	84.51	32.68	95	0.97	1.02
Rags and paper-making materials	ton £	17.13	13.16	77	0.47	0.61
" materials { rags - " esparto, &c.	" "	7.46	5.98	80	1.79	2.24
Rosin	cwt. s.	8.66	4.83	56	0.32	0.57
Salt, exported	ton "	12.95	14.59	113	0.67	0.60
Saltpetre	cwt. "	22.60	16.82	74	0.27	0.36
Seeds, clover and grass	ton £	51.78	46.67	90	0.74	0.82
" cotton	" "	8.56	6.85	80	1.85	2.31
" rape	qtz. "	2.65	1.62	61	0.88	1.44
Silk, knubs or husks, and waste	cwt. "	15.19	12.73	84	0.68	0.81
Shellac	" "	110 *	73 *	66	0.38	0.57
Shumach	ton £	16.07	14.61	91	0.16	0.18
Skins, goat	each d.	30.30	22.29	73	0.53	0.73
" seal	" s.	8.26	15.84	192	0.46	0.24
" sheep	" d.	27.02	29.12	108	1.08	0.95
Spelter	ton £	21.80*	14 *	64	0.86	1.33
Spices, cinnamon	lb. d.	24.61	8.82	36	0.06	0.17
" pepper	" "	5.20	7.35	141	0.97	0.69
" other sorts	" "	6.25	5.29	84	0.45	0.54
Spirits, brandy	gall. s.	7.05	8.98	127	1.24	0.98
" rum	" "	2.16	1.59	74	0.55	0.74
" other sorts	" "	1.69	1.82	108	0.35	0.38
Teeth, elephants', &c.	cwt. £	38.12	50.18	132	0.50	0.38
Tobacco, unmanufactured	lb. d.	8.27	7.92	96	3.85	4.01
Valonia	ton £	18.30.	15.77	86	0.47	0.55
Wine	gall. s.	6.97	7.01	101	5.13	5.08
Wood, staves	load £	8.26	4.32	52	0.54	1.04
" mahogany	ton "	9.24	8.70	94	0.49	0.52
Yeast, dried	cwt. "	2.35	2.79	119	0.82	0.69
61 articles, Total		—	—	5175	59.51	69.44
Average		—	—	84.8	85.7	100

† Average of seven years, 1871-77 only.

## (D.) MANUFACTURED and PARTLY MANUFACTURED ARTICLES EXPORTED according to BOARD OF TRADE RETURNS.

	Prices.		Index Nos., 1885. — 1867-77 = 100.	Values of Exports.	
	Average, 1867-77.	1885.		1885, Actual Mill & and den.	1885, altered to the Level of 1867-77.
Alkali - - - - - cwt. s.	9.25	5.87	63	1.96	3.11
Arms, fire-arms - - - - - each "	30.46	29.92	98	0.38	0.39
" gunpowder - - - - - lb. d.	6.03	5.98	99	0.32	0.32
Bags, empty - - - - - doz. s.	7.70	4.87	57	0.78	1.87
Bleaching materials - - - - - cwt. "	9.78*	6.73	69	0.51	0.74
Books, printed - - - - - " £	11.14	9.64	87	1.14	1.31
Cement - - - - - " s.	2.59	2.20	84	0.81	0.96
Candles - - - - - doz. lbs. "	8.22	6.14	75	0.20	0.27
Cordage and twine - - - - - cwt. "	56.54	43.81	76	0.32	0.50
Cotton yarn - - - - - lb. d.	17.46	11.58	66	11.87	18
" piece goods, plain - - - - - yard "	8.40	2.33	68	30.57	44.96
" " printed - - - - - " "	4.77	3.47	73	17.71	24.53
" stockings and socks - - - - - doz. prs. s.	6.81	6	88	0.52	0.59
" thread for sewing - - - - - lb. d.	41.28	27.74	91	2.37	2.60
Glass, plate - - - - - sq. foot s.	2.86	1.27	54	0.25	0.46
" flint - - - - - cwt. "	55.14	42.51	77	0.28	0.37
" common bottles - - - - - " "	10.29	9.57	93	0.35	0.38
" other sorts - - - - - " "	28.71	16.65	58	0.09	0.13
Hats of all sorts - - - - - doz. "	30.03	21.34	71	1.11	1.56
Leather, boots and shoes - - - - - doz. prs. "	63.26	58.09	92	1.63	1.77
Linen, linen yarn - - - - - lb. d.	15.93	14.26	89	0.99	1.11
" jute yarn - - - - - " "	3.85	2.18	55	0.27	0.49
" manufactures, white or plain - - - - - yard "	7.40	6.35	86	3.65	4.24
" " printed - - - - - " "	8.31	6.87	83	0.21	0.25
" " sail-cloth - - - - - " "	13.74	10.88	79	0.18	0.28
" " thread for sewing - - - - - lb. "	29.80	30.63	103	0.34	0.33
" jute manufactures - - - - - yard d.	3.69	2.13	58	1.90	3.28
Metals, iron, bar, angle, bolt, and rod - - - - - ton £	9.27	6.13	66	1.62	2.43
" " railroad - - - - - " "	9.46	5.47	57	3.90	6.84
" " wire - - - - - " "	18.89	12.51	66	0.69	1.03
" " sheets and plates - - - - - " "	13.66	8.13	60	0.91	1.52
" " galvanised - - - - - " "	22.93	13.41	59	1.76	2.98
" " hoops - - - - - " "	10.58	6.69	63	0.55	0.87
" " tinned plates - - - - - " "	25.91	14.84	57	4.43	7.77
" " cast or wrought - - - - - " "	16.09	11.53	72	4.01	5.57
" " steel, unwrought - - - - - " "	33.59	16.99	51	1.03	3.05
" " manufactures of steel - - - - - " "	63.27	31.43	49	0.41	0.88
" copper, yellow metal - - - - - cwt. "	3.70	2.32	63	0.97	1.54
" " of other sorts - - - - - " "	4.56	2.92	64	1.23	1.92
" brass of all sorts - - - - - ton "	5.11	3.96	77	0.86	0.47
" lead, pig, sheet, and pipe - - - - - " "	21.31	12.25	58	0.47	0.81
" zinc, wrought and unwrought - - - - - " "	21.72	13.28	61	0.10	0.16
Oil and floor cloth - - - - - sq. yard d.	15.40*	13.08	85	0.61	0.72
Paper - - - - - cwt. £	2.94	1.95	66	1.43	2.14
Silk piece goods - - - - - yard s.	3.52	3.72	106†	1.12	1.06
Soap - - - - - cwt. "	26.12	23.50	90	0.47	0.52
Woollen and worsted yarn - - - - - lb. d.	35.67	24.19	68	4.38	6.44
" cloths, &c. - - - - - yard "	88.82	40.23	105†	7.70	7.33
" flannels, &c. - - - - - " "	18.03	13.08	73	0.94	1.31
" stuffs, &c. - - - - - " "	12.61	9.35	74	7.74	10.46
" carpets, &c. - - - - - " "	36.62	25.74	70	1.19	1.70
51 articles, Total - - - - -	—	—	3,751	128.79	182.72
Average - - - - -	—	—	73.6	70.5	100

\* Average of 1871-77 only.

† Higher average, probably on account of changes in the classification; prices have certainly fallen.

## (E.) SUMMARY OF RESULTS.

The following statement gives the result of the three tables (B, C, and D). As regards the value of sundry small articles, and of manufactured goods, the home production of the former, and the home consumption of the latter has not been included, as no sufficient data are available. The sum of 80,000,000*l.* has, however, been added for beer, spirits, and other articles, which are presumed to have fallen on the average only to a moderate extent, say 5 per cent., and it may fairly be assumed that any articles

not comprised in these lists have, on the average, followed very much the same course as those given.

It will be seen that the average decline of all the 157 descriptions of commodities according to index numbers is 22½ per cent. as compared with the average of 1867-77; but allowing for quantities according to the importance of each article, it amounts to 26 per cent., which is only 2 per cent. less than that of the 45 principal commodities treated in the general tables.

	According to Index Nos.		According to Quantities.		
	Total Index Nos., 1885.	Average. 1867-77 = 100.	Value on the Basis of the Average Prices of 1867-77, Mill. £ and dec.	Value, 1885.. Mill. £ and dec.	Ratio, 1885. 1867-77 = 100.
45 principal articles - - -	3,234	71·9	617·4	489·7	71·2
61 sundry articles - - -	5,175	84·8	69·4	59·5	85·7
Beer, spirits, &c. - - -	—	—	84·2	80	95·
51 manufactured and partly manufactured articles.	3,751	73·6	182·7	128·8	70·5
157 articles - - - -	12,160	77·5	953·7	708	74·2
Average decline in 1885 as compared with 1867-77.	—	22·5 %	—	—	25·8 %

The index number for the 45 principal commodities in 1886 is only 69 (1867-77 = 100), and the ratio according to quantities only 68·1. The index number for silver is 74·6, or 25·4 per cent. below the former normal point. Taking all the above 157 articles together and allowing for quantities the fall in 1886 as compared with 1867-77 will amount to 29 per cent.

## APPENDIX V.

*Papers put in by Mr. Barbour.*

(A.) See Question 1136.

The silver remittances from treasuries in the plains to Simla and Kasauli (a sub-treasury of Simla) during the last 25 years have been as follows:—

	Rs.
1861-62	12,10,000
1862-63	18,34,500
1863-64	20,70,000
1864-65	26,65,000
1865-66	25,04,000
1866-67	16,88,400
1867-68	27,35,500
1868-69	23,82,000
1869-70	21,77,000
1870-71	24,15,950
1871-72	19,75,200
1872-73	22,62,000
1873-74	19,67,000
1874-75	19,12,000
1875-76	27,97,000
1876-77	24,72,000
1877-78	36,23,000
1878-79	44,10,000
1879-80	37,90,000
1880-81	32,93,000
1881-82	32,00,100
1882-83	32,88,200
1883-84	41,15,000
1884-85	31,48,000
1885-86	24,68,000
Total	6,64,02,850

The amount of silver brought to Simla, otherwise than in remittances on account of Government, may be neglected. European and native bankers and traders replenish their resources when necessary by currency notes, which the Simla Treasury is always prepared to cash.

The amount of silver brought by visitors is insignificant. Remittances of coin to the plains are never made, either by Government, or bankers, or merchants. Remittances are made either by currency notes or by treasury bills on Bombay, Calcutta, Umballa, Lahore, and Delhi, which the treasury is always prepared to grant. The currency notes supplied to the Simla Treasury during the last three years have been—

	Rs.
1883-84	8,34,000
1884-85	13,45,000
1885-86	15,41,000

The treasury bills issued by the Simla Treasury during the last three years have been—

	Rs.
1883-84	7,60,700
1884-85	14,75,400
1885-86	19,69,500

The aggregate of these notes and bills represent remittances on account of banking, trading, &c. made to the plains.

A portion of the silver sent to Simla by Government eventually returns to the plains. The Simla market is supplied with cattle, grain, and miscellaneous supplies largely from the plains. A large portion of these supplies is brought by itinerant dealers, who take back cash with them for fresh purchases in the villages where currency notes would not be accepted. I have not been able to procure any satisfactory information from the Simla octroi returns, as it is impossible to make any accurate distribution of the amount of business done by large dealers, who would not remit cash, and by itinerant traders with small capital, who would take back cash. Most of the grain supply of Simla is brought up by zamindars from Ludhiana and Ferozepore, who take back coin. The retail grain dealers are mostly Hoshiarpore and Kangra men, who come to Simla for the season, and are believed to take back their profits in coin. The cost of carriage of supplies is also considerable, and nearly all of it is taken back in cash. So are the savings of carpenters, masons, and domestic servants from the plains. Looking to the class of people who take back coin, and to the fact that it is certainly not taken in large quantities at a time, I do not think that it can

exceed one third of the amount sent to Simla by Government, or about 11 lakhs yearly. Applying this to the results of the past six years, it may be taken that the present annual absorption of silver by the hill population is about 22,00,000 a year. This result is the more curious when it is considered how sparse the hill population is, and that the Thibet traders ordinarily take back grain and not silver. I think that the hill population is acquiring wealth rapidly. It is certain that many of the hill Rajas, notably those of Rampore, Busahir, and Bilaspore, have accumulated large stores of silver; and it cannot have escaped observation how the fact of growing wealth is reflected in the amount of silver and gold ornaments now worn by hill women. It is nearly 10 years since I first came to Simla, and the change in this respect in that period is sufficiently striking.

(Signed) E. J. SINKINSON,  
Simla, Accountant General, Punjab.  
2nd October 1886.

(B.) See Question 1145.

## LETTER ON THE SUBJECT OF THE HOARD OF THE MAHARAJAH OF BURDWAN.

Bun Abash, Burdwan,  
16th September 1886.

MY DEAR .....,  
IN reply to your letter of day before yesterday's date, I have the pleasure to send the following information that I have been able to procure. It is very difficult to answer all the questions satisfactorily.

Through fear that the Marhattas might take away whatever they found in the house, and that the householders would have nothing to fall back upon, it was thought necessary in those days to keep a large amount of savings under ground for the time of need. Besides, in the time of the Mogul Emperors, the country was not so safe as it is now-a-days under the British rule, and there was no other way of investment than buying landed property, precious metals, jewels, &c.

So they used to have large sums in cash, and also because the people of those days did not have the same confidence in the Government of the country as they have now; they preferred keeping their savings in hard cash within easy reach, and in the shape of precious stones and metals.

Ladies of the Hindoo household were, as a rule, uneducated in those days (and the majority of them are still no better), and for their benefit it was not thought proper to invest in securities, as when there was no male member in a family, it would be hard for the uneducated ladies to deal with the securities or other investments which might necessitate their appearing in court and undergoing some expenses to get their just dues from the court, in addition to the degradation they would have to submit to.

Another reason why people (especially poorer people, who cannot save more than 100 or 200 rupees, and have some ornaments) like to leave for their wives and families behind them hard cash and ornaments, is that they cannot afford to have iron safes or strong boxes to keep their money in in the shape of currency and promissory notes. They generally put their things within *brass lotas* or *Bahugunas*, and then bury them under ground somewhere in the room they sleep in; as a rule they prefer the ground below their beds for that purpose.

With reference to the description of the several treasure houses in the estate, their dimension, and their contents. There are three rooms which are known by the name of *Toshakhana*—

(a.) One large room measuring about 48 feet in length, 14' 6" in breadth, and 13' 9" in height, where gold and silver ornaments and ornaments set with precious stones are kept. These articles are kept in almirahs and boxes of all descriptions, and also some gold plates and cups, *Thalees* and *Katorahs* as well as washing bowls, jugs, &c.

(b.) There is another room where silver *Thalees* and *Katoraks*, *Rakabees*, *aterdan*, *golappas*, *nemokdan*, glass cups, *gharras*, *lotas*, washing sets and all other things for ordinary use are kept, the room measuring L-17-9, B-15-6, H-13-9.

(c.) There is a third room where silver plates and dishes, forks, spoons, silver-handled table knives, tea sets, &c., are kept (English dinner and breakfast sets), measuring about L-15, B-10-6, H-13-9.

The rooms marked (a), (b) are under lock, and the doors of the rooms having been bricked up, and we having no list to show what they contain, I cannot give an idea as to the value of the contents. Of the contents of the latter room we have made an inventory, and they would come up to about 80,695 tolahs of silver, valued at Rs. 80,695.

There are four other rooms :—

(a.) One of these has been lately fitted up since the estate came under the court, and contains gold and silver ornaments, and ornaments set with precious stones, gold ornaments and throne, &c., would come up to about 10,142 tolahs valued at Rs. 1,62,278 (at the rate of 16 rupees per tolah). The room is about L-6-6, B-12-9, H-12-3.

(b.) The second and the third rooms (known as the under roker room or reserve treasury. One for the zamindari property and another for Debutter) are the treasury where current collection of the estate is kept as well as the Government securities and debentures (the size of the zamindari treasury is L-22-9, B-12-9, H-12-3, and that of the Debutter treasury is L-6-9, B-15, H-12-3).

(c.) The fourth room measures about L-22-6, B-15, H-12-3, where there are two large sized vaults prepared for hoarding the current silver coin, and since the year (1267, B.C.) some money was from time to time put in and taken out by the Maharajah Mahtab Chund Bahadoor, for the expenses of emergent and extraordinary nature, such as the late Maharajah Aftab Chund Bahadoor's marriage, Lala Bun Behari Kapur's marriage, and buying landed properties. When he died about one lakh was left in one of the vaults. In the time of Maharajah Aftab Chund Bahadoor that sum was taken out and placed at the reserve treasury, so there is no money in them now. There is one small vault in the room supposed to have contained some 9,990 or 10,000 gold mohurs of all descriptions, one kind known as *Joypoori*, another *Moorshidabadi*, and sovereigns worth in all about Rs. 1,60,000. The accumulation of these coins was begun by the Maharajah Tage Chund Bahadoor, and continued up to the time of the Maharajah Mahtab Chund, who made this vault and kept them in it; this room has also been locked, and the door is bricked up; this room is known as the *Kona Hawee*. All these above treasure rooms are situated in the apartment known as "Raj Mohal," at present occupied by the Maharanee.

(d.) There is one toshakhana situated in another apartment called "Rung Mohal," where ornaments belonging to different gods of the family are kept, and silver *Thalees*, *sapaikas*, &c., for the religious purpose, the value of which is not known to us, as it is one of those rooms that have been locked up and sealed.

(e.) *Bara Hawee*, or the room which contains several vaults, is situated in the apartment called *Jattrakhanda*, measuring about L. 32, B. 25, H. 12-9. As this room is locked up and its doors are bricked up, and I do not remember how many vaults there are in the room, and how much money in silver they contain, I am sorry I cannot give you any information on these heads.

The amount known to have been drawn from these vaults during the times of the Maharajahs Mahtab Chund and Aftab Chund Bahadoors is about Rs. 23,00,000 and out of this sum about Rs. 10,75,000 has been invested in landed properties, Rs. 5,00,000 in Government securities, and Rs. 200,000 in Himalayan Railway Debentures.

It is believed that these silver coins were hoarded by the Maharajah Tej Chund Bahadoor and his wife Maharanee Komul Coomari, Thacoranee, after him year after year, beginning from (1211, Bengali era) that is from the time when the puttoni system was first introduced. According to the custom of the Burdwan Raj family the custody of these valuables was left to the Maharanee for the time being, but the vaults were never opened except in the presence of the Maharajah.

When any sum was drawn out, only some relations and trust-worthy servants were admitted into the room and vault. Treasurers and Dowans used to be present outside

the room or apartment, where the sum drawn was sent out (female guards being placed in the passage) for the purpose of weighing, counting, and bagging it before it was sent to the Mint.

A part of the above-mentioned gold coins and all the silver coins bear as date the 19th year of Shaha Alum's reign. They were all coined at Moorshedabad.

I hope, in conclusion, that though I have not followed the question in due order, I have given exhaustive answers to them, all which I hope you will find useful, in spite of the rambling way in which they have been put.

Yours sincerely,

(C.) See Question 1147.

EXTRACT FROM A REPORT OF 5TH OCTOBER 1886 BY PANDIT SALIG RAM, OF THE POSTAL DEPARTMENT.

A very remarkable case of this gold-hunger came to my notice in the course of my inquiries in \* \* \* \* \* district, and I think I may safely mention it here, as there seems to be no fear of this memorandum being ever published. I was told on the most reliable authority that His Highness the \* \* \* \* \* of \* \* \* \* \* has set apart a very large sum of money (in silver) for conversion into gold, and that every month between 40 and 45 thousand rupees' worth of gold mohurs are purchased by agents in Calcutta, Bombay, and certain other places, and sent to the \* \* \* \* \*. That this has been going on for some years. A certain proportion of this gold comes by post. But parcels are very seldom addressed to the \* \* \* \* \* or directed to \* \* \* \* \*. The \* \* \* \* \* treasurer is a native banker of \* \* \* \* \*, and the parcels usually come to his address at \* \* \* \* \*. The gold received is taken to \* \* \* \* \*, and there deposited in a strong treasure vault or room specially set apart for it. If inquiries are made at \* \* \* \* \*, the above statement will probably be contradicted, but I have not the least doubt of its correctness. Who can say that the \* \* \* \* \* example is not being followed by rich men all over the country? If inquiry were made, it will most probably be found that this is really the case; but the mischief which such an inquiry will cause, by exciting distrust and suspicion of the real intentions of the Government, will be serious, and should not, I think, be risked without urgent reasons, and then only with great caution.

(D.) See Question 1150.

STATEMENT showing the AMOUNT of NATIVE COINS and ORNAMENTS tendered for coinage in the BOMBAY MINT from 1854-55.

Years.	Native Coins.	Ornaments.	Total.
	Rs.	Rs.	Rs.
1854-55	15,81,000	4,69,000	20,50,000
1855-56	10,58,000	2,31,000	12,89,000
1856-57	3,13,000	2,23,000	5,36,000
1857-58	2,02,000	50,000	2,52,000
1858-59	4,48,000	15,000	4,63,000
1859-60	2,25,000	2,24,000	4,49,000
1860-61	1,27,000	2,49,000	3,76,000
1861-62	1,53,000	12,23,000	13,75,000
1862-63	49,000	47,000	96,000
1863-64	37,000	1,63,000	2,00,000
1864-65	2,000	—	2,000
1865-66	74,000	—	74,000
1866-67	3,36,000	—	3,36,000
1867-68	19,75,000	1,53,000	21,28,000
1868-69	19,28,000	1,65,000	20,93,000
1869-70	20,18,000	1,76,000	21,94,000
1870-71	20,74,000	72,000	21,46,000
1871-72	10,88,000	12,50,000	23,38,000
1872-73	15,73,000	28,80,000	44,53,000
1873-74	23,96,000	12,17,000	36,13,000
1874-75	7,90,000	3,63,000	11,53,000
1875-76	7,10,000	75,000	7,85,000
1876-77	20,000	8,52,000	8,72,000
1877-78	—	1,24,00,000	1,24,00,000
1878-79	67,00,000	1,16,00,000	1,83,00,000
1879-80	45,00,000	92,00,000	1,37,00,000
1880-81	25,50,000	10,00,000	35,50,000
1881-82	1,00,000	4,00,000	5,00,000
1882-83	15,50,000	50,000	16,00,000
1883-84	1,25,000	50,000	1,75,000
1884-85	16,25,000	18,75,000	35,00,000
1885-86	2,00,000	3,25,000	5,25,000

\* Silver vessels shaped like ordinary drinking glasses appear to be meant.

(E.) See Question 1162.

## PAY OF POSTAL RUNNERS IN INDIA FROM 1855 TO 1885.

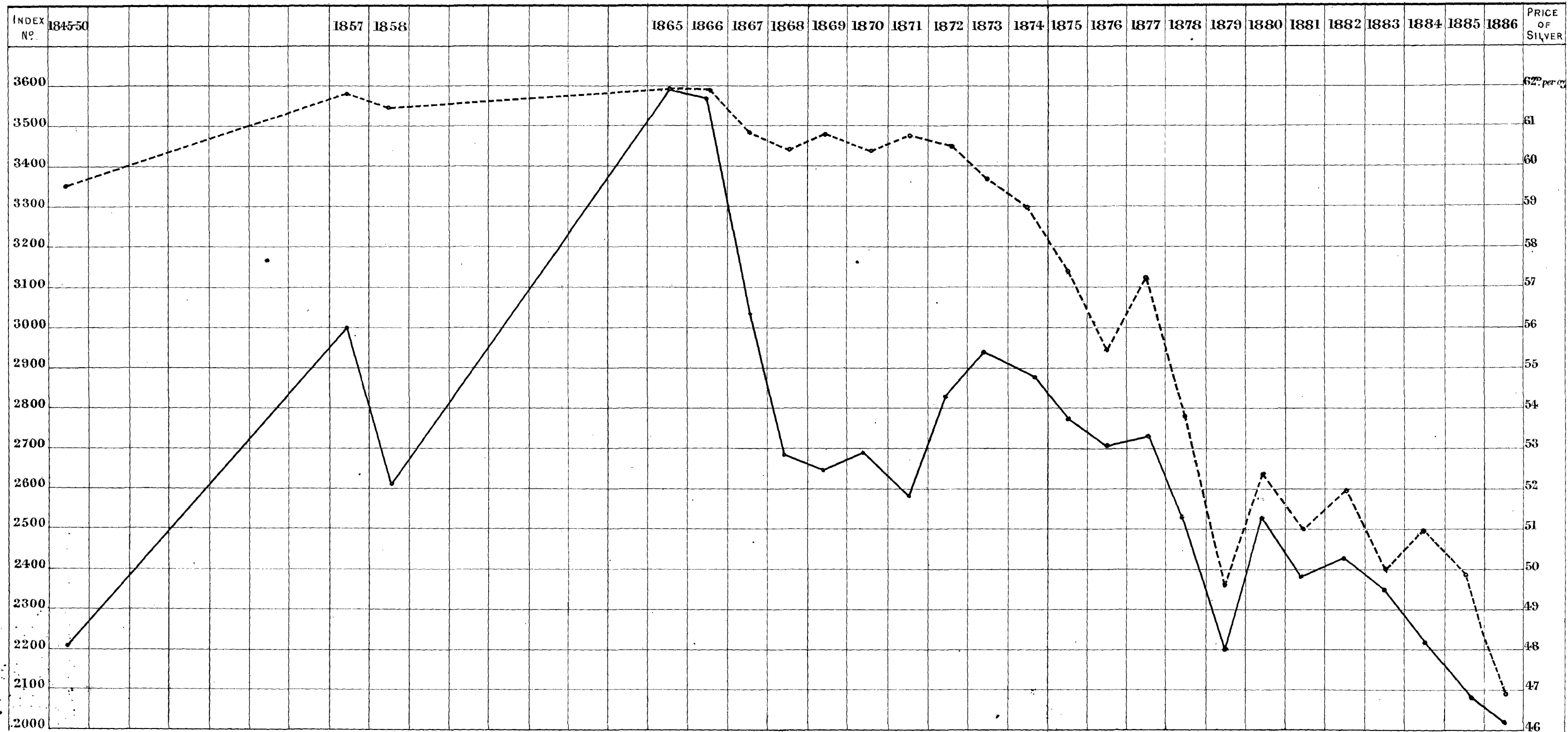
Names of Lines.	1855.	1860.	1865.	1870.	1875.	1880.	1885.	1886.
<b>BENGAL.</b>								
	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.
Balasure to Cuttack - - -	4 0	4 0	3 0	5 0	5 0	{ 6 0 5 0 }	5 0	5 0
Dacca to Chittagong - - -	4 0	4 0	4 0	5 0	5 0	5 0	6 0	6 0
Cuttack to Angool (or Sum- balpur). - - -	—	3 0	5 0	5 0	5 0	5 0	5 0	5 0
Purnia (Manbhoom) to Chyebassa. - - -	5 0	4 0	4 0	4 0	4 0	3 8	4 8	4 8
Gya to Nowada - - -	4 0	4 0	4 0	4 0	4 0	—	—	—
Mozufferpur to Purneah - - -	3 0	3 0	3 8	3 8	3 8	4 0	5 0	5 0
Ranchi to Palamow - - -	2 0	4 0	4 0	4 0	4 0	4 0	5 0	5 0
<b>ODDH AND NORTH-WESTERN PROVINCES.</b>								
Lucknow to Sitapur - - -	4 0	4 0	4 0	4 0	4 0	5 0	4 0	4 0
Budaon to Bareilly - - -	3 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0
Etawah to Manipuri - - -	4 0	4 0	4 0	4 0	4 0	4 0	—	—
Moradabad to Bijnur - - -	3 0	4 0	4 0	4 0	4 0	4 0	4 0	4 0
<b>PUNJAB.</b>								
Delhi (to all places) - - -	4 0	4 0	4 0	5 0	5 0	6 0	5 0	5 0
Jullundur to Hoshiarpur - - -	4 0	4 0	4 0	4 0	5 0	5 0	5 0	5 0
Kohat to Bannoo or Edward- esabad. - - -	4 8	4 8	4 8	5 0	5 0	5 0	5 0	5 0
Dehra Ghazi Khan to Dehra Ismail Khan. - - -	4 8	4 0	4 0	5 0	5 0	5 0	5 0	5 0
<b>SIND.</b>								
Hyderabad to Mohad Khans Tando. - - -	5 0	5 0	5 0	4 8	6 0	6 0	7 0	7 0
Jerruck to Tatta - - -	—	—	7 0	7 0	7 0	7 0	7 0	7 0
<b>BOMBAY.</b>								
Ratnagiri to Vingorla - - -	—	5 0	6 0	8 0	7 0	7 0	7 0	7 0
Habli to Harrihar - - -	5 0	4 0	6 0	8 0	7 0	7 0	—	—
Dhulia to Shirpur - - -	5 0	5 0	6 0	8 0	7 0	7 0	6 0	6 0
<b>CENTRAL PROVINCES.</b>								
Jubbulpur to Mandla - - -	5 0	—	5 0	—	5 0	5 0	5 8	5 8
<b>MADRAS.</b>								
Calicut to Tellichery - - -	4 0	4 0	5 0	7 0	{ 7 0 6 0 }	7 0	7 0	7 0
Vizagapatam to Berhampur Ganjam. - - -	—	3 12	5 0	6 0	6 0	6 0	6 0	6 0
<b>MYSORE.</b>								
Bangalore to Mysore - - -	4 0	4 0	4 0	5 0	6 0	6 0	—	Moiety pay. 2 4
Average (annas) -	4·05	4·56	4·95	5·17	5·14	5·24	5·42	5·38

(Signed) W. ALPIN,  
Officiating Comptroller, Post Office.

