# EViews® 11

## Getting Started

IHS Markit®

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# Getting Started

Congratulations on your purchase of EViews 11, the premier forecasting and analysis package for Windows-based computers. This guide will lead you step-by-step through the installation and registration procedure for EViews.

(The following discussion describes the installation and registration process for single user copies of EViews and seat licenses purchased under a Volume License Program. Setting up machines to use concurrent use licenses will require a different procedure; for details, please check with your IT support department.)

## Installing EViews

### 32-bit or 64-bit?

Before installing, you should decide whether you wish to install 32-bit EViews, 64-bit EViews, or both.

EViews 11 is available in both 32-bit and 64-bit versions. If you are using 64-bit Windows, you have the option of installing the 64-bit version of EViews in addition to the 32-bit version. Your EViews serial number allows you to have both versions installed on the same 64-bit machine.

Using 64-bit EViews allows you to create and use workfiles that are much larger in size than before. Workfiles can now contain up to 120 million observations and the number of objects is only limited by the amount of memory you have available details). However, if you plan on sharing these workfiles with others, they will need to have 64-bit EViews installed in order to open your workfile.

### Installing

To begin installation, simply click on the “EViews11Installer.exe” or “EViews10Installer(64-bit).exe” executable program file.

- First, you will be prompted to read and accept the License Agreement, and to designate a directory into which you wish to install your copy of EViews. If you wish to change the default installation directory, click on **Browse** and navigate to the desired directory. Click on **Next** to continue.
- Next, you will be asked to enter a name and serial number. You should have been provided with a 24-character serial number as part of your purchase. Those of you who have obtained your copy of EViews as part of a Volume License agreement should

obtain a serial number from your license administrator. Enter the serial number and your name as you wish it to appear in your copy of EViews, and click on **Next**.

- Select the components you wish to install and click on **Next**.
- Lastly, you will be asked about setting up a Start Menu folder containing shortcuts to the EViews example files folder and the EViews program executable. Clicking on **Next** starts the actual installation of files onto your computer.

You should note that as part of the installation procedure, EViews will prompt you to register files with the extensions ".WF1", ".PRG", ".EDB", ".AIPZ", and ".UIPZ". If these extensions are already registered, possibly by an earlier version of EViews, you will be prompted to allow EViews 11 to override the existing registration. Registering the extensions is not required, but doing so will allow you to double-click on files with these extensions to launch EViews.

Once the installation procedure is completed, click on **Finish**. If you have elected to create an EViews shortcut, the EViews Start Menu folder will open. To launch EViews, double-click on the EViews 11 icon. Subsequently, you may launch EViews using the shortcut on your desktop or by selecting EViews from the Start Menu shortcuts, if present, by double-clicking on EViews registered file types, or by navigating to the EViews installation directory and double-clicking on the EViews icon.

## Registering EViews

### What is Registration?

To use EViews 11 on a specific computer, you must first register the program using the serial number obtained with your purchase or obtained from your license administrator. EViews registration is the one-time process of assigning a serial number to a specific machine, sending a unique machine ID number to IHS Global Inc., and writing some information to your Windows registry or Mac application support directory. This is a simple process that can be performed in a few seconds.

The first time EViews is run on a new machine, you will be prompted to register your copy for that machine.

*The EViews single user and standalone licenses allow for a single individual to have exclusive use of copies of EViews residing on multiple machines, or for multiple users to have exclusive access to a copy of EViews residing on a single machine. For example, a single user may install and register EViews on his or her office computer, home computer and a laptop computer, provided that the use of EViews is exclusive. Note, specifically, that the license terms do not allow two users to share copies of the same license of EViews residing on two machines.*

To facilitate the legitimate use of EViews on multiple machines, we allow each EViews single user serial number (one beginning with "11A" or "11B") or standalone serial number (one beginning with "11S") to be used in registering up to two machines.

Under the terms of the EViews Volume License agreement, "11C" (volume) license serial numbers may not be used to register multiple machines. Each volume licensed machine running EViews must be assigned a distinct serial number. Thus, licensing an office computer, home computer and laptop computer of a single user will require three distinct Volume License serial numbers.

Once registered on a given machine, EViews will run indefinitely.

The copy of EViews may be uninstalled and reinstalled on a registered machine, updated, or moved to a different directory without re-registering the copy for that machine. In the special case where a machine's hard disk is wiped clean, but no other changes are made to the system, you may simply re-register your copy of EViews. Note that in this circumstance, reregistration on the machine will *not* count as an additional registration.

If an entire machine or a machine's hard disk is replaced, you should contact our office to unregister your previous installation prior to re-registering.

## How Do I Register?

Before starting the registration process, you should first locate your EViews serial number. You most likely will need to enter this number into EViews during the registration procedure.

If the copy of EViews is not registered, EViews will display a warning dialog. The dialog will inform you that EViews is not registered for this machine and, *if applicable,* will indicate the number of additional days the unregistered copy will continue to run.

On a Windows machine, if the copy of EViews is not registered, EViews will display a warning dialog. The dialog will inform you that EViews is not registered for this machine and, *if applicable,* will indicate the number of additional days the unregistered copy will continue to run.

You may choose to register in one of two ways: you may use the EViews auto registration features (by clicking on **Auto Registra-**

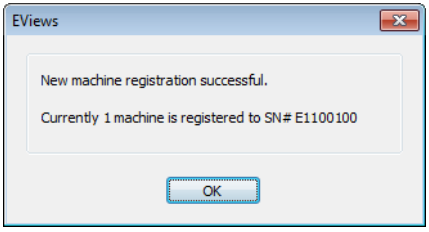
**tion...**), or you can manually register (by clicking on **Manual Registration...**). Selecting either of the these two options will open a dialog prompting you for additional information.

### Auto Registration

If your computer is connected to the Internet, auto registration makes registering EViews a snap. Simply click on the **Auto Registration...** button to display a dialog for entering your registration information.

EViews will fill out as many fields in this dialog as possible. If you wish to continue with the auto registration process, make sure that the entries in the **Serial #** and **Name** fields are filled in with the relevant information. When you click on the **Register now** button, EViews will attempt to contact one of our registration servers and, if successful, will transmit the information contained in the dialog to the server. The server will process the information and the machine will be registered to run EViews.

You should see a message indicating that registration was completed successfully, along with the number of machines that have been registered to the serial number.



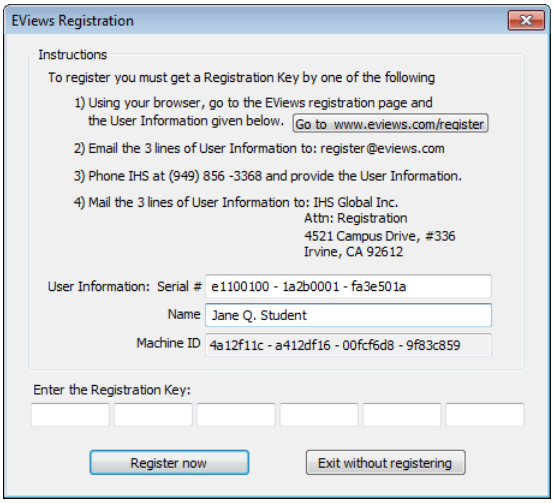

If you do not wish to continue with auto registration, click on the **Exit without registering** button and you will be returned to the main registration screen.

Note that there are some circumstances in which auto registration will fail. Obviously, auto registration will not work if the computer is not connected to the Internet. If registration fails, you should first verify that you have Internet access. Second, your computer may be behind a firewall which does not allow the required communication between your computer and our servers. Furthermore, while unlikely, it is possible that all of our registration servers are temporarily unresponsive.

If you continue to have problems with auto registration, you can choose to register manually as described in the next section, or you can contact us for assistance.

### Manual Registration

If auto registration fails or if you prefer not to use the automatic registration features, you may elect to register manually. From the main registration page, click on **Manual Registration...** to display the manual registration portion of the dialog:




You must fill in the three fields in the dialog: the 2-character serial number, your name, and a 36-character registration key you must first obtain via web browser, phone, or email. EViews will help you by filling in as many fields as possible.

The easiest method of retrieving the registration key is via web browser. If you have access to an Internet connected browser, navigate to

http://www.eviews.com/register/

which will direct you to our registration servers. Follow the links to the registration page, and fill in the form. Enter your name, serial number, and the machine ID number as displayed in this registration dialog into the form. Click on the **Submit the form** button. You will be provided with the 36-character registration key.

Once you have obtained the key, return to the registration dialog in EViews. If necessary, select **Help/EViews Registration...** from the EViews main menu to display the registration page.

Make certain that you have entered your name and serial number *exactly* as provided when you obtained the registration key, and enter the key in the registration key box. Click **OK** to finish the registration process. Note that you should be able to copy-and-paste the registration key information from your browser into the dialog edit fields.

If all of the information is entered correctly, you will be informed that your registration is complete.

