import fred — Import dat	a from Federal Res	erve Econom	ic Data	
Description	Quick start	Menu	Syntax	Options

Stored results

## Description

import fred imports data from the Federal Reserve Economic Data (FRED) into Stata. import fred supports data on FRED as well as historical vintage data on Archival FRED (ALFRED). freddescribe and fredsearch provide tools to describe series in the database and to search FRED for data based on keywords and tags.

References

Also see

## **Quick start**

Before running any of the commands below, you will need to obtain a FRED key and set it using set fredkey.

Import series code1 and code2 from FRED

Remarks and examples

import fred code1 code2

Import vintage series code1 and code2 as available on September 15, 2008, and September 15, 2009, from FRED

import fred code1 code2, vintage(2008-9-15 2009-9-15)

Display metadata describing series code1 and code2

freddescribe code1 code2

Search FRED for series matching keywords "investment" and "share" and tagged with "pwt" and "usa" fredsearch investment share, tags(pwt usa)

### Menu

File > Import > Federal Reserve Economic Data (FRED)

## **Syntax**

```
Set FRED key
set fredkey key [, permanently]
```

Import FRED data

import fred series\_list [, options]

or

import fred, serieslist(filename) [options]

Describe series

```
freddescribe series_list [, detail realtime(start end)]
```

Search series

fredsearch keyword\_list [, search\_options]

*key* is a valid API key, which is provided by the St. Louis Federal Reserve and may be obtained from https://research.stlouisfed.org/docs/api/api\_key.html.

series\_list is a list of FRED codes, for example, FEDFUNDS.

*keyword\_list* is a list of keywords.

options	Description
serieslist(filename) daterange(start end)	specify series IDs using a file restrict to only observations within specified date range
<pre>aggregate(frequency[, method])</pre>	specify the aggregation level and aggregation type
realtime(start end)	import historical vintages between specified dates
<pre>vintage(datespec)</pre>	import historical data by vintage dates
nrobs	import only new and revised observations
initial	import only first value for each observation in a series
long	import data in long format
nosummary	suppress summary table
clear	clear data in memory before importing FRED series

\* serieslist() is required if *series\_list* is not specified.

collect is allowed with fredsearch; see [U] 11.1.10 Prefix commands.

clear does not appear in the dialog box.

If *start* and *end* are provided as dates, they must be daily dates using notation of the form 31Jan2016, 2016-01-31, 2016/01/31, or 01/31/2016.

datespec may be

date	a daily date
$date_1 date_2 \dots date_n$	a list of daily dates
_all	all available dates

search_options	Description
idonly	require keywords to appear in series IDs only
tags( <i>tag_list</i> )	search by <i>tag_list</i>
taglist	list tags present in current search results
<pre>sort(sortby[, sortorder])</pre>	list matched series in order specified by sortby
detail	list full metainformation for each search result
<pre><u>sav</u>ing(filename[, replace])</pre>	save series information to <i>filename</i> .dta

saving() does not appear in the dialog box.

# Options

Options are presented under the following headings:

Option for set fredkey Options for import fred Options for freddescribe Options for fredsearch

### Option for set fredkey

permanently specifies that, in addition to setting the key for the current Stata session, the key be remembered and become the default key when you invoke Stata.

### **Options for import fred**

- serieslist(filename) allows you to import the series specified in filename. The series file must contain
  a variable called seriesid that contains the IDs of the series you wish to import. serieslist() is
  required if series\_list is not specified.
- daterange(*start end*) specifies that only observations between the *start* date and *end* date should be imported. *start* and *end* must be specified as either a daily date or a missing value (.). Use daterange(. *end*) to import all observations from the first available through *end*. Use daterange(*start*.) to import from *start* through the most recently available date.
- aggregate (*frequency*[, *method*]) specifies that the data should be imported at a lower frequency than the series' native frequency along with an optional method of aggregation.
  - frequency may be daily, weekly, biweekly, monthly, quarterly, semiannual, annual, weekly
    ending friday, weekly ending thursday, weekly ending wednesday, weekly ending tuesday,
    weekly ending monday, weekly ending sunday, weekly ending
    saturday, biweekly ending wednesday, or biweekly ending monday.
  - *method* may be avg (the within-period average), sum (the within-period sum), or eop (the end-of-period value). The default is avg.
- realtime(start end) specifies a real-time period between which all vintages for each series are imported. The vintage available on start is imported, as are all vintages released between start and end. Either of start or end may be replaced by a missing value (.). If start is a missing value, then all vintages from the first available up through end are imported. If end is a missing value, then all vintages from start up through the most recent available are imported. realtime() may not be combined with vintage().

vintage(datespec) imports historical vintage data according to datespec. datespec may either be a list of daily dates or \_all. When datespec is a list of dates, the specified series are imported as they were available on the dates in datespec. When datespec is \_all, all vintages of the specified series are imported. vintage() may not be combined with realtime().

- nrobs specifies that only observations that are new or revised in each vintage be imported. Old and unrevised observations are imported as the missing value .u.
- initial specifies that only the first value for each observation of the series be imported. This option may not be combined with nrobs.

long specifies that each series be imported in long format.

nosummary suppresses the summary table.

The following option is available with import fred but is not shown in the dialog box:

clear specifies that the data in memory should be replaced with the imported FRED data.

#### **Options for freddescribe**

detail displays full metainformation available about series\_list.

realtime(start end) provides historical vintage information about series\_list during the real-time period specified by start and end. Either start or end may be replaced by a missing value (.). If start is a missing value, then all vintages from the first available up through end are described. If end is a missing value, then all vintages from start up through the most recent available are described.

### **Options for fredsearch**

- idonly specifies that the keywords in *keyword\_list* be found in series IDs rather than elsewhere in the metadata.
- tags (*tag\_list*) searches for series that have all the tags specified in *tag\_list*. The complete list of available tags is provided by FRED. Tags form a space-separated list. Tags are case-sensitive and all FRED tags are in lowercase.
- taglist lists all the tags present in the current search results.
- sort(sortby[, sortorder]) lists the search results in the order specified by sortby.

When searching series, *sortby* may be <u>popularity</u>, id, title, <u>lastup</u>dated, <u>frequency</u>, <u>obss</u>tart, <u>obse</u>nd, units, or <u>seas</u>onaladj. By default, popularity is used.

When searching with the taglist option, *sortby* may be name or series\_count. name means the tag name, and series\_count is the count of series associated with the tag in the search results. By default, series\_count is used.