(F.)

DIAGRAM SHOWING PRICES OF COMMODITIES (ACCORDING TO THE "ECONOMIST" INDEX NUMBERS,) AND THE PRICE OF SILVER.

See Question 1177.



*This Diagram shows the course of English prices, according to the Index Nos, of the "Economist," and also of the gold price of silver, from 1845-50 to 1885.*

*The dotted line represents the prices of silver and the continuous line the Index Nos.*

*It will be observed:*

*(1.) That down to 1873 the fluctuations in the price of silver were comparatively trifling. (2.) That since 1873 the fluctuations in the price of silver have been very great, and (3.) That the price of silver and the price of commodities in England rise and fall together.*

## APPENDIX VI.

## MEMORANDUM by PROFESSOR ROBERTS AUSTEN, F.R.S., Chemist to the Royal Mint, on the Cost of Production of Silver.

There is some conflict of opinion as to the exact influence on the price of silver of the actual outlay involved in obtaining it from the earth, in the metallurgical operations incidental to its extraction from the ore, and in placing it upon the market.

M. Cernuschi indeed says "that the cost of production does not determine the value of gold and silver; that value is determined by two elements—the employment and the quantity." On the other hand, the late Mr. Bagehot\* maintains "that the value of gold and silver is determined by the cost of production, just like that of all other things; that in their case, as in all other cases, what is more cheaply produced than usual would be more plentifully produced than usual, and that the purchasing power in consequence will be no doubt less." He elsewhere observes,† in discussing the Report of the Select Committee on the Depreciation of Silver (1876), that the price at which silver will settle down will in part "be determined by the cost in the least good mine which pays to keep at work."

The difficulties of an inquiry as to the actual cost of production are considerable, and arise from—

- (1.) Varying conditions in different localities.
- (2.) Irregularity and incompleteness of returns, and the indifference or reluctance of proprietors to publish full statements as to cost.

It is, moreover, very difficult to estimate the amount that should be added to the actual cost of mining and milling in consideration of the price paid for and capital invested in mining property.

The question as to whether the search for silver and its actual production does or does not afford a remunerative return for the capital expended on it has not been considered here. An attempt has simply been made to point out what are the several metallurgical processes by which silver is extracted, to collect such statements as are published dealing with cost of production, and to state the results for each of the principal processes; it being necessarily assumed that the data so collected admit of application to the total amounts of silver estimated to be produced by each of the respective processes. Sufficient allowance has, it is believed, been made for the cost of mining and transport.

The uncertainty attending any generalization as to the precious metals is indicated by the fact that, in 1875, the Director of the United States Mint, after a most careful examination of all the conditions likely to arise, gave it as his opinion that the "total production of all the mines on the Cornstock may safely be estimated at not less than 50,000,000 dollars per annum, about 45 per cent. of which will be gold." In 1884, however, when I visited the district, the mining and milling works were suspended. In the report to which reference has just been made the late Dr. Linderman observed of the mining and metallurgy of California, "The business is one of uncertainty and hazard, and, taking one year with another, the expenses no doubt equal, if they do not exceed, the production."

In previous official investigations but little attention appears to have been paid to the influence of the cost of production on the market price of silver; thus, the evidence upon this point given before the Select Committee on the Depreciation of Silver (1876) is practically limited to the statement of Mr. Pixley's belief‡ that silver is got out in certain mines in Mexico "at about 1s. 6d. an ounce," and to the expression of Mr. Bagehot's opinion, already quoted, as to the price being regulated by the cost of production under the most difficult circumstances.§

The following table gives the total production of silver in the world for 1883, that being the latest year for which complete returns are available:—

TABLE I.

	Quooes.
United States of America	35,737,908
Mexico	22,872,732
Germany	7,417,642
Austria	1,568,502
Spain	2,395,481
Argentine Republic	325,045
Colombia	587,873
Bolivia	12,376,860
Chile	4,119,125
Other countries producing less than 300,000 ounces	953,505
Total	88,354,733

Table II. gives the estimated amount of the silver extracted by each of the principal methods. The approximate cost of the mining and metallurgical operations involved will be given subsequently.

TABLE II.

Section.	Method by which the Silver was obtained.	Weight in Ounces.
I.	Refining of native gold	508,000
II.	Desilverization of lead	30,726,000
III.	Desilverization of copper and cupriferos products.	7,200,000
IV.	Treatment of silver ores	49,920,733
	Total	88,354,733

The metallurgical processes involved in the extraction of silver from its ores, although very complex, nevertheless admit of being classified in the four sections shown in the preceding table. The amounts into which the whole annual production is divided, as given in the third column, can only claim to be rough approximations. The reasons for the adoption of the figures given in this column will now be considered in some detail.

## Section I.

Such silver as forms a natural alloy with gold being extracted in conjunction with that metal, and the deposit in which both metals occur being worked for gold, the extraction of the silver entails, practically, no expense over and above that which is involved in the extraction of the gold, as the silver is obtained incidentally. It would usually be necessary to purify the gold to convert it into ingots of the standard fineness met with in the market, and the cost of such parting and refining is the utmost metallurgical cost involved in the production of the silver. As this amount has to be distributed between the silver and the gold it is safe to assert that the extraction of one ounce of silver contained in gold does not exceed the cost of parting. The average official charges of the American mints for parting and refining silver and gold of the average standard of native gold is about 2½d. per ounce. The quantity of silver present in native gold varies considerably; but it has been estimated by King\* that the mean fineness of the native gold of the United States is 876 parts in 1,000, and this may be taken as the average fineness for native gold generally. The alloying element is, in nearly every instance, silver, with but small quantities of copper and other metals, and these may be disregarded. Every 1,000 parts of native gold yield, therefore, 124 parts of silver. The total quantity of gold produced throughout the world in 1883 is estimated at 4,548,550 ounces,† of which 1,451,250, or nearly one-third, were produced in the United States. Nine per cent. was ‡ derived from the refining of lead. Allowing an additional 1 per cent. to have been derived from cupriferos and other materials treated otherwise

\* "Economist," March 4, 1876.

† "Economist," July 16, 1876.

‡ Report from Select Committee on Depreciation of Silver, 1876, question 213; see also question 230.

§ Ibid., question 1436.

\* Bowie—Practical Treatise on Hydraulic Mining, p. 291.

† Mineral Resources of the United States for 1883-84, p. 320.

‡ Ibid., p. 413.



than by lead, but by processes not involving the use of mercury, there remains 90 per cent. as native gold\* in one form or another. Assuming this to have been originally of the fineness above stated, it would have yielded as a bye-product 161,960 ounces of silver; calculating the total production of gold in the world on the same basis, the amount of silver obtained from it would be 507,618 ounces.

### Section II.

A large proportion of the silver produced in the world is derived from association with lead ores, from which it is extracted by suitable treatment. Certain argentiferous materials are also melted with lead ores, the precious metal being in all cases collected in the lead so produced. The reduction of the silver occurring in lead ores will be effected without any extra cost beyond that requisite for the lead itself, provided that the state in which the silver is present does not necessitate any modification of the treatment demanded for the extraction of the lead alone, and this also holds good with respect to such silver ores as are added to the furnace charge, except that in this case it may be necessary to use more flux, and, consequently, more fuel and labour will be required. With these exceptions, the sole cost of the extraction of the silver from these argentiferous ores is connected with its separation from the lead produced. This is done either by crystallising out lead poor in silver from a richer alloy—the Pattinson process—or by the use of zinc—the Parkes process—or by these processes jointly. The cost of refining and desilverising the ton of argentiferous lead at Chicago in 1883 was, in the case of the Horn Silver Mining Company's lead, about 8 dollars per ton.† If, therefore, the lead be the main object of the smelting, and the silver merely a valuable bye-product, the amount of silver which must necessarily be present in the lead to pay for the cost of extraction must be of the value above stated, as in the case of the galena produced in the United Kingdom, which averages about 8.5 oz. silver per ton of lead.‡ When, however, as is usually the case, the production of lead is not the main, but rather a secondary, consideration, the above data are not applicable. This is more especially true with regard to those countries where the mines are situated far from the market or from deposits of fuel, with inefficient means of transport, and where labour and other expenses are high. Lead, in countries such as these, would not, by itself, pay to produce, and consequently ceases to be the main object of the mining and smelting operations, for the lead becomes the bye-product which serves primarily as a vehicle for the collection of the precious metals in the ores. These considerations are specially applicable as regards the American continent. At the date of publication of the "Mineral Resources of the United States for 1883-84," of the total quantity of argentiferous lead which had been desilverised in 1884, 119,965 tons, returns had been received which related to 117,608 tons. From this quantity had been obtained 21,505,248 ounces of silver and 146,830 ounces of gold. A certain proportion of this was derived from silver ores worked by lead smelters, but it is estimated§ that fully 19,000,000 ounces of silver and 125,000 ounces of gold were obtained from the lead ores produced in the Rocky Mountain states and territories.

Owing to the small number of mines which are directly connected with smelting works, and to the want of published information as to cost, it is difficult to estimate the expense of mining and reducing these silver-lead ores, but in the report already referred to, two instances are given which would appear to be fairly typical. In the first case, that of the Horn Silver Mining Company, Utah,|| the ore produced was comparatively rich, and the cost of production was about 100 dollars per ton of argentiferous lead.

The detailed cost was as follows:—

	Dollars.
Cost of mining	17.25
„ smelting	48.43
„ desilverizing	7.95
„ freight	18.00
	91.63

It would probably be safer to take the cost of the ton of argentiferous lead at 100 dollars.

From a comparison of such other statements as to cost of production as occur in these reports, it would appear

that the cost of mining and smelting the ton of ore did not, on the whole, differ greatly from that of the Horn Silver Company. The ore produced, is, however, frequently much poorer, and in the case of the Eureka Consolidated Mining Company\* the average amount of lead in the ore is about 10 per cent. At this mine and works the total cost per ton of argentiferous lead is as follows:—

	Dollars.
Cost of mining	51.00
„ smelting	138.20
„ desilverization and freight	59.37
Total	248.57

Taking into consideration the poorness of the ore and the heavy cost for freight, it would appear that this expenditure of 250 dollars per ton is rarely exceeded. It would further seem fair to assume that the mean cost of extraction in the United States would be shown approximately by taking the mean of the costs at the two works— $\frac{100 + 250}{2} = 175$  dollars. The

price of lead at Chicago in October last was 4.10 dollars per cwt., 82 dollars per ton, while silver sold at 98 cents the ounce. The cost of working the ton of argentiferous lead being taken at the above mean, 175 dollars, it is possible to calculate the amount of silver the lead should contain in order to meet this cost, and it will be found that each ton weight of argentiferous lead must contain 95 ounces of silver; the gross value will then be made up of—

	Dollars.
Value of silver	93.1
„ „ lead	81.7
Total	174.8

Thus, to admit of its being smelted, the ore should, on the mean, be of such a richness as to yield a lead containing 95 ounces of silver. To 117,608 tons of refined lead there were, however, 21,505,248 ounces of silver and 146,830 ounces of gold, so that each ton of argentiferous lead produced in the United States contained nearly 183 ounces of silver and 1½ ounce of gold. Taking the relative weight of silver as 20 times that of gold—the present market value—the ton of argentiferous lead contained on the average over 200 ounces of silver. It need only have contained 95 ounces to cover the working expenses, so that, as regards argentiferous lead, the price of silver might have been less than half the market price and yet have entailed no loss on the working.

The 4,000 tons of lead produced in Mexico, South America, and Australasia may be fairly considered as having been of the average richness of the lead produced in the United States, and the cost of production may, without prejudice to the conclusions arrived at, be assumed to be the same.

The present cost of desilverizing the ton of rich lead at Freiberg amounts, as shown by results recently obtained,† to about 25s. per ton, or about 1d. per ounce of silver produced. Including the cost of refining, the expense of desilverization would still be well below 1½d.

Nearly the whole of the silver produced in Europe is obtained from the smelting either of lead or of copper. Of the former metal the production is about 337,000 tons; and of the latter about 77,000 tons.‡ It is evident, therefore, that the larger proportion of the silver produced must be due to the smelting of lead ores, and of such ores, &c. as are added to the lead smelting charge. With regard to the amount of silver produced in the treatment of copper ores, the quantity produced at Mansfeld.§ in Prussia, in 1884 from ores which yielded 12,774 tons of copper was 74,132 kilogrammes, about 186 ounces to the ton, and as the copper obtained at these works contains an unusually large proportion of silver, it is probable that the total quantity of silver found to be worth extracting from copper ores in Europe does not exceed twice the production of the Mansfeld works, say, 150,000 kilogrammes. Of this quantity probably some 10,000 kilogrammes were produced from copper ores treated in connexion with lead ores. The total quantity of silver produced in Europe amounted to about 388,000 kilogrammes. Subtracting from this the quantity estimated to be produced from copper ores by methods other than those connected with the use of lead, the quan-

\* This includes all ores treated by mercury.

† Mineral Resources of the United States for 1883-84, p. 417.

‡ Mining and Mineral Statistics of the United Kingdom for 1885, p. 79.

§ p. 413 of the Report.

|| Ibid., p. 417.

\* p. 418 of the Report.

† Jahrbuch für das Berg- und Hüttenwesen in Königreiche Sachsen auf das Jahr, 1886, pp. 133-146.

‡ Von Ehrenwerth, Stahl und Eisen, Vol. VI., p. 782.

§ Zeitschrift für das Berg-, Hütten- und Salinenwesen im Preussisch-e-n Staate, 1885, p. 190.

tity is obtained which is produced in the smelting of this latter metal, 238,000 kilogrammes.

As to the relative cost of production in Europe and in the United States, it is evident that, owing to much cheaper labour, nearness to the market, and greater facilities for transport, the cost of production in Europe would be much less than it is in America, were it not that the mines, as a rule, are deeper and less rich. The lead ores produced in Europe is, as compared with that of the United States, comparatively poor in silver. In the United Kingdom the lead ores contain on the average about 8.5 ounces of silver to the ton of lead. In Spain\* 331,164 tons of lead ore, of little value as regards silver, and 26,047 tons of argentiferous lead ore properly so called were produced. The quantity of silver contained in this latter may be estimated from the fact that the desilverization of 3,587 tons of lead gave 4,102 kilogrammes of silver, about 36 ounces to the ton. Some rich ore is, however, exported.

In Italy† 31,191 kilogrammes of silver were produced from the desilverization of 15,000 tons of argentiferous lead, about 67 ounces to the ton.

As in these two countries only native ores are treated the results are typical of at least a portion of the lead ores of the Continent. In Germany and Austria the lead ores are usually comparatively rich in silver, but foreign ores are also imported, and as the compositions of these are not stated, the results of the treatment of the native ores are not directly obtainable.

Thus, although the European lead ores are poorer in silver than those of the United States, cheaper labour and transport, and greater facilities for smelting, render it probable that while the cost of production may be considerably less than in the United States, it cannot well exceed it.

The cost of production of the ounce of silver obtained from the desilverization of lead ores is therefore about 2s., and the total amount of silver produced from the smelting of lead ores is about:—

	Ounces.
United States - - -	21,890,000
Europe - - - - -	8,036,000
Elsewhere - - - -	800,000
<b>Total - - - - -</b>	<b>30,726,000</b>

Section III.

**Argentiferous Copper Ores.**—The amount of silver present in copper ores is much less than in lead ores, and in the latter the precious metal is frequently the main object of the smelting, while in copper ores it is usually a valuable bye-product.

The quantity of silver present in copper ores varies greatly, and no statistics relating to the average amount are obtainable. That the amount derived from this source is comparatively small is evidenced by the fact that the cost of extraction of the silver from copper is much greater than from lead, and the quantity of copper produced annually is relatively small. The greater cost of extraction is forcibly shown in the case of the Oker Works, Germany.‡ The copper produced at these works is, by a metallurgical process, divided into two approximately equal portions, one of which contains 21 ounces of silver to the ton of copper, and the other 53 ounces. The first portion does not pay to treat, while the latter does. The cost of extraction of the silver may be taken to lie between the two, possibly a mean, 37 ounces, or, at 4s. per ounce, 7l. 8s. per ton of copper. This is, moreover, the cost per ton of copper at the Mansfeld Works§ and by the electrolytic process the expense will probably be about the same.¶ Other methods of treatment of argentiferous copper ores are more expensive, and the increased cost of labour, &c. in America and elsewhere would cause the mean cost of extraction to be higher than the above estimates. It is not probable, however, that it would be greater than 50 ounces, 10l.

With regard to the richness in silver of the materials treated, the silver obtained at Mansfeld is, as already stated, about 186 ounces per ton of copper; at Oker the quantity present was 53 ounces, and "bottoms," which are worth desilverizing in other parts of the world, generally contain at least this amount. The mean amount of silver present in the ton of copper desilverized may be taken to be somewhere between the 50 and the 186 ounces in the cases mentioned, probably nearer the former than the latter, and 100 ounces per ton may be taken as a maximum. The cost of extraction of the silver present in copper ores must, when these latter are treated together with lead ores,

be but small, as the additional cost of smelting would be so, as would also be the extra cost connected with the purification, &c. of the lead. The cost of the silver produced by wet methods is somewhat more difficult to determine, but it is stated\* that the cost of recovering the precious metals by the Claudet process is about 8d. per ton. The ores treated by this process in the United Kingdom in 1885 contained† a little over two grains of gold and about three-quarters of an ounce of silver per ton of ore. Gold being of the value of about 2d. per grain, the cost of extraction of the three-quarters of an ounce of silver also present was about 4d., or at the rate of 5d. per ounce. The 328,000 ounces of silver obtained in this manner in Great Britain were mainly a bye-product, costing about 5d. per ounce to produce. This is not true, however, as regards silver obtained by other methods, but if the cost of production of the ounce of silver obtained by wet processes generally be placed at 1s., this is probably a high estimate. As regards the cost of desilverization of the copper, or of the "regulus," produced during the smelting of copper by the dry way, this has already been estimated at one-half the value of the silver produced, or about 2s. per ounce. Next, as to the quantity of copper desilverized. The total quantity of copper produced in 1885 amounted to about 222,000 tons.‡ Of this quantity, 14,880 tons were produced in Great Britain from ores which had been treated, with a view to desilverization, by the Claudet process, the quantity of silver obtained being 328,000 ounces. Allowing an equal quantity of silver and copper to have been produced elsewhere by this and other wet processes (giving a total of, say, 650,000 ounces), and placing the amount desilverized by lead at 10,000 tons of copper, containing 50 ounces of silver per ton (producing 500,000 ounces), there remain about 222,000—40,000, or 182,000 tons, as the quantity of copper produced by the ordinary dry smelting processes. Now, considering the comparative poorness in silver of copper ores as compared with lead ores, and the necessity for an average contents of 50 ounces of silver per ton of copper, as previously estimated, to pay for the extraction, it is safe to assume, without prejudice to the final conclusions, that of this quantity not more than one-third was actually desilverized.

Supposing this amount to have been of the average richness estimated (100 ounces of silver per ton of copper giving  $\frac{182,000}{3} \times 100$  or about 6,050,000 ounces of silver), the silver produced from copper ores and the cost in accordance with the data above given will be as follows:—

	Annual Production of Silver.	Cost per Ounce.
From Copper ores desilverized by wet processes exclusively.	Ounces. 650,000	} s. d. 1 0
From Copper ores desilverized by lead.	500,000	
From Copper ores desilverized during the ordinary smelting of Copper.	6,050,000	2 0
<b>Total</b>	<b>7,200,000</b>	<b>Mean 1 11</b>

Section IV.

**Silver Ores.**—These ores are of very varied composition, and when not treated in connexion with the smelting of lead or of copper are treated either by amalgamation or by wet methods. By far the greater quantity of the silver is obtained by the former of these, and as wet methods are, on the whole, not more expensive than amalgamation,§ they need not be separately considered. The quantity of silver thus produced is found by subtracting the silver obtained by the processes already considered from the total production, which will give 49,920,733 ounces. This amount is mainly produced on the American continent. The ores treated are mostly true silver ores, but in some cases other metals are present in such quantities as, in conjunction with a low yield of silver, to render their mining and metallurgical treatment possible, provided local conditions are favourable. The silver ores occurring in the State of California are both surface ores and ores obtained by deep mining. The cost of mining and milling the former is

\* Estadística Minera de España, 1884, p. 38.

† Annali di Agricoltura 1886, p. 12.

‡ Precious Metals in the United States, 1884, p. 601.

§ Precious Metals in the United States, 1883, p. 763.

¶ Fontaine: Electrolyse, p. 262.

\* Precious Metals in the United States, 1883, p. 763.

† Mineral Statistics of the United Kingdom for 1885, p. 74.

‡ Estimated by H. E. Merton & Co., London.

§ See Stetefeldt: Comparison of amalgamation with Russell's lixiviation process. Precious Metals in the United States, 1883, p. 745.

about 6½ dollars per ton.\* A good example of the cost of deep mining is given in the case of the "Bonanza King"† Mine, which is situated near the highest peak of the Providence Mountains. The mine is 520 feet deep, and the ore has to be hauled for a distance of two miles. The cost of mining, hauling, and milling the ton of ore was 25·7 dollars, and it yielded silver to the value of 179 dollars. The value of the silver ore treated in California varies from 50 to 500 dollars per ton, a great portion yielding in the mill over 100 dollars per ton.‡ As a considerable proportion was produced at a cost of only 6·5 dollars per ton, it is not probable that the mean cost of extraction exceeded that at the "Bonanza King," say, 25 dollars per ton.

Comparing these results with the numerous other instances mentioned throughout the annual reports of the Director of the United States Mint on the Production of the Precious Metals, 1883 and 1884, it would appear to be reasonable to accept these statements as giving approximately the average richness of the ore treated, and the cost of mining and milling.

The cost of the ounce of silver so produced was therefore about 1s., corresponding to an expenditure of 25 dollars to obtain 100 dollars worth of silver.

In Mexico and South America cheaper labour tends to compensate for less efficient methods. Those in most general use are the Patio and Cazo processes. The cost of treatment by the Patio process has been variously estimated § at from 16 to 27 dollars per ton of ore, and by the Cazo at about 7 or 10|| dollars. Adding to this the cost of mining, say, 7 dollars, the total cost per ton varies from about 14 to 35 dollars. The ore treated contains from a few ounces to several thousand ounces per ton, and it seems probable that 25 dollars per ton may be taken to be the average expenses, and, from a comparison of various estimates,¶ it seems probable that 70 dollars for yield, or somewhat less than the average of the United States, is not far from the truth.

The final conclusions as to the actual cost of production by each of the principal methods of extracting silver would, therefore, appear to be as follows, the figures relating to the amounts produced being, for the sake of clearness, repeated from Table II. :—

Section.	Fine Silver, in ounces.	Cost per ounce of fine Silver.
I.	508,000	s. d. 0 2½
II.	30,726,000	2 0
III.	7,200,000	1 11
IV.	49,920,733	1 5
Total	88,354,733	Mean 1 8

The mean cost of production of the ounce of fine silver was, therefore, about 1s. 8d., corresponding to 1s. 6½d. per ounce standard.

#### GENERAL CONCLUSIONS.

It was stated at the outset of this inquiry that it was necessary to regard the data collected as to cost of production as applicable to the total amounts of silver estimated to be produced by each of the respective processes. It will therefore be well to examine the foregoing results as a whole with a view to determine what degree of confidence may be placed in the general conclusions.

#### Section I.

With regard to Section I., it may be safely assumed that the cost of extracting the whole of the 508,000 ounces of silver from native gold is not inaccurately represented by the 2½d. per ounce assigned to it. The amount so extracted constitutes, however, a very small proportion of the total production of silver.

\* Precious Metals in the United States, 1883, p. 731.

† Ibid., p. 730.

‡ Ibid., p. 730.

§ T. Egleston, The Patio and Cazo processes for amalgamating silver ores (1884), p. 46.

|| Ibid., pp. 57 and 61.

¶ See also Percy's Metallurgy, Silver and Gold (1880), p. 530.

#### Section II.

Section II., on the other hand, includes one third of the total amount, and it is not possible to obtain direct evidence as to the cost of production of the whole of these 30,726,000 ozs. It will be observed that the evidence mainly rests on the statements as to cost of production at two works in the United States. These produce between them one sixteenth of the total amount of silver classified under this section, and there seems no reason to doubt that they may be considered respectively to be typical of the maximum and minimum cost of production in the United States, which itself produces no less than two thirds of the total amount of silver comprised in this section. It may be added that the mean cost per ton of argentiferous lead, 175 dollars, is nearly three times the selling price of the argentiferous lead extracted in the United Kingdom.

Since the evidence was given, the report for the year 1886 of the Broken Hill Mine, Barrier Ranges, New South Wales, a mine of very considerable importance, has been published. It states that during the year the smelting of 10,397 tons of ore yielded 1,991 tons of lead and 871,665 ozs. of silver, at a cost, including mining charges, of 4l. 12s. 0½d. per ton of ore, or at the rate of 1s. 1d. per oz. of silver produced, if the lead be considered to be of no value. The cost of production will, it is stated, be considerably reduced.\*

#### Section III.

The amount of silver produced annually in the treatment of copper ores is estimated at 7,200,000 ozs.; of this quantity, 6,050,000 ozs. were obtained during the ordinary smelting of copper ores, and 2,382,000 ozs. of this latter amount, or one third of the total, were produced at Mansfield at a cost which is stated to be 9½d. per ounce. Of the remainder, 328,000 ozs. were produced in Great Britain by the Claudet process, at a cost not exceeding 5d. per ounce.

Silver in this section being mainly a bye-product, mining charges of the copper ore which originally contained it are disregarded. This leaves an amount of 4,490,000 ozs., or two thirds of the total production under this section, to be accounted for, and in the absence of more precise evidence it does not seem unreasonable to account for them in the manner set forth. Although it is probable that the evidence respecting this section is the least satisfactory, it may be observed that the amount in question is small when compared with the total annual production.

#### Section IV.

This section, dealing with methods that involve the use of mercury, comprises more than half the total amount of silver produced annually. The figure, 25 dollars, which has been taken to represent the cost of mining, milling, and transport of the silver contained in the ton of ore is supported by a considerable amount of evidence. As regards the United States of America, an eminent authority, Professor Egleston, of the School of Mines, Columbia College, New York, stated in 1879, that "the cost of treatment to large mill companies at the Comstock Mill would not usually be as high as 8 dollars; at the Brunswick Mill the average for the year 1874 was 7·76 dollars;" he adds, however, that "the mill companies rarely charge less than 12·5 dollars on large and long contracts," and he points out that the mill companies almost always declare large dividends, while the mines are often not worked at a profit."

Another writer, Mr. Rothwell, states that the prices paid for milling Comstock ores have varied from 11 to 20 dollars per ton.

The amounts to which Professor Egleston's figures refer are very large and apply to a considerable proportion of the ores treated by mercury in the United States of America; moreover, no evidence has appeared that would lead to the supposition that the cost of extraction has varied materially since the above figures were given.

In regard to the 22,900,000 ozs. produced in Mexico, the bulk of which involved the use of mercury, there is much reason to suppose that the cost of production is fairly stated at 25 dollars per ton of ore.

Various authorities estimate the cost of the metallurgical

\* Money Market Review, 6th May 1887.

processes involved in the extraction of the silver in Mexico at from 11 to 21 dollars per ton of ore, not including the cost of mining. Mr. R. E. Chism\* estimates the cost of treatment by the old Mexican process at about 27 dollars per ton of ore, which includes a charge for profit to the owners of the works, but does not include superintendence or interest on cost of plant.

In a recent paper C. A. Stetefeldt, † referring to the year

1883, gives the total cost of reduction of a poor ore as 8.12 dollars per ton.

It is possible that the estimated yield of 70 ozs. to the ton of ore in Mexico may be too high. If, however, a minimum estimate of 50 ozs. per ton be adopted, the mean cost of production under Section IV. would be increased to 1s. 8d. per oz. standard, but this may be taken as the limit of error.

## APPENDIX VII.

PAPERS put in by Mr BIRCH with regard to the Currency and Circulation in France, Germany, Italy, Spain, Switzerland, and Belgium. See Question 1378.

## A.—BANK OF FRANCE.

MAXIMUM and MINIMUM AMOUNT of GOLD and SILVER held at various dates, with the Notes in Circulation.