If you do not have access to a working web browser, you can contact our office via email, phone, or standard post to obtain the key:

IHS Global Inc.
Attn: Registration
4521 Campus Drive, #336
Irvine, CA 92612
Email: register@eviews.com
Phone: 949-856-3368

Please provide a registration name, full 24-character serial number, and the machine ID number. We will then provide you with the 36-character registration key.

If you receive the key via email, you should be able to copy-and-paste the key information into the dialog edit fields.

### Contact Information

Once registration is completed, EViews will display an optional contact page form. You may submit this form to send name, address, phone number, and email information to IHS Global Inc. This information is for our records only and will not be redistributed to others.

## Frequently Asked Questions about Registration

While the registration procedure should be straightforward, we understand that you may still have questions. The following are answers to the most frequently asked questions:

- *How do I find my serial number and other information about my copy of EViews?*

  Your copy of EViews contains information about your registration status, as well as the product version and build date of the program. To obtain this information, simply select **Help/About EViews** from the main EViews menu.

- *I contacted you and received a key, but the key doesn't seem to work. What could be wrong?*

  The most common registration problem results from entering a name or serial number which does not match the key. You should make certain that the name and serial number both match those provided when obtaining a key. Note that while the name is not case-sensitive, it should otherwise be entered *exactly* as originally provided. If you still experience problems, do not hesitate to contact our office.

- *My copy of EViews does not appear to have the features for the edition that I purchased. Do you have to send me a new CD-ROM?*

  No. Simply contact our office. Once we verify the edition of EViews that you have purchased, you should be able to re-register and upgrade your copy to enable the features.

- *I've replaced my computers and no longer have available registrations. What should I do?*

  If there are special circumstances where you need to register an additional machine, please contact our office.

- *How do I change the name in which my copy is registered?*

  Your copy of EViews contains the name in which it was first registered. If you wish to change the registration name, please contact our office.

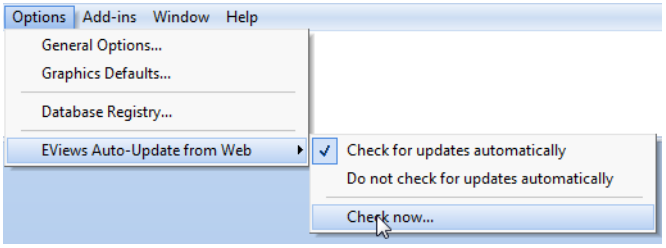
- *What if I have trouble registering?*

  We do not anticipate that you will have problems registering your copy of EViews using one of the available methods (auto-registration, manual using our web servers, or manual using email or phone). Please feel free to contact our office if you encounter difficulties.

## Updating Your Copy of EViews

EViews 11 offers an automatic updating feature that can check for new updates every day, and install an updated version if available. (The automatic update feature can be enabled or disabled from the **Options/EViews Auto-Update from Web** menu item.)

Alternately, you may manually check for updates from within EViews at any time by selecting **Check now...** under the **EViews Auto-Update from Web** menu item, or by selecting **EViews Update** from the **Help** menu.




You may also visit the EViews website to check for updates to the EViews program and other components (documentation, sample data, and sample programs). Use your browser to go to:

http://www.eviews.com

and navigate to the downloads area. Downloading updates *will not* require re-registration of EViews on any previously registered computer. Simply download the update, run the installer, and you will have the latest shipping copy of your software.

## Where to Go For Help

Your EViews installation includes documentation in the form of an interactive Help System and PDF versions of the manuals. You may also access the EViews documentation online at

http://www.eviews.com/help/helpintro.html

User-provided online support is available via the EViews Forum.

### The Help System

All of the EViews documentation may be viewed from within EViews using the help system. To access the EViews help system, go to the main menu and select **Help/EViews Help Topics...** or click on **Help/Quick Help Reference** and select a topic to jump directly to relevant subsections.

### The EViews Manuals (PDF Files)

Your EViews installation includes copies of the EViews manuals in Adobe Portable Document Format (.PDF) file format.

If you elected to include the electronic versions of the manuals in your EViews installation, you may access the PDF files from within EViews by clicking on **Help** in the main EViews menu and selecting the file of interest. Alternately, you may navigate to the "Docs" subdirectory of your EViews installation directory to access the files directly.

### Tutorials

To get you started, we have provided a set of PowerPoint tutorials illustrating the basics of EViews. These tutorials are a great way of seeing EViews in action.

http://www.eviews.com/Learning/index.html

### The EViews Forum

To supplement the information provided in the manuals and the help system, we encourage you to visit the EViews Online Forum, where you can find answers to common questions about installing, using, and getting the most out of EViews. The EViews Forum is an ideal place to ask questions of and share information with other EViews users.

The forum address is:

http://forums.eviews.com

# New Features in EViews 11

EViews 11 features a number of exciting changes and improvements. The following is an overview of the most important new features in Version 11.

Note that in some cases, entries will appear in more than one section as they might otherwise be overlooked by those who may find them of interest.

## General EViews Interface

- Command Explorer ("Command Explorer," on page 10).
- Name and Command Auto-Completion ("Auto-Complete Names and Commands," on page 12).
- Value-based Spreadsheet and Geomap Coloring ("Value-Based Text and Fill Coloring," on page 14).
- Geomap object for displaying geographic maps ("Geographic Maps" on page 16).

## Data Handling

- Bureau of Economic Analysis data support ("Bureau of Economic Analysis (BEA)," on page 19).
- U. S. Census data support ("U.S. Census (United States Census Bureau," on page 24).
- National Oceanic and Atmospheric Administration data support ("NOAA (National Oceanic And Atmospheric Administration," on page 31).
- Duplicates analysis ("Duplicates Analysis," on page 36).
- New split-observations high-to-low frequency conversion method ("Split-Observations Frequency Conversion," on page 39).

## Econometrics and Statistics

### Estimation

- Improved Bayesian VARs ("Bayesian VARs" on page 41).
- Mixed Frequency VARs ("Mixed-Frequency VARs" on page 42).
- Switching VARs ("Switching VARs" on page 43).
- Elastic Net and LASSO ("Elastic Net and LASSO" on page 44).

- Functional Coefficient and Localized Regression ("Functional Coefficients Regression" on page 46).
- Cluster Robust Standard Errors for Additional Estimators ("Cluster-Robust Covariances" on page 50).

#### Testing and Diagnostics

The estimators listed in "Estimation," on page 9 all provide various estimator-specific views for testing and diagnostics. In addition, EViews 11 offers:

- Seasonal Unit Root Testing ("Seasonal Unit Root Testing" on page 51).

### External Interfaces

- Python programming language support ("Python Connectivity," on page 53).

### Other Features

- New functions for use in series generation ("Series Generating Functions" on page 54).
- New Multivariate Distribution Function Support ("Distribution Functions" on page 55).
- Added matrix language tools ("Matrix Functions" on page 55).
- New object data members ("Object Data Members," on page 56).
- List of new or updated global commands ("Updated Command List" on page 57).
- List of new or updated object commands ("Updated Object List" on page 58).

### EViews 11 Compatibility Notes

- Compatibility notes for users of EViews 10 ("EViews 11 Compatibility Notes" on page 61).

## General EViews Interface

EViews 11 offers important interface improvements, highlighted by a new, full-featured snapshot backup system for your workfiles.

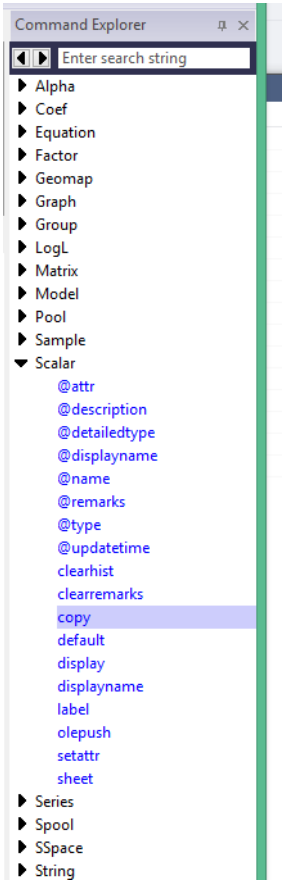
### Command Explorer

The Command Explorer provides a quick way to display context specific documentation while working in EViews. In particular, you may use the explorer to list all of the applicable commands and data members for a specific object type, and to display documentation for those commands.

By default, EViews ships with the explorer window in a docked window on the right-hand side of your EViews window. To activate the explorer, simply click on the tab labeled **Command Explorer**.

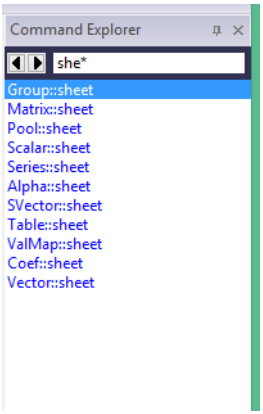
EViews will open a window showing a list of the EViews object types.