You can optionally change the order of the search results from descending (<u>descending</u>) to ascending (<u>ascending</u>) order. The default order when searching by popularity, lastupdated, or series\_count is descending; otherwise, the default sort order is ascending.

detail lists full metainformation for each series that appears in the search results.

The following option is available with fredsearch but is not shown in the dialog box:

saving(filename[, replace]) saves the search results to a file. The filename may then be specified in the serieslist() option of import fred to import the series located by the search. The optional replace specifies that filename be overwritten if it exists.

### **Remarks and examples**

Remarks are presented under the following headings:

Introduction and setup The FRED interface Advanced imports using the import fred command Importing historical vintage data Searching, saving, and retrieving series information Describing series

#### Introduction and setup

import fred imports data from the Federal Reserve Economic Data (FRED) into Stata. FRED is maintained by the Economic Research Division of the Federal Reserve Bank of St. Louis and contains hundreds of thousands of economic and financial time series. FRED includes data from a variety of sources, including the Federal Reserve, the Penn World Table, Eurostat, the World Bank, and US statistical agencies, among others. import fred extends freduse discussed in Drukker (2006).

Series in FRED are updated and revised over time as new observations are added and as older observations are revised in light of more complete source information. The series are updated on an annual, quarterly, monthly, weekly, or daily basis, depending on the series. Each time a series is updated or revised, a new "vintage" is created. The archived data, or historical vintage data, are data in their unrevised form as they would have been available on a particular date in history. These data are from Archival FRED, or ALFRED. import fred can import data from either FRED or ALFRED.

FRED data can be imported using the import fred command or using the FRED interface. If you are exploring FRED, learning the names of series, or importing series occasionally, we recommend using the FRED interface. If you already know the names of the series that you would like to import or if you repeatedly download series as they are updated, we recommend using the import fred command. You may also use the FRED interface to learn series names that you subsequently specify in import fred commands. See *The FRED interface* below to learn more about using this tool.

Whether you plan to use the FRED interface or the import fred command, you must first have a valid API key. API keys are provided by the St. Louis Federal Reserve and may be obtained from https://re-search.stlouisfed.org/docs/api/api\_key.html. The key will be a 32-character alphanumeric string. You will be prompted to enter this key the first time you open the FRED interface. Alternatively, you can type

```
. set fredkey key, permanently
```

where key is your API key.

### Example 1: A basic search and import

Suppose we want monthly data on the exchange rate between the US dollar and the Japanese Yen. We can use fredsearch to find the name of this series in FRED.

Series ID	Title	Data range	Frequency	
EXJPUS	Japanese Yen to U	1971-01-01 to 2025-02-01	Monthly	

The output says that EXJPUS is the name that FRED uses for this series. When we performed this search, 2025-02-01 was the last available observation. More data will be available when you type this command, so the endpoint of the data range will be more recent.

Having learned from the output that EXJPUS is the name that FRED uses for this series, we use import fred to import it.

Series ID	Nobs	Date range	Frequency
EXJPUS	650	1971-01-01 to 2025-02-01	Monthly

```
lowest frequency: Monthly
```

The output says that 650 monthly observations on EXJPUS were imported.

To clarify what we imported, we can describe the imported data and list the first five observations.

. describe				
Contains data Observations: Variables:		650 3		
Variable name	Storage type	Display format	Value label	Variable label
datestr daten EXJPUS	str10 int float	%-10s %td %9.0g		observation date numeric (daily) date Japanese Yen to U.S. Dollar Spot Exchange Rate

Sorted by: datestr

Note: Dataset has changed since last saved.

. list datestr daten EXJPUS in 1/5

	datestr	daten	EXJPUS
1.	1971-01-01	01jan1971	358.02
2.	1971-02-01	01feb1971	357.545
3.	1971-03-01	01mar1971	357.5187
4.	1971-04-01	01apr1971	357.5032
5.	1971-05-01	01may1971	357.413

Each series in FRED is paired with a string variable that records the daily date for each observation. import fred imports this daily date variable as the string variable datestr, and it creates daten, which is a Stata datetime variable that encodes the date in datestr. EXJPUS contains the observations on the FRED series EXJPUS. Each series has metadata associated with it that is stored in the characteristics and may be viewed with the char list command. We now list out the metadata on EXJPUS.

```
. char list EXJPUS[]
 EXJPUS[Title]:
                              Japanese Yen to U.S. Dollar Spot Exchange Rate
 EXJPUS[Series_ID]:
                              EXJPUS
 EXJPUS[Source]:
                              Board of Governors of the Federal Reserve Syste..
 EXJPUS[Release]:
                              G.5 Foreign Exchange Rates
 EXJPUS[Seasonal_Adjustment]:
                              Not Seasonally Adjusted
 EXJPUS[Date_Range]:
                              1971-01-01 to 2025-02-01
 EXJPUS[Frequency]:
                              Monthly
 EXJPUS[Units]:
                              Japanese Yen to One U.S. Dollar
 EXJPUS[Last_Updated]:
                              2025-03-03 15:19:41-06
 EXJPUS[Notes]:
                              Averages of daily figures. Noon buying rates in..
```

See [P] char for more about characteristics.

4

### The FRED interface

The names of FRED series are not predictable. The FRED interface makes it easy to find series, to import series, and to explore the thousands of series by keyword searches or by browsing by category, release type, source, or release date.

Selecting

#### File > Import > Federal Reserve Economic Data (FRED)

from the menu opens the FRED interface.

Import Federal Reserve Econom	ic Data								-		$\times$
Search FRED ~						Series to	o import:				_
					1	#		Title			
Keywords:											
					Search						
Full text Series ID											
Tags:			 Sort by: P	opularity 🗸	Descend $\sim$						
	#	D	Title								
Add to filters											
Filters:											
	]										
	]										
Remove	<			_	>		<				>
	$ \langle \rangle $	> >		Describe	Add	Rem	ove		Import	Canc	el
Ready											

In the top left-hand corner, the drop-down menu defaults to Search FRED, which searches for series by keywords that appear in those series' metadata. From this menu, we can also select Browse by category, Browse by release, Browse by source, and Search by release date.

- Browse by category finds series by browsing through FRED defined categories, such as Production & Business Activity.
- Browse by release finds series by browsing through FRED defined release types, such as the BEA Regions Employment and Unemployment and the Consumer Price Index.
- Browse by source finds series by browsing through sources, such as the Bank of England, the US Bureau of the Census, and the University of Pennsylvania.