Amounts stated in millions of pounds sterling.

Year.	Gold.		Silver.		Total Bullion.		Notes in Circulation.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1868	55.1	26.5	19.1	12.4	52.6	39.1	53.1	44.9
1869	29.2	23.5	23.7	18.9	50.7	42.6	57.6	51.8
1870	29.6	17.3	23.2	2.8	52.7	20.2	72.6	54.4
1871	23.7	14.4	5.3	1.4	27.7	15.9	94.4	63.7
1872	26.3	23	5.9	3.2	31.7	25.2	107.1	88.5
1873	27.6	22.4	6	5	32.8	23.2	122.9	106.2
1874	40.6	24.4	13.2	6	53.2	30.4	116.6	98.5
1875	47	40.2	20.3	12.4	66.7	52.7	103.1	93.2
1876	61.8	46.6	25.6	19.3	87.3	66.9	104.7	95
1877	62.3	48.2	34.7	25.5	91.3	82.8	109	94.3
1878	48.1	40.1	42.4	34.4	87.3	78.7	101.9	86.1
1879	43.5	30.1	49	42.2	90.1	78.8	93.1	84
1880	53.1	21.5	51.3	43.5	84.1	70.5	99.3	88.3
1881	26.2	21.7	30	46.6	75.9	70	113	95.9
1882	40.2	25.8	46.5	43.7	86.3	71.7	118.1	105.1
1883	40.6	37.9	43.7	40.1	83.3	78.6	123.9	111
1884	42.5	37.8	41.4	39.6	83.7	77.4	126.5	112.6
1885	47	39.7	44.2	41	91.3	80.8	122.6	108.8
1886								
1886								
January	46.6	45.7	43.5	43.1	90.2	86.6	118.2	111.3
February	47.7	46	43.7	43.3	91.4	89.3	118.9	112.3
March	50.8	47.7	44.1	43.7	94.8	91.5	115.8	111.4
April	53.1	50.8	44.8	44.2	96.8	95	114.9	111.2
May	55.7	52.1	45.4	44.6	100.9	96.3	116.3	107.5
June	55.7	55.2	45.3	45	101	100.3	113.5	110.2
July	55.6	54.3	45.2	44.9	100.6	99.2	114.6	110.9
August	54.7	54.1	45.3	45.1	100	99.2	114.1	107.1
September	54.9	54.5	45.5	45.3	100.4	99.8	109.7	105.3
October	54.9	53.8	45.6	45.4	100.4	99.4	110.1	106.4
November	53.3	53.3	45.7	45.5	99.4	98	112.2	108.4
December	52.3	49.9	45.3	45.7	97.9	95.7	111.3	108.2

On the 13th September 1869 commenced the forced currency of notes.

Siege of Paris, September 1870 to March 1871. During these years notes of 25 francs and 20 francs were issued. In 1871 notes of 5 francs were authorised.

By the Law of 15th July 1872 the maximum circulation of bank notes was raised to 122,000,000L. from 112,000,000L., at which it had been fixed on the 27th December 1871. In this year notes of 5 francs were issued.

Demonetisation of silver by Germany. Last instalment of indemnity of 200,000,000L. paid.

During this year notes of 20 francs and 5 francs were called in.

No notes of 25 francs were issued during this year.

Latin Union wholly discontinued coinage of silver.

International Monetary Conference at Paris. On the 1st January 1878 the forced currency of bank notes ceased.

In December 1880 it was determined to issue notes of 50 francs.

The Governor of the Bank of France in his report for 1881 refers to the efforts made to increase the stock of gold, and stated that it had been brought about in great measure by enlarged issue of small notes.

\* Mining and Scientific Press, March 17, 1883.

† Trans. Ann. Inst. Min. Eng. xiii. (1884-5), p. 376.

B.—GERMANY.

Berlin, 4th November 1886.

I beg to answer your inquiries of the 26th ultimo as follows:—

1 and 2. Of the silver coin demonetized there has been sold on account of the empire 7,102,862 lbs. fine silver, and remains unsold 339,353 lbs. No sales have taken place since May 1879.

3 and 4. The extent and composition of the money in circulation and the momentary supply of bullion in Germany at the end of 1885 are taken about as follows:—

	£	Marks
Gold coinage of the empire (exclusive of 120 million marks in the War Treasury), about	77,500,000	1,550,000,000
Bar gold and foreign coin in the Reichsbank	9,700,000	194,000,000
German and Austrian thalers (highest estimate)	22,500,000	450,000,000
Silver coins of the empire	22,100,000	442,000,000
Nickel and copper coin	2,000,000	40,000,000
Total	133,800,000	2,676,000,000
Treasury notes of the Imperial Treasury	6,900,000	138,000,000
Bank notes not covered	18,050,000	361,000,000
Total	158,750,000	3,175,000,000

Per head of the population (46,840,000) this amounts to M. 37.20 in gold coin, in old silver coin and token money M. 10, in credit notes M. 10.7; altogether means of circulation about M. 68 per head (not counting M. 300,000,000 balances with banks which are to be considered with the circulation of notes) against M. 58.50 in 1870.

The fifth question, as to the amount the average of inhabitants carry about with them, I have been quite unable to get answered, and I do not know by what method a somewhat reliable estimate can be arrived at.

C.—ITALY.

1<sup>re</sup> Question.—A la fin du 1<sup>er</sup> semestre 1886 le trésor de l'Etat possédait—

	Lire
En or entre propres fonds et fonds de l'emprunt	215,522,105
En argent (écus)	6,586,515
En petites pièces	16,596,796
Total	238,705,416

Outre cette somme il y avait en monnaies d'or et d'argent pas décimales lire 76,675.16, qu'on ne pouvait pas considérer comme faisant partie de la circulation, parce qu'elles étaient hors cours.

A la même date les six instituts d'émission du royaume possédaient dans leurs réserves—

	Lire
En or	299,700,000
En écus d'argent	51,800,000
En petites pièces d'argents	12,960,000
Total	364,460,000

aux quelles il faut ajouter 330,000l. en or pas décimales.

Ainsi la circulation du pays pouvait être déterminée par ces deux parties soit—

	Lire
Une	238,705,416
L'autre	364,460,000
Ensemble	603,165,416

Il faut pourtant unir à ce total les montants métalliques chez les particuliers pour les quels on n'a pas de dates positives; excepté pour les petites pièces ecuses par l'état en 170,000,000 qui se trouvent sans aucun doute, pour la plus grande partie, en circulation dans le pays.

Or ces dernières on pourrait les calculer environ à 140,000,000 lire sans tenir compte des sommes qui sont chez les instituts d'émission et chez le trésor, calculant l'importation égale à l'exportation.

De telle manière le chiffre susdit serait de 743,165,416 lire.

Quant à l'or et aux écus qui peuvent circuler entre les particuliers, les instituts de crédit et les banques mineures, il nous manque, comme nous avons déjà dit, des dates sûres pour en fixer le montant.

La relation parlementaire du député Simonelli, du 3 Juin 1885 pour le dessein de loi pour la prorogation du cours légal des billets des instituts d'émission, calculait à 60,000,000 de liras l'or qui existait alors chez les particuliers, et à 50,000,000 lire les écus d'argent; en tout encore 111,000,000 lire qui porteraient le total de la circulation à 854,165,416 lire.

Il faut pourtant tenir compte que ces derniers chiffres ayant été le résultat de simples appréciations indirectes et déductives donnent lien à des vives critiques qui en diminuent assez l'importance.

Pourtant on peut les accepter sans trop croire d'être éloignés du vrai, surtout après un an et demi; dans laquelle période l'or et les écus ont eu le temps de s'enraciner davantage dans la circulation.

2<sup>me</sup> Question.—A cette question répond la ci-jointe circulaire imprimée du 22 Mars 1886.

3<sup>me</sup> Question.—Il nous manque tout élément pour répondre même à peu pris à la troisième question.

STATISTICS of GOLD shipped to ITALY in 1881-1883.

	Gold taken at Weight.	Coins which were legal Tender in the Kingdom.	Total.
Specie received	Lire. 152,931,585.08	Lira. 491,028,425.00	Lire. 644,000,000.00
Bars	Lire. 23,353,300.46	—	Lira. 23,353,300.46
Coins; not decimal:			
German R. Mark	5,269,992.70	—	120,578,215.08
Russian & Imperials	59,755,523.33	—	
English Sovereigns	10,053,742.07	—	
Spanish 25 Pesetas	993,123.17	—	
\$20 U.S. Gold	53,505,824.35	—	
Coins; decimal:			
100 francs	—	93,300.00	338,038,415.00
50 lire	—	6,900.00	
50 francs	—	14,200.00	
40 lire	—	14,040.00	
20 francs	—	323,035,000.00	
10 francs	—	9,059,810.00	
5 francs	—	244,445.00	
	152,931,585.08	388,068,415.00	491,000,000.00

The above 491,000,000 were forwarded to Italy as follows:—

From—	Lira.
England	104,966,219.14
Italy	106,469,040.00
France	63,744,138.78
America	65,324,737.08
Germany	65,539,536.80
Austria	25,551,790.00
Russia	25,324,099.17
Australia	10,053,742.07
Switzerland	300,000.00
Denmark	5,519,980.00
Belgium	2,250,930.00
Spain	622,269.54
	Lire 491,000,000.00

D.—SPAIN.

All the calculations which can be made as to the supply or stock of money have much of an arbitrary character, and even more so in Spain, where we do not know what quantity of money exists of the ancient coinages, how much is melted, how much is exported, or how much is re-imported. We have no other basis for an estimate than the ascertained coinings, and the opinions put forward by sundry authorities.

According to the well known "Diccionario de Canga," Arguelles (Vol. 2, page 331), in 1772 the Spanish money in circulation was estimated at 1,221,557,233 pesetas. But according to the report of the "Direccion General de Contas," Casas de Moneda y Minas, published in 1862 (page 67), the quantity of gold and silver remelted in 1792 reached 317,057,235 pesetas, a figure which represented the whole, or at least a great part, of the specie current in Spain.

In 1814 the same "Canga" Arguelles (Diccionario, Vol. 1, page 440), says that without exaggeration the total of money circulating in Spain might be estimated at 1,618,369,210 pesetas. In 1830 Senor Borrego calculated our wealth in specie at 1,725 millions of pesetas. It is since that time that commerce has most developed, and population increased; and the perfection reached in documents representing credit being very recent, it may well be asserted that an approximate sum of specie is necessary.

Senor Surra y Rull, in 1870, calculated the specie circulation of Spain at 2,150 millions of pesetas; of which 1,600 millions were in gold, 50 millions in large silver, and 500 millions in small silver. (Enquete sur la circulation monétaire, Vol. 2, page 112). Senor Sansoma ("The Monetary Conference in 1881," page 33), estimates the specie in circulation at 1,200 millions of pesetas, of which 700 millions were in gold, and 500 millions in silver. The Director of the United States Mint calculated in 1881 the specie circulation of Spain to be 650 millions in gold, 200 millions in large silver, and 150 millions in small silver; total 1,000 millions of pesetas. M. Haupt ("Arbitrages et parités," 6th edition, page 8), estimates that at the end of 1883 the specie currency of Spain was composed of 760 millions in gold, 350 in large silver, and 160 in small silver; total 1,270 millions of pesetas. The same authority ("L'histoire monétaire de notre temps," page 417), is of opinion that the money in circulation in Spain in 1885 was composed of 470 millions in gold, 420 in large silver, and 180 millions in small silver; total 1,070 millions. Alph. Allard ("La crise, la baisse des prix la monnaie") estimates at 682 millions of pesetas the gold circulating in Spain, and 367 millions the silver; total 1,050 millions.

In view of such diverse opinion, let us now look at what is shown by the mintages which have been effected.

From 1824, until the law of 1868, 824 millions of pesetas were coined in gold, and 227 millions in silver; total 1,051 millions. Later on, although with the same die, 328 millions in gold were coined, which make, with the previous coinings, a total of 1,152 millions of pesetas in gold; but 660 millions of these having been presented for re-coining, there would remain a maximum in circulation of 492 millions in gold.

Under the law of 1868, 934 millions were coined, so that the maximum amount of gold in circulation will be 1,424 millions, without taking into account the gold of a prior date to 1824, of which there still remains some in circulation.

Senor Tutan, at the conference held in the "Atenes Barcelonés" in February 1886, estimates at 600 millions the gold which has been exported, leaving, therefore, 800 millions of pesetas in circulation, a figure probably below what would result from following the calculations of Senor Surra, and certainly above what may be deduced from those of the Director of the Mint of the United States, of Haupt, and of Allard, bearing in mind, in support of this inference, that our coinings from 1824 to 1868 hold a proportion of 80 per cent. of gold to 20 per cent. of silver.

With respect to the silver circulation, it is already shown that the amount coined from 1824 until the law of 1868 reached 227 millions of pesetas; and, there having been re-coined 28 millions, there remain 199 millions, which, added to the 610 millions coined subsequently, make up 809 millions, from which are to be deducted the amounts exported to the Colonies, Algiers, and other places, where our money circulates. The maximum figure of 600 millions fixed by the said authorities might well be accepted, making a total specie circulation of 1,400 millions of pesetas. This amount is smaller than that calculated by our authorities for 1830 and 1870; but the increased use of documents of credit, so much more general in these latter years, must be taken into account.

On the other hand, the proportion of 85 pesetas per head of the population, resulting from the total of 1,400 millions of pesetas in specie in circulation, appears more reasonable than the lower figure which would result from the estimates of other authorities, comparing the said sum of 85 pesetas with similar estimates for other nations, after duly taking into reasonable consideration their economic conditions.

In conclusion, we believe that the figures most approximating to exactness are those of 800 millions of pesetas in gold, and 600 millions in silver, as composing our specie circulation.

E.—SWITZERLAND.

1<sup>re</sup> Question.—A combien estime-t-on le montant d'or et d'argent en espèces en circulation en Suisse?

Avant d'aborder les chiffres, il convient d'observer que la circulation fiduciaire tend à prendre de plus en plus d'importance en Suisse ainsi que le démontre le tableau suivant de l'émission des banques Suisses pendant les cinq dernières années.

1881	-	-	99.4 millions de francs	} d'après Mr. Otto Scherer.
1882	-	-	98.3	
1883	-	-	102.2	
1884	-	-	114.8	
1885	-	-	123.4	

La faveur de plus en plus marquée dont joint le billet de banque auprès de notre public tient à plusieurs causes—

1. La multiplicité des banques d'émission, grâce à laquelle les billets qui circulent dans chaque partie du pays sont en grande majorité ceux d'une banque locale que le public connaît parfaitement.
2. Les précautions presque exagérées prises par la loi, en ce qui concerne la couverture en espèces des billets émis par les banques.
3. Enfin la conviction générale que sous le régime actuel de multiplicité des banques il ne serait pas possible, en aucune circonstance d'établir le cours forcé.

Voici maintenant, d'après l'Inspecteur Fédéral des Banques d'Emission, Mr. Otto Scherer, une des personnes les mieux qualifiées en Suisse pour traiter cette question, quelle était à la fin de 1885 la circulation monétaire du pays—

	Or.	Argent.
Dans les banques - -	Francs. 48,000,000	Francs. 18,000,000
En circulation - -	22 à 32,000,000	22 à 32,000,000
Total - -	70 @ 80 millions	40 @ 50 millions

sans tenir compte de la monnaie d'appoint.

Il est intéressant de comparer ces chiffres avec ceux de Mr. Ottomar Haupt (également pour la fin de l'année 1885)—

	Or.	Argent.
Dans les banques - -	Francs. 49,000,000	Francs. 21,000,000
En circulation - -	30,000,000	50,000,000
Total - -	79,000,000	71,000,000

plus 18 millions en monnaie d'appoint.

On voit que Mr. Haupt fait au stock argent une plus large part que Mr. Scherer.

Mr. Ad. Soetbeer, qui est généralement connu comme l'un des premiers, sinon le premier, des statisticiens en cette matière, attribue au stock or de la Suisse une beaucoup plus grande importance absolue et relative, et considère comme minima les chiffres suivants, tout en faisant observer qu'il est fort difficile, surtout dans ce pays, d'arriver à

des données un peu certaines sur le chiffre de la circulation métallique—

	Or.	Argent.
	Francs.	Francs.
Dans les banques - -	47,000,000	18,000,000
En circulation - -	53,000,000	22,000,000
Total - -	100,000,000	40,000,000

plus 20 millions en monnaie d'appoint (argent). Les chiffres de Mr. Soetbeer se rapportent au 30 Juin 1885.

Malgré les divergences qui existent entre les deux premières statistiques et celle de Mr. Soetbeer, cette dernière a bien son importance, vu la compétence et la grande autorité de son auteur, et le soin qu'il apporte au contrôle de tous les chiffres qu'il avance.

2<sup>e</sup> Question.—Quelles sont les dénominations des différentes pièces en or et en argent qui ont cours en Suisse?

La Suisse fait partie de l'Union Latine et les pièces d'or et d'argent qui y ont cours légal sont par conséquent les mêmes qu'en France, en Italie, en Belgique et en Grèce. Elles sont fixées par la Convention monétaire du 6 Novembre 1885 de la manière suivante—

Pièces d'or.—De f. 100, f. 50, f. 40, f. 20, f. 10, f. 5, frappées par l'un quelconque des Etats de l'Union.

Pièces d'argent.—De f. 5 - - - - -

Pièces d'argent (monnaie d'appoint).—De f. 2, f. 1, f. 0.50, f. 0.20, frappées par l'un quelconque des Etats de l'Union - - - - - } également.

Toutes ces pièces ont cours en Suisse, bien que la Confédération n'ait frappé que les pièces suivantes—

Or.—Pièces de f. 20 (pour un montant très-restrict).

Argent.—Pièces de f. 5.

Argent (monnaie d'appoint).—Pièces de f. 2, f. 1, et f. 0.50.

3<sup>e</sup> Question.—Combien les gens ont-ils l'habitude de porter sur eux; en prenant une moyenne de dix personnes appartenant à des classes différentes?

Si l'on tient compte des différences dérivant du sexe, de l'âge (doit-on comprendre les enfants?), de la fortune, de l'occupation (et des besoins d'argent journaliers qu'elle peut entraîner), on comprendra qu'il ne soit possible de répondre à cette question d'une manière pratique. On arriverait tout au plus à une moyenne purement théorique, qui n'aurait aucune ombre d'exactitude et serait donc sans valeur.

Ce calcul rencontrerait en outre en Suisse des éléments spéciaux d'inexactitude—

1. Dans la diversité des races dont se compose la population, et partant, de leurs habitudes.

2. Dans le grand nombre d'étrangers qui parcourent le pays pendant une partie de l'année et transportent dans leurs poches des sommes plus considérables comme touristes que s'ils étaient habitants réguliers du pays. Cet élément important, qui échappe au contrôle, ne pourrait être laissé de côté dans l'établissement d'une statistique de cette nature.

Nous croyons cependant que dans ce domaine, le rôle du numéraire tend chaque jour à diminuer, les personnes qui ont l'habitude de porter sur elles une certaine somme préférant de plus en plus l'emploi des billets de banque

dont les petites coupures (de f. 50 et f. 100) sont très-pratiques pour les petits paiements.

Genève le 3 Novembre 1886.

F.—BELGIUM.

Bruxelles, le 5 Novembre 1886.

VEUILLEZ m'excuser si je réponde seulement aujourd'hui aux questions que vous m'avez adressées dans votre lettre du 27 Octobre proximo, mais elles étaient d'une nature telle que j'ai dû consulter diverses personnes pour arriver à vous fournir, non pas la solution complète des différents points qui vous intéressent, mais quelques renseignements ayant du moins une certaine valeur.

J'ai été ainsi amené à me mettre en rapport avec le Directeur de notre Monnaie, avec l'Administration de notre Banque Nationale, le grand réservoir de notre circulation monétaire et avec des économistes de mérite très compétents dans les questions de l'espèce dont vous m'entretenez.

A la 1<sup>re</sup> de vos questions :

A combien estime-t-on le montant d'or et d'argent, en espèces, en circulation en Belgique, on me répond.

Des estimations diverses ont été faites à ce sujet. D'après l'étude faite en 1878 par M. E. Pirmez, Ministre d'Etat, il circulerait en Belgique pour 125 millions de francs en pièces de f. 5. et pour 30 millions en monnaies divisionnaires d'argent.

Toutefois il faut remarquer que cette évaluation repose sur la supposition d'une circulation proportionnelle au nombre d'habitants en France et en Belgique appliquée à la quantité de pièces de cinq francs existantes dans l'Union. Cette quantité n'est pas absolument certaine et dans cette étude, elle a été fixée trop bas : la somme de 125 millions pour les pièces circulant en Belgique semble inférieure de beaucoup à la réalité.

On pourrait admettre plutôt qu'elle est de 150 à 200 millions.

De plus, en prenant pour base d'appréciation les paiements faits à la Banque Nationale on est conduit à croire que la quantité des monnaies d'or est égale à la quantité de monnaies d'argent.

Voici les indications que demande votre 2<sup>e</sup> question disant :

Quelles sont les dénominations des différentes pièces en or et en argent qui ont cours en Belgique ?

Pièces d'argent :

$\frac{1}{2}$  franc.  
1 franc.  
2 francs.  
5 francs.

En monnaies d'or il n'y a en circulation que des pièces de f. 20, à l'effigie des souverains Belges.

Vous avez que les monnaies d'or et d'argent des autres pays faisant partie de l'union latine ont aussi cours en Belgique.

Quant à la 3<sup>e</sup> question :

Combien pensez-vous que les gens ont l'habitude de porter sur eux en or et en argent, en prenant une moyenne de 10 personnes appartenant à des classes différentes ?

Il m'a été absolument impossible d'obtenir, nulle part, une réponse même par approximation. Aucune statistique ne fournit les éléments nécessaires pour donner des chiffres à cet égard et les évaluations que l'on risquerait seraient du domaine de la pure fantaisie.

En regrettant de ne pouvoir vous donner des renseignements aussi complets que je l'aurais désiré, je vous présente, Messieurs, l'assurance de mes sentiments les plus distingués et bien dévoués.

## APPENDIX VIII.

## PAPERS PUT IN BY MR. HENRY WATERFIELD.

A.—NOTE and TABLES with reference to Paragraph 4 (1, India) of the Treasury Minute of September 6, 1886.

The Royal Commission on Gold and Silver is instructed to inquire what has been the bearing of the changes in the value of the precious metals upon the remittances of the Government of India;—

- (1.) For payments on old or fixed contracts;
- (2.) For payments on new or current contracts.

An endeavour has accordingly been made to divide the net disbursements in England, for which remittances are made by the Government of India, in the manner indicated; and, in so doing, there have been placed in Class I. payments of which the sterling amount does not fluctuate with the rate of exchange, and which are made under old contracts; and in Class II., payments which fluctuate in amount according to the rate of exchange, or are made in consequence of recent arrangements, or are susceptible of modification.

The year 1874-75 has been selected as the starting point, that being the last in which the rate of exchange per rupee was above 1s. 10d.

The following are the heads under which the disbursements may be classed on the principles described above:—

1. *Interest on Debt.*—Up to the year 1884 it was the practice to raise debt in India rather than in England, whenever the latter course could be possibly avoided. The only material addition to the sterling debt between 1874 and 1884 was caused by the famines of 1874 and 1877, and it in no way differed from the debt raised through the necessities of the administration in previous years, as at the time of the Mutiny; therefore, the charge for interest on debt raised up to 1884 is put into the first class. In 1885-86, owing in a great measure to the Report of the Select Committee of the House of Commons on Railways in India, it was determined to raise in London the annual loan for public works; and, as this was the result of the policy of borrowing for that purpose in sterling rather than in rupees, the interest on this loan is placed in the second class.

2. *Stores.*—The stores being annually purchased, the quantity to be obtained is a matter of current administration, and, moreover, it would be possible, if it were thought desirable, to stipulate that payment should be made in rupees. They are, therefore, placed in the second class.

3. *Home Charges for service of British Forces in India.*—These consist mainly of the payments to the Treasury on account of the recruiting, depot, and superannuation charges defrayed by the War Office in connexion with the British forces in India, and are in repayment of charges incurred in sterling. They, therefore, fall into the first class.

4. *Passage of Troops to and from India.*—Nearly the whole of this service is undertaken by the Transport Department of the Admiralty, and can only be effected by sterling payments. It thus belongs to the first class.

5. *Furlough Allowances of Indian Officers.* 6. *Pensions and Annuities of Retired Indian Officers.* 7. *Miscellaneous Pensions.* 8. *Indian Provident Funds.*—Most of these payments are in sterling, in accordance with the conditions under which the officers entered the service many years ago, and therefore fall into the first class. Those which have been granted in rupees, and the privilege of receiving which in England is conceded only on the condition that payment is accepted at the rate of exchange annually fixed, are placed in the second class.

9. *Remittance Transactions.*—The Secretary of State in Council makes various remittances to and from India, on behalf of the British Government and of the persons employed in the public service. A rate for the purpose is annually fixed according to the exchange of the day, so that this head belongs to the second class.

10. *Home Administration.*—The salaries and incidental expenses of the India Office are to a great extent fixed by agreement made before 1874; and, even in the case of persons appointed subsequently, forming as they do part of the English Civil Service, the salaries must be paid in sterling. They therefore fall under the first class.

11. *Miscellaneous.*—These are various payments not falling under any of the foregoing heads, such as payments to the British Government on account of postal and diplomatic services, which are necessarily made in sterling, and these come into the first class.

12. *Railway Companies' Transactions.*—Payments of the interest guaranteed to the old companies, and of the annuities, or interest on stock granted in lieu of annuity, to the shareholders of undertakings purchased by the Government, and also the receipts and withdrawals of capital by the old companies, belong to the first class. Payments of interest, and receipts, and withdrawal of capital, in connexion with companies formed since 1880-81, are placed in the second class. Stores for the East Indian and Rajputana-Malwa Railways, purchased under the agreements made recently with the companies working those systems, are also placed in the second class.

13. *Grants-in-aid by the British Government.*—On account of the Afghan and Egyptian expeditions. Credit is given in the first class for these sums, which were voted by Parliament in sterling.

There have thus been obtained, in respect of each of the two classes, the total net sterling payments made in each year from 1874-75 to 1885-86, and, by deducting from the total of each year, subsequent to 1874-75, the total of that year, the excess of net payments in sterling in each year over those of 1874-75 is obtained. The payments in each year being converted into rupees at the average rate obtained for bills and telegraphic transfers in those years respectively, and the number of rupees required in 1874-75 being deducted from the number in each subsequent year, the excess remittance in rupees, requisite to provide for gold payments, over that in 1874-75 is obtained. This excess is then divided into two portions; by deducting from the requisite rupee remittance in each year the number of rupees that would have been needed for that year if the rate of exchange in 1874-75 had remained unaltered, the portion of the excess which has been caused by the fall in exchange is obtained; and by deducting from the number of rupees needed in each year if the rate for 1874-75 had remained unaltered the rupee remittance needed in 1874-75, the portion of the excess which has been caused by an increase in the sterling payments is obtained.

This method has been applied in Table I. to the payments made on old or fixed contracts, and in Table II. to those made on new or current contracts.

In Table III. a comparison is drawn between the years 1874-75 and 1885-86, in respect of the several descriptions of payments placed under the two classes respectively. By deducting the rupee remittance required in 1874-75 for the payments in gold in that year under the several heads (column 3), from the number of rupees needed for the remittance in 1885-86 of an equivalent gold payment (column 4), the excess is shown which is caused by the fall in exchange if the sterling payments had not been increased (column 5). By converting the excess of sterling payments in 1885-86 over 1874-75 (column 7) into rupees at the rate of exchange of 1874-75 (column 8) and of 1885-86 (column 9) respectively, and deducting the former from the latter, there is obtained the further excess caused by the fall in exchange operating on the increase in the sterling payments (column 10). The addition of these two results gives the total excess due to the fall in exchange (column 11), and if to this last result be added the equivalent in rupees, at the rate of 1874-75, of the excess of sterling payments in 1885-86 (column 8), there is obtained the total number of rupees needed in 1885-86 (column 12)



to defray the sterling payments of that year under the several heads, in excess of the number needed to defray the sterling payments of 1874-75 under the same heads.