- Clicking on the name of an object type will open a documentation page for that object in a browser window.
- Clicking on the arrow to the left of the object name will toggle the display of alphabetical tree-listing of all of the commands, procs, and data members for that object. To open a browser window to the documentation of a given element, click on the name.




Alternately, from the open explorer window, you may use the search box to locate a specific command or proc.

if you already know the command name or a portion of the command name, you may search for the command by simply typing portion of that command followed by a wildcard ("*") into the search window and pressing return. A list of matching commands will be displayed. Clicking on one of the results will display the corresponding help page.




Use the left and right arrows to the left of the search window to switch between the search results and the full list of commands.

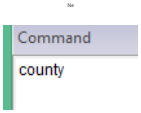
By default, the Command Explorer window will automatically close when it loses focus. You may click on the push-pin in the upper right portion of the window to dock the open window. Click on the push-pin again to restore the docked window to auto-close.

## Auto-Complete Names and Commands

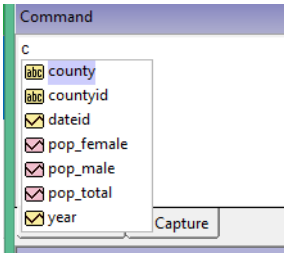
You may instruct EViews to auto-complete the name of the object or object command you are in the middle of typing. This feature is particularly useful in workfiles with long series names or when issuing a series of commands. (Note that auto-complete is only enabled when there is a workfile open).

### Object Name Auto-Complete

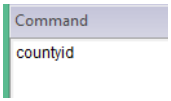
Assuming you have an open workfile, simply begin typing the first characters of the name of an object or command. Press CONTROL + SPACE to display a list of the objects in the current workfile.




If there are no ambiguities, the name of the object will be added to the command window. If there are ambiguities, a list of all the objects in the workfile will appear with the first match selected:




From here you can either press ENTER and the name of the object will be completed, or you may use the up and down arrows to select a name and press ENTER to complete your selection:

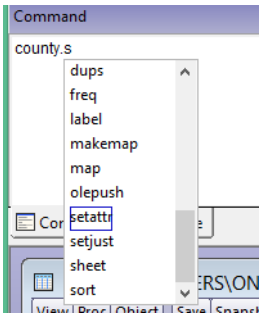



Alternately, you may press CONTROL + SPACE at any time when nothing has been typed, to see the full list of objects.

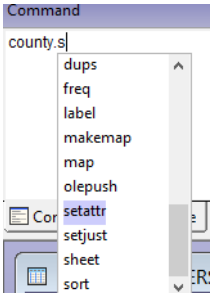
### Object Command Auto-Complete

Similarly, you may use auto-completion for commands. If you have typed an object name along with a trailing period, press CONTROL + SPACE again to display the list of commands for that object. Assuming that object exists in your current workfile, EViews will list all the commands and procs for that object,

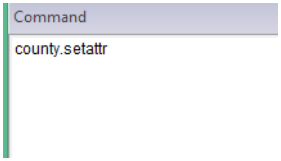
As with object name auto-complete, typing a portion of a command will add the full string if there are no ambiguities, or will display a list of applicable commands with the nearest match partially selected:




Using the arrow keys, select the desired command:




and press ENTER to add the command to the window:



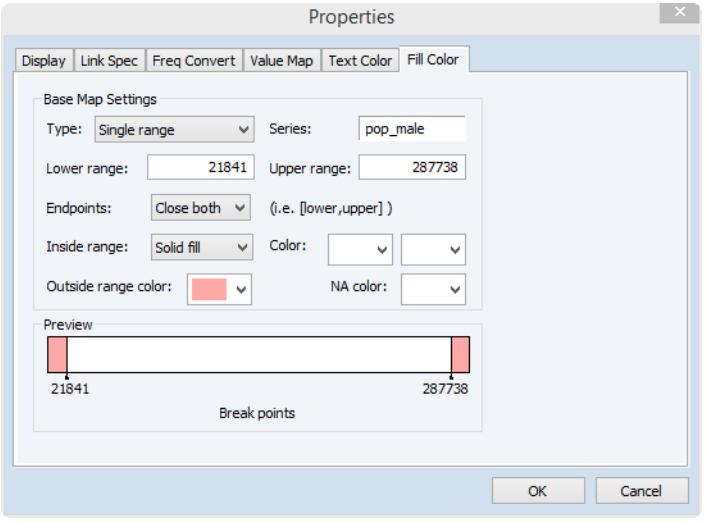

## Value-Based Text and Fill Coloring

EViews 11 introduces text and fill colors for individual cells in series and group spreadsheets, and in geomaps (also new in EViews 11).

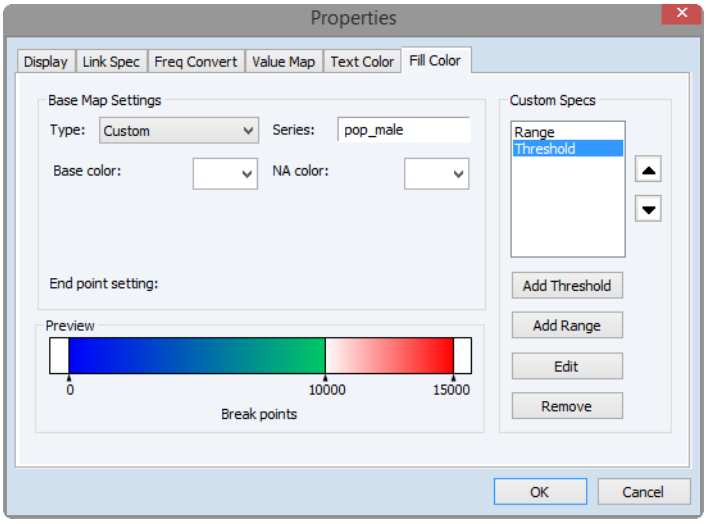
You may specify fixed colors or use the EViews color-mapping engine to assign colors on the basis of values from a series in the workfile. Value-based color-mapping allows users to quickly scan and identify particular observations such as outliers or negative values, or show possible numerical trends.

- For series and group spreadsheets, you may set the text and/or fill color of each cell You may use a fixed color or to choose colors on the basis of values of a series.
- For geomaps, you may set the fill color of each shape to a fixed color or you may use the colormap to choose colors on the basis of values of a series.

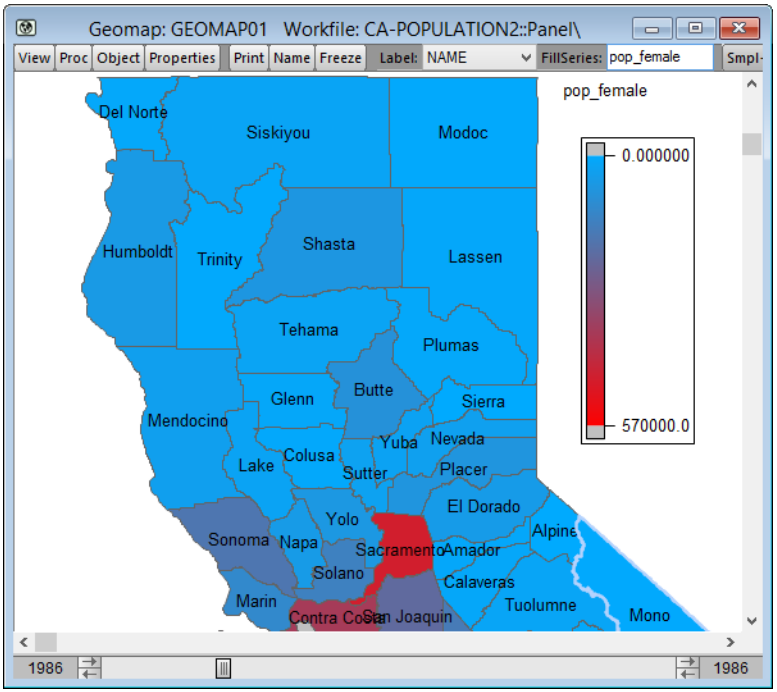
For example, you may easily set the fill color for a spreadsheet to be red if a particular series has negative values, or alternately, has outlier values:




You may use the simple presets to choose fill or text colors for ranges or limits, or you may employ custom settings with gradients and multiple rules:




When applied to geomaps, the value-based fill coloring can deliver sophisticated, visually informative results:




For additional discussion, see:

- "Value-Based Text and Fill Coloring," on page 178 in *User's Guide I*.
- See also `Series::setfillcolor` (p. 641) and `Series::settextcolor` (p. 650) in the *Object Reference*.
- See also `Group::setfillcolor` (p. 377) and `Group::settextcolor` (p. 386) in the *Object Reference*.

## Geographic Maps

EViews 11 offers a geomap object that is capable of using Esri (www.esri.com) shapefiles to draw geographic maps.

Geomaps are useful for visualizing data that are tied to specific geographic regions. You can, for example, create a world geomap and using color-mapping feature to color the map shapes for country based on their GDP.

