

Market Timing Report's
LONG TERM FINANCIAL MARKETS DATABASE

Section BP
BRITISH POUND EXCHANGE RATES

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Long-Term Financial Markets Database

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INTRODUCTION

This long term financial data base generally begins in 1861 and consists data for nine classifications of financial statistics:

- BP British Pound Exchange Rates in New York,
- FX Foreign Exchange in New York for the Major Trading Currencies,
- INT Long and Short Term Interest Rates in New York,
- STK Stock Market Indexes for U.S. Stock Markets,
- LME London Metal Exchange Prices in London and New York,
- PGM Precious & Platinum Group Metal Prices in London and New York,
- FRB United States Reserves of Depository Institutions,
- M United States Money Supply and Its Components, and
- TR Total Return Indexes.

Extensive documentation is provided as to the source or derivation of every entry in the data base. Some of the series are purely historical, representing either actual quotations or derived values in units which are no longer quoted. The following list gives the total number of series and the number of series currently maintained in each section of data:

- BP The British Pound Exchange Rate Section consists of 4 historical series of which 2 are currently maintained;
- FX The New York Foreign Exchange Rate Section consists of 25 historical currency series all of which are currently maintained;
- INT The U.S. Interest Rate Section consists of 45 historical series of which 17 are currently maintained;
- STK The U.S. Stock Market Indexes Section consists of 48 historical series of which 27 are currently maintained;
- LME The London Metal Exchange Prices consists of aluminum, copper, nickel, lead, tin and zinc prices in New York and London;
- PGM The Precious & Platinum Group Metal Prices consists of gold, platinum, palladium and silver prices in New York and London;
- FRB The U.S. Reserves of Depository Institutions Section consists of 43 historical series of which 30 are currently maintained;
- M The Money Supply Components Section consists of 45 historical series 40 of which are currently maintained;
- TR The Total Return Indexes section consists of 13 historical total return series derived from 65 component indexes which are all currently maintained.

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The specific series which are currently maintained are indicated in the filename indexes for each section below. Because the focus of this data base is the compilation of rare long term historical series, each of the currently maintained series are readily available from numerous publications and on line data bases. Market Timing Report updates the database quarterly on its website.

The following list identifies many primary and secondary sources for current data:

Board of Governors of the Federal Reserve System, Washington, D.C. 20551.

Federal Reserve Statistical Releases:

- H.3 Aggregate Reserves of Depository Institutions and the Monetary Base
- H.4.1 Factors Affecting Reserves of Depository Institutions and Condition Statement of Federal Reserve Banks
- H.6 Money Stock, Liquid Assets and Debt Measures
- H.10(512) Foreign Exchange Rates
- H.15(519) Selected Interest Rates

Dow Jones and Co., Inc., 22 Courtland Street, New York, New York 10007.

Barron's (call loans and all stock market indexes)

Wall Street Journal (call loans, New York and London LME & PGM prices and all stock market indexes)

Also, both Barron's and the Wall Street Journal have current interest rate and foreign exchange rate data which is extremely close to the series in this data base, but are not the same sources.

The Economist Newspaper, Inc., 111 West 57th Street, New York, New York 10019-2211.

"The Economist" (foreign money market rates for total return indexes)

Financial Times Ltd., Number One Southwestern Bridge; London SE1 9HL.

Financial Times (London LME & PGM prices)

McGraw-Hill, Inc., 1221 Avenue of the Americas, New York, New York 10020.

Platt's Metals Week (New York LME & PGM prices)

Moody's Investment Service, Inc., 99 Church Street, New York, New York 10007.

Moody's Bond Service (Moody's Aaa and Baa corporate bond yields)

Standard and Poor's Corporation, 25 Broadway, New York, New York 10004.

"Outlook" (several Standard and Poor's Stock Indexes)

Times Newspaper, Ltd., 1 Virginia Street, London E1 9XN.

The Times (London LME & PGM prices)

Arnold Bernhard and Co., Inc., 711 Third Avenue, New York, New York 10017.

"The Value Line Investment Survey" (Value Line Indexes)

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Websites:

American Stock Exchange	www.amex.com
Engelhard	www.engelhard.com/eibprices/DPCharts.aspx
KITCO	www.kitco.com/gold.londonfix.html
London Bullion Market Association	www.lbma.org.uk/statistics_historic.htm
The Bullion Desk	www.thebulliondesk.com/nav_ns4.asp
Johnson Matthey	www.platinum.matthey.com/prices
London Platinum & Palladium Market	www.lppm.org.uk/statistics_cover.html
Federal Reserve Board	www.federalreserve.gov/releases/
London Metal Exchange	www.lme.co.uk/dataprices_historical.asp
New York Stock Exchange	www.nyse.com
Standard & Poors	www.standardandpoors.com

The database can be of use for many fields of inquiry including economic historians, business cycle researchers, central bank researchers, students of the individual precious metals and financial markets covered as well as time series technical analysis researchers.