The following figures comprise, in respect of the years 1874-75 and 1885-86, the chief points shown in the accompanying tables :—

	Payments under			Payments under	
	Old or fixed Contracts.	New or current Contracts.		Old or fixed Contracts.	New or current Contracts.
Net gold payments in 1874-75 - £	11,704,953	3,530,968	Equivalent in rupees at rate of 1874-75 - Ra.	-41,44,397	-5,94,58,985
Rupees needed for the remittance in 1874-75 - Ra.	12,67,88,727	3,61,78,728	" " 1885-86 - Ra.	-50,55,838	-4,80,44,977
Rupees needed for the equivalent sum in 1885-86 - Ra.	15,68,93,374	4,39,12,943	Excess caused by fall in exchange on increase in net gold payments in 1885-86 over 1874-75 - Ra.	-8,86,806	-84,26,694
Excess caused by fall in exchange on the net amount of gold payments in 1874-75 Ra.	2,71,04,647	77,34,217	Total excess caused by fall in exchange - Ra.	2,63,17,811	-7,88,474
Net gold payments in 1885-86 - £	11,321,979	-311,996	Total excess whether from increase of gold payments or from fall in exchange - Ra.	2,29,69,414	-4,02,80,769
Excess of net gold payments in 1885-86 over 1874-75 - £	-322,974	-8,681,964			

The last line shows a net reduction of Rs. 1,82,11,346 in the rupee remittance needed to defray the net sterling payments in 1885-86 as compared with those of 1874-75. This is due to the net receipt on capital account of no less than 4,643,070*l.* in 1885-86 from railway companies with which recent contracts had been made, and of 508,467*l.*

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from the old companies, whereas in 1874-75 the old companies withdrew 781,648*l.* from the Treasury of the Secretary of State. This reduction by 5,933,185*l.* in the net gold payments, as compared with those of 1874-75, was equivalent to a saving of Rs. 7,80,07,819 in the remittance in 1885-86.

(Signed) HENRY WATERFIELD.

TABLE I.

	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.
<b>PAYMENTS ON OLD OR FIXED CONTRACTS.</b>												
Interest on debt - . . . . .	£ 2,178,158	£ 2,158,349	£ 2,299,808	£ 2,490,881	£ 2,590,587	£ 2,586,929	£ 2,339,338	£ 2,509,719	£ 2,478,591	£ 2,440,091	£ 2,422,138	£ 2,373,405
Home charges for service of British forces in India . . . . .	820,630	804,734	918,978	1,289,933	1,364,700	1,386,923	1,409,748	1,344,235	1,335,573	2,412,863	1,442,345	740,585
Passage of troops to and from India . . . . .	293,860	266,734	317,153	223,846	325,518	330,651	302,517	309,397	222,192	335,504	304,949	295,492
Pensions and furlough allowances at rates fixed in sterling (approximately) . . . . .	2,639,402	2,665,630	2,966,100	3,008,881	3,006,091	3,130,466	3,166,209	3,210,431	3,185,173	3,225,081	3,182,037	3,225,317
Home administration . . . . .	208,934	317,569	225,953	214,226	221,068	216,308	223,116	218,323	227,514	225,162	223,299	244,643
Miscellaneous . . . . .	123,588	202,746	289,783	236,923	223,437	223,662	210,478	162,955	249,917	200,465	294,112	330,683
Guaranteed companies: Guaranteed interest . . . . .	4,659,765	4,655,996	4,686,751	4,685,474	4,739,259	4,752,462	3,304,487	3,314,796	3,334,737	3,324,241	3,317,240	3,180,735
Annuities and interest in respect of lines purchased . . . . .	—	—	—	—	—	34,397	1,327,197	1,592,298	1,564,822	1,514,711	1,573,908	1,690,186
Net withdrawals . . . . .	781,648	1,210,175	1,553,238	312,956	925,545	467,556	738,573	932,529	46,364	334,045	1,377,134	-609,467
	11,704,963	12,181,735	13,207,657	12,508,179	13,401,225	13,108,243	13,021,483	13,384,682	12,704,805	14,081,813	14,037,189	11,571,979
Deduct grants in aid of Afghan and Egyptian Expeditions . . . . .	—	—	—	—	—	2,000,000	800,000	600,000	1,000,000	1,000,000	250,000	280,000
Net payments in sterling in each year . . . . .	11,704,963	12,181,735	13,207,657	12,508,179	13,401,225	11,108,243	12,221,483	12,084,682	11,704,805	13,081,813	13,787,189	11,321,979
Net payments in sterling in 1874-75 . . . . .	11,704,963	11,704,963	11,704,963	11,704,963	11,704,963	11,704,963	11,704,963	11,704,963	11,704,963	11,704,963	11,704,963	11,704,963
Excess of net payments in sterling in each year over those in 1874-75 . . . . .	—	476,782	1,502,704	803,226	1,696,272	-596,740	816,520	1,379,720	-148	1,376,850	2,082,206	-369,974
Average rate obtained for bills and transfers on India in each year . . . . .	1s. 10' 156d.	1s. 9' 626d.	1s. 8' 508d.	1s. 8' 791d.	1s. 7' 794d.	1s. 7' 961d.	1s. 7' 956d.	1s. 7' 895d.	1s. 7' 525d.	1s. 7' 536d.	1s. 7' 308d.	1s. 6' 254d.
Rupees needed to provide for the net sterling payments of each year at the average rate of that year.	Rs. 12,67,88,727	Rs. 13,51,92,968	Rs. 15,45,65,240	Rs. 14,43,85,595	Rs. 16,24,87,220	Rs. 13,35,59,688	Rs. 15,05,87,158	Rs. 15,78,40,674	Rs. 14,39,98,069	Rs. 16,07,11,452	Rs. 17,13,73,265	Rs. 14,88,58,141
Rupees needed to provide for the net sterling payments of 1874-75 at the average rate of 1874-75.	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727
Total excess . . . . .	—	84,04,241	2,77,76,513	1,75,96,868	3,56,98,493	67,70,961	2,37,98,431	3,10,51,947	1,71,09,342	3,39,22,725	4,45,84,538	2,20,69,414
Excess caused by fall in the rate of exchange:—												
Rupees needed to provide for the net sterling payments of each year at the average rate of that year.	12,67,88,727	13,51,92,968	15,45,65,240	14,43,85,595	16,24,87,220	13,35,59,688	15,05,87,158	15,78,40,674	14,39,98,069	16,07,11,452	17,13,73,265	14,88,58,141
Rupees needed to provide for the net sterling payments of each year at the average rate of 1874-75.	12,67,88,727	13,19,53,257	14,30,66,104	13,54,89,317	14,51,62,843	12,03,25,129	13,56,38,416	14,17,34,031	12,67,87,124	14,17,02,954	14,83,43,302	13,26,40,380
	—	32,39,711	1,14,99,136	88,96,278	1,73,24,377	1,32,34,559	1,49,53,742	1,61,06,643	1,71,10,945	1,90,08,408	2,30,29,963	2,02,17,811
Excess caused by increase in sterling payments:—												
Rupees needed to provide for the net sterling payments of each year at the average rate of 1874-75.	12,67,88,727	13,19,53,257	14,30,66,104	13,54,89,317	14,51,62,843	12,03,25,129	13,56,38,416	14,17,34,031	12,67,87,124	14,17,02,954	14,83,43,302	13,26,40,380
Rupees needed to provide for the net sterling payments of 1874-75 at the average rate of 1874-75.	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727	12,67,88,727
	—	51,64,530	1,62,77,377	87,00,590	1,83,74,116	-64,63,598	88,44,689	1,49,45,304	-1,603	1,49,14,227	2,25,54,575	-47,48,397
Total excess . . . . .	—	84,04,241	2,77,76,513	1,75,96,868	3,56,98,493	67,70,961	2,37,98,431	3,10,51,947	1,71,09,342	3,39,22,725	4,45,84,538	2,20,69,414

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TABLE II.

	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.
<b>PAYMENTS ON NEW OR CURRENT CONTRACTS.</b>												
Interest on loan raised in 1885-86	—	—	—	—	—	—	—	—	—	—	—	52,500
Stores for India	2,786,389	3,504,927	2,415,517	2,768,486	1,892,217	2,180,879	2,511,299	1,918,418	1,669,218	1,904,489	2,079,174	3,237,413
Pensions and furlough allowances at rates fixed in Indian currency (approximately).	187,005	209,227	215,514	223,550	223,363	215,560	248,267	244,312	235,648	256,831	244,159	248,948
Remittance transactions	366,514	572,244	779,411	610,691	276,502	378,926	342,285	502,475	407,968	373,971	400,805	-6,444
Railway companies under recent contracts:—Interest	—	—	—	—	—	—	—	3,012	9,991	25,156	55,897	195,895
Stores, &c. for East Indian and Rajputana-Malwa railways	—	—	—	—	—	27,323	522,293	475,664	453,901	400,082	403,123	607,770
	3,339,968	3,286,398	3,410,242	3,602,727	2,392,072	2,772,188	3,624,744	3,142,781	2,776,746	2,960,409	3,163,158	4,331,074
Deduct net receipts from railway companies under recent contracts	—	—	—	—	—	—	—	80,000	1,734,048	-24,725	1,427,423	4,643,070
Net payments in sterling in each year	3,339,968	3,286,398	3,410,242	3,602,727	2,392,072	2,772,188	3,624,744	3,062,781	1,042,898	2,935,134	1,735,736	-211,996
Net payments in sterling in 1874-75	3,339,968	3,339,968	3,339,968	3,339,968	3,339,968	3,339,968	3,339,968	3,339,968	3,339,968	3,339,968	3,339,968	3,339,968
Excess of net payments in sterling in each year over those in 1874-75	—	-55,570	70,274	262,759	-947,896	-567,780	284,776	-277,187	-2,977,970	-334,834	-1,604,228	-2,661,964
Average rate obtained for bills and transfers on India in each year	1s. 10'156d.	1s. 9'636d.	1s. 8'508d.	1s. 8'791d.	1s. 7'794d.	1s. 7'961d.	1s. 7'986d.	1s. 7'896d.	1s. 7'525d.	1s. 7'536d.	1s. 7'308d.	1s. 6'284d.
Rupees needed to provide for the net sterling payments of each year at the average rate of that year.	Rs. 3,61,78,726	Rs. 3,64,72,465	Rs. 3,99,09,037	Rs. 4,15,87,339	Rs. 2,90,03,403	Rs. 3,33,31,335	Rs. 4,35,92,276	Rs. 3,69,46,364	Rs. 1,28,18,837	Rs. 3,66,72,686	Rs. 2,15,75,057	Rs. -41,08,084
Rupees needed to provide for the net sterling payments of 1874-75 at the average rate of 1874-75.	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726
Total excess	—	2,93,739	37,30,311	54,08,613	-71,75,228	-26,47,391	74,13,550	7,67,638	-2,33,29,269	4,93,960	-1,46,08,669	-4,08,80,760
Excess caused by fall in the rate of exchange:— Rupees needed to provide for the net sterling payments of each year at the average rate of that year.	3,61,78,726	3,64,72,465	3,99,09,037	4,15,87,339	2,90,03,403	3,33,31,335	4,35,92,276	3,69,46,364	1,28,18,837	3,66,72,686	2,15,75,057	-41,08,084
Rupees needed to provide for the net sterling payments of each year at the average rate of 1874-75.	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726
	—	8,74,012	29,69,098	25,62,392	30,92,341	32,02,635	48,98,940	37,70,148	15,94,268	48,27,542	27,73,464	7,22,474
Excess caused by increase in sterling payments:— Rupees needed to provide for the net sterling payments of each year at the average rate of 1874-75.	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726
Rupees needed to provide for the net sterling payments of 1874-75 at the average rate of 1874-75.	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726	3,61,78,726
	—	-2,80,273	7,61,213	23,46,221	-1,08,97,664	-61,20,226	30,24,710	-30,02,505	-2,48,24,161	-22,42,222	-1,72,77,122	-2,92,52,266
Total excess	—	2,93,739	37,30,311	54,08,613	-71,75,228	-26,47,391	74,13,550	7,67,638	-2,33,29,269	4,93,960	-1,46,08,669	-4,08,80,760

TABLE III.

	1874-75.				1885-86.					Total Excess caused by Fall in Exchange in 1885-86 over 1874-75. (8 + 10.)	Total Excess in 1885-86 over 1874-75 by Increase in Net Gold Payments, and by Fall in Exchange. (8 + 11.)
	Net Gold Payments.	Rupees needed in 1874-75 for Net Gold Payments.	Rupees needed in 1885-86 for the Net Amount of Gold Payments made in 1874-75.	Excess caused by Fall in Exchange on the Net Amount of Gold Payments made in 1874-75. (4-3.)	Net Gold Payments.	Increase in Net Gold Payments in 1885-86 over 1874-75. (6-2.)	Additional Rupees that would at Rate of 1874-75 have been needed on account of the Increase in Net Gold Payments in 1885-86.	Additional Rupees actually needed in 1885-86 on account of the Increase in Net Gold Payments.	Excess caused by fall in Exchange on the Increase in Net Gold Payments. (9-8.)		
	£	Rs.	Rs.	Rs.	£	£	Rs.	Rs.	Rs.	Rs.	Rs.
<b>PAYMENTS ON OLD OR FIXED CONTRACTS.</b>											
Interest on debt not raised for public works - - -	2,178,136	2,35,69,694	2,86,37,511	50,68,317	2,373,405	196,269	21,15,166	25,97,341	4,82,175	54,96,922	76,11,158
Home charges for service of British forces in India - -	620,630	88,89,111	1,07,89,408	19,00,297	740,585	-80,045	-8,17,058	-10,68,409	-1,85,257	17,14,940	8,47,868
Passage of troops to and from India - - - - -	292,860	31,72,276	38,50,440	6,78,164	295,492	2,633	28,511	34,604	6,093	6,84,257	7,19,768
Pensions and furlough allowances at rates fixed in sterling (approximately).	2,639,402	2,85,90,156	3,47,02,102	61,11,948	3,225,517	586,915	63,46,665	77,03,443	13,66,773	74,62,724	1,38,16,389
Home administration - - - - -	208,934	22,63,185	27,47,003	4,83,818	244,843	35,709	3,56,802	4,69,498	82,699	5,66,508	2,53,310
Miscellaneous - - - - -	123,588	13,58,718	16,24,898	2,86,186	530,983	206,495	22,36,765	27,14,938	4,78,173	7,04,368	50,01,123
Guaranteed companies: Guaranteed interest - - -	4,669,765	5,04,74,736	6,12,65,126	1,07,90,399	3,180,735	211,166	22,37,361	27,76,350	4,88,989	1,12,79,379	1,35,66,740
Annuities and interest in respect of lines purchased.	-				1,690,186						
Net withdrawals - - - - -	781,642	84,66,856	1,02,76,886	18,10,030	-608,467	-1,890,115	-1,59,74,600	-1,69,68,063	-89,87,463	-11,77,432	-1,51,88,033
	11,704,958	12,67,89,727	15,38,93,374	2,71,04,647	11,571,979	-122,974	-14,40,332	-17,48,304	-8,07,922	2,67,66,725	2,63,56,343
Deduct grant in aid of Afghan Expedition - - -	-	-	-	-	250,000	250,000	27,08,015	32,80,929	5,78,914	5,78,914	52,80,929
	11,704,958	12,67,89,727	15,38,93,374	2,71,04,647	11,321,979	-322,974	-41,48,397	-60,28,233	-3,86,236	2,62,17,811	2,80,69,414
<b>PAYMENTS ON NEW OR CURRENT CONTRACTS.</b>											
Interest on loan raised in 1885-86 - - - - -	-	-	-	-	52,500	52,500	5,63,683	6,90,256	1,21,573	1,21,573	6,90,256
Stores for India - - - - -	2,786,339	3,01,82,326	3,66,34,645	64,52,319	3,237,413	451,024	48,85,518	59,29,935	10,44,417	74,06,736	1,23,62,254
Pensions and furlough allowances at rates fixed in Indian currency (approximately).	187,065	20,23,299	24,69,477	4,46,178	243,949	56,884	6,16,171	7,47,895	1,31,724	5,84,902	11,81,073
Remittance transactions - - - - -	366,514	39,70,101	48,18,821	8,48,720	-6,444	-373,958	-40,39,903	-49,09,244	-8,68,641	-14,921	-40,64,284
Railway companies under recent contracts: Interest -	-	-	-	-	195,886	195,886	21,21,848	25,75,452	4,53,604	4,53,604	25,75,452
Stores, &c. for East Indian and Rajputana-Malwa railways	-	-	-	-	607,770	607,770	65,83,400	79,90,785	14,07,385	14,07,385	79,90,785
	3,339,968	3,61,78,726	4,39,12,943	77,34,217	4,331,074	901,106	1,07,35,717	1,30,30,779	23,95,062	1,00,39,279	2,07,64,996
Deduct net receipts from railway companies under recent contracts.	-	-	-	-	4,643,070	4,643,070	5,02,94,003	6,10,45,756	1,07,51,753	1,07,51,753	6,10,45,756
	3,339,968	3,61,78,726	4,39,12,943	77,34,217	-311,996	-3,621,964	-3,95,68,286	-4,80,14,977	-84,66,691	-7,22,474	-4,02,80,760

APPENDIX.

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B.—TABLE showing PROGRESS of EXTERNAL TRADE of INDIA.

(See Question 2500.)

Years.	Average Rate of Exchange per Rupee.	Imports into India.	Exports from India.
	<i>d.</i>		
1874-75	22·156	100	100
1875-76	21·626	107	103
1876-77	20·508	103	108
1877-78	20·791	114	116
1878-79	19·794	104	108
1879-80	19·961	114	119
1880-81	19·956	147	132]
1881-82	19·895	136	145
1882-83	19·525	144	148
1883-84	19·536	153	156
1884-85	19·308	154	148
1885-86	18·254	154	149

D.—TABLE showing PER-CENTAGE of INDIAN TRADE to the WHOLE TRADE of the UNITED KINGDOM.

(See Question 2513.)

	Per cent.
1870	8·3
1871	8·1
1872	7·9
1873	7·7
1874	8·5
1875	8·5
1876	8·5
1877	8·9
1878	8·5
1879	7·8
1880	8·9
1881	9·2
1882	9·8
1883	9·9
1884	9·7

C.—TABLE showing PROGRESS of the TRADE of the UNITED KINGDOM with INDIA.

(See Question 2504.)

Years.	Average Rate of Exchange per Rupee.	Imports into India.	Exports from India.
	<i>d.</i>		
1874-75	22·156	100	100
1875-76	21·626	96	101
1876-87	20·508	110	105
1877-78	20·791	132	110
1878-79	19·794	93	101
1879-80	19·961	108	99
1880-81	19·956	132	111
1881-82	19·895	127	125
1882-83	19·525	135	127
1883-84	19·536	145	132
1884-85	19·308	147	121

E.—TABLE showing PRICE of SILVER and the EXPORTS to INDIA from the UNITED KINGDOM.

(See Question 2518.)

Years.	Gold Price of Silver in London.	Total Exports to India.	Exports of Cotton Manufactures.	
		Value.	Quantity.	Value.
1874	100	100	100	100
1875	98	101	99	98
1876	90	93	102	92
1877	94	105	106	95
1878	90	97	100	89
1879	88	89	108	87
1880	89	126	125	107
1881	89	121	132	110
1882	88	121	121	105
1883	87	132	126	105
1884	87	127	132	99
1885	83	122	121	92
1886	78	?	134	96

F.—TABLE showing MONTHLY EXPORTS of SILVER to INDIA in 1885 and 1886, with VALUE of BILLS sold by the SECRETARY of STATE, and of EXPORTS of COTTON MANUFACTURES to INDIA from the UNITED KINGDOM.

(See Question 2574.)

Month.	1885.			1886.		
	Sale of Bills by Secretary of State.	Export of Silver to India.	Value of Exports of Cotton.	Sale of Bills by Secretary of State.	Export of Silver to India.	Value of Exports of Cotton Manufactures to India.
	Rs.	£	£	Rs.	£	£
January	1,94,77,800	367,708	5,207,960	1,41,05,157	539,494	4,769,012
February	2,05,10,900	620,400	4,680,110	2,07,96,000	794,400	4,544,604
March	2,24,05,999	858,882	4,722,690	2,31,33,400	293,100	5,161,378
April	1,28,52,200	639,750	4,253,281	1,27,66,000	209,417	4,889,450
May	38,01,000	859,000	4,800,386	21,70,500	333,500	4,501,201
June	37,94,300	449,800	4,436,508	56,23,450	476,864	4,967,188
July	49,21,859	756,100	4,972,256	67,14,300	435,901	4,774,380
August	28,40,000	824,454	4,848,010	1,76,68,500	432,200	4,983,388
September	1,07,24,000	446,800	4,715,949	1,81,12,500	440,200	5,018,375
October	1,10,10,000	341,000	4,413,805	92,98,800	347,400	4,875,717
November	1,38,97,000	505,599	4,058,204	1,06,01,000	218,151	4,810,398
December	1,65,34,054	444,150	4,502,489	1,83,58,000	360,650	4,573,204
	14,27,69,112	7,108,643	55,111,598	15,93,47,607	4,880,277	57,365,385

G.—STATEMENT showing the DIFFERENCE between the SUMS in RUPEES, at the BUDGET RATE of EXCHANGE and at the RATE REALISED, needed to provide for the net Sterling Payments in England in each Year; and the Equivalent of that Difference in Sterling at the Rate realised.

(See Question 2650.)

Year.	Net Sterling Payments.			Rupees needed to provide for Net Sterling Payments.				Additional Rupees needed, owing to Exchange falling below the Rate assumed in the Budget; and their Equivalent in Sterling at Rate realised.	
	On Old or Fixed Contracts.	On New or Current Contracts.	Total.	At Budget Rate of Exchange.		At Rate realised.		Rs. (b) - (a)	£
	£	£	£	Budget Rate. s. d.	Rs. (a)	Rate realised. s. d.	Rs. (b)		
1874-75	11,704,953	3,389,968	15,044,921	1 10·375	16,13,75,689	1 10·156	16,29,67,458	15,91,764	146,946
1875-76	12,181,785	3,286,398	15,468,183	1 9·875	16,97,07,516	1 9·626	17,16,65,433	19,57,917	176,425
1876-77	13,207,657	3,410,242	16,617,899	1 8·5	19,45,51,013	1 8·508	19,44,74,277	-76,736	-6,357
1877-78	12,508,179	3,602,737	16,110,906	1 9·23	18,31,29,884	1 8·791	18,59,72,994	38,43,050	332,920
1878-79	13,401,225	2,892,072	15,793,297	1 8·4	18,58,03,494	1 7·794	19,14,90,623	56,87,129	469,046
1879-80	11,108,243	2,772,188	13,880,431	1 7	17,53,31,760	1 7·961	16,68,91,023	-84,40,737	-702,023
1880-81	12,521,482	3,624,744	16,146,226	1 8	19,37,54,712	1 7·956	19,41,79,434	4,24,722	35,316
1881-82	13,084,682	3,062,781	16,147,463	1 8	19,37,69,555	1 7·895	19,47,87,088	10,17,482	84,345
1882-83	11,704,805	1,042,698	12,747,503	1 8	15,99,70,086	1 7·525	15,67,16,926	37,46,890	304,825
1883-84	13,081,813	2,985,134	16,066,947	1 7·5	19,77,47,040	1 7·536	19,78,84,138	-3,62,908	-29,540
1884-85	13,787,159	1,735,736	15,522,895	1 7·5	19,10,51,015	1 7·308	19,29,48,332	18,97,307	152,638
1885-86	11,321,979	-311,996	11,009,983	1 7	18,90,78,469	1 6·254	14,47,56,107	56,82,638	482,212

H.—TABLE showing the EXCESS by fall in EXCHANGE over that for the Year 1874-75, Year by Year, in Rupees, and in Sterling at average Rate of Exchange, on Old and New Contracts.

(See Question 2650.)

Year.	Average Rate obtained for Bills, &c.	On Old or Fixed Contracts.		On New or Current Contracts.		Total.	
		In Rupees.	In Sterling, at Average Rate of Exchange.	In Rupees.	In Sterling, at Average Rate of Exchange.	In Rupees.	In Sterling, at Average Rate of Exchange.
	s. d.	Rs.	£	Rs.	£	Rs.	£
1875-76	1 9·626	32,39,711	291,925	8,74,012	78,756	41,13,723	370,681
1876-77	1 8·508	1,14,99,186	982,601	29,69,098	253,710	1,44,68,234	1,236,311
1877-78	1 8·791	88,96,278	770,677	25,62,392	221,978	1,14,58,670	992,655
1878-79	1 7·794	1,78,24,377	1,428,828	30,92,341	255,041	2,04,16,718	1,683,869
1880-81	1 7·961	1,32,34,559	1,100,729	33,02,835	274,700	1,65,37,894	1,375,329
1880-81	1 7·956	1,49,53,742	1,243,404	43,28,840	359,943	1,92,82,582	1,608,347
1881-82	1 7·895	1,61,06,648	1,335,174	37,70,143	312,529	1,98,76,786	1,647,703
1882-83	1 7·525	1,71,10,945	1,892,047	15,24,292	124,007	1,86,35,237	1,516,054
1883-84	1 7·536	1,90,08,498	1,547,392	43,37,542	358,076	2,33,46,040	1,900,368
1884-85	1 7·308	2,20,29,963	1,772,311	27,73,464	223,125	2,48,03,427	1,995,436
1885-86	1 6·254	2,62,17,811	1,994,083	-7,22,474	-54,950	2,54,95,837	1,989,133

—STATEMENT showing the net EXPENDITURE of the GOVERNMENT of INDIA from 1874-75 to 1886-87, caused by Famine, Afghan War, Military Preparations on the North-West Frontier, and Operations in Burma.

(Question 2655.)

Years.	Famine Relief and Insurance.	Military Operations in Afghanistan.	Military Preparations on the North-West Frontier.	Military Operations in Burma.	Total.
	(Tans of Rupees.)				
1874-75	2,248,683	—	—	—	2,248,683
1875-76	602,080	—	—	—	602,080
1876-77	2,145,517	—	—	—	2,145,517
1877-78	5,347,634	—	—	—	5,347,634
1878-79	318,547	692,391	—	—	1,005,938
1879-80	104,059	4,800,429	—	—	4,904,488
1880-81	34,840	7,539,091	—	—	7,573,931
1881-82	1,567,886	-1,437,688	—	—	80,204
1882-83	1,495,972	17,869	—	—	1,513,841
1883-84	1,522,813	—	—	—	1,522,813
1884-85	1,548,357	—	—	—	1,548,357
1885-86	1,500,000	—	2,268,000	390,000	4,158,000
estimated Estimate)					
1886-87 (Budget)	1,500,000*	—	—	300,000	1,800,000

Including 188,700 paid as interest to the Indian Midland Railway Company, and included in the Railway Revenue Account.

L.—NET REVENUE of the GOVERNMENT of INDIA, from 1875-76 to 1886-87.

(See Question 2719.)

Net Revenue.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	Revised Estimate, 1885-86.	Budget, 1886-87.
Principal Heads of Revenue	47,885,000	46,622,000	47,558,000	51,826,000	53,075,000	52,703,000	53,655,000	50,954,000	52,038,000	51,080,000	51,988,000	53,925,000
Direct Demands on the Revenue	7,880,000	8,407,000	8,321,000	7,478,000	7,867,000	8,053,000	8,228,000	8,489,000	8,492,000	9,559,000	9,862,000	9,675,000
Net Revenue	40,005,000	38,215,000	39,237,000	44,358,000	45,208,000	44,650,000	45,427,000	42,465,000	43,546,000	41,521,000	42,126,000	44,250,000
Land Revenue	18,589,000	16,993,000	16,948,000	19,364,000	18,924,000	18,129,000	18,944,000	18,883,000	19,083,000	18,469,000	19,007,000	19,171,000
Opium	6,253,000	6,280,000	6,522,000	7,700,000	8,351,000	8,451,000	7,804,000	7,216,000	7,702,000	5,849,000	5,805,000	6,577,000
Salt	5,786,000	5,816,000	5,915,000	6,536,000	6,925,000	6,752,000	6,890,000	5,729,000	5,697,000	6,058,000	5,829,000	5,896,000
Stamps	2,725,000	2,738,000	2,886,000	2,986,000	3,073,000	3,187,000	3,264,000	3,246,000	3,897,000	3,466,000	3,508,000	3,541,000
Excise	2,407,000	2,438,000	2,353,000	2,531,000	2,746,000	3,040,000	3,330,000	3,515,000	3,745,000	3,908,000	4,031,000	4,029,000
Provincial Rates	1,895,000	1,878,000	2,190,000	2,575,000	2,834,000	2,730,000	2,843,000	2,630,000	2,824,000	2,740,000	2,886,000	2,863,000
Customs	2,537,000	2,282,000	2,416,000	2,127,000	2,080,000	2,341,000	2,166,000	1,141,000	1,048,000	893,000	1,016,000	1,040,000
Assessed Taxes	15,000	14,000	101,000	863,000	755,000	533,000	524,000	505,000	513,000	499,000	503,000	1,399,000
Forest	277,000	158,000	240,000	150,000	211,000	243,000	316,000	870,000	403,000	308,000	353,000	411,000
Registration	51,000	58,000	84,000	105,000	104,000	108,000	106,000	102,000	92,000	108,000	118,000	119,000
Tributes from Native States	736,000	695,000	675,000	704,000	703,000	743,000	707,000	690,000	720,000	699,000	694,000	712,000
Deduct Refunds and Assignments	41,211,000 1,206,000	39,345,000 1,130,000	40,335,000 1,098,000	45,641,000 1,283,000	46,605,000 1,397,000	46,211,000 1,561,000	46,894,000 1,467,000	43,977,000 1,512,000	45,173,000 1,827,000	42,997,000 1,476,000	43,699,000 1,578,000	45,753,000 1,508,000
Net Revenue	40,005,000	38,215,000	39,237,000	44,358,000	45,208,000	44,650,000	45,427,000	42,465,000	43,546,000	41,521,000	42,126,000	44,250,000
Average of 4 years.												
Land Revenue		17,974,000				18,708,000					18,920,000	
Opium		6,689,000				7,931,000					6,483,000	
Salt		6,001,000				6,574,000					5,870,000	
Stamps		2,834,000				3,180,000					3,478,000	
Excise		2,432,000				3,153,000					3,928,000	
Provincial Rates		2,135,000				2,759,000					2,816,000	
Customs		2,340,000				1,932,000					999,000	
Assessed Taxes		248,000				580,000					728,000	
Forest		206,000				285,000					369,000	
Registration		74,000				105,000					109,000	
Tributes from Native States		700,000				710,000					706,000	
Refunds and Assignments		41,633,000 1,179,000				45,992,000 1,484,000					44,406,000 1,546,000	
Net Revenue		40,454,000				44,438,000					42,860,000	

M.—NET EXPENDITURE of the GOVERNMENT of INDIA, from 1875-76 to 1886-87.