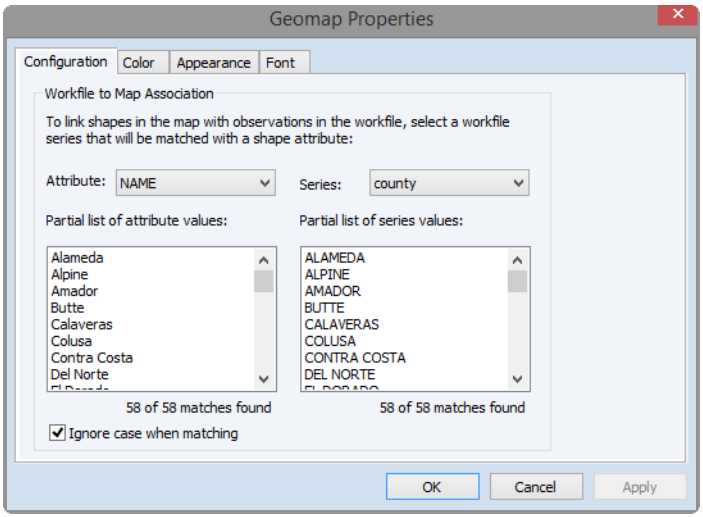
There are four steps in using a geomap in EViews:

- reading a shapefile containing shape drawing information and attribute values associated with each shape

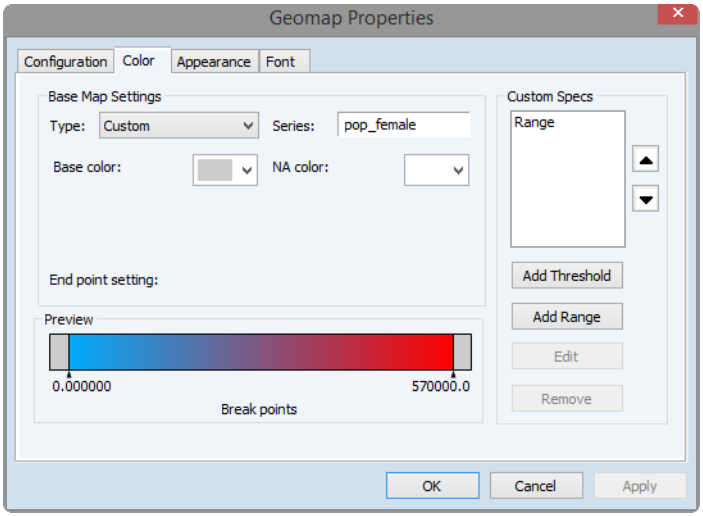
- selecting one of the shapefile attributes to provide text labels for the shapes
- linking the shapes in the shapefile to observations in the workfile by specifying a series containing values that match the shapefile attribute values
- using a series to apply a colormap defining the shape fill colors

The first two steps are required to display labeled shapes.

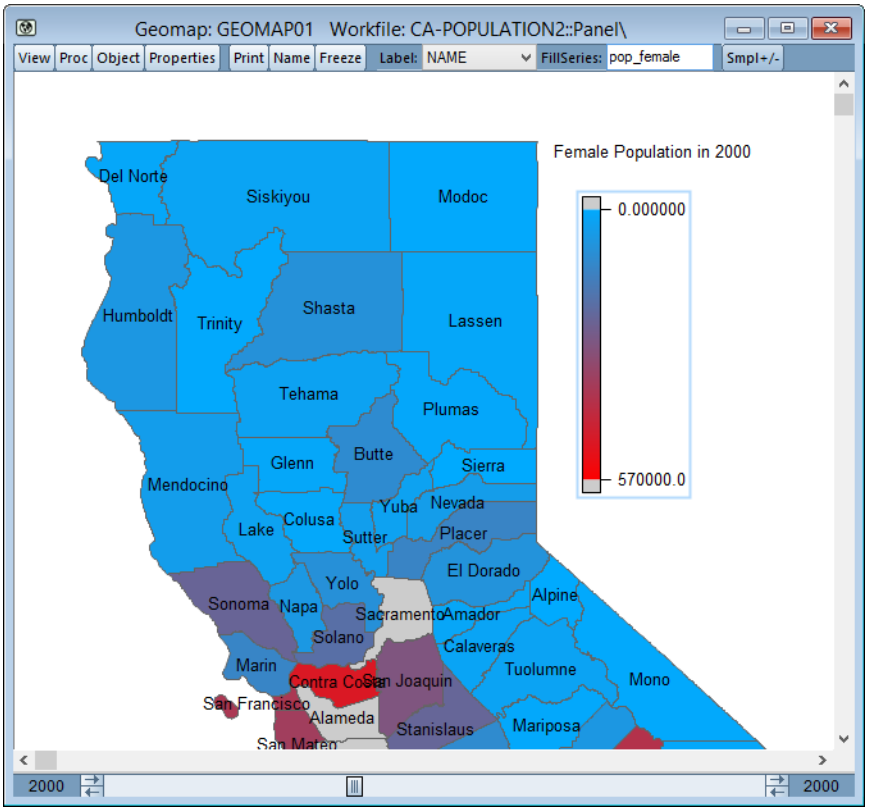
The linking step is required to associate observations from your EViews workfile with the individual shapes.




The final step specifies values for each observation to define fill colors for each associated shape:




Displaying the geomap gives:




For discussion and detail, see:

- "Geomaps," on page 645 in *User's Guide I*.
- See also `Geomap::setfillcolor` (p. 261) in the *Object Reference*.

# Data Handling

EViews 11 offers a variety of new features for working with data.

## Data Sources and File Formats

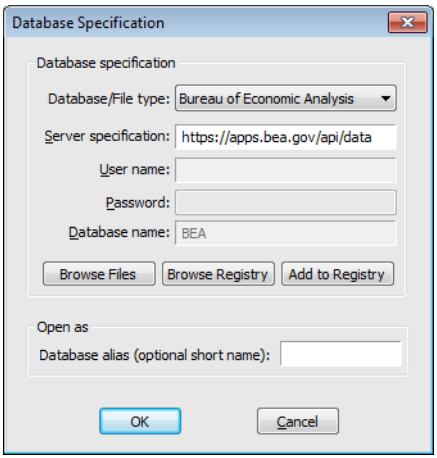
### Bureau of Economic Analysis (BEA)

BEA provides access to a list of datasets that offer a large range of publicly available data, including U.S. GDP, foreign trade, investment statistics, and industry data. Please note that

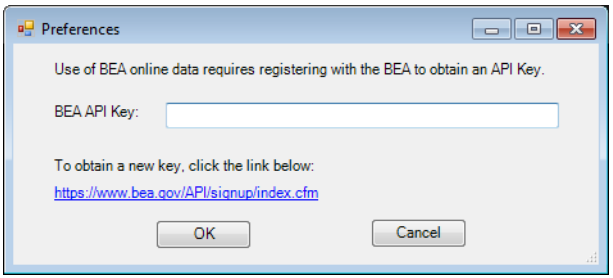
an internet connection is required to obtain BEA online data. For more information on the datasets, please see

www.bea.gov/data/all

EViews 11 offers a custom interface to BEA data. To open the BEA database, select **File/Open Database…** from the main EViews menu, then select **Bureau Of Economic Analysis** from the **Database/File type** dropdown menu:

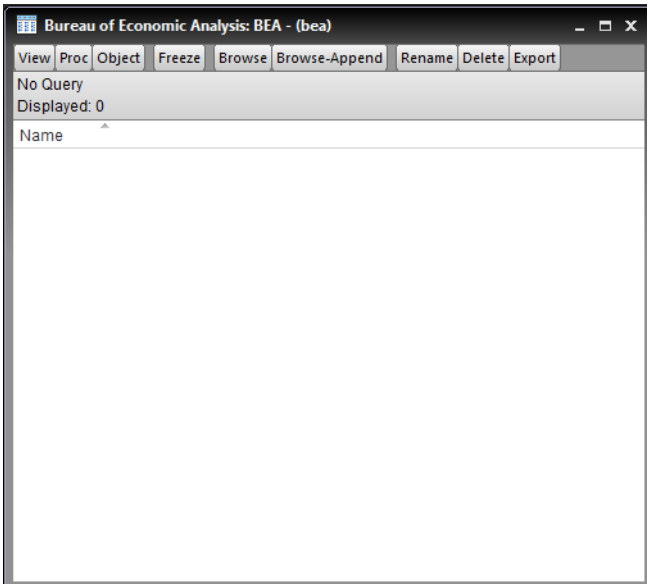



Use of the BEA service is free but requires registration. The first time you attempt to open the database you will be asked to enter an API Key obtained from the Bureau of Economic Analysis:

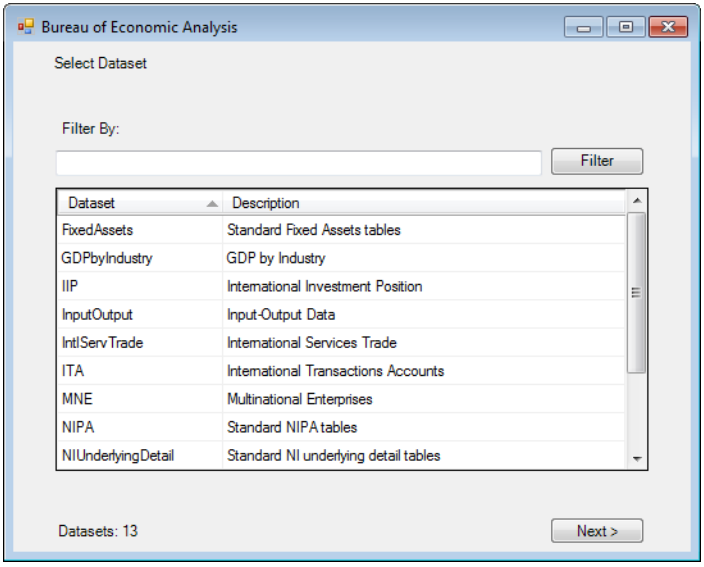



Please enter your API key and then click on **OK**. The key will be saved as a user specific setting in your EViews ".ini" file. If you need to change the key at a later time, select **View/Preferences…** from the EViews database menu to modify your settings.