Periods for which there are no quotations (i.e. before the start of a series or for periods when the market was closed), have zeros entered into the time period slots. When a market was apparently open but no quotation was available in the sources reviewed, a quotation was estimated by interpolation or bid-asking spreads. Dates for which quotations were estimated are detailed in the relevant documentation sections.

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SELECTING UNIFORM WEEKLY QUOTATION DATES

Two approaches were considered in selecting the uniform quotation date to be used each week in constructing this weekly data base:

- 1) providing the last quotation of the week for each series (comparable to the daily close), and
- 2) providing the same quotation date for all series to allow for comparisons for the study of intermarket relationships.

Because some but not all of the markets in the early years were traded on Saturdays and often there were days when London markets were closed for British holidays while New York markets were open and vice versa, a compromise between the two approaches was made. When the New York bond markets ceased Saturday trading in 1952, all of the markets were traded Monday through Friday except for holidays. For this data base quotations are always taken the last day of the week for which all of the markets were open, which is usually Friday (except for the Federal Reserve data). Because of a few extremely peculiar cases, sometimes different quotation dates had to be taken in different markets for the same week. As a result there are three date files which are very similar but not identical for the various markets:

DATE1861.WFM	for LME & PGM metals, foreign exchange rates, stock market indexes and interest rates
FRDT1913.FRB	for the U.S. Reserves of Depository Institutions

DERIVATION OF SPECIAL SERIES FROM DAILY DATA SERIES

When quotations are consistently available on a daily basis for various series, the quotations have been processed to create various "derived" sub-series. These include weekly, monthly, quarterly and annual series of the open, high, low, close and average of these time periods. Sub-series can easily be identified by the three letter file extensions described in the Key to Data Filenames

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Key to Datafile Names

????YYYY.### - General filename fields where:
???? - Four characters describing the data series
YYYY - Four numbers indicating the first year in the data file
.### - Three character appendage

The .### Appendage represents

.DCL Daily Close
.WAV Weekly AVerage from daily closing data
.WOP Weekly OPen from daily closing data
.WHI Weekly HIgh from daily closing data
.WLO Weekly LOw from daily closing data
.WCL Weekly CClose from daily closing data
.MAV Monthly AVerage from daily closing data
.MOP Monthly OPen from daily closing data
.MHI Monthly HIgh from daily closing data
.MLO Monthly LOw from daily closing data
.MCL Monthly CClose from daily closing data
.QAV Quarterly AVerage from daily closing data
.QOP Quarterly OPen from daily closing data
.QHI Quarterly HIgh from daily closing data
.QLO Quarterly LOw from daily closing data
.QCL Quarterly CClose from daily closing data
.AAV Annual AVerage from daily closing data
.AOP Annual OPen from daily closing data
.AHI Annual HIgh from daily closing data
.ALO Annual LOw from daily closing data
.ACL Annual CClose from daily closing data

All files with the .WFM appendage represents Weekly Friday quotations that are quoted on the same dates throughout the entire database (with a few exceptions detailed in the documentation for each .WFM file).

DATEYYYY.DLY daily ANSI dates
DATEYYYY.WFM weekly ANSI dates, Fridays for all but .FRB
FRDTYYYY.FRB weekly ANSI dates, Wednesdays for Federal Reserve Board data

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Section BP

NEW YORK BRITISH POUND EXCHANGE RATE DATA SERIES

Data Series	Page	Description
<u>New York: U.S. dollars per British pound, 1861 to present</u>		
BPNY1861.DCL	BP3	* close; daily
BPNY1861.WFM	BP3	* Fridays weekly
BPNY1861.#AV	BP3	* average; #
BPNY1861.#OP	BP3	* open; #
BPNY1861.#HI	BP3	* high; #
BPNY1861.#LO	BP3	* low; #
BPNY1861.#CL	BP3	* close; #
<u>London: U.S. dollars per British pound, 1979 to present</u>		
BPLD1961.DCL	BP6	* daily close
BPLD1861.WFM	BP6	* Friday; weekly
<u>New York and London: U.S. dollars per British pound, 1979 to present</u>		
BPNL1961.DCL	BP6	* daily close
BPNL1861.WFM	BP6	* Friday; weekly
<u>New York: Original British pound exchange rates, 1861 through 1878</u>		
BP541861.DCL	BP7	daily
BP541861.DCM	BP7	long quotations; daily
BP541861.DCF	BP7	Friday quotes from BP541861.DCL; daily.
BP541861.DCW	BP7	weekly short quotations; daily.
<u>New York: U.S. fiat dollars per gold dollar ratios, 1861 through 1878</u>		
GPRM1861.DCL	BP10	daily close
GPOP1861.DOP	BP10	daily open
GPHI1861.DHI	BP10	daily high
GPL01861.DLO	BP10	daily low
GPCL1861.DCL	BP10	daily close
<u>National Bureau of Economic Research Business Cycles, 1861 to present</u>		
NBER1861.DCL	BP11	daily index
NBER1861.WFM	BP11	weekly index
NBER1861.MCL	BP11	monthly index

* Series currently available and maintained.

