

Write FAME databases from R

To use FAME HLI functions, include the package *rhli*. We will use `cfmfame()` to execute some FAME 4GL for the purposes of inspecting our FAME database writing skills.

```
library(qoma.smuggler)
library(rhli)

if(!open_hli())knitr::knit_exit()
```

Linux 4.9.0-4-amd64 #1 SMP Debian 4.9.65-3+deb9u1 (2017-12-23) GNU/Linux

R version 3.5.0 (2018-04-23)
Joy in Playing
x86_64-redhat-linux-gnu

lubridate	1.7.4
qoma.smuggler	0.0.1
rhli	0.0.2.9000
tibble	1.4.2
FAME HLI	11.63000

```
dbname <- paste(Sys.getenv("FAME"),"util","driecon",sep="/")
cat(dbname)
```

/opt/pkg/fame116linux/util/driecon

```
famedata <- read_fame(dbname)
```

`read_fame()` returns 55 objects from /opt/pkg/fame116linux/util/driecon

```
dbfile <- file.path(tempdir(),"tmp.db")
write_fame(dbfile,famedata)
```

`write_fame()` stored 55 objects in /tmp/RtmpWyZN9R/tmp.db

[1] TRUE

Use 4GL to peek at data in FAME. Output here is a bit verbose. Note that after FAME catalogs the database, we loop through the objects and write the object documentation.

```
txtfile <- file.path(tempdir(),"tmp.txt")
cmd <- rhli::Character(paste(
  "open<acc read>\\"",dbfile,"\" as db;",
  "output<acc over>\\"",txtfile,"\";",
  "cata db;",
  "-/xl = wildlist(db,\"?\");",
  "loop for x in xl; type name(x); type docu(x)+newline;end;",
  "output terminal;",
  "close db;",
  sep=""))
rhli::cfmfame(rhli::Integer(-1), cmd)
cat(readLines(txtfile), sep = '\n')
```

DB

/tmp/RtmpWyZN9R/tmp.db

Created: 20-Aug-18

Updated: 20-Aug-18

Contents

\$N -- SERIES (PRECISION by DATE:ANNUAL)
POPULATION INCLUDING ARMED FORCES OVERSEAS (P25E)

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CUSAO -- SERIES (PRECISION by DATE:MONTHLY)
CPI (ALL URBAN) - ALL ITEMS

CUSAONS -- SERIES (PRECISION by DATE:SEMIANNUAL)
CPIU - All items

DBTGFS -- SERIES (PRECISION by DATE:MONTHLY)
FEDERAL DEBT OUTSTANDING - TOTAL (TB)

DESC -- SERIES (STRING by CASE)
Object Descriptions

DJ30C -- SERIES (PRECISION by DATE:BUSINESS)
DOW JONES: 30 INDUSTRIAL AVERAGE

DJ65CMC -- SERIES (PRECISION by DATE:BUSINESS)
DOW JONES: 65 COMPOSITE AVERAGE

FBL3Y -- SERIES (PRECISION by DATE:BUSINESS)
TREASURY BILL: SECONDARY, 3-MONTH BOND-EQUIVALENT YIELD (H15) - US

FCN30YY -- SERIES (PRECISION by DATE:BUSINESS)
GOVT ISSUE: CONSTANT MATURITY, 30-YR (H15) - US

FIP1Q -- SERIES (PRECISION by DATE:BUSINESS)
COMMERCIAL PAPER: NON-FINAN, 1-DAY QUOTED YIELD - US

FIP30Q -- SERIES (PRECISION by DATE:BUSINESS)
COMMERCIAL PAPER: NON-FINAN, 1-MO QUOTED YIELD - US

FSCD30Y -- SERIES (PRECISION by DATE:BUSINESS)
CD: SECONDARY MKT, 1-MO YIELD - US

GDP -- SERIES (PRECISION by DATE:ANNUAL)
GROSS DOMESTIC PRODUCT

GDP96C -- SERIES (PRECISION by DATE:ANNUAL)
GROSS DOMESTIC PRODUCT (CHAINED)

GICV96 -- SERIES (PRECISION by DATE:ANNUAL)
 NEW CONSTRUCTION PUT IN PLACE - TOTAL PUBLIC

GNP -- SERIES (PRECISION by DATE:ANNUAL)
 GROSS NATIONAL PRODUCT

GNP96C -- SERIES (PRECISION by DATE:ANNUAL)
 GROSS NATIONAL PRODUCT (CHAINED)