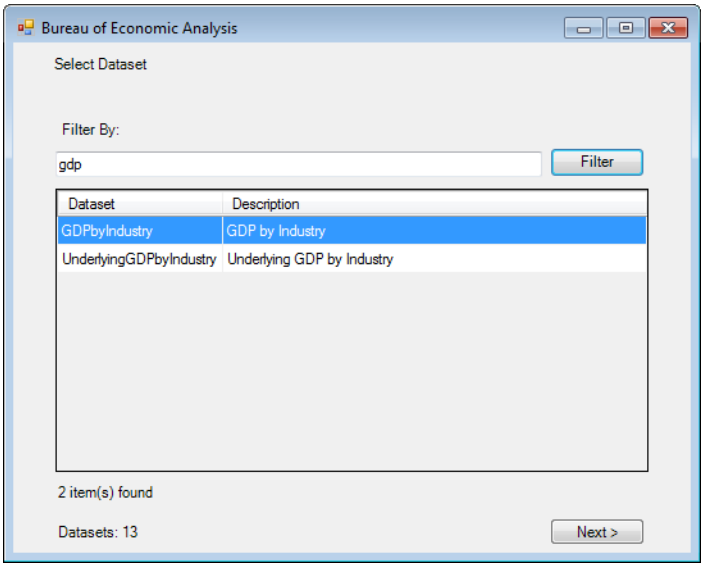
When you click on **OK**, EViews will open a standard database window:



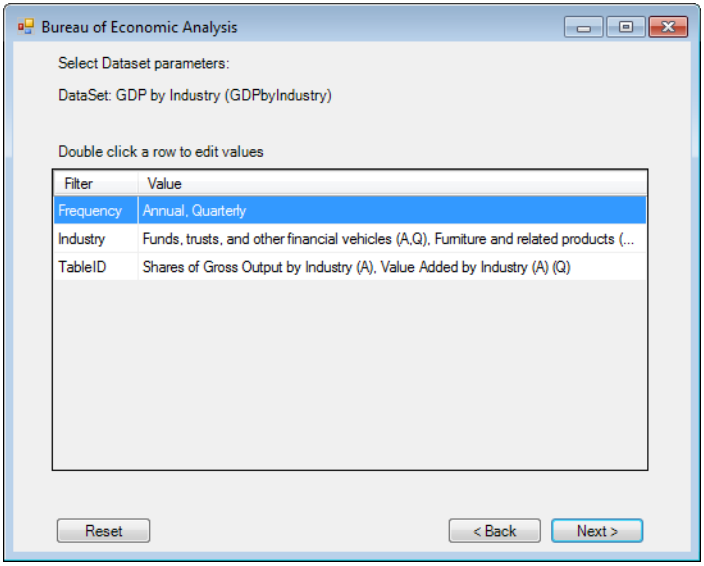

Click on **Browse** to open the custom BEA window:



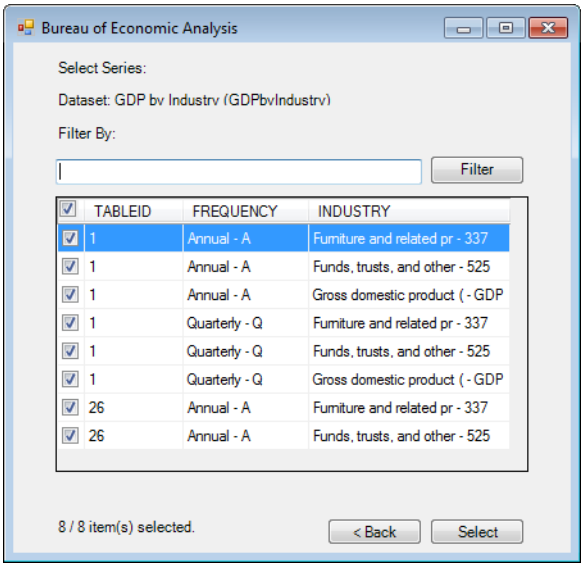

The dialog allows you to select data available within datasets. The browser interface to the data provides a way to search through the datasets by typing a keyword in the **Filter By** text-box and clicking the **Filter** button:



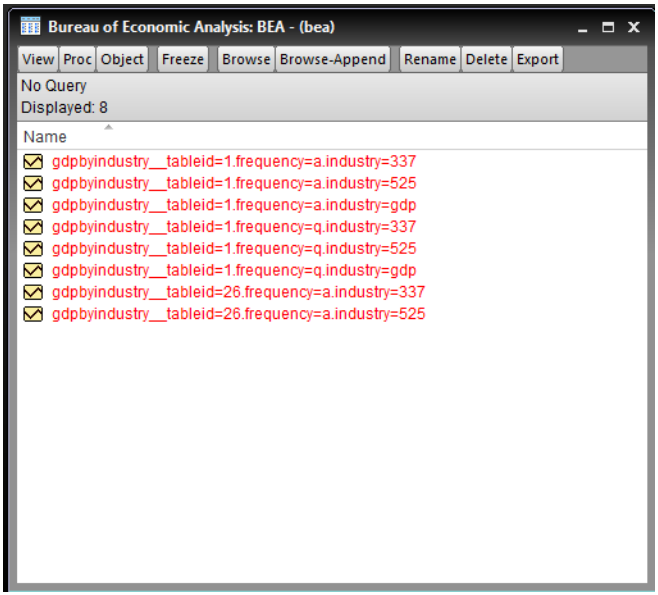

Select a dataset and click the **Next >** button. A dialog with a list of dataset parameters will be shown, which will allow you to filter and customize the search results of the available series objects in the selected dataset. The default parameters are displayed under the **Value** column of the data table. Double click the row the change the default values.



Click the **Reset** button to clear the selections, the **Back** button to navigate to the previous window, or the **Next** button to view the available series:




A dialog containing a table with all the available series is displayed. The interface provides a way to search through the series by typing a keyword in the **Filter By** textbox and clicking the **Filter** button. Click the **Select** button to select the series:




Once you have found the series of interest, you may drag-and-drop (or copy-and-paste) the series directly into an EViews workfile in the usual fashion.

For additional detail, see

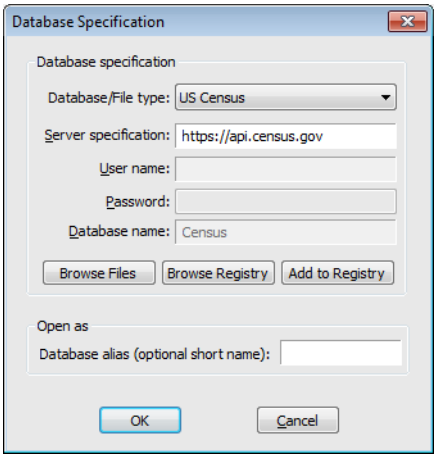
- "Bureau of Economic Analysis (BEA)" on page 360 in *User's Guide I*.
- See also `dbopen` (p. 349) in the *Command and Programming Reference*

### U.S. Census (United States Census Bureau

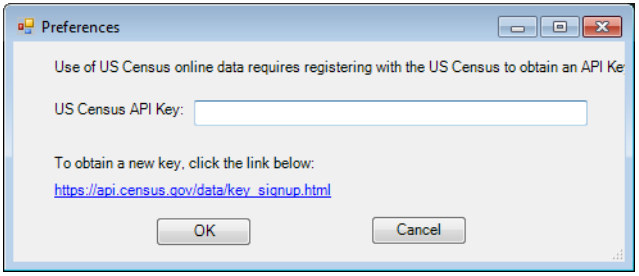
The Census Bureau provides access to a list of datasets that offer a large range of publicly available data about the people and economy of the United States. Please note that an internet connection will be required to obtain Census online data. For more information on the datasets, please see

https://api.census.gov/data.html

EViews 11 offers a custom interface to the Census data. To open the Census database, select **File/Open Database…** from the main EViews menu, then select **US Census** from the **Database/File type** dropdown menu:

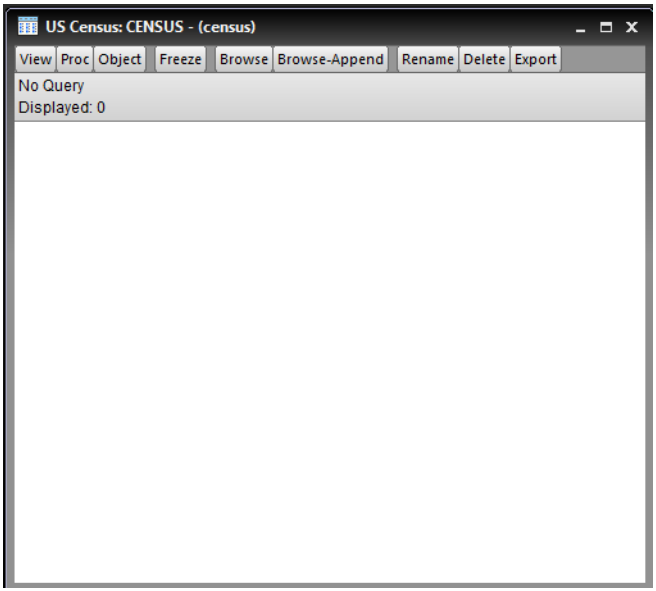



Use of the Census service is free but requires registration. The first time you attempt to open the database you will be asked to enter an API Key obtained from the United States Census Bureau:

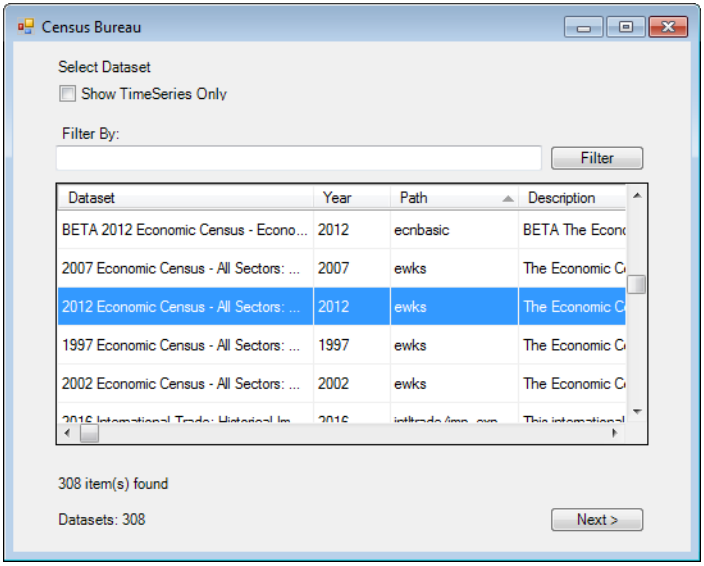



Please enter your API key and then click on **OK**. The key will be saved as a user specific setting in your EViews ".ini" file. If you need to change the key at a later time, select **View/ Preferences…** from the EViews database menu to modify your settings.

When you click on **OK**, EViews will open a standard database window:

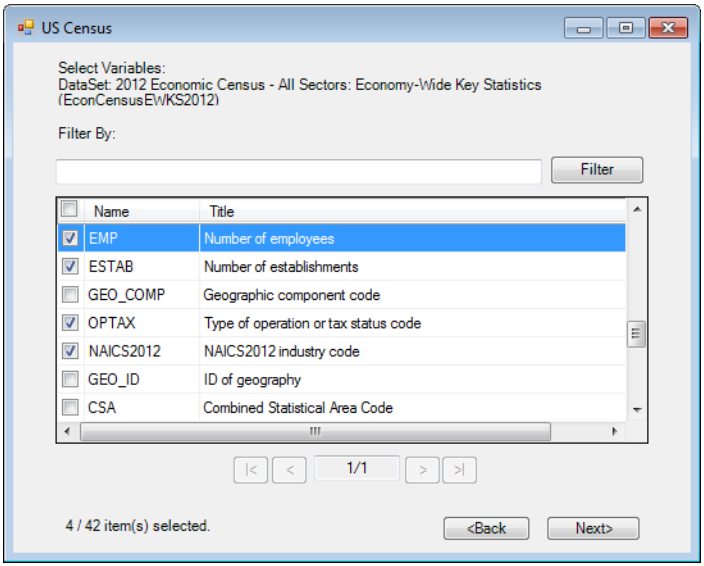



Click on **Browse** to open the custom Census window:

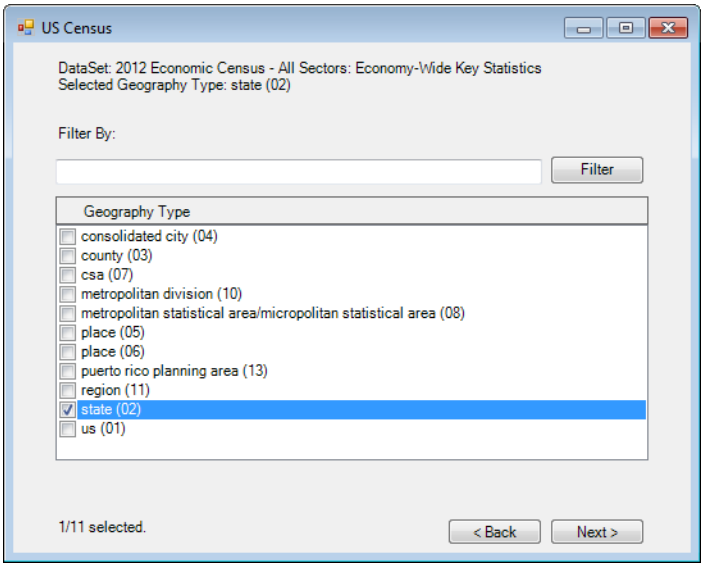



The dialog displays the available datasets. The checkbox **Show TimeSeries Only** is checked by default. Uncheck the box if you want to see all available datasets. The browser interface to the datasets provides a way to search through the datasets by typing a keyword in the **Fil-**

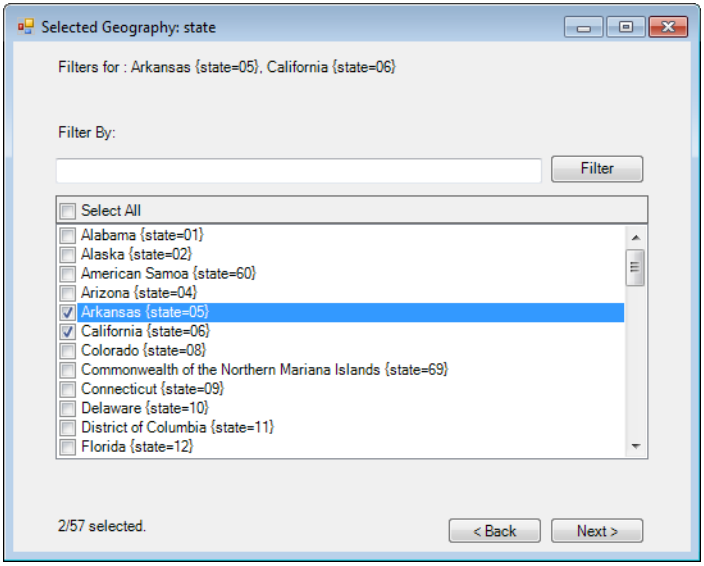
**ter By** textbox and clicking the **Filter** button. Select a dataset and click the **Next >** button. A dialog with a list of variables will be shown, which will allow you to filter and customize the search results of the available series objects in the selected dataset:



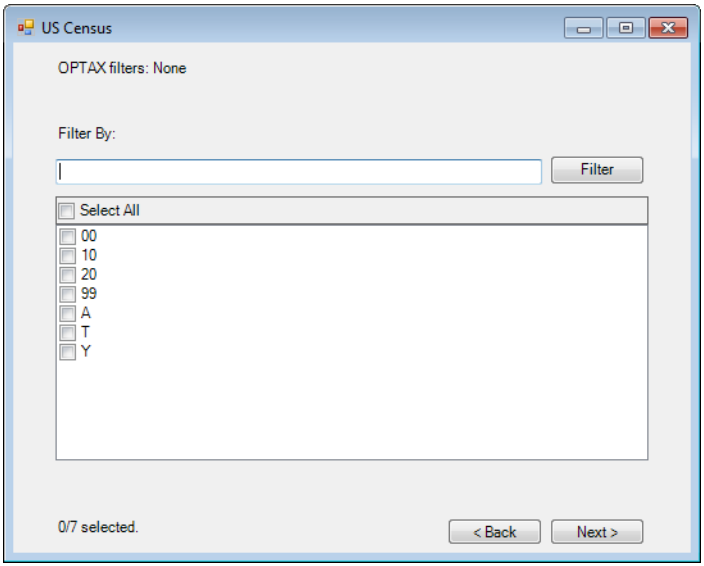

The variables that are preselected are required variables for the search; you may select additional variables you are interested in. You can search through the variables by typing a keyword in the **Filter By** edit field and clicking the **Filter** button. Click the **Next** button to navigate to the next dialog:



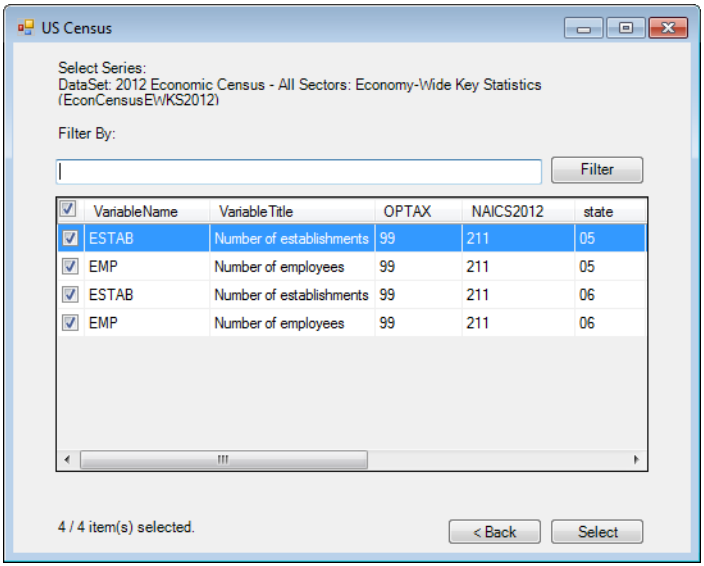

The majority of Census datasets require the user to specify geographic information in order to customize and limit the data result. After selecting the geography type, click **Next** to navigate to the next dialog. You might need to navigate to a number of dialogs until the geographic order is met:



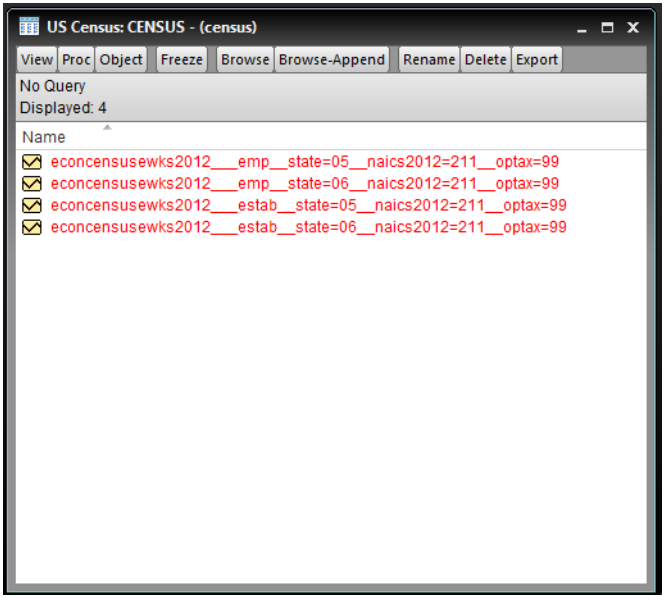
Select one or more geography options and navigate to the next dialog. If there are any variables required by the dataset you will be asked to choose available values:




Once you finish selecting geography and required variables information, a dialog that contains a table with all the available series is displayed. The interface provides a way to search through the series by typing a keyword in the **Filter By** edit field and clicking the **Filter** button.




Click the **Select** button to select the series:




Once you have found the series of interest, you may drag-and-drop (or copy-and-paste) the series directly into an EViews workfile in the usual fashion.

- See "Census (United States Census Bureau)" on page 368 in *User's Guide I*.

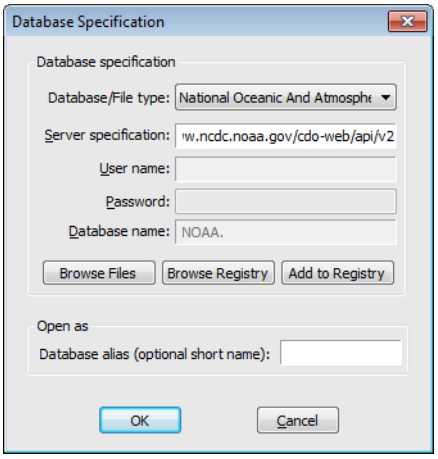
- See also `dbopen` (p. 349) in the *Command and Programming Reference*

### NOAA (National Oceanic And Atmospheric Administration

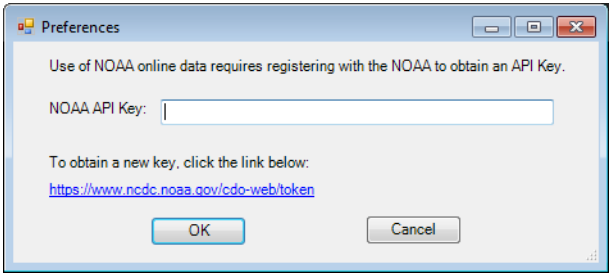
NOAA provides access to a list of datasets that offer a large range of publicly available weather and climate data. Please note that an internet connection will be required to obtain NOAA online data. For more information on the datasets, please see

https://www.ncdc.noaa.gov/cdo-web/webservices/v2#datasets

EViews 11 offers a custom interface to NOAA data. To open the NOAA database, select **File/Open Database…** from the main EViews menu, then select **National Oceanic And Atmospheric Administration** from the **Database/File type** dropdown menu:

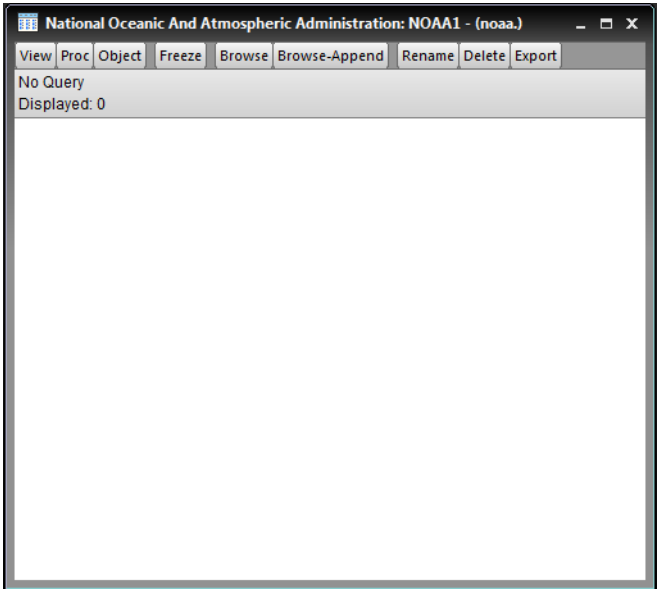



Use of the NOAA service is free but requires registration. The first time you attempt to open the database you will be asked to enter an API Key obtained from the National Oceanic And Atmospheric Administration:

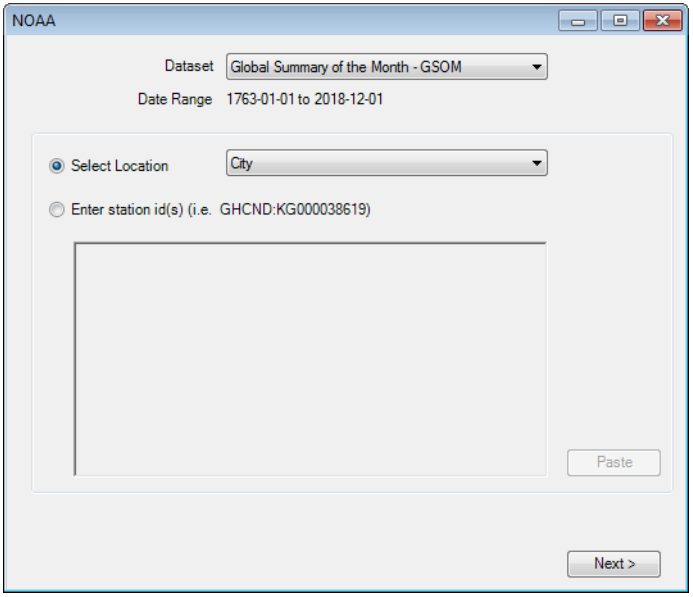



Please enter your API key and then click on **OK**. The key will be saved as a user specific setting in your EViews ".ini" file. If you need to change the key at a later time, select **View/Preferences…** from the EViews database menu to modify your settings.