Can be W-weekly, M-monthly, Q-quarterly or A-annually

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INTRODUCTION TO THE BRITISH POUND EXCHANGE RATES SECTION

Each line of the British Pound Table (files BP_Table.DCL and BP_Table.WFM) presents a British Pound quotation in New York for the dates given in the leftmost column. Quotations begin in 1861 with the following five series for each day:

1. Quotation dates
2. Day of the week
3. Bid or buying prices for British pounds in New York as dollars per pound.
4. Ask or selling price for British Pound in London as dollars per pound.
5. Dollars per pound in New York or in London if the New York market is closed.

British pound Table 5 (file BP_TBL5.DCL) provides all the series from 1861 through 1878 required to calculate the British pound quotations in the modern form from the original quotations forms of the Civil War greenback dollar era.

Columns 1 through 6 in BP_TBL5.DCL contain obsolete original quotation series relevant only to the greenback era (1862-1878) which were used to calculate equivalent fiat U.S. dollar per British pound exchange rates (column 7) in the same form as the modern quotations from 1879 to present. Table 4 provides detailed definitions and dates of British coins and monetary units.

The data series included with this data base were collected and developed as daily closing data. All of the shorter series (weekly, monthly, quarterly and annual series) were extracted or calculated from the daily closing data series in the BP_Table.DCL file.

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WEEK OF THE YEAR NUMBERS

Units: Week number

Filename: BP_Table.WFM left most column

Data Series: none

Format: week count from 1 to 52 or 53 for each year
W2 is read as the 2nd week of the year

Comments: Quotations for silver were normally taken on Friday of each week, with some exceptions for holidays. Although a year consists of 52 weeks and 1 or 2 days, any particular year may have 52 or 53 Fridays. The week number for each quotation date is provided for each year, from 1 to 52 or 53.

QUOTATION DATES

Units: The first and second digits from the right are the days of the month. The third and fourth digits from the right are the month of the year. The four left most digits are the year.

Filename: BP_Table.DCL Dates on the left side of the table

Data Series: DATE1861.DLY

Filename: BP_Table.WFM Dates on the left side of the table

Data Series: DATE1861.WFM

Format: 18610104 is read as January 4, 1861
18611229 is read as December 29, 1861

Comments: The weekly .WFM quotations are normally taken for Fridays except on holidays when the last previous open market day quotations are used. The letters immediately to the right of the date give the day of the week. Fr is for Friday, Th is for Thursday and We is for Wednesday, etc.

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1. NEW YORK: DOLLARS PER BRITISH POUND EXCHANGE RATES

Units: U.S. dollars per British pound

Filename:	FX1_Tb1e.DCL	BPNY in column 1
Filename:	BP_Tab1e.DCL	BPNY in column 1
Filename:	BP_TBL_5.DCL	BPNY in column 7
Data Series:	BPNY1861.DCL	daily closing quotations
Filename:	BP_TABLE.WFM	BPNY in column 1
Data Series:	BPNY1861.WFM	weekly closing quotations
Filename:	BPNY1861.DNZ	BPNY in column 1
Data Series:	BPNY1861.DNZ	daily closing quotations, no zeros
Filename:	BPNY1861.#TX	open/high/low/close/average
Data Series:	BPNY1861.#OP	BPNY open in column 1
	BPNY1861.#HI	BPNY high in column 2
	BPNY1861.#LO	BPNY low in column 3
	BPNY1861.#CL	BPNY close in column 4
	BPNY1861.#AV	BPNY average in column 5

where # can be: W-weekly, M-monthly, Q-quarterly or A-annual

Sources: For 1861 through 1864 the values are calculated from weekly New York U.S. fiat dollar per 54 pence quotations as shown in Equation 1. For 1865 the values are calculated from weekly New York U.S. gold dollars per 54 pence quotations (column 6) and the gold premiums (column 5) as shown in Equation 2. For 1866 through 1870 the values are calculated from New York U.S. gold dollars per 54 pence (columns 8, 9, and 10) and the daily gold premium (column 5) as shown in Equation 3. For 1871 through 1873 the values are calculated from daily New York U.S. gold dollars per 54 pence quotations (column 6) and the daily gold premium (column 5) as shown in Equation 2. For 1874 through 1878 the values are calculated from daily New York U.S. gold dollars per British Pound quotations (column 6) and the daily gold premiums (column 5) as shown in Equation 4. From 1879 through 1909, the dollars per pound values are bankers sight buying rates, original data obtained from the annual tables of daily quotations published each January in the Commercial and Financial Chronicle. From 1910 through April 4, 1919 cable buying rates were obtained from the monthly tables of daily data published in the Monthly Review section of the Commercial and Financial Chronicle. From April 11, 1919 to present the quotations are the noon buying rates for cables as published by the Federal Reserve Board. These rates are currently published weekly with

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daily quotations as H.10(512) Foreign Exchange Rates, a Federal Reserve Statistical Release. Table 2 lists the dates on which secondary sources were used to find quotations.