(See Question 2719.)

Net Expenditure.	1875-76.	1876-77.	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	Revised Estimate, 1885-86.	Budget, 1886-87.
Principal Heads of Expenditure	49,496,000	53,829,000	57,918,000	55,582,000	61,794,000	69,868,000	68,862,000	61,114,000	61,470,000	61,518,000	66,627,000	65,941,000
Receipts in Reduction	11,080,000	12,030,000	14,414,000	13,358,000	15,859,000	21,587,000	22,030,000	19,324,000	19,803,000	19,611,000	21,610,000	21,873,000
Net Expenditure	38,416,000	40,799,000	43,499,000	42,224,000	46,435,000	48,281,000	41,832,000	41,790,000	41,667,000	41,907,000	45,017,000	44,068,000
Interest	4,247,000	4,508,000	4,620,000	4,769,000	4,635,000	3,718,000	3,951,000	4,071,000	3,668,000	3,908,000	3,628,000	3,606,000
Post Office, Telegraph, and Mint	337,000	160,000	—45,000	186,000	7,000	153,000	315,000	241,000	361,000	347,000	329,000	314,000
Civil Departments	9,037,000	9,311,000	9,056,000	9,075,000	9,019,000	9,207,000	9,615,000	9,609,000	9,984,000	10,370,000	10,798,000	10,921,000
Miscellaneous Civil Charges	3,088,000	3,056,000	3,044,000	3,383,000	3,480,000	3,141,000	3,667,000	3,659,000	3,556,000	3,592,000	3,466,000	4,086,000
Famine Relief and Insurance	602,000	2,146,000	5,348,000	318,000	104,000	85,000	1,568,000	1,496,000	1,523,000	1,548,000	1,500,000	1,361,000
Construction of Railways (charged against Revenue in addition to that under Famine Insurance)	30,000	38,000	51,000	172,000	1,843,000	2,474,000	513,000	481,000	—176,000	264,000	631,000	109,000
Railway Revenue Account	1,559,000	1,146,000	150,000	2,076,000	1,571,000	1,044,000	286,000	1,306,000	305,000	1,051,000	782,000	1,722,000
Irrigation	1,147,000	1,022,000	992,000	818,000	311,000	283,000	569,000	716,000	547,000	573,000	778,000	731,000
Buildings and Roads	4,160,000	4,006,000	3,494,000	3,767,000	3,419,000	3,781,000	4,451,000	4,779,000	5,259,000	4,394,000	4,159,000	4,769,000
Army	14,644,000	15,531,000	16,421,000	16,954,000	21,483,000	24,147,000	15,377,000	16,635,000	17,155,000	16,149,000	18,332,000	17,424,000
Total Net Expenditure, Imperial and Provincial Deduct portion defrayed from Provincial Balances, or add portion of Allotments unspent by Provincial Governments	38,851,000	40,924,000	43,181,000	41,508,000	45,822,000	47,983,000	40,312,000	42,993,000	42,132,000	42,196,000	44,903,000	45,043,000
	—485,000	—125,000	+368,000	+716,000	+613,000	+298,000	+1,520,000	—1,203,000	—465,000	—289,000	+114,000	—975,000
Total Net Expenditure charged against Revenue	38,416,000	40,799,000	43,499,000	42,224,000	46,435,000	48,281,000	41,832,000	41,790,000	41,667,000	41,907,000	45,017,000	44,068,000
Average of 4 years.												
Interest		4,536,000				4,094,000				3,708,000		
Post Office, Telegraph, and Mint		159,000				179,000				338,000		
Civil Departments		9,120,000				9,362,000				10,506,000		
Miscellaneous Civil Charges		3,143,000				3,474,000				3,675,000		
Famine Relief and Insurance		2,102,000				801,000				1,483,000		
Construction of Railways (charged against Revenue in addition to that under Famine Insurance)		73,000				1,328,000				207,000		
Railway Revenue Account		1,233,000				1,052,000				965,000		
Irrigation		998,000				470,000				657,000		
Buildings and Roads		3,857,000				4,107,000				4,645,000		
Army		15,887,000				19,410,000				17,390,000		
Total Net Expenditure, Imperial and Provincial Deduct portion defrayed from Provincial Balances, or add portion of Allotments unspent by Provincial Governments		41,103,000				44,277,000				43,569,000		
		+131,000				+307,000				—404,000		
Total Net Expenditure charged against Revenue		41,234,000				44,584,000				43,165,000		



## N.—PRICES OF INDIAN GOVERNMENT SECURITIES.

(See Question 2727.)

(From de Quetteville's and Thompson's Circulars, and the Investor's Manual.)

YEARS.	Rate of Exchange for Secretary of State's drafts on Calcutta.		Price of Rupee Paper.				Price of Sterling Stocks.					
			In Calcutta.		In London.		4 per cent.		3½ per cent.		3 per cent.	
	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.
1873	22½	21½	105½	101½	97½	93½	106	101				
1874	23½	21½	104½	101½	98	94	104½	100½				
1875	22½	21½	103½	101½	94½	90	106½	102½				
1876	22½	18½	102½	98½	92	76	106½	101				
1877	22½	20½	99½	91½	91	80	106½	100½				
1878	21	18½	97	98	83½	71½	105	97				
1879	20½	18½	95½	91	80½	70	105½	99½				
1880	20½	19½	100½	92½	82½	77	106½	101½				
1881	20½	19½	106½	99	87½	81	107	103½	104½	99½		
1882	20½	19½	102½	98½	85½	79½	105½	102½	102½	99		
1883	19½	19½	102½	97½	82½	79½	105½	101½	103½	101½		
1884	19½	18½	101½	94½	82½	77	105½	101	107½	101½	96½	91½
1885	19½	17½	100	91½	78½	72½	103½	97½	103½	97	92	83
1886	18	18½	98	97½	74	65	104	104½	102½	99	91½	86

## O.—COMPARISON of the FINANCIAL POSITION of the GOVERNMENT of INDIA in 1880-81 with that in 1885-86 and 1886-87.

(See Question 2765.)

Sir John Strachey's book on the "Finances and Public Works of India" dealt with the financial position of the Government of India in 1880-81, for which he gave (at page 433) the following figures from the Revised Estimates :—

	Tens of Rupees.
Net Revenue	40,431,000
Net Expenditure, apart from War, Frontier Railways, and Famine Relief	44,325,000
Surplus, excluding these exceptional charges	5,096,000
The excluded charges were (in round figures) :	
War, including Frontier Railways	11,236,000
Famine Relief	97,000
	11,333,000
And from the Receipts was deducted a capital credit on account of the assets of Military Funds	27,000
	11,316,000
So that the final result was a deficit of	6,220,000

The actual accounts differed from the Revised Estimates, and the form of stating them has been altered since 1881. For a true comparison with the recent Estimates, the figures should be arranged in the following manner :—

	Accounts, 1880-81.	Revised Estimates, 1885-86.	Budget, 1886-87.
Net Revenue	44,849,000	42,126,000	44,250,000
Net Expenditure, apart from charges shown below	38,233,000	40,359,000	42,368,000
Surplus, apart from charges shown below	6,616,000	1,767,000	1,982,000

	Accounts, 1880-81.	Revised Estimates, 1885-86.	Budget, 1886-87.
<b>EXCLUDED CHARGES.</b>			
War or special military preparations	7,539,000	2,658,000*	300,000†
Construction of Railways, not provided from Provincial Revenue, or from borrowed money, or from the grant for Famine Insurance	2,473,000	500,000	—
Famine Relief and Insurance	35,000	1,500,000	1,500,000†
	10,047,000	4,658,000	1,800,000
Final Result—Surplus	—	—	182,000
Deficit	3,631,000	2,891,000	—

\* See paragraph 42 of the Financial Statement for 1886-87, where the cost of the War preparations in 1885-86 is stated at 2,657,100 in India, and 458,700 for Stores in England, to which must be added 143,300 for Exchange.

† See paragraph 26 of the Financial Statement, giving 300,000 as the Expenditure for the Army in Upper Burma.

‡ The sum of 1,500,000. Includes 1,361,300 shown under Famine Relief and Insurance, and 138,700 paid as interest to the Indian Midland Railway Company and included in the Railway Revenue Accounts.

When the Government of India at the end of 1877 made arrangements to meet the recurring expenditure on account of famine, the intention was to provide a surplus of 2,000,000 over the ordinary charges, of which 1,500,000 was to be devoted to the relief of or insurance against famine, and 500,000 was to meet contingencies. In the accounts of 1880-81 there was, over the ordinary charges, a surplus of 6,416,000, of which 35,000 was required for the relief of famine, and the remainder was applied in diminution of the debt that had to be raised to meet the exceptional charges for War and Frontier Railways. In the Revised Estimates for 1885-86 there was, over the ordinary charges, a surplus of 1,767,000, instead of 2,000,000, to meet the charge for Famine Relief and Insurance and an allotment of 500,000 which in the Budget had been made from revenue for the construction of railways. In the Budget for 1886-87 an ordinary surplus of 1,982,000 was provided, of which 1,500,000 was allotted to Famine Relief and Insurance (including 138,700 charged in the Railway Revenue Account for interest payable to the Indian Midland Railway Company), and 300,000 was provided for the military operations in Burmah.

The following Table shows the heads under which has arisen the change in the financial position since 1880-81:—

Net Revenue and Expenditure, excluding War, Construction of Railways, and Famine.	1885-86. Better +, or Worse —, than 1880-81.				1886-87. Better +, or Worse —, than 1880-81.			
	India.	England.	Exchange.	Total.	India.	England.	Exchange.	Total.
<b>NET REVENUE.</b>								
Land Revenue	+ 870,300	—	—	+ 870,300	+ 1,042,300	—	—	+ 1,042,300
Opium	- 2,640,700	- 4,900	- 1,500	- 2,647,100	- 1,872,300	- 1,500	- 500	- 1,874,300
Salt	- 921,400	- 1,700	- 500	- 923,600	- 858,600	—	—	- 858,600
Stamps	+ 597,500	- 16,900	- 8,900	+ 571,700	+ 483,600	- 20,300	- 10,900	+ 404,400
Excise	+ 991,500	- 900	- 300	+ 989,300	+ 989,200	—	—	+ 989,200
Provincial Rates	+ 103,700	—	—	+ 103,700	+ 132,600	—	—	+ 132,600
Customs	- 1,324,500	—	—	- 1,324,500	- 1,300,900	—	—	- 1,300,900
Assessed Taxes	- 84,200	—	—	- 84,200	+ 861,900	—	—	+ 861,900
Other Heads	+ 60,600	- 300	- 300	+ 59,000	+ 202,100	+ 100	- 300	+ 201,900
<b>Total</b>	<b>- 2,480,800</b>	<b>- 24,300</b>	<b>- 11,500</b>	<b>- 2,522,600</b>	<b>- 386,000</b>	<b>- 21,700</b>	<b>- 11,700</b>	<b>- 399,400</b>
<b>NET EXPENDITURE.</b>								
Interest	+ 694,900	- 276,600	- 323,200	+ 90,100	+ 991,700	- 440,800	- 430,200	+ 111,700
Telegraph	- 61,700	- 178,900	- 62,900	- 303,500	- 123,200	- 76,900	- 33,300	- 233,400
Law and Justice	- 219,500	- 900	- 500	- 220,900	- 339,300	- 1,700	- 700	- 341,700
Police	- 235,400	—	—	- 235,400	- 410,800	—	—	- 410,800
Education	- 224,300	—	—	- 224,300	- 398,900	+ 200	—	- 398,700
Political	- 649,800	+ 53,900	+ 7,300	- 588,600	- 200,600	+ 59,000	+ 8,400	- 133,200
Superannuation	+ 25,500	- 83,100	- 173,300	- 230,900	+ 137,100	- 204,000	- 239,000	- 305,900
Railway Revenue Account	+ 1,408,300	- 479,500	- 687,300	+ 241,500	+ 327,000	- 575,200	- 791,700	- 539,900
Irrigation	- 559,000	+ 54,300	+ 10,900	- 493,800	- 510,900	+ 52,800	+ 10,400	- 447,700
Buildings and Roads	- 687,500	+ 14,500	- 3,800	- 676,800	- 999,700	+ 16,300	- 4,200	- 987,600
Army (ordinary)	- 226,900	+ 845,400	- 185,200	+ 433,300	- 419,000	+ 320,800	- 418,100	- 516,300
Other Heads	+ 85,800	- 150,100	- 130,000	- 194,300	+ 475,900	- 244,800	- 177,600	+ 53,500
<b>Total</b>	<b>- 392,300</b>	<b>- 201,000</b>	<b>- 1,532,700</b>	<b>- 2,126,000</b>	<b>- 855,300</b>	<b>- 1,103,300</b>	<b>- 2,076,000</b>	<b>- 4,034,600</b>
<b>GRAND TOTAL</b>	<b>- 2,879,100</b>	<b>- 225,300</b>	<b>- 1,544,200</b>	<b>- 4,648,600</b>	<b>- 1,241,300</b>	<b>- 1,125,000</b>	<b>- 2,087,700</b>	<b>- 4,434,000</b>

\* Excluding Indian Midland Railway Interest, 104,000, and Exchange thereon, 34,700.

These details may be summarised thus in groups:—

Better +, or worse —, than 1880-81.

	1885-86.	1886-87.
(1.) Reduction of the duties on salt and customs (in 1882)	- 2,248,100	- 2,157,500
(2.) Improvement of revenue over expenditure, excluding salt, customs, opium, income tax, army, famine, construction of railways, and fall in exchange	+ 1,544,500	+ 1,339,600
(3.) Ordinary army charges, and imposition of income tax in 1886	+ 433,300	+ 380,800
(4.) Diminution of opium revenue	- 2,646,800	- 1,874,200
(5.) Increased charge for exchange, due to the change in the relative value of gold and silver	- 1,781,500	- 2,122,700
	<b>- 4,648,600</b>	<b>- 4,434,000</b>

The following remarks will explain these changes more fully:—

(1.) As explained in Sir John Strachey's work, the Government of India had, by the adoption of a series of measures, carried on for many years, of which the most important were the construction of the Rajputana Railway, the acquisition of the Sambhur Salt Lake, the negotiation of treaties with numerous Native States, and the temporary increase of the salt duty in Southern India, been enabled to abolish the inland customs line and greatly reduce the duty on salt throughout Bengal and Northern India, and in 1882 they were able to complete the reforms by a further reduction in Bengal, so as to equalise the rate

throughout India, and then reduce it everywhere from 2½ to 2 rupees a maund..

For some years also measures had been taken to reduce the duty on imports of the coarser cotton manufactures, so as to remove all semblance of protection for the nascent industry in India, which was seen to be rapidly developing, and which it was most important to place on an sound footing, dependent on its natural advantages and not fostered by any artificial stimulus. In 1882 it became practicable to sweep away the last remains of the import duty on cotton manufactures, and with it the duties on all goods imported into India except liquors, arms, salt, and opium.

Besides these two great measures, the burden on the land was reduced in the North-West Provinces by the remission of the cesa for the payment of the village officers, and in Oudh by the transfer of the cost of such officers from the landholders to the Government.

The following was the financial effect as estimated in the budget for 1882-83:—

Surplus (after providing 1,500,000, for famine relief and insurance)		3,171,000
Remission of duty on salt	1,423,000	
import duties (net)	1,147,000	
Patwari cess in North-West Provinces	241,000	
<b>Total remission of taxation</b>	<b>2,811,000</b>	
Increase of expenditure by payment of village officers in Oudh	75,000	
		<b>2,886,000</b>
<b>Surplus retained</b>		<b>285,000</b>

(2) The increase since 1880-81 of the revenue from land, stamps, excise, provincial rates, assessed taxes (omitting the additional taxation in 1886), and minor heads, was :—

	In 1885-86.	And in 1886-87.
	2,378,300	2,735,000
The increase of expenditure, excluding Army, construction of railways, and famine, was	2,559,300	3,518,300
Showing a result worse by	187,000	783,100
But of the increased expenditure the fall in exchange accounted for	1,731,500	2,122,700
So that, apart from the fall in exchange, there would have been an improvement of	1,544,800	1,539,600

(The comparison is not quite accurate, as, on the one hand, the land revenue was exceptionally low in 1880-81, and, on the other hand, the net civil expenditure in Upper Burma is included in 1886-87.)

(3.) The permanent increase of the Army charges in India is shown at paragraph 37 of the Financial Statement as 1,126,900  
Besides a sum deferred to future years, estimated (paragraph 36) at 656,900

1,783,800

And, after adding the increased payments in England, with exchange, the total may be taken at about 2,000,000. This, however, is to a great extent met by the temporary saving effected through the alteration made in the system of payments to the Treasury for Non-Effective charges, by which, since the 1st of April 1884, India only pays the charge due to her during the year, instead of the capitalised value of such payments. The consequence is that, as compared with 1880-81, the ordinary Army charges were better by 433,300 in 1885-86, and worse by 516,600 in 1886-87, in which latter year the income tax was imposed to meet

this charge, the improvement of revenue thereby being estimated at 897,100, giving a net result better by 380,800.

(4.) The following are the figures connected with the opium revenue :

	Number of Cheats sold in Bengal.	Revenue.	Charges.	Net Result.
1880-81	54,400	16,460,100	1,028,500	6,431,300
1885-86	50,994	6,914,700	3,110,200	5,804,500
1886-87	54,780	9,227,600	3,650,500	6,577,100

The reduction in the receipts is due partly to the necessity of diminishing the quantity offered for sale at Calcutta, owing to the amount in store having been seriously lessened in consequence of bad crops, and partly to much lower prices being realised at the sales. The increase of the expenditure arises from the fact that the two last crops were remarkably good.

(5.) Exchange on expenditure in England is worse than in 1880-81 :—

	In 1885-86.	In 1886-87.
By	1,544,200	2,087,700
But of this there is attributable to increase of sterling expenditure	45,700	240,000
Leaving due in England to fall in exchange	1,498,500	1,887,700
To which must be added the addition made to the British soldier's pay in India	238,000	294,000
Making a total of	1,731,500	3,122,700

India Office,  
24th February 1887.

H. WATERFIELD.

The foregoing memorandum has been shown to Sir John Strachey, who has returned it with the letter annexed :—

My dear Waterfield,

I understand your question to be as follows. At pp. 356 and 374 of the book on the Finances of India, written in 1881 by my brother and myself, some statements were made regarding the possibility of largely increasing the public income in the event of any serious financial emergency. You were asked by the Commission whether you agreed with those statements, and your reply was to the effect that the whole position had changed since they were made, and that they were not applicable to the existing condition of things. You ask me if you are not right in believing that this is my own opinion also. The answer is easy. Yes, I think that your Memorandum shows clearly that the conclusion stated by you is perfectly correct.

Some of the expressions used in the first of the passages in question, at p. 356, are not very well chosen, but the general opinions of the authors of the book were given clearly enough at p. 374. Reading them with what goes before, they were to the effect that the then existing financial position was very prosperous, that the main sources of revenue were improving in productiveness, and that, although no necessity of the kind was probable, there would be little difficulty in still further increasing the revenue by 2,000,000 a year. It was suggested that the greater part of such an additional sum might be raised by an income tax. Further, it was said that if, "in consequence of some great financial catastrophe," a much larger further increase to the revenue should become necessary, it could be provided without injury to the country, but only by what had before been called "heroic remedies."

Obviously in making any such forecast of the future, the first essential fact to be considered was the existing financial position. It would clearly make all the difference in the world, when the anticipated emergency arrived, whether there was a large surplus revenue to start with, or a deficit to be made good before dealing with the emergency itself.

When this book was written, early in 1881, it was stated by the authors that there was an assured normal annual surplus of revenue over ordinary expenditure amounting to more than 4,000,000. I see from your memorandum that the actual surplus over ordinary charges in 1880-81 was 6,400,000. In considering what could be done to meet some serious emergency, it was assumed, first, that we had this surplus of at least 4,000,000 to draw upon; and, second, that an additional 2,000,000 might in case of necessity, be raised. Thus, it was supposed that some 6,000,000 a year would be forthcoming before any question of resorting to "heroic remedies," would arise.

The position is now totally different. Your memorandum shows how the changes have come about. Not only has the whole of the surplus of 4,000,000 disappeared, but the greater part of the additional taxation, which in 1881 was thought immediately practicable, has already been imposed in the shape of an income tax, and although this yields much less than had been anticipated by the authors of the book, it would now be in the highest degree unwise to alter it. Thus, whereas in 1881 we had the means of meeting a very serious emergency without having recourse to any extraordinary measures, we have at the present time, as far as I can see, no such means left. There only remain the "heroic remedies," and I certainly should not now contemplate the adoption of such remedies so calmly as was possible under the very different political conditions of 1881.

But I need say nothing on such questions, which the Commission will doubtless consider fall altogether outside the sphere of this present inquiry. I should be sorry myself to give any opinions regarding them, until I knew the views of the Government of India. They alone have the means of arriving at a sound judgment, if it should unfortunately happen that extraordinary measures become necessary, and on them primarily the responsibility must rest for deciding what those measures should be.

Your sincerely,  
JOHN STRACHEY.

28th February 1887.

## P.—COMPARATIVE STATISTICS of JUTE and COTTON MILLS, 1876-7—1884-5.

(See Question 2775.)

Years.	Number of Mills.	Number of Looms.	Number of Spindles.	Average Daily Number of Hands employed.	Number of Mills.	Number of Looms.	Number of Spindles.	Average Daily Number of Hands employed.
1876-77	47	9,139	1,110,112	—	18	3,049	22,610	—
1877-78	53	10,533	1,289,706	—	21	4,094	38,946	—
1878-79	58	12,983	1,436,464	—	21	4,645	65,882	—
1879-80	58	18,307	1,470,830	39,537	22	4,946	70,840	27,494
1880-81	58	19,283	1,471,730	47,955	21	5,065	69,978	35,235
1881-82	62	14,386	1,550,944	52,231	21	5,655	90,755	40,551
1882-83	62	15,116	1,654,108	58,634	20	5,638	95,737	42,797
1883-84	74	16,251	1,895,284	61,836	21	6,139	112,650	47,868
1884-85	81	16,455	2,037,055	61,696	29	6,926	131,740	51,902

## Q.—JOINT STOCK COMPANIES registered and working in BRITISH INDIA, March 1885.

Companies.	No.	Nominal Capital.	Paid-up Capital.
I. Banking and Insurance Companies.	207	Rs. - 5,06,37,328	Rs. 2,91,61,661
II. Trading Companies - -	124	4,73,54,650	2,37,92,331
III. Mills and Presses - -	152	10,80,67,330	8,98,21,232
IV. Planting Companies - -	138	4,13,07,000	3,39,21,436
V. Mining and Quarrying Associations.	25	1,28,35,100	1,06,27,367
VI. Ice Manufacturing Companies.	14	27,22,500	18,08,362
VII. Sugar Manufacturing Companies.	4	23,95,000	18,51,825
VIII. Breweries - - -	8	12,00,000	11,00,000
IX. Miscellaneous Companies -	29	1,18,58,000	92,79,171
	696	27,88,76,908	20,63,58,445

## APPENDIX IX.

PAPERS PUT IN BY MR. ROBERT BARCLAY.

TABLE No. 1.

PROGRESS OF INDIAN MILLS during the past 22 Years. See Question 2301.

Years ending 30th June		Average Price of Silver.	Number of Mills.	Number of Spindles.	Number of Looms.
1865	Bombay	61 $\frac{1}{8}$	13	285,524	3,579
1866	do.	61 $\frac{1}{2}$	18	309,911	3,455
1867	do.	60 $\frac{2}{8}$	18	313,597	3,779
1868	do.	60 $\frac{1}{2}$	13	318,184	3,844
1869	do.	60 $\frac{1}{8}$	13	321,414	3,920
1870	do.	60 $\frac{2}{8}$	14	343,460	4,441
1871	do.	60 $\frac{1}{2}$	14	358,436	4,641
1872	do.	60 $\frac{1}{8}$	15	367,036	4,653
1873	do.	59 $\frac{1}{2}$	18	450,156	4,979
1874	do.	58 $\frac{1}{8}$	19	524,530	6,103
1875	do.	56 $\frac{1}{2}$	36	886,098	8,339
1876	do.	52 $\frac{1}{2}$	89	963,988	8,681
1877	do.	54 $\frac{1}{8}$	41	1,043,944	9,291
1878	do.	52 $\frac{2}{8}$	42	1,104,846	11,544
1879	do.	51 $\frac{1}{2}$	42	1,147,310	12,811
1880	do.	52 $\frac{1}{2}$	42	1,154,184	12,896
1881	do.	51 $\frac{1}{8}$	42	1,158,510	12,510
1882	do.	51 $\frac{1}{2}$	42	1,237,536	13,046
1883	do.	50 $\frac{2}{8}$	51	1,345,042	13,616
1884	do.	50 $\frac{1}{2}$	60	1,524,499	14,209
1885	do.	48 $\frac{1}{2}$	68	1,650,036	14,588
1886	do.	45 $\frac{1}{2}$	70	1,698,797	14,635
	Bombay as above		70	1,698,797	14,635
	Berar		1	16,380	—
	Central Provinces		2	47,040	406
	Hyderabad (Nizam's Territory)		2	35,172	405
	Central India		1	26,036	464
1886	Bengal Presidency		6	227,916	—
	North-West Provinces and Oudh		3	80,352	853
	Madras Presidency		7	95,728	285
	Travancore		1	11,120	—
	Mysore		1	—	—
	Pondicherry		1	33,020	452
	TOTAL INDIA IN 1886		95	2,261,561	17,455

TABLE No. 2.

EXPORTS OF COTTON YARNS AND GOODS FROM INDIA.

(From Indian Trade and Navigation Returns.)

YEAR.	YARNS shipped to CHINA, JAPAN, &c.		GOODS shipped to ADEN, EASTERN AFRICA, CHINA, &c.	
	Quantity.	Value.	Yards.	Value.
	Lbs.	£		£
1876-77	7,926,710	367,303	15,544,168	373,657
1877-78	15,600,201	682,059	17,545,464	372,304
1878-79	21,333,508	886,481	22,661,231	420,150
1879-80	25,862,474	1,169,234	25,800,501	444,309
1880-81	26,901,346	1,282,576	30,424,032	540,711
1881-82	30,786,304	1,368,836	29,911,017	556,409
1882-83	45,223,000	1,816,818	41,563,000	686,319
1883-84	49,876,606	1,926,162	55,613,763	861,935
1884-85	65,897,183	2,441,100	47,968,017	818,667
1885-86	78,238,471	2,755,042	51,558,151	813,007
Six months, 1st April to 30th September 1886	47,922,360	1,729,811	29,197,180	470,584

TABLE No. 3  
COTTON EXPORTS from ENGLAND to Countries indicated under the following headings.  
(From the English Board of Trade Returns.)

Year.	CHINA, HONG KONG, AND JAPAN.				OTHER COUNTRIES.			
	Yarns.		Goods.		Yarns.		Goods.	
	Quantities.	Values.	Quantities.	Values.	Quantities.	Values.	Quantities.	Values.
	Lbs.	£	Yards.	£	Lbs.	£	Yards.	£
1876	29,885,495	1,272,008	491,559,690	5,751,588	—	—	—	—
1881	47,479,300	1,898,089	587,177,400	6,772,780	—	—	—	—
1882	84,391,500	1,365,278	455,084,800	5,280,688	—	—	—	—
1883	38,499,800	1,295,039	415,956,400	4,631,978	11,642,600	621,425	178,128,700	2,260,484
1884	38,856,100	1,451,749	440,642,700	4,694,439	10,632,100	605,689	151,875,700	1,996,807
1885	32,061,100	1,239,012	569,339,400	5,786,566	9,424,400	512,685	147,289,100	1,859,099
1886	26,930,400	900,846	490,451,500	4,958,705	9,581,700	463,497	152,471,300	1,778,011

TABLE No. 4.  
IMPORTS of COTTON GOODS from ENGLAND.  
(From Indian Trade and Navigation Returns.)