Search by release date finds regularly released series that were updated in a specified date range.

#### Example 2: Finding and importing series with the FRED interface

Suppose we want to import series measuring the real gross domestic product (GDP) in the US and the three-month Treasury bill interest rate, known as the Federal Funds Rate. We can use a keyword search and a then browse by category to find and select them for import.

#### After selecting

#### File > Import > Federal Reserve Economic Data (FRED)

to open the control panel, we type real gross domestic product us in the Keywords field and click on the Search button, which produces

arch FRED	<					#	t: Title	
evwords:					1			
real gross domestic product	us				Search			
Full text     Series ID								
0								
ags:			Sort by:	Popularity 🗸	Descend 🗸			
Sources	#	ID		litle				
> Releases	1	GDBC1	Peal Grass Domestic Dred		(			
Seasonal Adjustment	2	4020PV00049CP	Real cross domestic Prod	uct per capita				
Frequencies	2	GDDDOT	Real Botontial Gross Dom	retic Product				
Geography Types	4	A101PL 102255P	Real Groce Domestic Brod	uct	č			
Geographies	4	DCECC06	Real Dorsenal Consumption	uci on Evenenditures				
Concepts	6	GDDIC1	Real Personal Consumption	in Experial area				
	7	A261PV10020SP	Real gross domostic incor	ic investment	č l			
	0	STI ENI	St. Louis Fed Economic N	we Index: Real GDB	Nowcart C			
	0	GDDC1CTM	FOMC Summary of Econo	mic Projections for	the Gro			
	10	GDBCA	Pool Gross Domostic Brod	interrojections for	the orom P			
	11	GCEC1	Real Government Concurs	ntion Expanditures	and Gro C			
	12	DNEIC1	Real Drivate Nonresidentia	I Fixed Investment	and oro c			
	12	A261RI 10225SR	Real Gross Domestic Incor	ne ne nivestinent	č			
	14	NVGDDDCADKD	Constant GDP ner canita f	or the United States				
	15	A191R010156N	Real Gross Domestic Prod	urt	- C			
Add to filters	16	PRFIC1	Real Private Residential Fit	ed Investment	č			
Add to filters	17	PR00000910225	Real Average of GDP and	SDI	č l			
	18	A191RI 1A225NB	Real Gross Domestic Prod	uct	2			
ters:	19	A794RX00048SB	Real personal consumption	n expenditures per	canita (			
	20	ND000334O	Real Gross Domestic Prod	uct	C			
	21	CPGDPAI	Contributions to Percent	Change in Real GDP	by Indu C			
	22	IMPGSC1	Real imports of goods and	services	c			
	23	DPCERY2O224S	Contributions to percent	hange in real gross	domest C			
Remove	24	GDPC1MD	FOMC Summary of Econo	mic Projections for	the Gro L			

Ready

Clicking on GDPC1	and then	on the Add	button adds	GDPC1 to	o list c	of series	to import
Cheking on abi of	L und then	on the ruu	oution adds	UDI OI IC	inst c	501105	to import.

earch FRED	/					Series t	o import:		
						#	Titl	e	
(evwords:						1	Real Gross Domestic Pro	duct	G
real gross domestic product	us			ſ	Search				
● Full text ○ Series ID									
200			Sort by:	Popularity V D	escend 🗸				
ays.				· op and inj					
> Sources	#	ID		fitle					
> Keleases	1	GDPC1	<b>Real Gross Domestic Prod</b>	uct	¢				
> Seasonal Adjustment	2	A939RX0Q048SB	Real gross domestic produ	ict per capita	C				
Frequencies	3	GDPPOT	Real Potential Gross Dome	stic Product	C				
Geography Types	4	A191RL1Q225SB	Real Gross Domestic Prod	uct	C				
Geographies	5	PCECC96	Real Personal Consumption	n Expenditures	C				
Concepts	6	GPDIC1	Real Gross Private Domest	ic Investment	C				
	7	A261RX1O020SB	Real gross domestic incon	ne	C				
	8	STLENI	St. Louis Fed Economic No	ws Index: Real GDP N	lowcast C				
	9	GDPC1CTM	FOMC Summary of Econo	mic Projections for t	he Gro A				
	10	GDPCA	Real Gross Domestic Prod	uct	4				
	11	GCEC1	Real Government Consum	ption Expenditures a	nd Gro C				
	12	PNFIC1	Real Private Nonresidentia	Fixed Investment	C				
	13	A261RL10225SB	Real Gross Domestic Incor	ne	ċ				
	14	NYGDPPCAPKD	Constant GDP per capita f	or the United States	Á I				
	15	A191RO10156N	Real Gross Domestic Prod	uct	C				
Add to filters	16	PRFIC1	Real Private Residential Fix	ed Investment	ċ				
Add to filters	17	PB00000910225	Real Average of GDP and	GDI	ć				
	18	A191RI 1A225NB.	Real Gross Domestic Prod	uct	4				
iters:	19	A794RX00048SB	Real personal consumptio	n expenditures per ca	ipita C				
	20	ND000334O	Real Gross Domestic Prod	uct .	C I				
	21	CPGDPAI	Contributions to Percent (	Change in Real GDP H	v Indu C				
	22	IMPGSC1	Real imports of goods and	services	c				
	23	DPCERV20224S	Contributions to percent	hange in real gross o	omest (				
Remove	24	GDPC1MD	FOMC Summary of Econo	mic Projections for t	he Gro L				
	KK	>>1-1000 of 32	992	Describe	bbA				

Now, we want to add the interest rate series. We select Browse by category from the drop-down menu in the top left-hand corner.

😑 Impo	ort Federal Reserve Econom	nic Data									-		$\times$
Brows	e by category	1						Series t	to import:				
Diowa	e by category	]						#		Title			
							1	1	Real Gross Domestic	Product			GD
Home	> Categories												
#			Cate	gories									
1	Money, Banking, & Financ	e											
2	Population, Employment, 8	Labor Mar	rkets										
3	National Accounts												
4	Production & Business Ac	ctivity											
5	Prices												
6	International Data												
7	U.S. Regional Data												
8	Academic Data												
Tags					Sort by: Pop	oularity 🗸 De	scend 🗸						
Filters	dd to filters												
R	smove	K <	< > >			Describe	<b>&gt;</b> Add	Rem	<b>C</b>		Import	Canc	> el
ady													

We double-click on Money, Banking, & Finance to get a list of subcategories.