Calculations: The following equations have been used to develop this series in BP_TBL_5.DCL.

EQUATION 1: Conversion of the New York exchange rate, paper dollars per 54 pence to paper dollars per pound.

from 1861 through 1864,

((fiat \$/54 pence rate, col. 6)

$\frac{x (240 \text{ pence/pound})}{(54 \text{ pence})}$ = fiat \$/pound exchange rate, col. 7

EQUATION 2: Conversion of the New York exchange rate, gold dollars per 54 pence to paper dollars per pound.

from 1865 and 1871 through 1873,

((gold \$/54 pence rate, col. 6)

x (240 pence/pound)

$\frac{x (\text{fiat } \$/\text{gold } \$ \text{ premium, col. 5})}{(54 \text{ pence})}$ = fiat \$/pound exchange rate, col. 7

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EQUATION 3: Short (3 day) rates were only available weekly from 1866 through 1870 while long (60 day) rates were available daily. The calculation of estimated daily short data was accomplished by multiplying the weekly short exchange rate data by the ratio of the daily long exchange rate data divided by the Friday long exchange rate data, thus estimating the daily short exchange rate values.

from 1866 through 1870,

((gold \$/54 pence daily long (60 day) rate, col. 8)
x (240 pence/pound)
x (gold \$/54 pence Friday short (3 day) rate, col. 10)
x (fiat \$/gold \$ premium, col. 5)) = fiat \$/pound exchange rate, col. 7
((gold \$/54 pence Friday long (60 day) rate, col. 9)
X (54 pence))

EQUATION 4: Conversion of the New York exchange rate, gold dollars per pound to paper dollars per pound.

from 1874 through 1878,

(gold \$/pound, col. 6)
x (fiat \$/gold \$ premium, col. 5) = fiat \$/pound rate, col. 7

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2. LONDON: DOLLARS PER BRITISH POUND EXCHANGE RATES, 1968-PRESENT

Units: U.S. dollars per British pound, London.

Filename: BP_Table.DCL BPLD in column 2
Data Series: BPLD1861.DCL daily closing quotations

Filename: BP_Table.WFM BPLD in column 2
Data Series: BPLD1861.WFM weekly closing quotations

Sources: From 1968 through 1988, Times of London daily close, selling rate.
From 1989 to present, London Metal Exchange.

3. NEW YORK & LONDON: DOLLAR PER BRITISH POUND EXCHANGE RATES, 1968-PRESENT

Units: U.S. dollars per British pound, London and New York

PGM Tables: BPNL in Column 2, 1879 to present
LME Tables: BPNL in Column 2, 1879 to present

Filename: BP_Table.DCL BPNL in column 3
Data Series: BPNL1861.DCL daily closing quotations

Filename: BP_Table.WFM BPNL in column 3
Data Series: BPNL1861.WFM weekly closing quotations

Sources: From 1861 to present, New York data (BPNY, Column 1) when quoted,
with London (BPLD data, Column 2) when there is no quote in New York.

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4. NEW YORK: DOLLARS PER BRITISH POUND EXCHANGE RATES, 1861 - 1878

Units: U.S. fiat dollars per 54 pence, 1861 through 1864,
 long buying rates for bankers bills (one quote per week)
U.S. gold dollars per 54 pence, 1865
 long buying rates for bankers bills (one quote per week)
U.S. gold dollars per 54 pence, 1866 through 1870,
 short buying rates for bankers bills (daily quotes)
U.S. gold dollars per 54 pence, 1871 through 1873,
 3 day buying rates for bankers bills (daily quotes)
U.S. gold dollars per pound, 1874 through 1878,
 3 day buying rates for bankers bills (daily quotes)