	TWELVE MONTHS, 1st April to 31st March						SIX MONTHS, 1st April to 30th Sept. 1896.
	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	
Manufactured grey piece goods imported into India from the United Kingdom.	Yards. 1,170,553,919	Yards. 1,099,468,696	Yards. 1,030,235,672	Yards. 1,070,938,868	Yards. 1,133,343,726	Yards. 1,106,324,908	Yards. 660,598,461
Manufactured bleached piece goods imported into India from the United Kingdom.	285,368,914	269,804,109	233,373,431	342,376,839	277,875,450	279,129,208	197,243,578
Manufactured coloured, printed, or dyed goods imported into India from the United Kingdom.	318,051,544	254,842,804	320,935,918	299,536,491	315,345,829	355,845,715	223,612,014
Total	1,778,964,274	1,623,115,608	1,640,565,021	1,721,852,196	1,731,565,005	1,740,813,831	1,111,755,053

TABLE No. 5.  
TOTAL EXPORTS from ENGLAND.  
(From the English Board of Trade Returns.)

Year.	COTTON YARNS.				COTTON GOODS.			
	Quantities.	Increase + Decrease -	Values.	Increase + Decrease -	Quantities.	Increase + Decrease -	Values.	Increase + Decrease -
	Lbs.	per Cent.	£	per Cent.	Yards.	per Cent.	£	per Cent.
1850	131,400,000	—	6,400,000	—	1,358,200,000	—	20,500,000	—
1860	197,800,000	+ 50	9,900,000	+ 50	2,776,300,000	+ 104	40,300,000	+ 96½
1870	187,700,000	- 5	14,800,000	+ 50	3,252,800,000	+ 17	52,500,000	+ 30
1880	215,544,800	+ 15	11,901,623	- 20	4,495,645,000	+ 38	57,678,084	+ 10
1881	254,939,900	+ 18	13,165,053	+ 10	4,777,278,300	+ 6½	59,103,921	+ 2½
1882	238,409,900	- 6½	12,867,112	- 2	4,348,764,300	- 9	55,459,093	- 6
1883	264,772,000	+ 11	13,509,739	+ 5	4,538,988,500	+ 4½	55,534,166	—
1884	271,077,900	+ 2½	13,811,762	+ 2½	4,417,481,000	- 2½	51,661,408	- 7
1885	245,808,900	- 9½	11,865,294	- 14	4,374,516,500	- 1	48,276,855	- 6½
1886	254,346,100	+ 4	11,488,803	- 3½	4,850,030,300	+ 11	50,170,634	+ 4

No. 6.

MEMORANDUM drawn up by E. A. HAGUE, Esq., Manchester.

The following Oldham Mills have either been closed altogether by the Indian competition of the last few years or (where buildings and capital allowed) have been adapted for and changed to spin other counts.

MULE TWIST YARN 16/24.

Number of Spindles.	Mill.	REMARKS.
12,000	No. 1	Sold out machinery.
10,000	" 2	Ditto.
4,000	" 3	Ditto.
40,000	" 4	Ditto.
15,000	" 5	Ditto.
40,000	" 6	One portion stopped. Other portion not reeling yarn.
80,000	" 7	Now making 30 <sup>s</sup> and 40 <sup>s</sup> .
50,000	" 8	Now making up to 40 <sup>s</sup> for home use.
30,000	" 9	Spinning 6 <sup>s</sup> and 24 <sup>s</sup> for doubling.
11,000	" 10	Stopped for twelve months past.
15,000	" 11	Spinning 8/28 <sup>s</sup> for doubling.
10,000	" 12	Ditto.
8,000	" 13	Ditto.
20,000	" 14	Spinning 20/34 <sup>s</sup> for home use.
345,000	Total Spindles in 14 mills of which 7 are entirely stopped.	

No doubt more exhaustive inquiry would add to this list, which, moreover, does not include other towns such as Haywood and Rochdale, where also these counts were partially spun.

I have a further list of 15 other mills hitherto spinning 4<sup>s</sup> and 14<sup>s</sup> now closed, some undoubtedly by the competition of such mills as Nos. 9, 11, 12, and 13, which have been forced into adapting their machinery to spin lower Nos. than 16<sup>s</sup> though these counts were already adversely affected by hostile continental tariffs.

There is no doubt also that spinners of 16/24<sup>s</sup> water twist have been almost equally disastrously affected, but these spinners are so scattered about the country, from Rochdale to Wigan, that it is difficult, if not impossible to obtain reliable statistics.

The largest exporters of yarn to China and Japan, from tables which they keep, estimate the falling off of the exports to these markets during last years (1886) at—

300 bales (of 400 lbs. each) weekly of 16/24<sup>s</sup> Water and 200 " " " " Mule, from what they were four to five years ago, and there can be no doubt that practically this trade is being simply annihilated.

Be it remembered that up to four to five years ago this was a growing trade despite the competition of the Bombay mills, and it would have continued to grow but for the exchange difficulty.

Meantime, fostered by the quasi-protection of cheap silver these Indian mills enjoy a trade so profitable that in Bombay alone the mills have been doubled within 12 years and from eight to ten mills are now in process of construction in India besides works for bleaching, dyeing, printing, &c. Good spinning mills in Bombay have earned a steady 10 per cent. and upwards since 1878.

This same Indian competition has completely crippled Rossendale and the Todmorden Valley where coarse T. cloths, drills, sheetings, &c. &c. were largely manufactured for India and China. First they were mostly driven from the Bombay market, afterwards from Calcutta and Madras and now they have to meet the Indian goods in China and the East Coast of Africa, until it is probably true that half the manufacturers in these districts (of these goods, i.e.) have been ruined and their mills are empty where they could not be turned on to the manufacture of shirtings, &c. in competition with the Blackburn trade. True the distress in these districts was first caused by hostile continental tariffs, but they would have survived that but for the competition of the Indian mills.

This double cause makes it impossible to estimate the effect of the fall in exchange with any approach to the clearness with which it can be traced in the spinning interest, but there is another branch of trade which has been simply extinguished by the same cause, viz., that of Chudders and Coarse Dhooties made from about 20<sup>s</sup> yarns. This trade was the offspring of that "opening up of India" by the construction of new roads and railways.

It first sprang into existence some twelve to fourteen years ago, the demand being to replace the product of native hand-looms mostly from home-spun yarns. The

vastly superior quality of our own goods made from American cotton quickly brought them into favour and enabled us for long to withstand even the competition of Bombay mills. But latterly the trade has gradually died out and last year we did not make a single piece.

Table No. 7.

COTTON SPINNING, MANUFACTURING, and other COMPANIES. OLDHAM and DISTRICT. (Taken from "The Oldham Chronicle" of 5th February 1887.)

Name of Company.	Shares.	Paid on.	Buyers.	Sellers.	Div.
Abbey	2 0	2 0 0	—	—	nil
" (pref.)	4 0	4 4 0	78/0	74/6 d	nil
Albany	5 0	2 10 0	6/6	5/9 d	nil
Albert	5 0	2 15 0	22/0	17/0 d	nil
Albion	100 0	40 0 0	10/0	30 0 p	2 1/2
Astley	5 0	2 5 0	7/0	6 0 d	nil
Bankside	5 0	4 10 0	70/0	60/0 d	nil
Belgian	5 0	3 0 0	41/0	40/6 d	nil
Borough	5 0	2 0 0	19/0	16/0 d	nil
Boundary	5 0	3 0 0	19/0	16 0 d	nil
Broadway	5 0	5 0 0	56 0	49/0 d	nil
Brookbottom	5 0	5 0 0	41/0	39/0 d	nil
Butler Green	25 0	25 0 0	50 0	45/0 d	nil
Cambridge	5 0	4 0 0	40/0	32/0 d	nil
Cavendish	5 0	2 10 0	8/0	6 0 d	nil
Central	5 0	8 0 0	0/0	7/6 p	4
Chadderton	100 0	50 0 0	par	10/0 p	4
Coldhurst	5 0	2 10 0	5/0	4 0 d	4 1/2
Commercial	5 0	3 0 0	30/0	33/0 d	nil
Crawford	5 0	2 0 0	0/8	2/0 p	2 1/2
Croft Bank	4 0	2 0 0	17/0	18 0 d	nil
Crompton	5 0	4 12 6	5/0	8/0 p	0 1/2
Dowry	5 0	2 15 0	12/0	8/6 d	nil
Duchess	5 0	2 10 0	0/2	1/0 p	nil
Duke	5 0	2 10 0	1/8	2 3 p	4
Dukinfield Hall	5 0	5 0 0	35/0	30/0 d	nil
Equitable	5 0	5 0 0	58/0	60/0 d	nil
" (pref.)	5 0	5 0 0	18/0	16 0 d	10
Fern	100 0	40 0 0	20/0 d	par	3 1/2
Garfield	5 0	2 0 0	3/3	1/0 d	5
Gladstone	4 10	3 10 0	46/0	44/6 d	nil
Glodwick	5 0	4 0 0	45/0	41/6 d	nil
Grauville	100 0	40 0 0	60/0	55/0 d	3 1/2
Greenacres	5 0	4 0 0	28/0	26/0 d	nil
Green Lane (old)	50 0	50 0 0	42	20 p	5
" (new)	50 0	1 0 0	10/0	20/0 p	5
Grimshaw Lane	100 0	60 0 0	42	45 p	nil
Grosvenor	5 0	2 15 0	40/0	35/0 d	nil
Guide Bridge	5 0	2 10 0	18/0	8 6 d	nil
Harpor Twist	5 0	3 10 0	80/0	25 0 d	nil
Hathershaw	5 0	3 0 0	40/0	30 0 d	nil
Haugh	5 0	3 0 0	8/0	4 0 p	6 1/2
Henshaw Street	5 0	4 15 0	75/0	70 0 d	nil
Hey	5 0	3 0 0	46/0	40/0 d	nil
Higginshaw	5 0	4 10 0	67/0	64/0 d	nil
Hollinwood	5 0	3 10 0	17/0	14 6 d	nil
Honeywell	5 0	5 0 0	12/0	11/0 d	nil
Hope	5 0	3 15 0	64/0	48 0 d	nil
Industry	5 0	4 5 0	75/0	71/0 d	nil
" (pref.)	1 0	1 0 0	15/0	9 0 d	nil
Ivy	5 0	1 15 0	10/0	9 0 d	nil
Junction	100 0	50 0 0	30/0	40/0 p	4
Lancashire	4 10	4 0 0	—	—	4
Laundowne	4 10	2 0 0	30/0	19/0 d	nil
Leesbrook	5 0	1 15 0	1/6 d	par	nil
Lees Union	9 0	6 0 0	63/0	61/0 d	nil
Lane	20 0	10 0 0	70/0	60/0 d	nil
Livingstone	5 0	3 0 0	27/0	24/0 d	nil
Longfield	5 0	5 0 0	54/0	78 0 d	nil
Lower Moor	5 0	3 15 0	5/0 d	8/0 p	6 1/2
Mid. and T'ge (old)	10 0	10 0 0	40/0	30 0 d	nil
" (new)	5 0	5 0 0	35/0	20 0 d	nil
Moorfield	5 0	4 0 0	12/0	9 0 d	2 1/2
Moss Lane	10 0	5 0 0	5 0	7/0 p	5
Mossley	4 0	4 0 0	89/0	50 0 d	nil
New Earth	4 0	5 10 0	44/0	41/0 d	nil
New Hey	5 0	2 10 0	2/8	5 0 p	7 1/2
New Ladyhouse	5 0	4 0 0	par	1/0 p	5
North Moor	5 0	3 0 0	1/0 d	par	2 1/2
Oak	5 0	2 10 0	7/0	4/0 d	nil
Oldham and Bess	5 0	2 10 0	1/0 d	par	nil
Oldham Twist (old)	20 0	20 0 0	10/0 d	10/0 d	nil
" (new)	20 0	10 0 0	30/0	10/0 d	nil
Oliver	100 0	45 0 0	60/0	40 0 d	nil
Paln	100 0	40 0 0	30/0 d	10/0	5
Park and Sandy	5 0	3 10 0	21/0	20/0 d	5
Parkside	5 0	3 0 0	0/8	2 0 p	6 1/2
Phoenix	5 0	3 10 0	46/6	40/0 d	nil
Prince of Wales	5 0	3 0 0	34/0	30 0 d	nil
Quick Edge	5 0	4 10 0	48/0	40/0 d	nil
Ridgefield	5 0	4 15 0	50/0	40 0 d	nil
Rochdale	5 0	2 0 0	0/6 d	0 6 p	nil
Royston	5 0	3 0 0	5/0	8 0 p	6 1/2
Shaw	5 0	3 10 0	14/0	12 0 d	nil
Shiloh	5 0	2 10 0	80/0	81/0 d	nil
Smallbrook	5 0	4 0 0	41/0	39 0 d	nil
Stalybridge	5 0	2 0 0	3/0	1/0 d	nil
Stanley	5 0	3 10 0	60/0	54/0 d	nil
Star	5 0	3 10 0	par	1/6 p	6 1/2
Stook Lane	5 0	2 0 0	0/6 d	2/0 p	nil
Sun Mill	5 0	5 0 0	30/0	27/0 d	nil
Swan	5 0	4 10 0	30/0	28/0 d	nil
Thornham	5 0	3 5 0	11/0	9 0 d	nil
Tonge Vale (A.)	5 0	5 0 0	20/0	15 0 d	nil
" (B.)	5 0	2 0 0	16/0	12 0 d	nil
United	5 0	3 0 0	18/6	16 0 d	nil
Werneth	5 0	3 0 0	18 0	16 0 d	nil
West End	10 0	5 0 0	50/0	45/0 d	nil
Westwood	5 0	3 0 0	0/6 d	2 0 p	6 1/2
Whitelands Twist	5 0	2 10 0	6/0	4 0 d	nil
Windsor	5 0	2 10 0	9 0	7 0 d	nil
Woodstock	5 0	4 10 0	47/0	44/0 d	nil

## APPENDIX X.

## PAPERS PUT IN BY MR. H. H. GIBBS.

(1.) *Exchange v. Freights as a local influence on Exports.*  
(See question 3049.)

When a country's exports possess an intrinsic value considerably higher than the charge for freight on them, their price in the currency of that country will be affected far more by fluctuations of exchange than by fluctuations of freights.

The reason is that exchange, when applied to first cost, influences the principal factor of the total cost, while an alteration in freights only affects a secondary factor in the total cost.

Picking them out at random, one might say that coffee, wool, cotton, sugar, wheat, indigo, nitrate of soda, and copper, would all serve to prove the truth of the above statement, but it will suffice to give examples from the last two articles named, nitrate and copper.

The currency price of nitrate in Valparaiso at the beginning of January 1886 was \$3 15c. per quintal of 100 lbs. Spanish, current freight was 26s. 3d. per English ton of 22 quintals Spanish, and the exchange ruling was 26½d. per dollar.

The average rate of exchange during that year was 23·76d. per Chilean dollar, and the average rate of freight was 24½ shillings per English ton respectively, 9·91 per cent. and 5·15 per cent. lower than the above-mentioned January quotations.

Supposing other conditions of the nitrate market to have remained the same during 1886, how would the said average declines of exchange and freights have respectively affected the currency price of \$3 15c. with which the year started.

As regards exchange, it is plain that an exporter could afford to increase his offer to buy by adding to the currency price the exact per-centage of the fall in exchange; therefore he could in the present instance add 9·91 per cent., or say 31c. to the original price of \$3 15c. But in considering how the fall in freights will affect the question, we must bear in mind that the decline of 5·15 per cent. cannot be applied direct to the currency price at all, but that it must, in the first instance, be applied to the proportion of freight corresponding to the weight of nitrate represented by said currency price.

This price is quoted per Spanish quintal, of which 22 go to the ton.

Therefore, we must first divide 26s. 3d. (the original freight by 22, which gives 1¼th shillings per quintal) or, at 26½d. exchange, 59c. freight per Spanish quintal, of which a decline of 5·15 per cent. is equal to a reduction of 3c. per quintal for freight, which 3c. may now be added on to the price which the exporter can bid for the nitrate.

The calculation, therefore, stands as follows:—

Original price	\$ 3 15
Add, for decline in exchange, 9·91 per cent. on \$3 15	0 31
Add, for decline in freight, 5·15 per cent. on \$59	0 3
	<u>3 49</u>

The above figures show that while the decline in exchange would affect the currency price to the full extent of the per-centage of fall almost 10 per cent., the decline in freights, though 5·15 per cent. (more than half that of exchange) would only affect the price to the extent of 1 per cent.

The same result will appear in a still more marked degree if we take an illustration from copper.

The currency price of Chilean bar copper at the beginning of January 1886 was \$15·30 per Spanish quintal, and working on the same formula as the above for nitrate, we get the following figures:—

Original price	\$ 15·30
Add, for decline in exchange, 9·91 per cent. on \$15·30	1·51
Add, for decline in freights, 5·15 per cent. on \$59	·03
	<u>16·84</u>

Here again, exchange affects the price to the full 9·91 per cent., while the decline in freights, 5·15 per cent., as before, only affects the price to the extent of a fifth of 1 per cent.

Copper therefore, owing to its greater value, was much more affected by exchange than nitrate. This, however, is only a side issue, and the principal point made plain by the foregoing calculations is that the fall in 1886 of 9·91 per cent. in exchange and 5·15 per cent. in freights was equivalent to the following advances on the January currency prices of nitrate and copper, viz.:—

Nitrate, equivalent extra price for lower exchange	31
Nitrate, equivalent extra price for lower freight	·03
Total per quintal	<u>·34</u>
Copper, equivalent extra price for lower exchange	1·51
Copper, equivalent extra price for lower freight	·03
Total per quintal	<u>1·54</u>

which figures are an emphatic confirmation of the opinion expressed at starting, that exchange exercises a far greater influence than freights on the currency prices of relatively valuable produce.

JOHN MANLEY LOWE.

London, February 23, 1887.

(2.) *Memorandum on the influence of the depreciated Currency in Chile on its Export Trade with the United Kingdom.* (See question 3192).

The principal exports of Chile,—wheat, copper, silver, and nitrate, have all been benefited by the depreciation of the currency in that country. The best example is wheat, as it has benefited more than the other three, and we will endeavour to show how it has been specially favoured by the declining gold value of the national currency.

To do this it will be necessary to study briefly the conditions under which it is cultivated.

Roughly speaking, Chilean wheat is produced by unskilled, and, therefore, ill-remunerated labour. The land for the most part is owned by Chileans, the farms



are very large, the soil usually good, and the tillage superficial and inexpensive. The agricultural labourers are of mixed Spanish and Indian blood, and, though very strong and hardworking, are notoriously as ignorant and backward as any Roman Catholic peasantry in the world; hence they are slow in understanding that a depreciated currency works against them in the matter of wages.

But even if they were quicker in perceiving the effect of exchange on their wages, it would not make much difference, because they only receive the smaller part of their remuneration in actual money.

A resident labourer on the estate will be allowed—

A cottage, rent free.

A piece of land, perhaps half an acre, rent free, and free use of his master's bullocks to plough it with.

A daily ration of bread and beans, and from 7d. to 10d. per day in cash.

Between his rations and the produce he gets off his patch of land he has sufficient food for his family; he can grow his own tobacco, and he drinks wine or spirits made from farm produce, grapes, or maize.

The only point where exchange touches him is in buying clothes, but, owing to the generally mild climate, his wants in this respect are very moderate, and he spends next to nothing on imported goods.

From the foregoing it will be seen that however much the currency may fall in its gold value, the Chilean agricultural labourer's subsistence is always secured to him, and that he is only harmed, and that to a small extent, by the shrinking of the money part of his remuneration. Computing the money value of his services at 2s. 6d. per day, of which only 10d. is paid in cash, and supposing the currency to have depreciated 50 per cent., it is clear that he is only affected to the extent of 5d. per day, or less than 17 per cent. of his total earnings.

Therefore, even supposing him to find this out immediately, and to have the means to enforce his claim (both of which suppositions are contrary to experience) his employer will only have to increase his total wages 17 per cent. to redress his grievance.

Now let us look at the farmer's side of the question, bearing in mind that he employs no skilled labour, uses no artificial manures, and that his labourers till the land with the cattle bred on the estate.

We will assume his wheat, at 46d. exchange to have been worth for export \$4 per hectolitre of 166 lbs. Spanish, and that the gold value of the currency has gradually receded to 23d. per dollar.

We will also assume that at 46d. exchange his wheat was costing him \$3 per hectolitre, of which the half for labour, and the rest for general farm expenses, freight by rail to the nearest port, and shipping expenses.

In the first instance, with exchange at 46d., he can sell his wheat at \$4 equal to 15s. 4d., but in the second exchange has receded to 23d., while the price of wheat in Europe and other conditions have remained the same. The Valparaiso merchants can still afford to pay the equivalent of 15s. 4d. for the wheat, and competition will oblige them to do so. But 15s. 4d. at 23d. is equal to \$8, or double the price which the farmer formerly got, so that his gross currency profit on an hectolitre of wheat will be \$5, instead of \$1, as in the first example considered.

We have now only to examine what effect the lower exchange will have on his cost of production, which we have assumed to be \$3 when exchange was 46d.

	\$	c.
Proportion of wages to total cost of producing wheat, one-half of \$3	1	50
Deduct, paid by free rations, &c.	-	1 0

Payment of wages in actual money - 0 50

	\$	c.
50 per cent. depreciation in exchange, made good	-	0 25
Extra cost of bagging	-	0 10
Sundries, say	-	0 5

Total extra expenditure, per hectolitre - 0 40

which will leave the farmer with a net profit of \$4 60 c. at 23d., while he only made \$1, when exchange was at 46d.

It is thus easy to understand how Chile has maintained its position as a wheat exporting country in spite of the collapse in the European price of wheat. When exchange stood at 46d. the European price of wheat was in the neighbourhood of 55s. per qr., while within the last two years it has touched 30s., and exchange has been below 23d. Thus, although wheat in Europe has fallen 45 per cent., the currency price in Chile has, as a rule maintained, and sometimes exceeded, its level in former years, in some measure owing to the steady decline in freights, but more particularly to the rapid depreciation of the currency of the country.

The Chilean farmers have been doubly benefited by the fall in exchange, as it has not only tended to increase their incomes, but has at the same time reduced their debts.

As a class they were heavily under advance to the various banking establishments in the country, but of late years they have been receiving extra profits arising from the lower exchange, and have been using these profits to pay off in dollars worth, perhaps 23d. currency debts incurred when the dollar was very likely worth 40d. or more. It is easy to see what a stimulating effect this would have on their business, and how it would encourage them to increase their wheat acreage.

Altogether, it may reasonably be inferred that if the price of wheat in Europe had been maintained, and Chilean currency had fallen to its present level (23d. to 24d.), exports would probably have been doubled long ere this, or conversely.

If the price of wheat had receded to 30s., and Chilean exchange had remained steady at 46d., the export of wheat would have been seriously curtailed, if not rendered, altogether impossible.

As it is, the fall in the European price of wheat has been more than counterbalanced by the depreciation in the Chilean Exchange; no extreme effects have been felt either way, but the falling Exchange, assisted by the decline of freights, has enabled the Chilean farmer in many instances to do considerably better than he did formerly with a high price of wheat in Europe and a high exchange on the coast, and has therefore directly tended to protect and stimulate exports.

What is true of wheat is also true, to a less extent, of copper and silver, and to a still less extent, of nitrate. In the production of copper and silver, skilled labour and imported coal, coke, &c. are used, and to a large extent increase the currency cost in direct ratio with the fall of exchange. In the production of nitrate, the currency wages paid to unskilled labour form a still less important item in the total cost, the bulk of which is on a sterling basis, and therefore not affected by fluctuations in exchange. Wheat therefore seems the best article to single out for the purpose of tracing the influence of a depreciated currency on Chilean exports.

JOHN M. LOWE.

London, February 14, 1887.

APPENDIX XI

Papers put in by Mr. A. D. PROVAND, M.P.

(1.) TABLE showing PRICES at SHANGHAI in each month, from March to August 1886, of six imported articles of Standard quality and also the RATE of EXCHANGE for demand BANK BILLS on LONDON. (See Question 3312.)

	March	April	May	June	July	August
Rate of exchange, per tael -	4/7	4/6½	4/6½	4/6½	4/4½	4/2½
Lead, L.B. brand, per picul -	4.45	4.22½	4.27½	4.15	4.12½	4.25
Tin plate, 10x14, per box -	4.12½	4.12½	4.12½	4.12½	4.12½	3.90
Nail Rods (Dawes), per picul -	2.00	2.00	2.00	2.00	2.00	2.00
Spanish stripes, H.H., per yard -	0.48½	0.48½	0.48½	0.47½	0.47	0.50
Long ells (scarlet) H.H., per piece -	5.12½	5.12½	4.83½	4.74	4.84	5.10
¾ lb. gray shirtings -	1.73	1.73	1.73	1.71	1.73	1.75

Note.—From March to August exchange fell eight per cent. To meet this there was no corresponding advance in the prices of goods. Nearly all the six articles were actually lower in August than they had been in March, notwithstanding that the largest business during the year is done during the months from March to August.

(2.) TABLE showing RESULTS of 56 TRANSACTIONS completed with SHANGHAI between January 1886 and May 1887. (See question 3289.)

1.	2.	3.	4.	5.	6.	7.	8.	9.	
Dates.	Banks buying Rates in London for 60 days Drafts on Shanghai.	Banks selling Rates for telegraphic transfers in Shanghai on London on the same date.	Differences between the Rates in Columns 1 and 2.	Rates of Interest per Annum which selling Drafts at the Rates in Column 1 would be to the Merchants, assuming exchange did not alter during the Currency of the Drafts.	Due dates in Shanghai in Drafts sold in the Dues in the Margin, allowing 30 days for passage and 63 for usance and grace. Total 105 Days.	Actual Telegraphic Rates in Shanghai on London on the Dates in Column 5.	Plus and Minus differences between the Banks buying Rates (Column 1) and their selling Rates for Telegraphic Transfers in Shanghai on London on the due Dates of the Drafts (Column 6).	Actual Rates of Interest per Annum paid by Merchants who sold Drafts at the Rates of exchange in Column 1 (on account of the fall of the rise in exchange during the Currency of the Drafts.)	Actual profits to Merchants who had sold Drafts at the Rates of exchange in Column 1 (on account of the fall in exchange during the Currency of the Drafts.)
1886. January 13	4 5½	4 6½	1	6½ per cent.	April 27	4 6½	+1	9½ per cent.	
19	4 7½	4 7½	0	13	May 4	4 6½	+1		
20	4 5½	4 7½	2	9	11	4 6½	+1	3½	
February 2	4 5½	4 7½	2	9½	18	4 5½	+1		
0	4 5½	4 7	1½	11½	25	4 6½	+1	6½	
10	4 6½	4 6½	0	7½	June 1	4 5½	+1	1½	
23	4 5½	4 6½	1	7½	9	4 6	+1		
March 2	4 5½	4 6½	1	7½	15	4 5½	+1		
9	4 5½	4 6½	1	7½	22	4 5½	+1		½ per cent.
10	4 6½	4 6½	0	7½	29	4 5	-1		1
23	4 5½	4 6½	1	7½	July 6	4 4½	-1½		2½
30	4 5½	4 6½	1	7½	13	4 3½	-2½		4
April 6	4 5½	4 6½	1	8	20	4 3½	-2		3½
13	4 5½	4 6½	1	10	27	4 2½	-2½		4
22	4 5½	4 6½	1	8	August 5	4 2½	-2½		5½
29	4 5½	4 6½	1	6	12	4 3½	-2½		4½
May 6	4 5	4 6½	1½	9	19	4 2½	-2½		5
13	4 5	4 6½	1½	8½	26	4 3	-2		3½
20	4 4½	4 5½	1	7½	September 2	4 3	-1½		3
27	4 4½	4 6½	2	11½	9	4 4½	-1		1
June 3	4 4½	4 5½	1	9	16	4 4½	-1		½
10	4 4½	4 6	1½	9	23	4 4½	*		
17	4 4½	4 5½	1	6½	30	4 5	+1	2½ per cent.	
24	4 4½	4 5½	1	8	October 7	4 5½	+1	4	

(2.) Table showing Results of 56 Transactions—continued.