Jort rederal Reserve Economic Data				-		×
se by category V	S	Series t	o import:			
, , , , , , , , , , , , , , , , , , , ,		#	Title			
	1	1	Real Gross Domestic Product			G
e > Categories > Money, Banking, & Finance						
Money, Banking, & Finance						
Interest Rates						
Exchange Rates						
Monetary Data						
Financial Indicators						
Banking						
Business Lending						
Foreign Exchange Intervention						
See her Developing						
4: Sont by: Popularity V Descend	~					
.dd to filters s:						
temove <	>		4			,
K K > > Describe Add		Rem	ove	Import	Cance	el
	_					

Next, we double-click on Interest Rates to get a list of interest-rate categories. Scrolling down, we find Treasury Bills.

bwse by category  bwse by categories > Money, Banking, & Finance > Interest Rates  by Interest Rates  by Money Market Accounts  composition of the set of	File      F
	Real Gross Domestic Product
me > Categories > Money, Banking, & Finance > Interest Rates # Interest Rates Money Market Accounts 7 Mortgage Rates 7 Personal Loan Rates 9 Personal Loan Rates 9 Deime Parts Lans Parts 9 Personal Loan Rates 9 Personal L	
Interest Rates     Money Market Accounts     Money Market Accounts     Money Market Accounts     Personal Loan Rates     Deime Rates Loan Rates	
6 Money Market Accounts 7 Mortgage Rates 3 Personal Loan Rates 1 Driven Park Lana Pate	
7 Mortgage Rates 9 Personal Loan Rates 1 Drime Park Lear Pate	
8 Personal Loan Rates	
3 Drime Pank Lean Pate	
7 Frine bank Loan Kdte	
) Saving Accounts	
I SONIA Rates	
Treasury Bills	
3 Treasury Constant Maturity	
+ Treasury Inflation-Indexed Securities	
rgs: Sort by: Popularity	✓ Descend ✓
# ID Title	
Add to filters	
ters:	
Remove	
K S H 1-34 of 34 Describ	e Add
	Remove Import Cance

We double-click on Treasury Bills to produce a list of interest-rate series. We click on TB3MS and then on the **Add** button to add it the list of series to be imported.

Irows	by category						Series t	to import:		
	, sy caregory						#		Title	
						_ 1	1	Real Gross Domest	ic Product	G
Home	> Categories > Money,	Banking,	& Finance > Interes	st Rates > Treasury Bills		4	2	3-Month Treasury	Bill Secondary Mark	et Rat T
#			Cate	gories						
16	Money Market Accou	nts								
17	Mortgage Rates									
18	Personal Loan Rates									
19	Prime Bank Loan Rate	rime Bank Loan Rate								
20	Saving Accounts									
21	SONIA Rates									
22	Treasury Bills									
23	Treasury Constant Ma	turity								
24	Treasury Inflation-Ind	exed Secu	rities							
Tags:				Sort by:	Popularity 🗸	Descend 🗸				
> So	urces	#	ID	1	litle					
> Re	leases	1	TR3MS	3-Month Treasury Bill Sec	ondary Market Rate	Discou N				
> Se	asonal Adjustment	2	DTB3	3-Month Treasury Bill Secu	ondary Market Rate	Discou [				
> Fre	equencies	3	DTB1YR	1-Year Treasury Bill Secon	dary Market Rate D	iscount [				
> Ge	ography Types	4	DTB4WK	4-Week Treasury Bill Secon	ndary Market Rate. I	Discoun E				
> Ge	ographies	5	DTB6	6-Month Treasury Bill Sec	ondary Market Rate	Discou E				
> Co	ncepts	6	TB1YR	1-Year Treasury Bill Secon	dary Market Rate, D	iscount N				
		7	WTB3MS	3-Month Treasury Bill Seco	ondary Market Rate	Discou V				
Add	to filters	8	TB4WK	4-Week Treasury Bill Secon	ndary Market Rate, I	Discoun N				
		9	TB6MS	6-Month Treasury Bill Sec	ondary Market Rate	Discou N				
ilters:		10	RIFSGFSM03NA	3-Month Treasury Bill Sec	ondary Market Rate,	Discou A				
		11	WTB6MS	6-Month Treasury Bill Seco	ondary Market Rate	Discou V				
		12	DTB1	1-Year Treasury Bill: Secon	dary Market Rate (D	DISCON E				
		13	TB3MA	3-Month Treasury Bill Rate	: Auction Average	DISCO N				
		14	RIFSGFSY01NA	1-Year Treasury Bill Secon	dary Market Rate, D	iscount A				
		15	WTB1YR	1-Year Treasury Bill Secon	dary Market Rate, D	iscount V				
	nove	16	ANTD ANALY	A Mook Transum Pill Secon	adam Market Pate 1	Discours 1				
Ren										
Ren			N 1 24 -6 24		Describe	A stat				

Clicking on import brings up a dialog box that allows us to restrict the imported observations.

😑 Import Federal R	eserve Economic Data				×
Series to import:					
GDPC1 TB3MS					
Observation date ra	ange				
Start:			End:		
Aggregation					
Frequency:	Choose one	~			
Method:	Choose one 🛛 🗸				
Real-time period					
Start:		<b>—</b>	End:		
Set vintage date	e				
Import only ne	w and revised observatio	ns			
Import only fir	st value for each observa	tion			
Import data in lo	ong form				
Suppress summa	ary report from output				
? C			ок	Cancel	Submit

We click **OK** to import all available observations.

The output from the command issued by the control panel was

```
. import fred GDPC1 TB3MS

Summary

Series ID Nobs

GDPC1 312

TB3MS 1094
```

```
# of series imported: 2
    highest frequency: Monthly
    lowest frequency: Quarterly
```

The number of observations and the date ranges will differ when you follow these same steps using the FRED interface, because more data have been made available.