FX Table 1: Column 10, 1861 through 1878

Filename: BP_TBL_5.DCL Column 6
Data Series: BP541861.DCL 1861 through 1878

Sources: Three periodicals were needed to piece together British pound quotations from 1861 through 1878. From 1861 through 1864, quotations were obtained from two sources: Hunt's Merchants' Magazine (Commercial Chronicle and Review section) and the Economist (rates of exchange on London in New York). Both Hunt's and the Economist had to be utilized to develop this series because neither magazine had quotations every week. Because gold quotations were taken on Fridays (except when Friday was a holiday) and both Hunt's and the Economist published exchange rates sporadically, the exchange rate quotation closest to Friday determined whether the exchange rate from the Economist or Hunt's was used. If both magazines had quotations on the same day or the same number of days from Friday (i.e. both on Wednesday or Hunt's on Saturday and the Economist on Thursday) the quotation which most closely reflected the Friday gold premium was used. Occasionally, when neither the Economist or Hunt's had a quotation for a given week, a value was estimated. A detailed list of the source (Hunt's, the Economist or estimate) for each weekly quotation is given in Table 1. From January 1 through June 16, 1865 all of the British pound quotations are from Hunt's Merchants' Magazine. From June 23, 1865 through 1878 the quotations are from the Commercial and Financial Chronicle. From June 23, 1865 through December 1865, the quotations are from weekly tables of weekly data in the Bankers Gazette section. From 1866 through 1870 the daily file, (BP541861.DCL), contains daily quotations derived from the monthly tables of daily data in the Monthly Review section and the weekly short exchange rate quotes from the Bankers Gazette section, calculated as shown in Equation 3. For 1871 through 1878 the quotations are from annual tables of daily data published in January of each year in the Monthly Review section. In 1870 Hunt's was merged with the Commercial and Financial Chronicle. Since the Commercial and Financial Chronicle

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quotations were used from 1870 to 1919 and there was no significant difference in the numbers between 1866 and 1870, the quotations from Commercial and Financial Chronicle were used exclusively for 1866 through 1870.

Comments: From 1861 through 1878 the method of quoting British pounds exchange rates underwent several changes. For seventeen years, from 1862 through 1878, the U.S. was off of the gold standard which resulted in quotations being made in both gold dollars and fiat dollars. Before 1874 the custom was to quote British pounds in terms of dollars per 54 pence. From 1861 through June 16, 1865 quotations were only available as long buying rates for bankers bills. From June 23, 1865 through 1870 the weekly file (BP541861.WFM) quotations are short buying rates for bankers bills. From 1866 through 1870 the daily file (BP541861.DCL) quotations are long buying rates for bankers bills. The files are different because short rates are the most desirable form of quotation but were only available weekly during this period. The only daily quotes during this period are long rates. An explicit definition of long and short rates has not been found for this period, but when the quotation terminology was changed in 1871, long was replaced with sixty days and short was replaced with 3 days. For 1871 through 1878 the quotations used are for 3 day bankers bills. Dates for which quotations were obtained from secondary sources are given in Table 2. Dates for which quotations had to be estimated are given in Table 3. Table 4 provides mint par definitions of British coins.

Columns 8 through 10 from 1866 through 1870 in BP_TBL_5.DCL are the original exchange rate data for these years. Column 8 is the daily long (60 day) exchange rate quotation from the Monthly Review. Column 9 is the Friday quotations from Column 8 for each day of the week. Column 10 is the weekly short (3 day) exchange rate from the Bankers Gazette section. For 1866 through 1870, Column 6 is column 8 divided by Column 9 times Column 10.

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Calculations: For 1866 through 1870, the following equation was used to develop the BPNY1861.DCL (column 6) series in BP_TBL_5.DCL:

EQUATION 5: Estimation of daily gold \$/54 pence short (3 day) exchange rate from the daily long rate and the weekly Friday short rate:

((gold \$/54 pence daily long (60 day) rate, col. 8)

$\frac{x(\text{gold } \$/54 \text{ pence Friday short (3 day) rate, col. 10})}{(\text{gold } \$/54 \text{ pence Friday long (60 day) rate, col. 9})} = \text{gold } \$/54 \text{ pence daily short (3 day), col. 6}$

or

$\frac{\text{BP541861.DCM} \times \text{BP541861.DCW}}{\text{BP541861.DCF}} = \text{BP541861.DCL}$

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5. NEW YORK: GOLD PREMIUMS

Units: fiat dollars per gold dollar

FX Table 1: Column 9, 1861 through 1878
FX Table: Column 10, 1861 through 1878
Gold Table: Column 8, 1861 through 1878
Silver Table: Column 8, 1861 through 1878
Copper Table: Column 9, 1861 through 1878

Filename: BP_TBL_5.DCL daily "Greenback era" quotations
Data Series: GPRM1861.DCL Column 5, 1861 through 1878

Sources: During the seventeen years of the Greenback Era (1862-1878) the U.S. was not on the gold standard. As a result prices were quoted in both paper and gold dollars. Gold prices in New York were expressed as the "premium" of paper dollars to gold dollars.

From 1862 through June 1865 the premium was derived from the average of the high and low premium for each day from Mitchell's Gold, Prices, and Wages, 1860- 1880. From July, 1865 through 1878 the premium is from the daily close of New York gold market as quoted by the Commercial and Financial Chronicle in the Bankers Gazette section as a weekly table of daily data.