HUCMPNC -- SERIES (PRECISION by DATE:MONTHLY)
 HOUSING COMPLETIONS, PRIVATE - NORTH CENTRAL (NRC)

HUCMPNE -- SERIES (PRECISION by DATE:MONTHLY)
 HOUSING COMPLETIONS, PRIVATE - NORTHEAST (NRC)

HUCMPSO -- SERIES (PRECISION by DATE:MONTHLY)
 HOUSING COMPLETIONS, PRIVATE - SOUTH (NRC)

HUCMPWT -- SERIES (PRECISION by DATE:MONTHLY)
 HOUSING COMPLETIONS, PRIVATE - WEST (NRC)

HUSTS -- SERIES (PRECISION by DATE:ANNUAL)
 HOUSING STARTS, PRIVATE INCLUDING FARM - TOTAL (C20)

HUSTS1 -- SERIES (PRECISION by DATE:ANNUAL)
 HOUSING STARTS, PRIVATE INCLUDING FARM - ONE UNIT (C20)

HUSTS1NS -- SERIES (PRECISION by DATE:MONTHLY)
 HOUSING STARTS, PRIVATE INCLUDING FARM - ONE UNIT (C20)

I -- SERIES (PRECISION by DATE:ANNUAL)
 GROSS PRIVATE DOMESTIC INVESTMENT

I96C -- SERIES (PRECISION by DATE:ANNUAL)
 GROSS PRIVATE DOMESTIC INVESTMENT (CHAINED)

ICV_G96 -- SERIES (PRECISION by DATE:ANNUAL)
 NEW CONSTRUCTION PUT IN PLACE - TOTAL

IPSB50001 -- SERIES (PRECISION by DATE:MONTHLY)
 INDUSTRIAL PRODUCTION INDEX - TOTAL INDEX

IPSB51214 -- SERIES (PRECISION by DATE:MONTHLY)
 INDUSTRIAL PRODUCTION INDEX - PAPER PRODUCTS

IPSB52100 -- SERIES (PRECISION by DATE:MONTHLY)
 INDUSTRIAL PRODUCTION INDEX - BUSINESS EQUIPMENT

IPSG311 -- SERIES (PRECISION by DATE:MONTHLY)
 INDUSTRIAL PRODUCTION INDEX - FOOD NAICS=311

IPSG3121 -- SERIES (PRECISION by DATE:MONTHLY)
 INDUSTRIAL PRODUCTION INDEX - BEVERAGE NAICS=3121

IPSG3122 -- SERIES (PRECISION by DATE:MONTHLY)
INDUSTRIAL PRODUCTION INDEX - TOBACCO NAICS=3122

IPSG325188Z -- SERIES (PRECISION by DATE:MONTHLY)
INDUSTRIAL PRODUCTION INDEX - OTHER INORGANIC CHEMICALS
NAICS=325188P

IPSG336 -- SERIES (PRECISION by DATE:MONTHLY)
INDUSTRIAL PRODUCTION INDEX - TRANSPORTATION EQUIPMENT NAICS=336

IPSG339 -- SERIES (PRECISION by DATE:MONTHLY)
INDUSTRIAL PRODUCTION INDEX - MISCELLANEOUS NAICS=339

JCOIN%LAG -- SERIES (PRECISION by DATE:MONTHLY)
RATIO, COINCIDENT INDEX TO LAGGING INDEX (BCI)

JLAG -- SERIES (PRECISION by DATE:MONTHLY)
LAGGING INDICATORS COMPOSITE INDEX (BCI)

JLEAD -- SERIES (PRECISION by DATE:MONTHLY)
LEADING INDICATORS COMPOSITE INDEX (BCI)

MNY1 -- SERIES (PRECISION by DATE:WEEKLY(MONDAY))
MONEY SUPPLY - CURRENCY, DEMAND DEPOSITS, OTHER CHECKABLE DEPOSITS (H6)

MNY2 -- SERIES (PRECISION by DATE:WEEKLY(MONDAY))
MONEY SUPPLY (M2) - M2 (H6)

NAMES -- SERIES (STRING by CASE)
Object Names

PIDGNP -- SERIES (PRECISION by DATE:ANNUAL)
IMPLICIT PRICE DEFLATOR - GROSS NATIONAL PRODUCT

RUC -- SERIES (PRECISION by DATE:MONTHLY)
UNEMPLOYMENT RATE - CIVILIAN (ESIT)