Date range

1947-01-01 to 2024-10-01

1934-01-01 to 2025-02-01 Monthly

Frequency

Quarterly

### Example 3: Refining a search using tags

Suppose that we want to find and import data on the median income in each US state and the District of Columbia for each available year. After opening the control panel, typing median household income in the Keywords box, and clicking on the **Search** button, we see



This keyword search finds thousands more series than the 51 we want. To filter the found series by the tag state, we expand the Geography Types category, click on state, and then click on the Add to filters button, which produces

learch EDED						Series to import:			
	×					#	Title		Τ
Keywords:									
median household income					Search				
Full text     O Series ID									
Tags:			Sort by:	Popularity 🗸	Descend 🗸				
Sources	#	n	Tel						
E Releases									
Seasonal Adjustment	1	MEHOINUSCAA6	Median Household Income in Ca	lifornia	^				
Frequencies	2	MEHOINUSNYA6	Real Median Household Income	IN NEW YORK					
Geographies	3	MEHOINUSCOA6	Real Median Household Income	in Colorado					
Concepts	4	MEHOINUSMNA6	Real Median Household Income	in Minnesota					
	5	MEHOINUSTXA67	Real Median Household Income	in Texas					
	0	MEHOINUSWIA67	Real Median Household Income	in vvisconsin					
	1	MEHOINUSILA672N	Real Median Household Income	in minois					
	0	MEHOINUSMIA672N	Real Median Household Income	in Michigan					
	9	MEHOINUSPLA67	Real Median Household Income	in Fiorida					
	10	MEHOINUSNCA67	Real Median Household Income	in North Carolina					
	11	MEHOINUSMUA6	Real Median Household Income	in Missouri	×				
	12	MEHOINUSMAA6	Real Median Household Income	in Massachusetts					
	- 13	MEHOINUSCHAR	Real Median Household Income	in California					
Add to filters	14	MEHOINUSORA6	Real Median Household Income	in Onio					
	16	MEHOINUSVAA6	Real Median Household Income	in Virginia					
Filters:	17	MEHOINUSKY AR	Real Median Household Income	in Kentucky					
- tota	18	MEHOINUSINA672N	Real Median Household Income	in Indiana					
state	19	MEHOINUSWO/A6	Real Median Household Income	in West Virginia					
	20	MEHOINUSNJA67	Real Median Household Income	in New Jersey					
	21	MEHOINUSNVA6	Median Household Income in Ne	vada					
	22	MEHOINUSLAA64	Median Household Income in Lo	uisiana					
Remove		<			>				
	100001.000	ant manufic sectors and		1 55 2		<			
	K	> > 1-255 of 2	55	Describe	Add	Remove	Import	Car	ice

There are still too many series. To filter the series by the tag real, we expand the Concepts category, click on real, and then click on the Add to filters button, which produces the desired 51 series.

4

						Contra to investo		
earch FRED	~					#	Title	
Keywords:								
median household income					Search			
Full text      Series								
ags:		C	Sort by:	Popularity V	Descend ~			
Sources	#	D	Title					
E Seasonal Adjustment	1	MEHOIMUSNYAR	Real Median Household Income in	New York				
I Frequencies	2	MEHOINUSCOA6	Real Median Household Income in	Colorado				
± Geographies	2	MEHOINUSMNA6	Real Median Household Income in	Minneenta				
+ Concepts	3	MEHOINUSTYAR7	Real Median Household Income in	Toyan				
	4	MEHOINUSIA/A67	Real Median Household Income in	Winconsin				
	6	MEHOINUSI A672N	Real Median Household Income in	Minoie				
	7	MEHOINUSMIA672N	Real Median Household Income in	Michigan				
	8	MEHOINUSELA67	Real Median Household Income in	Florida				
	9	MEHOINUSNCA67	Real Median Household Income in	North Carolina				
	10	MEHOINUSMOA6	Real Median Household Income in	Missouri				
	11	MEHOINUSMAA6	Real Median Household Income in	Massachusetts				
	12	MEHOINUSCAA6	Real Median Household Income in	California				
	13	MEHOINUSOHA6	Real Median Household Income in	n Ohio				
	14	MEHOINUSAZA6	Real Median Household Income in	Arizona				
Add to filters	15	MEHOINUSVAA6	Real Median Household Income in	Virginia				
	16	MEHOINUSKYA6	Real Median Household Income in	Kentucky				
ilters:	17	MEHOINUSINA672N	Real Median Household Income in	n Indiana				
state	18	MEHOINUSWVA6	Real Median Household Income in	n West Virginia				
sal	19	MEHOINUSNJA67	Real Median Household Income in	New Jersey				
ical	20	MEHOINUSPAA67	Real Median Household Income in	Pennsylvania				
	21	MEHOINUSDCA67	Real Median Household Income in	the District of Co	lumbia			
	22	MEHOINUSIAA672N	Real Median Household Income in	lowa	~			
Remove		<			>			
	KK	>> 1-51 of 51		Describe	Add			
	1000					Remove	Import	Cance

After selecting the 51 series, we add them to the import list by clicking on the **Add** button. We could now import them by clicking on the **Import** button.

### Advanced imports using the import fred command

FRED data users commonly import series of different frequencies.

#### Example 4: Importing series with different frequencies

Suppose we wish to import current data on US real GDP, the price level, and the interest rate. These data are stored in FRED with the series IDs "GDPC1", "GDPDEF", and "FEDFUNDS", so we supply those names to import fred.

. import fred GDPC1 GDPDEF FEDFUNDS

```
Summary
```

Series ID	Nobs	Date range	Frequency
GDPC1 GDPDEF FEDFUNDS	312 312 848	1947-01-01 to 2024-10-01 1947-01-01 to 2024-10-01 1954-07-01 to 2025-02-01	Quarterly Quarterly Monthly
# of series imported: 3 highest frequency: M lowest frequency: 6	3 Ionthly Quarterly		

FEDFUNDS is a monthly series, while GDPC1 and GDPDEF are quarterly series. To further illustrate, we list the observations on each variable from 1959 using the list command.

list i	f year(	(daten)	)==1959,	separator(	(3)	)
--------	---------	---------	----------	------------	-----	---

	datestr	daten	GDPC1	GDPDEF	FEDFUNDS
85.	1959-01-01	01jan1959	3352.129	15.224	2.48
86.	1959-02-01	01feb1959			2.43
87.	1959-03-01	01mar1959	•	•	2.8
88.	1959-04-01	01apr1959	3427.667	15.248	2.96
89.	1959-05-01	01may1959			2.9
90.	1959-06-01	01jun1959	•		3.39
91.	1959-07-01	01jul1959	3430.057	15.307	3.47
92.	1959-08-01	01aug1959			3.5
93.	1959-09-01	01sep1959			3.76
94.	1959-10-01	01oct1959	3439.832	15.367	3.98
95.	1959-11-01	01nov1959			4
96.	1959-12-01	01dec1959			3.99

FRED provides all series in daily date format, and each observation is recorded as existing on the first day of the period. For example, a monthly series records the observation in 1959 January as existing on 01Jan1959; a quarterly series records the observation in 1959 Q1 as existing on 01Jan1959. When importing series of different frequencies, the lower-frequency series will appear to contain gaps; these gaps are filled with missing values.