6. NEW YORK: DAILY OPEN, HIGH, LOW AND CLOSE GOLD PREMIUMS

Units: fiat dollars per gold dollar

Filename: BP_TBL_5.DCL daily "Greenback era" quotations
Data Series: GPOP1861.DCL Column 1, 1861 through 1878
GPHI1861.DCL Column 2, 1861 through 1878
GPL01861.DCL Column 3, 1861 through 1878
GPCL1861.DCL Column 4, 1861 through 1878

Sources: From 1862 through June 1865 the GPOP (gold premium open) and the GPL0 (gold premium low) values are from Mitchell's Gold, Prices and Wages, 1860-1880. From 1862 through June 1865 the GPHI (gold premium high) and the GPCL (gold premium close) values were also from Mitchell's Gold, Prices and Wages, 1860- 1880. From July 1865 through 1878 the values are from the weekly Bankers Gazette section of the Commercial and Financial Chronicle. Apparent printing errors in the Bankers Gazette were checked against the high and low values from Mitchell's Gold, Prices and Wages, 1860-1880.

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7. NATIONAL BUREAU OF ECONOMIC RESEARCH (NBER) BUSINESS CYCLES

Units: index

Filename: BP_Table.DCL NBER in column 4
Data Series: NBER1861.DCL -# for contraction days & +# for expansion days & 0 for peak/trough months

Filename: BP_TABLE.WFM NBER in column 2
Data Series: NBER1861.WFM -# for contraction weeks & +# for expansion weeks & 0 for peak/trough months

Filename: BPNY1861.MTX NBER in column 6
Data Series: NBER1861.MCL -# for contraction months, +# for expansion months & 0 for peak/trough months

Source: National Bureau of Economic Research (NBER) website: <http://www.nber.org>

Comments: The NBER determines the month during which economic expansions end and the next economic contraction begins as a peak month. Similarly, the month during which economic contractions end and the next economic expansion begins as a trough month. Since the NBER only identifies the peak and trough months, we have arbitrarily decided to represent the daily and weekly series with the transition from expansion to contraction or vice versa at mid month. The number 0 represents contraction or recession and the number 1 represents expansion. For the monthly data series peak and trough months are represented by the number 2.

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Table 1: Sources of New York Quotations For the British Pound, 1861-1864

1861			1862			1863			1864		
DATE	\$/54d	SOURCE	DATE	\$/54d	SOURCE	DATE	\$/54d	SOURCE	DATE	\$/54d	SOURCE
105	103.5	E	101	110.5	H	103	147.5	E	102	166	H
115	105	E	111	114.5	E	110	149	H	109	166.5	H
119	106.5	E	115	113.5	H	117	161	E	116	170.75	E
126	106.5	E	121	114.5	E	124	163	E	123	172	E
201	107	E	201	113.5	E	131	171	H	130	171.75	E
209	104.75	E	208	114.5	E	207	173.5	E	206	173	E
216	105	E	215	115	H	214	170	H	213	174	E
223	105.5	E	221	114	E	221	171	H	219	174	E
302	105.5	E	301	112	H	228	188.5	E	227	173	E
309	106	E	308	113	E	307	170	E	305	174.5	H
316	106.5	E	314	112.125	E	314	175	E	312	177	H
323	107	E	322	111	H	321	169.5	H	319	177.25	E
327	107.5	E	329	111	H	228	188.5	E	227	173	E
406	108.25	E	405	111.5	H	404	168	H,E	401	180.5	E
413	107.325	E	412	111.75	H	411	166	E	408	184.5	E
420	106.41	E	419	111.75	E	418	166	E	416	189	H
427	105.5	E	426	111.5	H	425	166	E	423	192	E
504	104.25	E	503	112.5	H	502	163	H	430	197	E
516	106.25	E	510	113	H	509	165	E	507	192	H
518	106.25	E	517	113	H	516	165	E	512	190	E
525	105.5	E	524	114	E	523	165	E	521	196	H
601	104.5	E	531	114	H	530	156.5	H	528	205	E
608	105.5	E	607	114	H	606	158.5	H	604	210	E
614	105.5	est	614	117.25	H	613	156	H	611	215	H
619	106	E	618	116.5	E	620	156.5	E	618	216	H
628	106	E	626	120.5	H	627	159	H	623	234	E
706	107	E	705	120	H	701	158	E	702	270	H
713	106.75	E	712	127	H	711	143	H	709	292	H
720	106.75	E	719	128.5	H	717	139	E	716	274	E
727	107.75	E	726	126	H	725	138	H	723	273	H
803	107.25	E	802	125	H	801	141	E	727	280	E
810	107.5	E	809	124	H,E	808	139.5	H	806	280	E
817	107.5	E	816	126.5	H	815	137.5	H	812	276	E
824	107.5	E	823	126.75	H	822	137.375	E	819	280	E
831	107.25	E	830	126.75	H	829	135.5	H	827	275	H
910	108	E	906	128.75	H	905	144.75	E	903	260	H
914	107.75	E	913	126.5	H	912	142	H	910	253	H
924	108.5	E	920	128.25	H	919	146	H	917	245	H
928	108.25	E	927	128.5	H	925	153	E	924	230	H
1005	107.25	E	1004	134.5	H	1003	154.5	H	1001	208	H
1012	107.75	E	1011	141	E	1010	160.5	H	1008	210	H,E
1022	107.75	E	1018	148	H	1017	168.5	H	1011	227	E
1026	107.75	E	1025	143	H	1024	158	H	1022	227	H
1031	107.5	E	1101	143.5	H	1031	158.5	H	1029	238.75	H
1108	107.25	E	1108	145.5	H	1107	160.5	E	1105	267	H
1115	108.5	E	1115	145.5	H	1114	161	H	1112	265	H
1127	109.25	E	1122	143.5	H	1121	168	H	1119	261	H
1130	109	E	1129	141	H	1128	157	H	1126	240.5	H
1207	109	E	1206	144.5	H	1205	167	E	1203	252	H
1214	109.25	E	1213	144.5	H	1211	165	E	1210	260	E
1221	111	E	1220	144.5	H	1219	165	E	1217	252	E
1228	110.75	E	1227	145.5	E	1226	165.5	H	1224	243.5	E
									1231	249.5	E