RXC132%USNS -- SERIES (PRECISION by DATE:MONTHLY)
EXCHANGE RATE IN NEW YORK - FRENCH FRANC PER US DOLLAR (G5)

RXC134%USNS -- SERIES (PRECISION by DATE:MONTHLY)
EXCHANGE RATE IN NEW YORK - GERMAN MARK PER US DOLLAR (G5)

RXC158%USNS -- SERIES (PRECISION by DATE:MONTHLY)
EXCHANGE RATE IN NEW YORK - JAPANESE YEN PER US DOLLAR (G5)

RXUS%C112NS -- SERIES (PRECISION by DATE:MONTHLY)
EXCHANGE RATE IN NEW YORK - US CENTS PER BRITISH POUND (G5)

STR -- SERIES (PRECISION by DATE:MONTHLY)
RETAIL SALES, TOTAL - (NAICS)

STRING_ATTRIBUTE_NAMES -- SCALAR (NAMELIST)

WPINS -- SERIES (PRECISION by DATE:MONTHLY)
All commodities

YP -- SERIES (PRECISION by DATE:ANNUAL)
PERSONAL INCOME

ZA -- SERIES (PRECISION by DATE:ANNUAL)
CORPORATE PROFITS AFTER TAX - TOTAL

ZB -- SERIES (PRECISION by DATE:ANNUAL)
CORPORATE PROFITS BEFORE TAX

Statistics

Total number of series: 54

Total number of scalars: 1

\$N
POPULATION INCLUDING ARMED FORCES OVERSEAS (P25E)
MILLIONS OF PERSONS, ESTIMATES ARE FOR JULY 1
U.S. DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS
CURRENT POPULATION REPORTS, SERIES P-25
INCLUDING ALASKA AND HAWAII BEGINNING IN 1940

BOPMERCH
US INTERNATIONAL TRANSACTIONS - BALANCE ON GOODS (BOP)
BILLIONS OF CURRENT DOLLARS
U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS
U.S. INTERNATIONAL TRANSACTIONS

CUSAO
CPI (ALL URBAN) - ALL ITEMS
INDEX BASE: 1982-84=1.00, SEASONALLY ADJUSTED
CALCULATED BY DRI USING SEASONAL FACTORS PROVIDED BY
US DEPT OF LABOR, BUREAU OF LABOR STATISTICS

CUSAONS
CPIU - All items
INDEX BASE 1982-84 = 1.0, NOT SEASONALLY ADJUSTED
ALL URBAN CONSUMERS

DBTGFNS
FEDERAL DEBT OUTSTANDING - TOTAL (TB)
BILLIONS OF CURRENT DOLLARS, NOT SEASONALLY ADJUSTED, END OF MONTH
U.S. DEPARTMENT OF THE TREASURY
'MONTHLY STATEMENT OF RECEIPTS & OUTLAYS' AND 'TREASURY BULLETIN'; BEGIN
THIS CONCEPT SERIES DERIVES FROM DBTGFPUBNS+DBTGFAFCYNS

DESC

DJ30C
DOW JONES: 30 INDUSTRIAL AVERAGE
INDEX BASE: 1884 = 100
DOW JONES

DJ65CMC
DOW JONES: 65 COMPOSITE AVERAGE
AVERAGE
REUTERS AMERICA INC.

FBL3Y
TREASURY BILL: SECONDARY, 3-MONTH BOND-EQUIVALENT YIELD (H15) - US
PERCENT
FEDERAL RESERVE BOARD OF GOVERNORS
'SELECTED INTEREST RATES' (H15)

FCN30YY
GOVT ISSUE: CONSTANT MATURITY, 30-YR (H15) - US
PERCENT
FEDERAL RESERVE BOARD OF GOVERNORS
'SELECTED INTEREST RATES' (H15)

FIP1Q
COMMERCIAL PAPER: NON-FINAN, 1-DAY QUOTED YIELD - US
PERCENT
FEDERAL RESERVE BANK OF NEW YORK
'DAILY COMPOSITE SHEET' AND 'SELECTED INTEREST RATES' (H15)
COMMERCIAL PAPER PLACED BY FIRMS RATED AA OR EQUIVALENT; QUOTED ON A '&&
:.' '&&'