1.	2.	3.	4.	5.	6.	7.	8.	9.				
Dates.	Banks buying Rates in London for 60 days Drafts on Shanghai.	Banks selling rates for telegraphic transfers in Shanghai on London on the same date.	Differences between the Rates in Columns 1 and 2.	Rates of Interest per Annum which selling Drafts at the Rates in Column 1 would be to the Merchants assuming exchange did not alter during the Currency of the Drafts.	Due dates in Shanghai of Drafts sold in the Dates in the Margin, allowing 42 Days for passage and 63 for source and grace. Total 105 Days.	Actual Telegraphic Rates in Shanghai on London on the Dates in Column 6.	Plus and Minus difference between the Banks buying Rates (Column 1) and their selling Rates for Telegraphic Transfers in Shanghai on London on the due Dates of the Drafts (Column 6).	Actual Rates of Interest per Annum paid by Merchants who sold Drafts at the Rates of exchange in Column 1 (on account of the rise in exchange during the Currency of the Drafts.)	Actual profits to Merchants who had sold Drafts at the Rates of exchange in Column 1 (on account of the fall in exchange during the Currency of the Drafts.)			
July 1886	1	s. d. 4 4	s. d. 4 5	d. 1	6½ per cent.	October 1886	14	s. d. 4 5½	d. +1½	9½ per cent.	—	
	8	4 3	4 4½	1½	9½ "		21	4 5	+2	12½ "	—	
	15	4 2	4 3½	1½	10 "		28	4 5½	+3½	24½ "	—	
	22	4 2	4 3½	1½	11½ "	November		4 6½	+4½	28½ "	—	
	29	4 2	4 3½	1½	9½ "		11	4 6½	+4½	31½ "	—	
August	5	4 0½	4 2½	2½	15½ "		18	4 7½	+6½	40½ "	—	
	12	4 0½	4 3½	2½	17½ "		25	4 8	+7½	68 "	—	
	19	4 0½	4 2½	1½	13½ "	December	2	4 8	+7½	53½ "	—	
	26	4 0½	4 3	2½	16 "		9	4 8	+7½	52 "	—	
September	2	4 1	4 3	2	14½ "		16	4 7½	+6½	40 "	—	
	9	4 1½	4 4½	2½	17½ "		23	4 6½	+5	35 "	—	
	16	4 1½	4 4½	2½	19½ "		30	4 6½	+4½	33½ "	—	
	23	4 1½	4 4½	2½	20½ "	1887.	January	6	4 6½	+5½	30½ "	—
	30	4 2½	4 5	2½	16½ "		13	4 7½	+5	35 "	—	
October	5	4 2½	4 5½	2½	19 "		18	4 8	+5½	38 "	—	
	12	4 3½	4 5½	2½	14½ "		25	4 7½	+4½	29½ "	—	
	19	4 3½	4 5	1½	10 "	February	1	4 7½	+3½	24½ "	—	
	26	4 3½	4 5½	1½	11½ "		8	4 6½	+2½	19½ "	—	
November	2	4 4	4 6½	2½	14½ "		15	4 6½	+2½	16½ "	—	
	9	4 4	4 6½	2½	16½ "		22	4 5½	+1½	10 "	—	
	16	4 5	4 7½	2½	15½ "	March	1	4 5½	+½	2½ "	—	
	23	4 5	4 8	3	19½ "		8	4 5½	+½	1½ "	—	
	30	4 4½	4 8½	3½	22½ "		15	4 4½	-½	—	½ per cent.	
December	7	4 5½	4 8	2½	18 "		22	4 4½	-1½	—	2 "	
	14	4 5½	4 7½	2½	17½ "		29	4 4	-1½	—	2½ "	
	21	4 4½	4 6½	2½	15 "	April	5	4 3½	-1	—	2 "	
	28	4 4½	4 6½	2	13½ "		12	4 3½	-1	—	2 "	
1887.	January	4	4 4½	4 6½	2½	14 "		19	4 4	-½	—	1½ "
	11	4 5½	4 7½	2½	14½ "		26	4 4½	-½	—	1½ "	
	18	4 5½	4 8	2½	16½ "	May	3	4 4	-1½	—	2½ "	
	25	4 5½	4 7½	2	18½ "		10	4 3½	-1½	—	2½ "	
February	1	4 5½	4 7½	1½	10½ "		17	4 4	-1½	—	2½ "	

The above table of 56 completed transactions with Shanghai during the past 13 months shows how the export trade from the United Kingdom to China is affected by the fluctuations in the rate of exchange.

Columns 1, 2, and 3 show the position when each draft was sold; the average value of the tael in column 1 is 4s. 4½d., and as the average difference between the rates in columns 1 and 2 is 1½d. (column 3), this on 4s. 4½d. for 105 days, the currency of the drafts (see heading, column 5), is at the rate of 11½ per cent. per annum, which the merchant would have paid for the use of the money, assuming the rate did not alter during the 105 days.

Column 4 shows that the rates at the different dates varied from 6½ per cent. to 23½ per cent. (the average of the 56 transactions being 11½ per cent., as stated above) according to the view the bank took of the future of the rate of exchange.

Column 5 shows the due dates of payment in Shanghai of the various drafts.

Column 6 shows the rates for telegraphic transfers in Shanghai on London on the dates as near as they can be ascertained when the bank was paid the drafts.

Column 7 shows the differences between the telegraphic transfer rates when the drafts were sold to the bank (column 2) and when they were paid to the bank (column 7) and the variations of exchange were meantime so great that—

Column 8 shows that the merchants who sold at the rates in column 1 paid varying rates of interest (as com-

pared with those who did not sell) up to 52½ per cent. per annum; and

Column 9 shows that those who sold at the rates in column 1 had the use of the money for the 105 days (for nothing where marked \*) and made a profit besides varying from ½ per cent. to 5½ per cent. on the transactions noted in this column, the fall in exchange had been so great meantime.

It follows from the above that the merchants who sold their drafts forward usually lost on the transactions, when exchange meanwhile advanced, and on the other hand the merchants who did not sell forward, but took the rate ruling in Shanghai when the goods were sold, usually lost when exchange fell, and the conflicting interests of the two classes of merchants kept the rates for imports in Shanghai fairly steady. Cotton goods is the largest item of our exports to China, and while exchange fell 11 per cent. between January and August 1886, and rose as much between August 1886 and January 1887, the Manchester prices of cotton goods varied only about 3 per cent. during these 13 months. The merchant's ventures were therefore chiefly in exchange and not in Manchester goods. The trade is keenly competed for. If a merchant was fortunate in selling drafts forward, or in not doing so, he would likely gain, but if not fortunate, loss was certain, and as loss might come by either a rise or a fall in exchange, instead of the merchant being described as an exporter of cotton goods to China, it would be a more accurate description to say he was a speculator in exchange with China by means of cotton goods.

## APPENDIX XII.

## CORRESPONDENCE between the TREASURY, the INDIA OFFICE, and the GOVERNMENT OF INDIA.

The SECRETARY of the TREASURY to the CHAIRMAN of the GOLD and SILVER COMMISSION.

Treasury Chambers,  
25th November 1886.

SIR,

I AM directed by the Lords Commissioners of Her Majesty's Treasury to request you to lay before the Royal Commission on Gold and Silver the enclosed copy of a letter upon the silver question which has been addressed to them by the Secretary of State in Council of India.

My Lords note the earnestness with which the Government of India urge upon the Secretary of State the difficulties of the situation. It is not necessary for them here to enter upon the discussions which have taken place between the Treasury and the Secretary of State on the silver question. The Treasury, however, while differing widely from the Secretary of State upon many points, has never questioned the inconvenience to which the fall and the fluctuations in the gold price of silver subject the Government of India, and my Lords would be ready to promote by legitimate means, not involving a charge on the taxpayer of the United Kingdom, an extended use of silver in this country. They can only assure the Royal Commission that any suggestion which may be made by a body so well qualified to express an opinion on the subject, will receive their most respectful attention.

I am, &c.

(Signed) W. L. JACKSON.

The Right Hon. A. J. Balfour, M.P.,  
Chairman of the Gold and Silver Commission.

Enclosure.

India Office, Whitehall, S.W.,  
4th November.

SIR,

IN January last, under the direction of the Secretary of State for India (then Lord Randolph Churchill) in Council, I had the honour to address you, for the information of the Lords Commissioners of Her Majesty's Treasury, on the subject of the serious difficulties which had been caused in the financial administration of India, by the continued fall in the price of silver in relation to gold, and the uncertainty that existed as to the future exchange value of the rupee.

Subsequently a letter was forwarded to the Treasury, which had been received from the Government of India, stating at some length the grounds on which they considered that it was desirable to endeavour to settle the silver question by international agreement.

At the end of May Mr. Fowler, the Secretary of the Treasury, replied, on behalf of the Lords Commissioners, to the letter in which the Secretary of State in Council had called the attention of their Lordships to this subject. For reasons which were stated in my letter of the 7th July, the Secretary of State in Council while taking specific exception to certain statements contained in the Treasury letter, abstained from entering into a discussion on the subject, which, it was understood, was under the notice of the Royal Commission on the Depression of Trade, and expressed the hope that another opportunity might be afforded at an early date for the consideration of the question in which the Government of India had so great an interest.

A copy of the correspondence between this Office and the Treasury having been sent to the Governor General of India in Council, the Government of India has addressed to the Secretary of State for India a letter replying to Mr. Fowler's letter of the 31st of May last, and I am now directed to forward a copy of this letter for the information of the Lords Commissioners of the Treasury, with the following remarks.

Her Majesty's Government having resolved that it was expedient to refer the whole of the questions arising in connexion with the recent changes in the relative values of the precious metals to a Royal Commission, and such a Commission having now been appointed, the Secretary of State for India in Council considers that it will be desirable

that copies of the correspondence that has been above referred to should be laid before the Commission, and he will further be prepared to furnish it with any other information on the subject of their inquiry which may be at his disposal.

It would obviously be out of place at the present moment to attempt any discussion of the more technical points raised by the Government of India relative to the desired establishment of a fixed ratio between gold and silver for currency purposes, as these are among the chief subjects on which the opinion and advice of the Royal Commission have been asked, and that body will have to judge of the relative weight of the arguments addressed by the Governor General of India in Council and of those to which they are designed to reply.

Neither does it seem desirable to offer any comments on the question whether India has, in respect to its trade or otherwise economically, gained or lost by the effect of the recent fall in the value of silver in relation to gold. The facts bearing on this part of the subject are, however, of great interest; they have received special attention in the Financial Department of the Government of India, and a copy of a note prepared by the Assistant Secretary in that department is annexed.

Viscount Cross entirely concurs with the Government of India in the observations contained in paragraphs 15 and 16 of their letter so far as they relate to certain proposals affecting the Indian coinage made in 1878, which had not been renewed or even referred to on the present occasion. In addition to the general explanations afforded in paragraphs 17 to 22 relative to the growth of Indian expenditure, it may further be stated that much of the apparent growth of expenditure referred to in the Treasury letter is due to changes in the form of the Indian accounts and to the exhibition of charges on account of public works, affecting alike both the receipts and expenditure which in former years had been excluded from the published statements.

The Secretary of State for India in Council likewise desires especially to repudiate the idea apparently entertained in some quarters that the Government of India has been unduly influenced in its representations on this subject by the personal interests of the English officials in India, otherwise than so far as every Government not only may, but is in duty bound to consider the welfare of its servants.

In conclusion, Viscount Cross will only repeat the opinions expressed by Lord Randolph Churchill in January last, and reiterated by the Government of India time after time, as to the difficulties and dangers to which India is exposed by the present state of the silver question. "Further taxation appears at present inevitable" says the Viceroy in his last letter "and when we have again established equilibrium there is no prospect that the settlement will be final or even reasonably permanent," and he concludes by saying, "we do not, therefore, hesitate emphatically to repeat that from the point of view of Indian finance the position has become intolerable."

I have, &c.

(Signed) J. A. GODLEY.

The Secretary to the Treasury.

No. 277 of 1886.

GOVERNMENT OF INDIA.

DEPARTMENT OF FINANCE AND COMMERCE.

ACCOUNTS AND FINANCE.

To the Right Hon. Viscount Cross, G.C.B., Her Majesty's Secretary of State for India.  
My Lord, Simla, 4th September 1886.

WE have the honour to acknowledge receipt of Lord Kimberley's Financial Despatch No. 194, dated 8th July 1886, forwarding a copy of correspondence with the Treasury on the subject of the settlement of the exchange question by international agreement.

2. In our Despatch No. 45, dated 2nd February 1886, we pressed upon Lord Randolph Churchill the extreme importance in the interests of our Government of settling the silver question by international agreement, and we observe with much satisfaction that in Mr. Godley's letter of 26th January 1886, addressed to the Lords Commissioners of Her Majesty's Treasury, the Secretary of State for India in Council stated that he could not avoid "the conclusion that it is imperatively necessary to make every effort to find some remedial measure which will relieve the Government of India from the position in which it is now placed," and that "the comparative stability of the relative value of gold and silver" was "essential for the regular course of trade" and "of vital importance to India." The Lords Commissioners of Her Majesty's Treasury replied, in Mr. Fowler's letter of 31st May 1886, to our proposals and to the communications made by the Secretary of State for India in Council, that they could take no measures for summoning, or co-operating in, a new Monetary Conference until they had previously determined what policy they should initiate, or could assent to; that the whole question was understood to be under the consideration of the Royal Commission on the Depression of Trade; and that there was nothing in the correspondence and information before the Lords Commissioners which should induce them to depart from the instructions given to the Representative of England at the Monetary Conference of 1881. The instructions given to the English delegate at that Conference were to the effect that "he would assist at the meetings of the Conference solely in order to be a medium of communication, and to afford information which the Conference may require, but with no power of voting."

3. We observe that your Lordship's predecessor did not propose to continue at present the discussion of this important matter with the Treasury. We have no wish to question the expediency of this decision; but, in view of the probability of the subject being again taken into consideration in compliance with the recommendations of the Royal Commission now inquiring into the causes of the depression in trade, we think it of importance to acquaint your Lordship with our views on the main points raised in the letter from the Lords Commissioners of Her Majesty's Treasury, dated 31st May 1886. We cannot, meanwhile, in view of the experience gained since 1881, and of the grave importance of the question, avoid expressing disappointment at learning that Her Majesty's Government proposes to adhere to a purely passive attitude, and that the Government of India is to meet its pressing financial difficulties unaided, or with such assistance as it may derive from the action of foreign nations. We trust that this decision is not irrevocable, and that the result of the deliberations of the Royal Commission, which we hope will be appointed for the special purpose of examining the silver question, may be to disclose some method of relief for our finances which will, at the same time, be acceptable to Her Majesty's Government.

4. We understand the grounds on which the Lords Commissioners of Her Majesty's Treasury decline to take any steps at present towards a settlement of the silver question by international agreement to be as follows:—

Firstly, that it is doubtful whether it is possible to secure stability of value between gold and silver.

Secondly, that it is not proved that any measures which would raise the gold value of silver would on the whole be a gain to India.

Thirdly, that the arguments employed against the proposals made by the Government of India in 1878 have never been answered, and retain their full force.

Fourthly, that the difficulty can be met in great measure by reduction of expenditure.

Fifthly, that the Government of India has not distinctly stated the nature of the remedy which it proposes.

We propose to deal with these arguments in the order in which we have stated them.

*Possibility of maintaining stability of relative value of Gold and Silver.*

5. The Lords Commissioners remark that the question of the possibility of maintaining a fixed ratio between gold and silver is "one of the most disputable and disputed points in economic science," and they quote the declaration recorded by the representatives of Her Majesty's Government at the International Monetary Conference of 1878 that "the establishment of a fixed ratio between gold and silver is utterly impracticable."

We desire to observe that the establishment of a fixed ratio between gold and silver may be held, as in the words above used, to be utterly impracticable, either because it is theoretically impossible to devise measures which would

have the desired effect, or because it is practically impossible to secure the adoption of these measures as the result of international agreement. If it is meant that it is theoretically impossible to secure stability of value between gold and silver, we cannot do more, within the limits of a despatch, than refer to the facts that the first 70 years of the present century, and to the numerous treaties in which the theoretical possibility of maintaining a fixed ratio has been demonstrated. But if, on the other hand, the Lords Commissioners refer to the practical difficulty of securing an international agreement on a sufficiently wide basis, we beg that reference be made to the proceedings of the Monetary Conference of 1881. The Conference of 1881 was held at the instance of France and the United States of America, and the following are the words of the note forwarded by the United States Minister in London to Her Majesty's Secretary of State for Foreign Affairs:

"The Government of the Republic of France and the Government of the United States having exchanged views upon the subject of a conference between the Powers principally interested in the question of establishing internationally the use of gold and silver as bi-metallic money, and securing fixity of relative value between these metals, and finding themselves in accord as to the usefulness and importance of such a conference, and as to the time and place at which the same should be held, have the honour now to invite the Government of Great Britain to take part in a conference, by such delegates as each Government may appoint, to be held at Paris on Tuesday, the 19th day of April next, to consider and adopt for presentation to the Governments so represented, for their acceptance, a plan and system for the establishment by international convention of the use of silver and gold as bi-metallic money at a fixed relative value between these two metals."

France and the United States are the two nations whose influence, with the exception of that of England and India would be the most powerful in maintaining the stability of the relative value of gold and silver; and the words of the note above quoted show in unmistakable terms that, whatever views may be elsewhere entertained, the Governments of those countries considered the establishment of a fixed ratio both practicable and expedient.

6. At the Conference the attitude of the delegates, excluding those of France and the United States, was generally one of reserve, each country desiring to retain for itself complete liberty of action; but the delegates of Holland and of Italy distinctly avowed their desire to see the free coinage of both gold and silver at a fixed ratio. M. Pierson, delegate of Holland, observed: "The adoption of the bi-metallic system is the only means of escaping from the annoying situation in which we are placed. That, at least, is the conclusion we have arrived at in Holland." M. Seismit-Doda, delegate of Italy, observed: "The Italian delegates associated themselves fully with the declarations presented by Messrs. Denormandie and Cernuschi, as well as Sir Louis Mallet, on the subject of the necessity of raising the value of silver, and of establishing a fixed ratio between the two metals." The delegate of Austro-Hungary, in view of the fact that the currency of that country consisted of inconvertible paper, was unwilling to adopt an attitude other than that of reserve; but nevertheless Count Kuffstein declared: "Still they felt no hesitation in saying that as in the Conference of 1878, so for the future, their sympathy was with any measure which might be adopted with the aim of improving or re-establishing as much as possible the position of silver. They therefore hoped that the Conference would not separate without having adopted some remedy to obviate the inconveniences of the present monetary situation, which they believed in many ways to be a grave one."

7. As the attitude of Germany at the Conference is of special importance, we quote at some length the words of Baron Thielmann, the delegate of that country:—"We acknowledge, without reserve, that the rehabilitation of silver is desirable, and that it could be attained by the re-establishment of the full coinage of silver in a certain number of the most populous States represented at this Conference, which for this purpose would take as a basis a fixed proportion between the value of gold and that of silver. Nevertheless, Germany, whose monetary reform is already so far advanced, and whose general monetary situation does not seem to invite a change of system of such vast importance, does not find itself able to concede, as far as it is itself concerned, the full coinage of silver. Its delegates cannot therefore agree to such a proposal. The German Government is, on the other hand, entirely disposed to help as far as possible the efforts of the other Powers which might be willing to unite, with a view to the rehabilitation of silver by means of a full coinage of this metal. To attain this end, and to guarantee these Powers against the influx of German silver which they

"seem to dread, the German Government will impose some restrictions on itself." When Baron Thielmann was asked if the attitude of England had been the cause of the reserve shown by Germany, he replied "that the attitude of England had had some effect on the resolution of the German Government," as it was "necessary for the German Government to pursue a monetary system similar to that of England." There is, therefore, reason to believe that if Her Majesty's Government had shown a stronger desire to further the objects of the Conference, Germany would have been prepared to take steps in the same direction.

8. In view of the opinions expressed by France, the United States of America, Austro-Hungary, Italy, and Holland in favour of the establishment of a fixed ratio between gold and silver, and of the undoubtedly favourable attitude of Germany, and the evident inclination of that Power to follow the lead of England, it appears to us reasonable to conclude that it was within the power of Her Majesty's Government at the Conference of 1881 to have secured the adoption of a fixed ratio; and as the evils due to the non-existence of a fixed ratio have manifested themselves in an aggravated degree since 1881, we may reasonably conclude that it is still within the power of Her Majesty's Government to secure this result, if willing to exert its influence for that purpose. Looking to the facts we have just stated, we are unable to admit the contention that the establishment of a fixed ratio is impossible because international agreement cannot be secured. It appears to us that if Her Majesty's Government abandoned the attitude of absolute reserve which they have so long maintained to the injury, as we believe, alike of England and India, there would remain no obstacle to the establishment of international agreement which could not be surmounted. Even allowing, for the sake of argument, that it should prove impossible to secure the establishment of a fixed ratio on a sufficiently wide basis to permanently maintain that ratio, we see no reason to doubt that the active and sympathetic intervention of Her Majesty's Government would secure the adoption of measures which would tend in that direction, and which would at any rate have the effect of mitigating existing evils, and of removing grave grounds of apprehension as regards the future.

9. In connexion with the question of the possibility of maintaining a fixed ratio between the two metals, we further desire to observe that, in quoting the opinion of Mr. Goschen, Mr. Gibbs, and Sir Thomas Secombe as recorded in 1878, the Lords Commissioners of Her Majesty's Treasury appear to have attached little weight to the extremely important fact that since the expression of opinion by the representatives of England in 1878, the evils of the unsettled state of the silver question have become greatly aggravated, that the question has been far more thoroughly discussed, and that both the origin of the disease and the nature of the remedy are better understood. It seems to us to be at least possible that if an opinion were obtained in 1886, it might differ from that given in 1878; and we know that in the case of one of the gentlemen cited, the opinion expressed in 1878 has been entirely repudiated.

10. We have no opportunity of ascertaining the views on this question which Sir Thomas Secombe may now hold, nor are we aware whether Mr. Goschen considers the impracticability of establishing a fixed ratio as great as it appeared to be in 1878; but we observe that in 1878 Mr. Goschen concurred with the other representatives of England in holding "that a campaign undertaken against silver would be exceedingly dangerous, even for the countries which have given a position as legal tender only to gold." Again, in a speech "on the condition and prospects of trade" delivered by Mr. Goschen at Manchester on 23rd June 1885, we find him reported to have expressed himself as follows:—

"Now let me take the silver question. It is impossible to embark upon that or upon the appreciation of gold in a satisfactory manner in a few sentences, because it would take a whole speech to itself. But there is one point connected with the silver question which I will touch, and it is the insecurity which it imparts to trade with the silver-using countries. That must affect your dealings with India and with others, and I am sorry to think that with regard to that insecurity there is no hope till you know what the United States will do with respect to the Bland Bill. It seems to me that we must almost conclude that the uncertainty in the trade of the silver-using countries will increase, and that the position in that respect must get worse; and I do not hold with those who think that this country has little interest in the question because we are a creditor country. This is an argument which is often put forward that we are a creditor country, and that as amounts are due to us in gold, therefore the more gold will command for commodities the better for

this country. But we are not all creditors; and though we may in the balance be a creditor country, there is an enormous interest in our trade with the silver-using countries; and so I trust that this silver-question will fairly be kept in view by those who are responsible for our Indian Empire. It is a question of the deepest interest. As I have said, it is impossible for me at this moment to expatiate upon the subject; but I must submit that is a factor in the case, and a very important factor too."

Finally, we find from Hansard (3rd series, vol. ccciii, page 1491) that during the late session of Parliament, Mr. Goschen addressed the following question to the Chancellor of the Exchequer:—

"Whether in view of the deep and increasing interest shown in various parts of the country on the silver question, he will consider the expediency of separating this urgent subject from the other matters referred to the Royal Commission on the Depression of Trade, and of appointing a separate Commission to inquire into the position of silver, the condition of the currency, and the various plans of utilising silver to a greater extent for currency purposes."

We believe, in view of the above extracts, that we are justified in coming to the conclusion that, whether or no Mr. Goschen believes in the practicability of establishing a fixed ratio between gold and silver, he at any rate considers the silver question to be one of great importance, and is anxious that measures should be taken to utilise silver to a greater extent for purposes of currency.

Mr. Gibbs has entirely altered his opinion since 1878: is now of opinion that the establishment of a fixed ratio is not merely practicable, but in itself highly desirable; and for some considerable period has himself been President of the Bi-metallic League. We are at a loss to understand how the change in Mr. Gibbs' views since 1878, which his writings on the subject have rendered matter of much notoriety, should, as would seem to be the case, have escaped the knowledge of the Lords Commissioners of Her Majesty's Treasury.

*Question of gain or loss to India from the fall in the rate of exchange.*

11. With regard to the question whether India has obtained any such advantages from the fall in exchange as wholly or in any part to compensate her for the undoubted injury which the fall inflicts, and specially for the loss on the gold remittances of the Government of India, we would observe that this is a matter on which opinion is by no means unanimous. The fall in the rate of exchange has coincided in point of time with a large development of Indian trade and a steady increase of Indian revenue; but many authorities hold that this growth of trade and revenue is due to a succession of several good harvests, to the increased energy shown of late years in the construction of railways in India, to the cheapening of the cost of sea transport, and to the opening of the Suez Canal rather than to the fall in exchange. The question has been recently examined in a paper entitled "Indian Trade and Exchange," prepared by the Assistant Secretary in our Financial Department, copies of which have been forwarded for your Lordship's information; and the considerations therein set forth materially assist in enabling a judgment to be formed upon this important matter. It is beyond question that the instability in the relative value of gold and silver discourages the investment of capital in India; and the higher rate of interest which we should have to pay for silver loans forces us to borrow in gold, and to accept the risk of a still further appreciation of that metal. The variations in exchange introduce great uncertainty in that large class of commercial transactions in which the element of time is involved. The fall in silver, by throwing unexpectedly a heavy burden on our finances, has more than once compelled us to defer the construction of public works intended for the protection of the country against famine, and has led to regrettable and wasteful fluctuations in our public works policy. These are evils of great magnitude; and if we take into consideration also the direct accumulating increase to the public expenditure due to the fall in exchange, it is, to say the least, difficult to contend that India as a whole may have gained as much as she has lost. It has no doubt been argued that the fall in exchange by encouraging Indian exports has given a stimulus to industries in which India competes with countries that have a gold standard; but, apart from the results of recent inquiry into this part of the subject which we have above alluded to, we have been unable to discover that the silver prices of Indian exports, or Indian commodities generally, have risen since the fall in the rate of exchange, and there are good grounds for believing that the effect of the change that of late years

has taken place in the relative value of silver and gold has been to lower gold prices and not to raise silver prices. Apart from this aspect of the question, it further appears to us that the Lords Commissioners of Her Majesty's Treasury have failed to notice that those persons who are of opinion that India has gained by the fall in exchange hold, as an essential part of the same opinion that England and all other countries with a gold standard have lost in an exactly equal degree. They argue that the rupture of the old ratio of 1 to 15½ between the two metals has led to a reduced supply of metallic money to countries with a gold standard, and an increased supply, of an exactly equivalent amount, to countries with a silver standard; and if the increased supply has been a gain to the silver countries, it follows that the reduced supply must have proved injurious to countries with a gold standard by causing a general fall in the prices of commodities.

12. The Lords Commissioners quote, with seeming approval, the opinion of Mr. Barbour, our Financial Secretary, on the question of the gain or loss to India; but we observe that they have omitted to refer to the passages in which Mr. Barbour states that the gain of the silver countries is balanced by a corresponding degree of loss on the part of the gold countries. The following extracts from the preface to the book quoted from show what Mr. Barbour's opinion is on this point:—

"This fall in prices has been aggravated in countries using the gold standard, and checked, or altogether obviated, in countries using the silver standard, by the partial demonetisation of silver. In so far as this has been the case, the silver countries have unquestionably gained, while the gold countries have lost."

"Every fall in the gold price of silver will be followed by a corresponding decline in the gold prices of commodities, by increased disinclination of capitalists in London to invest money in India, by a reduction of profits and a general increase of the burden of obligation already contracted in England."

These passages make it clear that the theory of gain to India by the fall in exchange is based on the belief that countries with a gold standard have lost in an equal degree; and that, in short, the gain of the silver countries arises from a species of protection against countries with a gold standard. It is not possible to accept one-half of the theory and to reject the other. If the silver countries have gained by an increase of the supply of metallic money, the gold countries must have lost by an exactly equivalent reduction in the supply. We desire to lay special stress on this aspect of the case, because we find it stated that "England would not herself take the initiative in making changes which would have the effect of disturbing a monetary system under which she has enjoyed much prosperity," and no notice is taken of the fact that any special gain to India from the low exchange must have been attended with corresponding loss to England. In connection with the question of the prosperity which England may have enjoyed in former years under the gold standard, it should not be overlooked that up to 1873 England enjoyed the benefits of a comparatively stable ratio between her gold standard and the silver standard of other countries, and that since the wide departure from the old ratio occurred, the progress and prosperity of England have suffered a decided check. Without attempting to define the specific causes which have been in operation, we may observe that the prices of commodities have fallen very largely in England in recent years.