4

#### Example 5: Importing series at a desired frequency

52.

1959-10-01

01oct1959

Continuing with example 4, at times you may wish to import a high-frequency series at a particular lower frequency. This is accomplished with the aggregate() option. There are three aggregation methods available: you may take the within-period average, the sum, or the end-of-period value. The default is to take the within-period average.

. import fred GDPC1 GDPDEF FEDFUNDS, aggregate(quarterly) clear

-						
Summar	ry					
Series	s ID	N	obs Date	e range		Frequency
GDPC1		3	12 1947	7-01-01 †	to 2024-10-01	Quarterly
GDPDEI	F	3	12 1947	7-01-01 1	to 2024-10-01	Quarterly
FEDFUI	NDS	2	82 1954	1-07-01	to 2024-10-01	Quarterly
hig la . list	ghest frequen owest frequen t if year(dat	cy: Quarterl; cy: Quarterl; en)==1959, s	y y eparator(4)	)		
	datestr	daten	GDPC1	GDPDE	F FEDFUNDS	
49.	1959-01-01	01jan1959	3352.129	15.224	4 2.57	
50.	1959-04-01	01apr1959	3427.667	15.248	3.08	
51.	1959-07-01	01jul1959	3430.057	15.30	7 3.58	

3439.832

15.367

3.99

The monthly series FEDFUNDS has been reduced to quarterly frequency. The value of FEDFUNDS for the first quarter of 1959, 2.57, is the average of its values for the three months in that quarter. The date variable daten now stores the first date of each quarter.

4

#### Example 6: Importing a subset of observations

The daterange() option causes import fred to restrict importing of data to only observations within the specified beginning and ending dates. daterange() takes two arguments, both of which must be either daily dates or missing (.). If a missing value is used for the first date, then all observations from the beginning up to the end date are imported. If a missing value is used for the second date, then all observations from the first date through the most current are imported.

Returning to example 4, we may wish to import only data between 1984 and 2005 for GDPC1, GDPDEF, and FEDFUNDS.

. import fred GDPC1 GDPDE	F FEDFUNDS	, daterange(1984-01-15 2005	-12-31) clear
Summar y			
Series ID	Nobs	Date range	Frequency
GDPC1	88	1984-01-01 to 2005-10-01	Quarterly
GDPDEF	88	1984-01-01 to 2005-10-01	Quarterly
FEDFUNDS	264	1984-01-01 to 2005-12-01	Monthly
# of series imported: 3			

```
highest frequency: Monthly
lowest frequency: Quarterly
```

Note that GDPC1 and GDPDEF now have 88 observations rather than 278; similarly, FEDFUNDS has 264 observations rather than 745.

4

#### Importing historical vintage data

In example 1, we imported monthly data on the exchange rate between the US Dollar and the Japanese Yen. The observations on EXJPUS listed in that example were observed end-of-day values. In contrast, the values in many FRED series, like the US real gross domestic product series (GDPC1), are estimates. The values of observed series do not change over time. The values of estimated series change over time because the rules that define them change over time. A set of rules is known as a vintage.

FRED contains the most recent vintage of a given series. At times, you may wish to import prior vintages or to view the series as it would have been seen on a particular date in history. ALFRED contains prior vintages of economic data and allows you to import data as they were seen on a particular date in history. For example, you may import the real GDP series that you would have had access to on October 15, 2008.

By default, import fred imports data from the current vintage. The vintage() and realtime() options allow you to import data from prior vintages. You can request a single date, multiple dates, all vintages between two dates in history, or the complete revision history.

#### Example 7: Importing vintages by date

We wish to import the gross national product (GNP) series as it would have been available on September 16, 2008 and September 16, 2009, so we specify these dates in the vintage() option. We also use the daterange() option to import only observations since 2006:

```
. import fred GNPC96, vintage(2008-09-16 2009-09-16) daterange(2006-01-01 .)
```

```
> clear
```

```
Summary
```

Series ID	Nobs	Date range	Frequency
GNPC96_20080916	10	2006-01-01 to 2008-04-01	Quarterly
GNPC96_20090916	14	2006-01-01 to 2009-04-01	Quarterly

```
# of series imported: 2
```

```
highest frequency: Quarterly
```

```
lowest frequency: Quarterly
```

. list, separator(4) abbreviate(16)

	datestr	daten	GNPC96_20080916	GNPC96_20090916
1.	2006-01-01	01jan2006	11286.5	12994.2
2.	2006-04-01	01apr2006	11365.1	13035.4
3.	2006-07-01	01ju12006	11370.8	13025.1
4.	2006-10-01	01oct2006	11426.5	13129.5
5.	2007-01-01	01jan2007	11419.1	13160.5
6.	2007-04-01	01apr2007	11541.7	13275.9
7.	2007-07-01	01jul2007	11719.9	13451.5
8.	2007-10-01	01oct2007	11758.3	13563.3
9.	2008-01-01	01jan2008	11760.9	13525.4
LO.	2008-04-01	01apr2008	11835.9	13533.7
11.	2008-07-01	01jul2008		13470.7
12.	2008-10-01	01oct2008	•	13240.5
13.	2009-01-01	01jan2009	•	13018.1
14.	2009-04-01	01apr2009		12991.6

We specified one series and two vintage dates, so we have imported two series. Each vintage is named with the series requested and the date that it was requested. For example, the series GNPC96\_20080916 reports real GNP as it was available on 16 September 2008. Note that the series is appended with the date requested, not the date the vintage was released.

These two vintages of GNPC96 differ dramatically because they are on different scales. The output also illustrates that, as of 16 September 2008, data on GNPC96 were only available through 1 April 2008.

4

### Example 8: Importing vintages by real-time period

You may also wish to obtain the complete vintage history of a series between two dates. For example, we import all the vintages of real GNP from December 2007 through July 2010 by specifying this date range in the realtime() option.