FIP30Q
COMMERCIAL PAPER: NON-FINAN, 1-MO QUOTED YIELD - US
PERCENT
FEDERAL RESERVE BANK OF NEW YORK

FSCD30Y
CD: SECONDARY MKT, 1-MO YIELD - US
PERCENT; US CLOSE
FEDERAL RESERVE BANK OF NEW YORK
'DAILY COMPOSITE SHEET'
AVG OF 5 TOP COMMERCIAL BANKS FOR \$100,000

GDP
GROSS DOMESTIC PRODUCT
BILLIONS OF CURRENT DOLLARS
U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS
'SURVEY OF CURRENT BUSINESS' AND OTHER MATERIALS
U.S. NATIONAL INCOME & PRODUCT ACCOUNTS - TABLE 1.1,1.3,1.5,1.9

GDP96C
GROSS DOMESTIC PRODUCT (CHAINED)
BILLIONS OF CHAINED (1996) DOLLARS

U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS
'SURVEY OF CURRENT BUSINESS' AND OTHER MATERIALS
NATIONAL INCOME & PRODUCT ACCOUNTS - TABLE 1.2

1

GICV96
NEW CONSTRUCTION PUT IN PLACE - TOTAL PUBLIC
BILLIONS OF 1996 DOLLARS
U.S. DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS
CONSTRUCTION REPORTS C30, VALUE OF NEW CONSTRUCTION PUT IN PLACE

GNP
GROSS NATIONAL PRODUCT
BILLIONS OF CURRENT DOLLARS
U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS
'SURVEY OF CURRENT BUSINESS' AND OTHER MATERIALS
U.S. NATIONAL INCOME & PRODUCT ACCOUNTS - TABLE 1.9

GNP96C
GROSS NATIONAL PRODUCT (CHAINED)
BILLIONS OF CHAINED (1996) DOLLARS
U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS
'SURVEY OF CURRENT BUSINESS' AND OTHER MATERIALS
NATIONAL INCOME & PRODUCT ACCOUNTS - TABLE 1.10

HUCMPNC
HOUSING COMPLETIONS, PRIVATE - NORTH CENTRAL (NRC)
THOUSANDS OF UNITS, SEASONALLY ADJUSTED AT ANNUAL RATES
U.S. DEPARTMENT OF COMMERCE AND OF HOUSING AND URBAN DEVELOPMENT
STATISTICAL RELEASE: NEW RESIDENTIAL CONSTRUCTION
17,000 PLACES THEREAFTER

HUCMPNE
HOUSING COMPLETIONS, PRIVATE - NORTHEAST (NRC)
THOUSANDS OF UNITS, SEASONALLY ADJUSTED AT ANNUAL RATES
U.S. DEPARTMENT OF COMMERCE AND OF HOUSING AND URBAN DEVELOPMENT
STATISTICAL RELEASE: NEW RESIDENTIAL CONSTRUCTION
17,000 PLACES THEREAFTER

HUCMPSO
HOUSING COMPLETIONS, PRIVATE - SOUTH (NRC)
THOUSANDS OF UNITS, SEASONALLY ADJUSTED AT ANNUAL RATES
U.S. DEPARTMENT OF COMMERCE AND OF HOUSING AND URBAN DEVELOPMENT
STATISTICAL RELEASE: NEW RESIDENTIAL CONSTRUCTION
17,000 PLACES THEREAFTER

HUCMPWT
HOUSING COMPLETIONS, PRIVATE - WEST (NRC)
THOUSANDS OF UNITS, SEASONALLY ADJUSTED AT ANNUAL RATES
U.S. DEPARTMENT OF COMMERCE AND OF HOUSING AND URBAN DEVELOPMENT
STATISTICAL RELEASE: NEW RESIDENTIAL CONSTRUCTION
17,000 PLACES THEREAFTER

HUSTS

HOUSING STARTS, PRIVATE INCLUDING FARM - TOTAL (C20)
THOUSANDS OF UNITS
U.S. DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS
CONSTRUCTION REPORT C20, HOUSING STARTS

HUSTS1
HOUSING STARTS, PRIVATE INCLUDING FARM - ONE UNIT (C20)
THOUSANDS OF UNITS
U.S. DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS
CONSTRUCTION REPORT C20, HOUSING STARTS

HUSTS1NS
HOUSING STARTS, PRIVATE INCLUDING FARM - ONE UNIT (C20)
THOUSANDS OF UNITS, NOT SEASONALLY ADJUSTED AT MONTHLY RATES
U.S. DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS
CONSTRUCTION REPORT C20, HOUSING STARTS