13. Even if, for the sake of argument, it be admitted that India, as a whole, has gained as much as she has lost by the fall in exchange, we are still of opinion that a change is imperatively required in the interests of the British Government in India. If the gain has just balanced the loss owing to the fall in exchange, we may reasonably conclude that in case of a rise in exchange, the loss would not on the whole exceed the gain, while the financial relief, and consequent political advantage, to our Government would be incalculable. This view of the matter was referred to by Sir Louis Mallet at the Conference of 1881 in the following words:—

"Although we may, no doubt, look forward in the future to some rearrangement of taxation when the depreciation of the coinage has produced its effect in a general rise of prices, and particularly in that of labour, we must wait a long time for that result; and, meanwhile, it would be impossible without serious political danger to propose new taxes based on considerations which the mass of the people would not be able to understand.

"But it is not only the actual loss which we have to think about; it is the absolute uncertainty which hangs about the future, and which prevents any serious or accurate calculation of the revenue and resources of Government."

These words have a special bearing on our present financial position. The recent renewal of instability, followed by a heavy fall in exchange, and maintained up to the present time, has rendered the most careful calculations we can make valueless. We have already imposed unpopular taxation, and we see before us the possibility of being compelled to have recourse to the imposition of further taxes, alike unpopular and injurious to the well-being of the community. The future is, if possible, even less assured than it was when Sir Louis Mallet spoke. Moreover, the rise in prices, owing to the depreciation of the silver currency, to which Sir Louis Mallet looked forward, has not taken place; the alteration in relative gold and silver prices, which must necessarily follow the alteration of the exchange, has taken the form of a fall in gold, and not of a rise in silver prices. We cannot, therefore, count, within any reasonable time, on such a growth of revenue as will enable us to meet the burden thrown on our finances in recent years by the fall in exchange.

14. Putting aside, however, all matters of minor importance, we desire to observe that, in our judgment, the question of the establishment of a stable ratio between gold and silver must be decided on broader grounds than the gain or loss of a single country, and that it is a question of world-wide importance, the interest of England in securing a permanent settlement being no less than that in India. So far as regards the momentary standard, no country is, or can be, independent of the action of other countries. Apart from the dislocation of trade and industry caused by variations in the rate of exchange between two standards not linked by a legal ratio, each country is at the mercy of others, which, by adopting or discarding the gold or silver standard, can seriously prejudice the interests of that country which makes no change in the standard. England has made no change in the standard since 1816; but the result of the more extended use of gold by foreign countries is certainly not less serious in its effect on the industries of England and the interests of the English people than in its effect on French and American industries and interests. The Government of India, like that of England, has made no change in the standard; yet the action of foreign nations has placed our finances in those perpetually recurring difficulties which are set forth in our Despatch of 2nd February last, and threatens them with even greater disasters in the immediate future. The question of the monetary standard appears, therefore, to us to be pre-eminently one for settlement by international agreement; in no other way can a satisfactory or permanent settlement be effected; and we trust that Her Majesty's Government will abandon their attitude of absolute isolation—an attitude which, we venture to think, is both indefensible in theory, and in practice fraught with danger both to England and to India.

*Omission to answer the arguments employed against the proposals of 1878.*

15. In 1878 the Government of Lord Lytton proposed that the coinage of rupees should be restricted, by means of a seigniorage, in such manner as to raise the value of the rupee from 1s. 7d., the market rate of the day, to 2s.; and these proposals contemplated ultimately the introduction into India of a gold standard. The Lord Commissioners of Her Majesty's Treasury refer to this proposal, and express regret that in the Despatch of 2nd February last the Government of India has not replied to the arguments which led to its rejection, nor shown that it has now some scheme in view which is not open to similar objections. Great importance is evidently attached to this point, as in Mr. Fowler's letter of 31st of May the arguments used against the proposals of 1878 are repeated, and it is added that "the Lords Commissioners find no reason stated in the Despatch of the Government of India in the present year which induces them to dissent from the conclusions thus set forth on the authority of Sir Stafford Northcote as to the results of any attempt to artificially enhance the gold price of silver." We confess to having read these remarks with surprise, as, for the reasons which follow, we can perceive no analogy whatever between the proposals of 1878 and those which we recently put forward.

16. The proposals made by the Government of India in 1878 involved the restriction of the coinage of rupees, a measure which, in our recent proposals, we have not advocated. The proposals of 1878 aimed at establishing a fixed ratio between gold and the coined rupee, which is a totally different matter from the establishment of a fixed ratio between gold and silver. The Government of 1878 proposed to establish between gold and the rupee the ratio of ten rupees equal to one pound sterling, while the proposal contained in our Despatch of 2nd February last merely

involved the establishment of a stable ratio between gold and silver, and left the question of what that ratio should be for future discussion. The proposals of 1878 could have been carried out by legislation in India, and were entirely independent of international agreement; the essential feature of our present proposals is their dependence on international agreement. The proposals of 1878 would not, as seems to be supposed, have raised the gold value of silver, but would, on the contrary, have tended very materially to reduce it. The arguments used against the measures advocated in 1878 have, therefore, no bearing on our recent proposals; and, as those measures lay outside the scope of the recommendations contained in our Despatch of February 2nd, we admit our inability to perceive why, in that Despatch, we should have been at the pain of answering them. The proposals contained in our Despatch of 2nd February did not necessarily involve the raising of the gold value of silver to the old ratio of 15½ to 1. It was our intention that the question of the precise ratio to be adopted should be left for future discussion, and for settlement after full consideration of all the interests involved, and after ascertainment of the view of the principal nations interested in the matter. Even if a Conference should have decided on the adoption of the old ratio of 15½ to 1, we cannot admit that the change could more accurately be described as one for raising the value of silver rather than as one for lowering the value of gold. The essential end to which our recent proposals were directed was the establishment of a stable ratio between silver and gold; and even if a higher ratio than the market ratio of the day had been adopted, the procedure which we advocate would have had as much effect in lowering gold as in raising silver. The scheme of 1878, on the other hand, would have materially lowered the value of silver, and must ultimately have had the effect of raising the value of gold by increasing the demand for it. We fail, as we have said, to perceive anything in common between the two proposals; and we conceive it unnecessary to remark further on this portion of the question.

*Possibility of relieving the finances by reduction of expenditure.*

17. In paragraph 15 of Mr. Fowler's letter our attention is directed to the importance of the reduction of expenditure, and it is added that the principal element which has determined the unfavourable condition of Indian finance, and which has conduced to our difficulties more obviously and certainly than the fall in the price of silver, is the alarming growth of expenditure. The general question of the growth of expenditure on the civil administration of India was dealt with very fully in the Despatch from Lord Ripon's Government, No. 233, dated 24th August 1883, and in the Minute by Sir Evelyn Baring, which accompanied, as well as in other correspondence which took place about the same time, and which was published as a Parliamentary blue book in August 1885. We can add nothing to what is contained in the correspondence in question beyond remarking that our financial difficulties since that date have forced us to scrutinise very narrowly all proposals for incurring additional expenditure, and that we have been compelled to put aside many valuable reforms simply because we could not find the means to carry them out. We do not know to what facts the Lords Commissioners of Her Majesty's Treasury more particularly desire to draw attention when they speak of the alarming growth of expenditure. The fall in silver has no doubt added largely to expenditure on account of exchange, and we have been obliged to incur expenditure in the construction of famine railways, which do not, for the present at any rate, return a profit sufficient to cover interest on capital. The same remarks hold good in regard to the expenditure on frontier railways and coast defences, while the events that have occurred in recent years beyond the north-west frontier have compelled us to increase the army, both European and native. Her Majesty's Government, we believe, concur with the Government of India in the necessity of measures calculated to minimise the risk of such loss of life as occurred in the Madras famine, and to guard against external attack on the north-west frontier of India. So long as the adequate protection of India against the consequences of war, and famine is an essential portion of the policy of Her Majesty's Government, it is premature to object to the expenditure which the attainment of these ends necessarily for a limited time involves.

18. With the exception of the expenditure referred to in the preceding paragraph, which was incurred deliberately and with a full knowledge of the burden it would impose on the country, and which we should gladly have avoided

if we could safely have done so, we are not aware of any great growth of expenditure in recent years. The measures taken in 1881 to provide an insurance against the financial effects of famine have, no doubt, added nominally 1,500,000*l.* (conventional sterling) to the expenditure; but this was, as those conversant with Indian finance are aware, a measure of economy, and this item of 1,500,000*l.* is of the nature of a reserve or insurance fund. Possibly the fact may have been overlooked that the Government of India is now a very large railway proprietor, and that the opening of new railways necessarily involves an addition to the yearly expenditure of the total amount of the working expenses of the railways. This expenditure cannot, however, be avoided; it brings in corresponding revenue, and can in no sense be treated as an addition to the cost of Government properly so-called. The danger of misunderstanding arising from this cause was alluded to in our Despatch No. 331, dated 1st December 1885, in the following terms: "The rapid increase and great complexity of the railway transactions make it very inconvenient to embody them in finance accounts, and the apparent increase of revenue at the disposal of Government as new lines are opened and corresponding apparent increase of cost of governing the country give rise to mistaken idea of the increasing income and extravagance of the Government." But whatever the origin of the remarks regarding the growth of expenditure may be, we must be allowed, with all deference, to maintain that we have by no means been forgetful of the relief to the finances which can be obtained by reduction of expenditure; the fall in the gold value of silver has more than once led to reductions of expenditure, which have caused serious administrative inconvenience; and we are at the present time engaged in making every reduction which is reasonably or safely practicable, though there is no hope that any economies we may be able to effect will do more than cover a fraction of the additional burden imposed on India by the recent fall in exchange.

19. In order that there may be no room for misunderstanding as to the serious effect which the fall in exchange has had on the course of Indian administration, and of the repeated efforts which have been made to meet the additional expenditure therein involved by reduction of expenditure, we will briefly review the facts of the last 10 years. In the financial statement for 1876-77 Sir William Muir remarked as follows:—

"The sudden depreciation of silver, and the consequent enhancement of charge to the Government of India in laying down yearly the sum required in England of about fifteen millions sterling, without doubt cast a grave shadow on the future. In truth, it may be said that the danger, from whatever point of view considered, is the gravest which has yet threatened the finances of India. War, famine, and drought have often inflicted losses on the exchequer far greater than the charge which threatens us in the present year. But such calamities pass away: the loss is known and limited; and when it has been provided for, the finances again stand on sure and stable ground. This is not the case with the present cause of anxiety. Its immediate effects are serious enough, as has already been shown. But that which adds significance to it is, that the end cannot be seen; the future is involved in uncertainty." As a consequence of the position in which the Government found itself owing to the fall in exchange, measures were taken in July 1876 for the effective curtailment of expenditure on extraordinary public works, and at the same time all outlay of public money on the ordinary civil administration was stopped "which is not absolutely necessary, or to which the Government is not committed, or the discontinuance of which will not cost disproportionate loss and waste."

20. In November 1878 measures were again taken "for the reduction of the ordinary expenditure of the country within the narrowest limits"; but these measures were based on the probability of heavy war expenditure, as well as on the fall in exchange. The orders given in November 1878 were followed up in May 1879 with equally stringent orders for still further reduction of expenditure in all branches of the administration. The contracts with provincial Governments were temporarily set aside, and contributions obtained from them to help to tide the Government of India over its immediate difficulties. The result of the measures taken involved a reduction of 758,000*l.* in ordinary expenditure, as well as the reduction of productive public works expenditure by 1,000,000*l.* yearly, although the estimated expenditure of 1879-80 was already 1,000,000*l.* below the average expenditure of the two preceding years.

In June of the same year the following language was used:—"Rigid economy in every branch of the public service is in present circumstances the policy which must



" be followed." To quote again the words of the resolution of the 1st May:—

" Unless positive necessity exists, no improvements in administration, however desirable, must be undertaken if they involve increased charges; no fresh establishments must be entertained; no new offices must be created; no new works, which it is possible to postpone, must be commenced.

" It is through this policy of retrenchment and economy that the necessity for fresh taxation has for the present been avoided; and if the fall in the value of silver in relation to gold should further increase, strict adherence to that policy will be more than ever essential."

The language used by Lord Lytton's Government in their Despatch No. 138, dated 22nd May 1879, shows how great must have been the pressure which compelled them to have recourse to such reductions:—

" We do not propose in this Despatch to discuss the circumstances which have rendered it necessary to undertake these reductions in the expenditure on public works in India. The result will undoubtedly be that the material progress of the country will be seriously retarded; and we in no way disguise from ourselves the injury which India will sustain, or the discredit which will be entailed on the Government, by even the temporary abandonment of a policy which we are satisfied is essentially wise, and which in spite of many errors has been on the whole attended with eminent success. The measures which we now take with so much regret have been forced upon us by circumstances over which we have no control, and for which our Government is in no degree responsible."

21. From 1879-80 the rate of exchange remained nearly constant for some years, the average rate obtained for home remittances having been as follows:—

	<i>d.</i>
1879-80 - - - -	19'96
1870-81 - - - -	19'96
1881-82 - - - -	19'89

The surplus revenue, which was found to exist in the beginning of 1882-83, was used, not for the increase of expenditure, but for the reduction of taxation, including the removal of the general import duties.

After 1881-82 the course of exchange was steadily downwards, and in 1883 the question of reduction of expenditure having been brought before, and impressed upon, the Government of India by the Secretary of State for India in Council, the matter was exhaustively considered, as will be seen from the correspondence referred to in paragraph 17 of this Despatch.

In 1885 stringent measures were taken for the reduction of expenditure in consequence of the probability of a war with Russia; and, in order to meet the cost of military preparations, reductions were effected in the sanctioned expenditure of 1885-86 to the extent of over 1,500,000*l.* (conventional sterling). As regards the current year, we may observe that at the time of framing the estimates our financial difficulties were seen to be so great that every effort was made to keep down expenditure, and the extreme measure was adopted of withdrawing the sum of 400,000*l.* from Local Governments, and consequently of reducing the possible provincial expenditure by that amount. In February 1886 a Committee was appointed with the special object of effecting reductions of expenditure, and is at present earnestly prosecuting inquiries directed to this end. The language used in the orders appointing the Committee indicate the anxiety with which we have sought economy in the hope of avoiding taxation.

"The circumstances in which the Government now finds itself placed compel it to examine with renewed and anxious attention the possibilities of such an effective decrease in its expenditure as shall in a sensible degree contribute to relieve it of the financial embarrassments with which it is threatened. The uncertainty which prevails regarding the future relative value of gold and silver compels the Government to contract, so far as is possible, expenditure which in other circumstances may have been desirable or necessary, but which at present it can no longer maintain."

22. The sketch which has been given of the financial history of the last ten years is sufficient to show that the Government of India has been very far from unmindful of the relief to the finances which may be obtained by economy and reduction of expenditure; it demonstrates, on the contrary, that such relief has frequently been secured at the cost of great detriment to the administration. We are at present again seeking to effect all possible economies in the cost of civil administration, and we hope in this way to secure an improvement to the extent of at least 500,000*l.*

yearly. How insufficient this relief may prove in comparison with the burden thrown on the finances by the fall in exchange will be seen from the fact that, though the rate of exchange for the estimates of 1886-87 was taken at only 1*s.* 6*d.* per rupee, we have at present to contemplate the possibility of taking a rate as low as 1*s.* 4*d.* per rupee in the estimates of 1887-88—a fall which would impose an additional yearly burden on our revenues of more than 2,000,000*l.* (conventional sterling).

Looking to the facts which we have stated, we are compelled to arrive at the conclusion which admits, in truth, of little dispute, that further reduction of expenditure is unlikely to give us financial relief in any degree commensurate with the magnitude of our difficulties; and that the contention that the alarming growth of expenditure in late years is the principal element in the unfavourable condition of Indian finances will not stand the test of examination.

#### *Nature of the remedy proposed.*

23. With regard to the complaint that we have not definitely indicated the nature of the international agreement which should supply the solution of the silver question, we desire to observe that it appeared to us that we stated with sufficient plainness that the end to be aimed at was a stable ratio between gold and silver, and that the means for the attainment of this end was an international agreement between the countries interested in the question. We did not specify the exact ratio which we wished to see established, nor the precise nature of the agreement, because we felt that on both these points it would be necessary to ascertain and take into account the views of foreign Powers, and that any attempt on our part to lay down the exact terms of the settlement at the outset might have a prejudicial effect on the negotiations. If Her Majesty's Government had been willing, under any circumstances, to recommend the opening of negotiations, there would have been no difficulty in obtaining a more definite expression of our views by telegram. Your Lordship will, moreover, not have forgotten that on May 29th of the present year, while we were still awaiting the reply of the Lords of the Treasury, we submitted specific proposals, which were only not laid before the Lords of the Treasury because their letter was received by your Lordship's predecessor very shortly after the recommendations we refer to reached him. What we consider essential in the interests of the finances of British India is the establishment of stability in the relative value of gold and silver, and the removal of the danger which hangs over the silver market from the existence of large quantities of overvalued silver money in the currencies of France, the United States, and other countries. For the attainment of these ends, we propose generally the utilisation of silver as currency to a greater extent than is the case at present, as well as an international agreement for the free coinage of silver, and the making of both gold and silver coin a legal tender at a fixed ratio by a group of nations possessed of a metallic currency of sufficient extent to maintain that ratio permanently. The question of the ratio to be established is one which must be decided by the nations which undertake to coin both gold and silver freely, and it should be a ratio not lower than the average market ratio of recent years, and not higher than the former French ratio of 1 to 15½. So great is the importance which we attach to stability of relative value, that we do not consider that there would be sufficient grounds for objecting in the interests of India to any ratio, within the limits above indicated, which might be approved by the other nations concerned; and, on behalf of India, we would be willing to undertake either to maintain the present silver standard, or to coin both silver and gold for all comers at the fixed ratio. It does not appear that any plainer expression of our views, or any proposals of a more specific nature, could be expected, or should be required, at the present stage.

24. In conclusion, we desire again to express our conviction of the importance, in the interests of British rule in India, of securing a speedy and final settlement of the silver question. In our Despatch of 2nd February last we stated in the clearest terms, but not, as we consider, more strongly than the occasion required, the nature and extent of the difficulties and dangers to which India is exposed in the present state of the silver question, and we need not repeat our observations. The immediate cause of future disturbance which we specially took into consideration at that time was the possibility of the repeal of the Bland Act by America. Since the date of our Despatch, although there is every prospect that America will, for the present at least, continue the coinage of silver, the rate of exchange has

fallen 1½d. per rupee. The additional burden thrown on our finances by this fall of 1½d. in the gold value of the rupee, after all allowance made for any possible set-off, amounts to at least 1,750,000l. (conventional sterling) yearly, and it is quite possible that the repeal of the Bland Act by America might increase the burden by an equal amount. We cannot hope to cover more than a fraction of the amount already added to our expenditure through the recent fall in silver by any economies in the cost of the administration which we may be able to effect. Even though the measures which we are now carrying out for the defence of the country against war and famine should, in view of our pressing financial difficulties, be curtailed, further taxation appears at present to be inevitable; and when we have again established equilibrium, there is no prospect that the settlement will be final, or even reasonably permanent. A rise in the rate of exchange may prove that unpopular measures of taxation have been undertaken unnecessarily; a fall may force us to impose further taxation. Meanwhile the pressure of our present difficulties is

compelling us to use resources which we relied upon as a reserve to meet the cost of possible war or famine. Above all, our finances will still remain subject to the special uncertainty due to the unsettled condition of the American currency. Your Lordship is aware that a powerful party in the United States of America presses for the stoppage of the coinage of silver. If that course should be adopted in the immediate future our financial difficulties threaten to be greater than any which the Government of India has hitherto experienced. We do not therefore hesitate emphatically to repeat that, from the point of view of Indian finance, the position has become intolerable.

We have, &c.

(Signed) DUFFERIN,  
F. S. ROBERTS,  
C. P. ILBERT,  
S. C. BAYLEY,  
T. C. HOPE,  
A. COLVIN,  
G. CHESNEY.

## ANALYSIS OF EVIDENCE.

*(Names of Witnesses arranged in Alphabetical Order.)*

## PROFESSOR ROBERTS AUSTEN, F.R.S. :

Is chemist to the Royal Mint, 1198.  
 Puts in a paper on the subject of the cost of producing silver, 1200, 1201.  
 Different methods of obtaining silver, 1202-1204; by the refining of native gold, 1205-1211; by the desilverisation of lead, 1212-1233; by the desilverisation of copper, 1234-1247; from silver ore, 1248-1274.  
 General conclusion as to mean cost of production by the above methods, 1275-80, 1326.  
 Explains what is included in cost of production, 1281-1300.  
 Notices large difference between cost of production and the market price of the commodity, 1301-1316.  
 Observations on amount of production of silver, 1323-1325, 1332, 1333.  
 Possibility of new discoveries in the future, 1318-1320.  
 Will undertake a similar inquiry into the cost of producing gold, 1327-1331.

## MR. D. M. BARBOUR, C.S.I. :

Information as to hoarding in India, 1097-1101, 1154-1160, 1163-1176, 1183-1197.  
 The precious metals are hoarded in the form of both bullion, coin, and ornaments, 1099-1101.  
 Net imports of gold into India since 1835, 1102-1112.  
 Amount of silver hoarded probably exceeds amount of gold, 1113-1116, 1196.  
 Total amount hoarded, 1102, 1117-1121.  
 Causes which are likely to bring out hoards, 1124-1129, 1135, 1149-1153, 1155.  
 Consumption of gold in India for various purposes, 1108, 1109, 1130-1134.  
 Illustrations of capacity of the people for absorbing money, 1136-1141, 1145-1148, 1190-1194.  
 Opinion as to probability of a diminution in tendency to hoard, 1142-1163.  
 Probable effect on value of precious metals of a cessation in hoarding, 1143, 1144.  
 Alteration in purchasing power of silver in India, 1179-1182.  
 Little alteration in price of labour in India in recent years, 1161, 1162.  
 Diagram showing oscillations in prices of silver and of commodities since 1860, 1177.

## MR. ROBERT BARCLAY :

Is engaged in the export trade from England to India and other silver-using countries, 2230-2235.  
 Trade has suffered from fluctuations in exchange, 2236, 2369.  
 Merchants generally able to protect themselves against loss if all parties to contracts fulfil their obligations, 2237-2245, 2279; but business is necessarily checked by the introduction of a speculative element, 2240, 2245, 2275-2278, 2369, 2373-2379.  
 Losses arising through failure of manufacturer to keep his contract, coupled with concurrent alteration in exchange, 2261-2270, 2284-2285; though intrinsically insignificant, become important, owing to small margin of profit with which business is conducted, 2271-2274.  
 Silver prices in the East have a tendency to rule the gold prices here, 2245-2260, 2349, 2352; and have been little affected by the disturbance in values in Europe, 2245, 2354, 2419-2421, 2458, 2459.  
 Advantage of falling exchange to the Indian merchant and manufacturer, 2287-2299, 2305; growth of Indian cotton manufacture and falling off of certain branches in England, 2301-2304, 2319-2334.  
 Advantages to India of trading with silver-using countries, 2306-2319, 2357-2368.  
 Stimulus to Indian exports of wheat, 2335-2344, 2371, 2372.  
 Extent to which the English and Indian export trades are respectively affected by fall in exchange, 2369-2370, 2395-2401.

Manner in which exchange operates on international trade, 2402-2418, 2460-2465, 2486-2496.  
 Advantage and disadvantage to the two countries generally of exchange fluctuations, 2419-2457, 2466-2494.  
 Causes of appreciation of gold or fall of gold prices, 2349-2353.  
 Is in favour of adopting a fixed ratio between the two metals, 2355-2356, 2477.  
 Objections to introduction of a gold standard in India, 2380-2386.  
 Effects of a further fall in silver, 2387-2394.

## MR. J. W. BIRCH :

Extension of banking expedients during the last 20 years, 1336-1340. Possibilities of further increase, 1341, 1344-1346.  
 Effect of telegraphic transfers, 1342, 1343.  
 Estimates of circulation and of stock of gold in the United Kingdom, 1348, 1362-1365.  
 Light gold and 1/2 notes, 1395-1399.  
 Sources from which Italian demand for gold was met, 1349-1853. Similar information with regard to Germany, 1354-1361. South America, Portugal, &c., 1368-1370.  
 Hoarding in France, 1354-1360.  
 Sources from which gold is drawn through a rise in the rate of interest, 1366-1368.  
 Amount of gold coin melted down for industrial purposes, 1371.  
 Stock of gold held by Bank of France, 1379-1382.  
 Currency in Spain, 1386-1394, 1400, 1401.  
 Puts in certain statistics as to circulation in France, Germany, Belgium, Italy, and Switzerland, 1378.

## MR. J. K. BYTHELL :

Is a Manchester merchant, engaged chiefly in the import trade from India, 1897-1899.  
 Mode in which the export and import trade with the East is financed, 1900-1912.  
 General effect on trade of the uncertainty in exchange and extent of the risk imposed upon the several parties concerned, 1907-1931.  
 Alleged stimulus to export trade of India owing to fall in exchange, 1932-2008, 2072-2165, 2185-2190.  
 Advantages to the Indian producer, 1933-1944, 1947, 2082-2165, 2184.  
 Causes of fall in gold prices, 1933, 1944, 1945, 1950, 2170.  
 Difficulties of the Government of India have been exaggerated, 2009-2012, 2026-2046, 2066-2071.  
 Real extent of the loss sustained by the Government, 2013-2025, 2040-2042, 2047-2059.  
 Borrowing power of the Government as affected by exchange, 2019-2025.  
 Effects of a fixed ratio between gold and silver, 2062-2065, 2166-2169.

## MR. H. H. GIBBS :

Is a Director of the Bank of England, and engaged in trade with silver-using countries, 3020-3023. His opinions are not those of the majority of the Court of Directors, 5880.  
 Present divergence in relative value of gold and silver due to both appreciation of gold and depreciation of silver, 3024, 3025, 3221.  
 Causes which have led to appreciation of gold and depreciation of silver, 3026, 3027.  
 Other causes have prevented silver being depreciated in relation to commodities, but those causes have not operated in the case of gold, 3028-3041.  
 Probable result of a further fall in silver, 3109-3113.  
 Injurious effect on trade of fluctuations in the values of the precious metals, 3042, 3043, 3098.  
 The risk arising from uncertainty must be an impediment to trade, and cannot be transferred to other persons without paying for the accommodation, 3045-3049, 3106-3108, 3215, 3216, 3299-3233, 3241-3244, 5791-5803.  
 Extent to which trade is obstructed by this means, 3049-3058.

Stimulus given to production in countries with depreciated currency, 3069, 3070, 3138-3145, 3179-3212, 3779-3784, 3811, 3812, 4517-4553, 5385, 5386, 5804-5807, 5872-5879; caused by diminution in the initial cost of manufacture, 3070-3073; corresponding disadvantage to producers in countries with an appreciated currency, 3073-3084, 3234-3237; facilities offered for trade between two silver countries as against trade between a silver and a gold country, 3715, 5808-5815.

Discouragement to invest in silver-using countries, 3101-3103, 3164-3178, 5847-5861.

In countries with inconvertible paper currency the depreciated paper is the basis of transactions, not the appreciated coin, 3645-3650.

Effects of exchange upon trade and prices, 3114-3137, 3224-3227, 3677-3679, 3687-3714, and on investments in silver countries, 3146-3164, 3218-3220; evils arising from the want of a fixed par of exchange, 3677-3679, 3709-3714, especially in the case of India, 4483-4516.

Disadvantages under which the agricultural interest suffers owing to the existing state of things, 3778-3781.

An appreciating currency is generally unfavourable to trade, 3092-3099.

Evils of low and especially falling prices, 3104-3105, 3238, 3617-3626, 3851, 5816-5818.

Necessity of an elastic currency to meet the increasing requirements of trade, &c., 3617-3626, 3846-3854.

Effect of contraction of the currency in this and other countries, 3746.

Meaning of the term "appreciation of gold," 5180-5188, 5201-5205.

Effects of a fall of prices vary according to the causes which have brought it about, 5189, 5190.

Fall of prices proceeding from increased abundance of commodities, 5190-5200.

Nature of the evidence which proves a fall in prices, 5205-5219; and a scarcity of gold, 5354-5362.

The evil alleged is a scarcity of gold, which in itself constitutes a fall of prices, 5201-5205, 5220-5222.

Course of prices during the last 25 years, 5256-5262.

And the available supply of gold, 5322-5327, 5355-5368, 5374-5378, 5396-5400, 5831-5841.

As to economy of currency in recent years, 3747-3758.

Connexion between prices and currency, 4554-4572, 4634-4641, 4675-4693, 5223-5255, 5262-5321, 5388-5395, 5820-5830.

Effect of the rate of interest on the supply of gold, 5328-5352, 5368-5373.

Wages and necessaries of life are affected very slowly by changes in the value of the currency, 3076-3079, 3082-3084, 3138, 3139, 3213, 3214, 3743-3745, 4529-4553; except, perhaps, in countries themselves producing the material of the currency, 3085-3089.

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