. import fred GNPC96, realtime(2007-12-01 2010-07-31) clear

Summar	у
--------	---

Series ID	Nobs	Date range	Frequency
GNPC96_20071201	243	1947-01-01 to 2007-07-01	Quarterly
GNPC96_20071220	243	1947-01-01 to 2007-07-01	Quarterly
GNPC96_20080327	244	1947-01-01 to 2007-10-01	Quarterly
GNPC96_20080529	245	1947-01-01 to 2008-01-01	Quarterly
GNPC96_20080626	245	1947-01-01 to 2008-01-01	Quarterly
GNPC96_20080731	245	1947-01-01 to 2008-01-01	Quarterly
GNPC96_20080828	246	1947-01-01 to 2008-04-01	Quarterly
GNPC96_20080926	246	1947-01-01 to 2008-04-01	Quarterly
GNPC96_20081125	247	1947-01-01 to 2008-07-01	Quarterly
GNPC96_20081223	247	1947-01-01 to 2008-07-01	Quarterly
GNPC96_20090326	248	1947-01-01 to 2008-10-01	Quarterly
GNPC96_20090529	249	1947-01-01 to 2009-01-01	Quarterly
GNPC96_20090625	249	1947-01-01 to 2009-01-01	Quarterly
GNPC96_20090731	249	1947-01-01 to 2009-01-01	Quarterly
GNPC96_20090817	249	1947-01-01 to 2009-01-01	Quarterly
GNPC96_20090827	250	1947-01-01 to 2009-04-01	Quarterly
GNPC96_20090930	250	1947-01-01 to 2009-04-01	Quarterly
GNPC96_20091124	251	1947-01-01 to 2009-07-01	Quarterly
GNPC96_20091222	251	1947-01-01 to 2009-07-01	Quarterly
GNPC96_20100326	252	1947-01-01 to 2009-10-01	Quarterly
GNPC96_20100527	253	1947-01-01 to 2010-01-01	Quarterly
GNPC96_20100625	253	1947-01-01 to 2010-01-01	Quarterly
GNPC96_20100730	253	1947-01-01 to 2010-01-01	Quarterly
GNPC96_20100731	253	1947-01-01 to 2010-01-01	Quarterly

highest frequency: Quarterly lowest frequency: Quarterly

Each series contains the data from a vintage, and each series' name is appended with the date that the vintage was released.

4

Different vintages of a series may not be directly comparable. For example, the units of a series may change over time. The different vintages must be converted to a common unit before they are analyzed, and it is crucial that you be aware of the units of the vintages you are analyzing.

Note that there is slightly different behavior depending on whether you specify vintage dates or import all vintages within a real-time period. If you specify a list of dates, then each vintage will be named series\_date. On the other hand, if you import every vintage between two dates using the realtime() option, then each vintage will be named series\_vintage\_date. This behavior follows FRED's behavior when handling vintages.

#### Searching, saving, and retrieving series information

fredsearch finds series that match keywords or tags. Around 5,000 tags are supplied by FRED. You can also search by keywords, which will search for the keyword anywhere in the metadata of a series.

You can save the names of the series found by a search to a file and then import these series. The following example uses tags in combination with keywords to import median income per capita for states in the United States.

#### Example 9: Using the search engine

Suppose we wish to import median income per capita for each state. This requires us to identify 51 series, one for each state and the District of Columbia. The series IDs may follow some pattern, but it is not immediately obvious what those IDs are. We could use the FRED interface, as in example 3, or we could use fredsearch to search for the relevant series, save the IDs to a file, and use that file to load the correct series. This example takes the latter approach.

The fredsearch command invokes the search engine. fredsearch *keywords* allows you to search for *keywords* anywhere in the series metadata. The tags() option allows you to filter the search results using some of FRED's 5,000 designated tags.

Series ID	Title	Data range	Frequency
MEHOINUSNYA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSCAA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSTXA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSMIA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSFLA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSMNA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSDCA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSAZA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSMAA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSUTA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSPAA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSALA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSOHA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSINA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSILA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSNJA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSCTA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSCOA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSVAA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSKYA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSOKA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSNCA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSMOA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSWIA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSRIA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSWAA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSHIA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSGAA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSMSA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSARA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSIAA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSWVA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSSCA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSNEA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
MEHOINUSNHA672N	Real Median Househ	1984-01-01 to 2023-01-01	Annual
(output omitted)			

. fredsearch median household income, tags(state real)

Total: 51

In the above search command, we searched FRED for all series containing "median", "household", and "income" somewhere in their metadata, and restricted the search to series with the tags "state" (for states) and "real" (for inflation-adjusted series). The result is 51 series, one for each state and the District of Columbia.

fredsearch provides information about series but does not import them. We can save the search results to a file, then import all series that matched our search results:

fredsearch median household income, tags(state real) saving(myfile.dta)
(51 series added to myfile.dta)
import fred, serieslist(myfile.dta) clear
Summary

Series in	Nobs	Date range	Frequency
MEHOINUSNYA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSCAA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSTXA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSMIA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSFLA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSMNA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSDCA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSAZA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSMAA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSUTA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSPAA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSALA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSOHA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSINA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSILA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSNJA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSCTA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSCOA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSVAA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSKYA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSOKA672N	40	1984-01-01 to 2023-01-01	Annual
MEHOINUSNCA672N	40	1984-01-01 to 2023-01-01	Annual
(output omitted)			

# of series imported: 51
 highest frequency: Annual
 lowest frequency: Annual

This example showed how to quickly import 51 series for median household income by state. A similar procedure can quickly isolate and import the roughly 200 series that report data on infant mortality by country or the roughly 200 series that report the investment share of GDP by country.

4

#### **Describing series**

freddescribe provides facilities to describe series based on their metadata. freddescribe *series\_list* provides a brief summary of *series\_list*. The series are only described, not imported.

With the detail option, detailed series metadata are displayed, including the full title of the series, the source agency, the source data release, seasonal adjustment, date range for which observations exist, frequency of observations, units, date and time that the series was last updated, and notes, which contain FRED's notes about the series. Finally, the full metadata includes a list of all vintage dates associated with the series.

Specifying the realtime (*start end*) option on freddescribe provides information about a series by a real-time period. This option allows you to see how a series' units have changed over time. freddescribe will display the series description for each vintage between the specified start and end dates.

freddescribe, realtime(. *end*) describes all vintages from the first available vintage up to that of *end*. Similarly, freddescribe, realtime(*start*.) describes all vintages from *start* up through the most current vintage available.

### Example 10: Describing series

Suppose we wish to know what vintages are available for real GDP, whose FRED series name is GDPC1. We use freddescribe with the detail option to list all the vintages.