E-Economist

H-Hunts

est-estimated

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Table 2: New York British Pound Per U.S. Dollar Quotations Obtained from Secondary Sources

Apr 28,1870 est	Dec 31,1898 EMJ	Dec 26,1908 WSJ
Apr 11,1879 CFC BG	Mar 31,1899 CFC BG	Dec 28,1908 NYT
Mar 26,1880 NYT	Jul 3,1899 EMJ	Feb 13,1909 NYT
Apr 15,1881 NYT	Nov 25,1899 EMJ	May 29,1909 NYT
Apr 3,1885 est	Sep 7,1901 FT	Jul 3,1909 NYT
Jul 5,1890 CFC BG, FT	May 31,1902 EMJ	May 28,1910 WSJ
Jul 2,1892 EMJ	Jul 5,1902 NYT	Aug 6,1914 WSJ
Mar 31,1893 EMJ, FT	Aug 9,1902 EMJ	Mar 15,1920 CFC MR
Aug 7,1893 EMJ, NYT	Dec 26,1903 EMJ	Apr 3,1920 CFC MR
Dec 27,1896 NYT	Apr 1,1904 CFC BG	Mar 25,1939 WSJ
May 4,1898 EMJ	Apr 2,1904 NYT	Apr 9,1968 H & H
May 27,1898 EMJ	Dec 24,1904 NYT	Nov 11,1968 H & H
Jul 2,1898 NYT	Feb 23,1907 EMJ	Feb 12,1969 H & H
Dec 24,1898 EMJ	Aug 31,1907 est	Oct 13,1969 H & H
		Nov 11,1969 H & H

CFC BG	Commercial and Financial Chronicle, Bankers Gazette
CFC MR	Commercial and Financial Chronicle, Monthly Review
est	estimated because quoted as nominal or irregular
EMJ	Engineering and Mining Journal
FT	Financial Times
H & H	Handy and Harmon
NYT	New York Times
WSJ	Wall Street Journal

Table 3: Dates On Which British Pound Quotations Had To Be Estimated

Jun 14,1861	Feb 5,1869	Apr 28,1870
Jun 1,1866	Feb 27,1869	Jul 8,1870
Jan 10,1868	Apr 12,1869	Sep 23,1870
Jan 22,1869	Sep 24,1869	Oct 7,1870
Jan 29,1869	Oct 4,1869	

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TABLE 4: Mint Definition of English Coins

Act of June 22, 1816 ¹	closed mint to free coinage of silver
Act of May 1, 1821 ²	resume payments in gold
Mint Regulations ³	480 troy oz. of gold, 11/12 fine, yields 1869 pounds
1920 ⁴	British subsidiary coinage reduced from .925 fine to .500 fine
August, 1914 ⁵	gold payments suspended
April 28, 1925 ⁵	gold payments resumed
September 21, 1931 ⁶	gold payments suspended

	Gram	Grain	Troy oz/lb.	lb. decimal /troy oz.	lb./s./d.	Pence
1821 gold lb.	7.322381773	113.0016051	.2354200106	4.247727273	4/ 4/11.5	1019.5
(11/12) 1821 gold lb.	7.988052848	123.2744784	2568218299	3.893750012	3/17/10.5	934.5
Fine slvr coin before 1920	104.6208262	1614.545875	3.363637239	.29729722	0/ 5/11.35	71.35
Std slvr coin before 1920	113.1035459	1745.455	3.636364583	.274999928	0/ 5/ 6	66
Fine slvr coin after 1920	56.55179794	872.7275	1.818182292	.549999857	0/10/12	132
Std slvr coin after 1920	11.3103595	1745.455	3.636364583	.274999928	5/ 6	66