I
GROSS PRIVATE DOMESTIC INVESTMENT
BILLIONS OF CURRENT DOLLARS
U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS
'SURVEY OF CURRENT BUSINESS' AND OTHER MATERIALS
U.S. NATIONAL INCOME & PRODUCT ACCOUNTS - TABLE 1.1

I96C
GROSS PRIVATE DOMESTIC INVESTMENT (CHAINED)
BILLIONS OF CHAINED (1996) DOLLARS
U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS
'SURVEY OF CURRENT BUSINESS' AND OTHER MATERIALS
NATIONAL INCOME & PRODUCT ACCOUNTS - TABLE 1.2

ICV_G96
NEW CONSTRUCTION PUT IN PLACE - TOTAL
BILLIONS OF 1996 DOLLARS
U.S. DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS
CONSTRUCTION REPORTS C30, VALUE OF NEW CONSTRUCTION PUT IN PLACE

IPSB50001
INDUSTRIAL PRODUCTION INDEX - TOTAL INDEX
UNITS 1997=100, SEASONALLY ADJUSTED
FRB, INDUSTRIAL PRODUCTION, G.17;

IPSB51214
INDUSTRIAL PRODUCTION INDEX - PAPER PRODUCTS
UNITS 1997=100, SEASONALLY ADJUSTED
FRB, INDUSTRIAL PRODUCTION, G.17;

IPSB52100
INDUSTRIAL PRODUCTION INDEX - BUSINESS EQUIPMENT
UNITS 1997=100, SEASONALLY ADJUSTED
FRB, INDUSTRIAL PRODUCTION, G.17;

IPSG311
INDUSTRIAL PRODUCTION INDEX - FOOD NAICS=311

UNITS 1997=100, SEASONALLY ADJUSTED
FRB, INDUSTRIAL PRODUCTION, G.17;

IPSG3121
INDUSTRIAL PRODUCTION INDEX - BEVERAGE NAICS=3121
UNITS 1997=100, SEASONALLY ADJUSTED
FRB, INDUSTRIAL PRODUCTION, G.17;

IPSG3122
INDUSTRIAL PRODUCTION INDEX - TOBACCO NAICS=3122
UNITS 1997=100, SEASONALLY ADJUSTED
FRB, INDUSTRIAL PRODUCTION, G.17;

IPSG325188Z
INDUSTRIAL PRODUCTION INDEX - OTHER INORGANIC CHEMICALS NAICS=325188P
UNITS 1997=100, SEASONALLY ADJUSTED
FEDERAL RESERVE BOARD, INDUSTRIAL PRODUCTION, G.17;

IPSG336
INDUSTRIAL PRODUCTION INDEX - TRANSPORTATION EQUIPMENT NAICS=336
UNITS 1997=100, SEASONALLY ADJUSTED
FRB, INDUSTRIAL PRODUCTION, G.17;

IPSG339
INDUSTRIAL PRODUCTION INDEX - MISCELLANEOUS NAICS=339
UNITS 1997=100, SEASONALLY ADJUSTED
FRB, INDUSTRIAL PRODUCTION, G.17;

JCOIN%LAG
RATIO, COINCIDENT INDEX TO LAGGING INDEX (BCI)
RATIO, SEASONALLY ADJUSTED
THE CONFERENCE BOARD
BUSINESS CYCLE INDICATORS, 'BCI NUMBER 940
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JLAG
LAGGING INDICATORS COMPOSITE INDEX (BCI)
INDEX BASE: 1996 = 1.000, SEASONALLY ADJUSTED
THE CONFERENCE BOARD
BUSINESS CYCLE INDICATORS, 'BCI NUMBER 930
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JLEAD
LEADING INDICATORS COMPOSITE INDEX (BCI)
INDEX BASE: 1996 = 1.000, SEASONALLY ADJUSTED
THE CONFERENCE BOARD
BUSINESS CYCLE INDICATORS, 'BCI NUMBER 910
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MNY1
MONEY SUPPLY - CURRENCY, DEMAND DEPOSITS, OTHER CHECKABLE DEPOSITS (H6)
BILLIONS OF CURRENT DOLLARS, SEASONALLY ADJUSTED
BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
STATISTICAL RELEASE H.6 AND THE 'FEDERAL RESERVE BULLETIN

AVERAGE OF DAILY FIGURES, WEEKS END ON MONDAYS

MNY2

MONEY SUPPLY (M2) - M2 (H6)