. freddescribe GDPC1, detail

GDPC1							
Title:	Real Gross Domestic Product						
Source:	U.S. Bureau	of Economic	Analysis				
Release:	Gross Domes	tic Product	-				
Seasonal adjustment:	Seasonally	Adjusted Ann	ual Rate				
Date range:	1947-01-01	to 2024-10-0	1				
Frequency:	Quarterly						
Units:	Billions of	Chained 201	7 Dollars				
Last updated:	2025-03-27	08:03:25-05					
Notes:	BEA Account	Code: A191R	X Real gros	s domestic p	roduct i		
Vintage dates:	1991-12-04	1991-12-20	1992-01-29	1992-02-28	1992-03-26		
	1992-04-28	1992-05-29	1992-06-25	1992-07-30	1992-08-27		
	1992-09-24	1992-10-27	1992-11-25	1992-12-22	1993-01-28		
	1993-02-26	1993-03-26	1993-04-29	1993-05-28	1993-06-23		
	1993-07-29	1993-08-31	1993-09-29	1993-10-28	1993-12-01		
	1993-12-22	1994-01-28	1994-03-01	1994-03-31	1994-04-28		
	1994-05-27	1994-06-29	1994-07-29	1994-08-26	1994-09-29		
	1994-10-28	1994-11-30	1994-12-22	1995-01-27	1995-03-01		
	1995-03-31	1995-04-28	1995-05-31	1995-06-30	1995-07-28		
	1995-08-30	1995-09-29	1995-10-27	1996-01-19	1996-02-23		
(output omitted)							

```
Total: 1
```

Vintages since 1991 are available for download. If we had not specified detail, only the series name, start and end date, and frequency would have been displayed.

#### Example 11: Obtaining historical descriptions

Information for real GNP in the United States is contained in FRED series GNPC96. Real GNP is expressed in the units of some base year, and over time the base year changes. In this example, we will examine how the units for GNPC96 have changed over time by requesting a description of all vintages up through December 31, 2015 using the realtime() option.

```
. freddescribe GNPC96, realtime(. 2015-12-31)
```

Series ID	Real time	Units
SPFC96 SNPC96 SNPC96 SNPC96 SNPC96 SNPC96 SNPC96 SNPC96 SNPC96 SNPC96	1958-12-21 to 1959-02-18 1959-02-19 to 1965-08-18 1965-08-19 to 1976-01-15 1976-01-16 to 1985-12-19 1985-12-20 to 1991-12-03 1991-12-04 to 1996-01-18 1996-01-19 to 1999-10-28 1999-01-29 to 2003-12-09	Billions of 1957 Dollars Billions of 1954 Dollars Billions of 1958 Dollars Billions of 1972 Dollars Billions of 1982 Dollars Billions of 1987 Dollars Billions of Chained 1992 Dollars Billions of Chained 1996 Dollars
GNPC96 GNPC96 GNPC96	2003-12-10 to 2009-07-30 2009-07-31 to 2013-07-30 2013-07-31 to 2015-12-31	Billions of Chained 2000 Dollars Billions of Chained 2005 Dollars Billions of Chained 2009 Dollars

Total: 11

Vintages for this series begin in 1958. A new row signifies a change in units. There are 11 total changes in units in GNPC96. Every vintage of GNPC96 between 2009-07-31 and 2013-07-30, for example, is in the units "Billions of chained 2005 dollars". Meanwhile, vintages since 2013-07-30 are in units "Billions of chained 2009 dollars". Real GNP vintages from 2010 and 2014 will not be immediately comparable due to the difference in units; they should be converted into a common unit before analysis.

Additional information by real-time period can be obtained by specifying the detail option. We can inspect the details of vintages since 2008:

. freddescribe GNPC96, detail realtime(2007-12-31 2013-01-15)

GNPC96		2007-12-31 to	2009-07-30		
Title:	Real Gross National Product				
Source:	U.S. Bureau of Economic Analysis				
Release:	Gross Domestic Product				
Seasonal adjustment:	Seasonally Adjusted Annual Rate				
Date range:	1947-01-01 to 2009-01-01				
Frequency:	Quarterly				
Units:	Billions of Chained 2000 Dollars				
Last updated:	2009-06-25 10:47:06-05				
Notes:	BEA Account Code: A001RX1 A Guid	le to the Natio	onal Inco		
Vintage dates:	2008-03-27 2008-05-29 2008-06-2	26 2008-07-31	2008-08-28		
	2008-09-26 2008-11-25 2008-12-2	23 2009-03-26	2009-05-29		
	2009-06-25				
GNPC96		2009-07-31 to	2013-01-15		
Title:	Real Gross National Product				
Source:	U.S. Bureau of Economic Analysis				
Release:	Gross Domestic Product				
Seasonal adjustment:	Seasonally Adjusted Annual Rate				
Date range:	1947-01-01 to 2012-07-01				
Frequency:	Quarterly				
Units:	Billions of Chained 2005 Dollars				
Last updated:	2012-12-20 08:17:16-06				
Notes:	BEA Account Code: A001RX1 A Guide to the National Inco				
Vintage dates:	2009-07-31 2009-08-17 2009-08-2	27 2009-09-30	2009-11-24		
	2009-12-22 2010-03-26 2010-05-2	27 2010-06-25	2010-07-30		
	2010-08-27 2010-09-30 2010-11-2	23 2010-12-22	2011-03-25		
	2011-05-26 2011-06-24 2011-07-2	29 2011-08-26	2011-09-29		
	2011-11-22 2011-12-22 2012-03-2	29 2012-05-31	2012-06-28		
	2012-07-27 2012-08-29 2012-09-2	27 2012-11-29	2012-12-20		

Total: 2

The detail option provides much of the same information as it did without realtime(), but now a new detail block is provided for each vintage where the details themselves change. Most of the details remain constant across vintages, but in this example, "Units" and "Date range" are different for each block.

The vintage list is now separated, with each vintage falling into the appropriate describe block. For example, all vintages of GNPC96 in 2010 have metainformation corresponding to the block that describes vintages from 2009-07-31 to 2013-01-15.

4

### Stored results

fredsearch stores the following in r():

Scalars

r(series\_ids) list of series IDs contained in the search results

## References

Drukker, D. M. 2006. Importing Federal Reserve economic data. Stata Journal 6: 384-386.

Schenck, D. 2017. Importing data with import fred. The Stata Blog: Not Elsewhere Classified. https://blog.stata.com/ 2017/08/08/importing-data-with-import-fred/.

# Also see

- [D] import Overview of importing data into Stata
- [D] import delimited Import and export delimited text data
- [D] import haver Import data from Haver Analytics databases
- [D] odbc Load, write, or view data from ODBC sources
- [TS] tsset Declare data to be time-series data

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