THE OLD BRITISH MONETARY UNITS

1 pound = 20 shillings = 240 pence = 960 farthing
 1 shilling = 12 pence = 48 farthing
 1 pence = 4 farthing

THE NEW BRITISH DECIMAL MONETARY UNITS

1 pound=100 new pence 1 new pence=2.4 old pence 1 shilling=5 new pence

¹ Pearson, Frank A. and George F. Warren, Gold and Prices, p. 175

² Pearson, Frank A. and George F. Warren, Gold and Prices, p. 281

³ Clare, George, A Money Market Primer, p. 74

⁴ Cowles Commission for Research in Economics, Silver Money, p. 358

⁵ Pearson, Frank A. and George F. Warren, Gold and Prices, p. 156

⁶ Pearson, Frank A. and George F. Warren, Gold and Prices, p. 172

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TABLE 5: Greenback Era British Pound Quotations, see BP_TBL5.DCL

BP_TBL_5.DCL

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TABLE 5: NEW YORK BRITISH POUND EXCHANGE RATES

YEARMMDD	GPOP	GPHI	GPLO	GPCL	GPRM	BP54	BPNY	BP54	BP54	BP54
.DLY	.DOP	.DHI	.DLO	.DCL	.DCL	.DCL	.DCL	.DCM	.DCF	.DCW
Column=>	1	2	3	4	5	6	7	8	9	10
18610101,	.00000,	.00000,	.00000,	.00000,	.000000,	.000000,	.000000,	.000000,	.00000,	.00000
18610102,	1.00000,	1.00000,	1.00000,	1.00000,	1.000000,	1.035000,	4.600000,	1.035000,	.00000,	1.03500
18610103,	1.00000,	1.00000,	1.00000,	1.00000,	1.000000,	1.035000,	4.600000,	1.035000,	.00000,	1.03500
18610104,	1.00000,	1.00000,	1.00000,	1.00000,	1.000000,	1.035000,	4.600000,	1.035000,	.00000,	1.03500
18610105,	1.00000,	1.00000,	1.00000,	1.00000,	1.000000,	1.035000,	4.600000,	1.035000,	.00000,	1.03500
...										
18650101,	.00000,	.00000,	.00000,	.00000,	.000000,	.000000,	.000000,	.000000,	.00000,	.00000
18650102,	.00000,	.00000,	.00000,	.00000,	.000000,	.000000,	.000000,	.000000,	.00000,	.00000
18650103,	2.26000,	2.28250,	2.26000,	2.28250,	2.271250,	1.082500,	10.927236,	1.082500,	.00000,	1.08250
18650104,	2.32250,	2.33750,	2.32250,	2.33750,	2.330000,	1.082500,	11.209889,	1.082500,	.00000,	1.08250
18650105,	2.27250,	2.28250,	2.27250,	2.28250,	2.277500,	1.082500,	10.957306,	1.082500,	.00000,	1.08250
18650106,	2.27750,	2.29375,	2.27750,	2.29375,	2.285625,	1.082500,	10.996396,	1.082500,	.00000,	1.08250
18650107,	2.26375,	2.27500,	2.26375,	2.27500,	2.269375,	1.082500,	10.918215,	1.082500,	.00000,	1.08250
...										
18660101,	.00000,	.00000,	.00000,	.00000,	.000000,	.000000,	.000000,	.000000,	.00000,	.00000
18660102,	1.44625,	1.44625,	1.44250,	1.44375,	1.443750,	1.101250,	7.066354,	1.090000,	1.09000,	1.10125
18660103,	1.44250,	1.44500,	1.43375,	1.43750,	1.437500,	1.101250,	7.035764,	1.090000,	1.09000,	1.10125
18660104,	1.43125,	1.43250,	1.42375,	1.43000,	1.430000,	1.101250,	6.999056,	1.090000,	1.09000,	1.10125
18660105,	1.42625,	1.43250,	1.42625,	1.43125,	1.431250,	1.101250,	7.005174,	1.090000,	1.09000,	1.10125
18660106,	1.42875,	1.43000,	1.41500,	1.41875,	1.418750,	1.101250,	6.943993,	1.090000,	1.09000,	1.10125
...										
18740101,	.00000,	.00000,	.00000,	.00000,	.000000,	.000000,	.000000,	.000000,	.00000,	.00000
18740102,	1.10500,	1.10500,	1.10125,	1.10375,	1.103750,	4.870000,	5.375263,	4.870000,	.00000,	4.87000
18740103,	1.10375,	1.11500,	1.10375,	1.11375,	1.113750,	4.865000,	5.418394,	4.865000,	.00000,	4.86500