BILLIONS OF CURRENT DOLLARS, SEASONALLY ADJUSTED

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

STATISTICAL RELEASE H.6 AND THE 'FEDERAL RESERVE BULLETIN'

AVERAGE OF DAILY FIGURES, WEEKS END ON MONDAYS

NAMES

PIDGNP

IMPLICIT PRICE DEFLATOR - GROSS NATIONAL PRODUCT

INDEX BASE: 1996 = 1.0, SEASONALLY ADJUSTED AT ANNUAL RATES

U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS

'SURVEY OF CURRENT BUSINESS' AND OTHER MATERIALS

NATIONAL INCOME AND PRODUCT ACCOUNTS, TABLE 7.3

RUC

UNEMPLOYMENT RATE - CIVILIAN (ESIT)

PERCENT, SEASONALLY ADJUSTED

U.S. DEPARTMENT OF LABOR, BUREAU OF LABOR STATISTICS

HOUSEHOLD DATA, TABLE A-1 OF 'EMPLOYMENT SITUATION'

RXC132%USNS

EXCHANGE RATE IN NEW YORK - FRENCH FRANC PER US DOLLAR (G5)

AVG OF CERTIFIED NOON BUYING RATES FOR CABLE TRANSFERS, UNADJUSTED

BOARD OF GOVERNORS OF THE FEDERAL RESERVE

STATISTICAL RELEASE G.5 AND 'FEDERAL RESERVE BULLETIN'

DATA PRIOR TO NOVEMBER 1981 CALCULATED BY GII

RXC134%USNS

EXCHANGE RATE IN NEW YORK - GERMAN MARK PER US DOLLAR (G5)

AVG OF CERTIFIED NOON BUYING RATES FOR CABLE TRANSFERS, UNADJUSTED

BOARD OF GOVERNORS OF THE FEDERAL RESERVE

STATISTICAL RELEASE G.5 AND 'FEDERAL RESERVE BULLETIN'

DATA PRIOR TO NOVEMBER 1981 CALCULATED BY GII

RXC158%USNS

EXCHANGE RATE IN NEW YORK - JAPANESE YEN PER US DOLLAR (G5)

AVG OF CERTIFIED NOON BUYING RATES FOR CABLE TRANSFERS, UNADJUSTED

BOARD OF GOVERNORS OF THE FEDERAL RESERVE

STATISTICAL RELEASE G.5 AND 'FEDERAL RESERVE BULLETIN'

DATA PRIOR TO NOVEMBER 1981 CALCULATED BY GII

RXUS%C112NS

EXCHANGE RATE IN NEW YORK - US CENTS PER BRITISH POUND (G5)

AVGS OF CERTIFIED NOON BUYING RATES FOR CABLE TRANSFERS

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

STATISTICAL RELEASE G.5 AND 'FEDERAL RESERVE BULLETIN'

NO ADJUSTMENT FOR SEASONALITY, IF ANY

STR
RETAIL SALES, TOTAL - (NAICS)
BILLIONS OF CURRENT DOLLARS, SEASONALLY ADJUSTED AT MONTHLY RATES
U.S. DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS
CURRENT BUSINESS REPORTS, 'MONTHLY RETAIL TRADE'

STRING_ATTRIBUTE_NAMES

WPINS
All commodities
INDEX BASE 1982 = 1.0, NOT SEASONALLY ADJUSTED
U.S. DEPARTMENT OF LABOR, BUREAU OF LABOR STATISTICS

YP
PERSONAL INCOME
BILLIONS OF CURRENT DOLLARS
U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS
'SURVEY OF CURRENT BUSINESS' AND OTHER MATERIALS
NATIONAL INCOME & PRODUCT ACCOUNTS - TABLE 2.1

ZA
CORPORATE PROFITS AFTER TAX - TOTAL
BILLIONS OF CURRENT DOLLARS
U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS
'SURVEY OF CURRENT BUSINESS', SELECTED ISSUES
NATIONAL INCOME & PRODUCT ACCOUNTS - TABLE 6.19

ZB
CORPORATE PROFITS BEFORE TAX
BILLIONS OF CURRENT DOLLARS
U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS
'SURVEY OF CURRENT BUSINESS', SELECTED ISSUES
NATIONAL INCOME & PRODUCT ACCOUNTS - TABLE 6.17

```
close_hli()
```

```
[1] TRUE
```

```
file.remove(txtfile)
```

```
[1] TRUE
```

```
file.remove(dbfile)
```

```
[1] TRUE
```