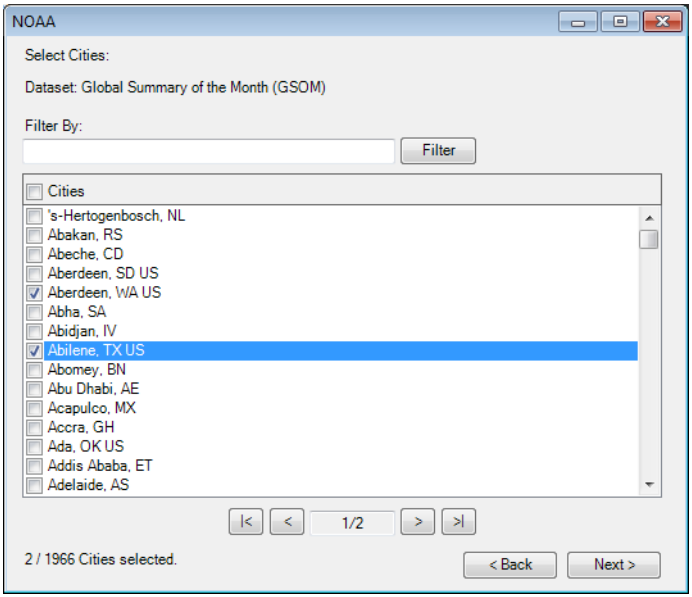
When you click on **OK**, EViews will open a standard database window:



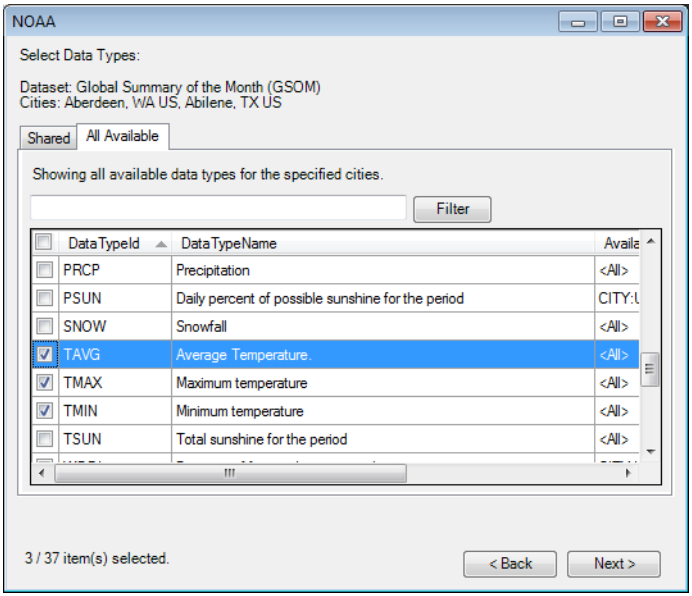

Click on **Browse** to open the custom NOAA window:



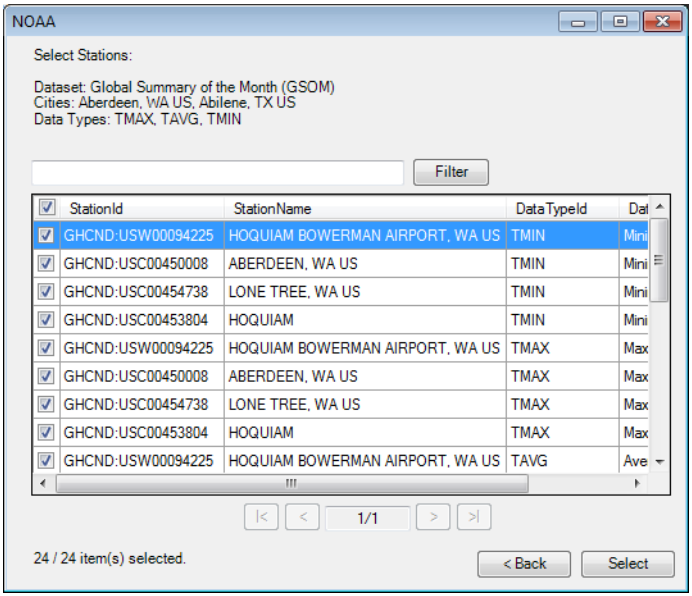
The dialog allows you to select data available within datasets. The first step to access data is to select a NOAA dataset from the drop down list. The dialog interface allows you to continue your search for data either by selecting a Location category (city, county, climate division, etc.) or by typing or pasting the ids of the stations you are interested in. Click the **Next >** button to navigate to the next dialog:



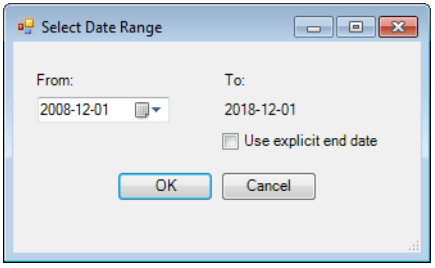

If you chose the location category (*e.g.* cities) you will be able to select one or more locations to get station data from. The interface allows you to filter and customize the available locations by typing a keyword in the **Filter By** edit field and clicking the **Filter** button. Use the navigation **Next >** button to select one or more data types:



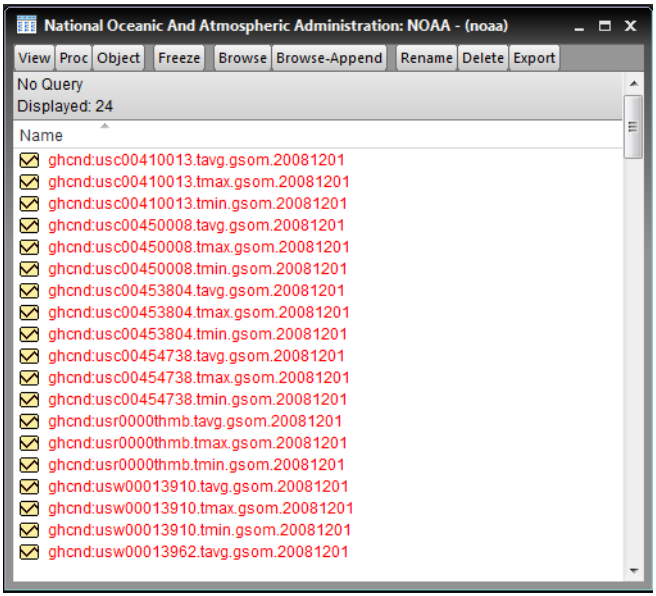

If you previously selected more than one location you are going to see two tabs: **Shared** and **All Available**. The **Shared** tab displays all the data types that are shared between the locations and the **All Available** tab displays all available for the locations selected. You can use the **Filter** button to customize your search results. Click the **Next >** button to view the available NOAA stations:




A dialog that contains a table with all the available stations is displayed. The interface provides a way to search through the stations by typing a keyword in the **Filter By** textbox and clicking the **Filter** button. Click the **Select** button to select the series:




You will be asked to choose a date range, specific to each dataset, in order to limit the data results. For annual and monthly data the default is a ten year range; all other data are limited to a one year range.




Once you have found the series of interest, you may drag-and-drop (or copy-and-paste) the series directly into an EViews workfile in the usual fashion.For additional discussion, see

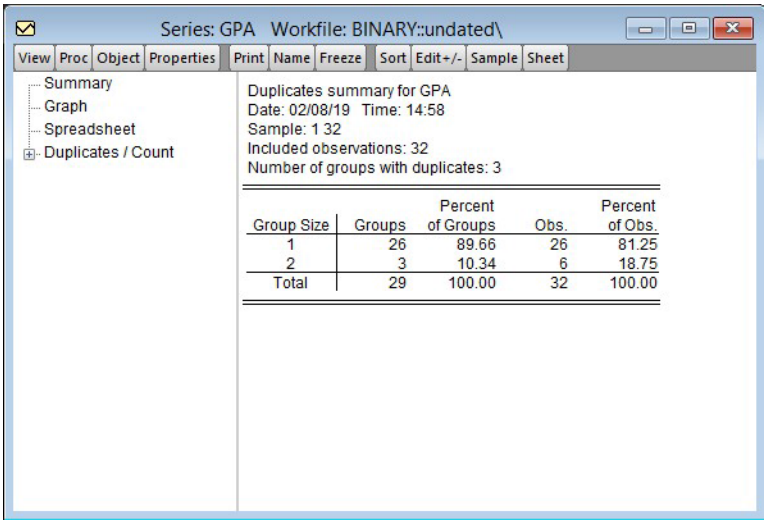
- "NOAA (National Oceanic And Atmospheric Administration)" on page 400 in *User's Guide I*.
- See also `dbopen` (p. 349) in the *Command and Programming Reference*.

## Duplicates Analysis

One thankless data task is examining data to find miscoding or other errors. One important approach to data cleaning is identification and examination of observations with duplicates.

EViews 11 provides easy-to-use tools for analyzing your series or group data to identify duplicate observations. Specialized tools make it easy you to work with and edit groups of repeated observations. A newly developed interactive display let you jump from looking at observations in a single duplicate group to the observation in workfile context, and vice versa. Thus, clicking on a duplicate in the spreadsheet view will jump to show all of the observations that share that duplicate. Similarly, clicking on an observation in the shared individual duplicates view will jump to the corresponding observation in the full spreadsheet.

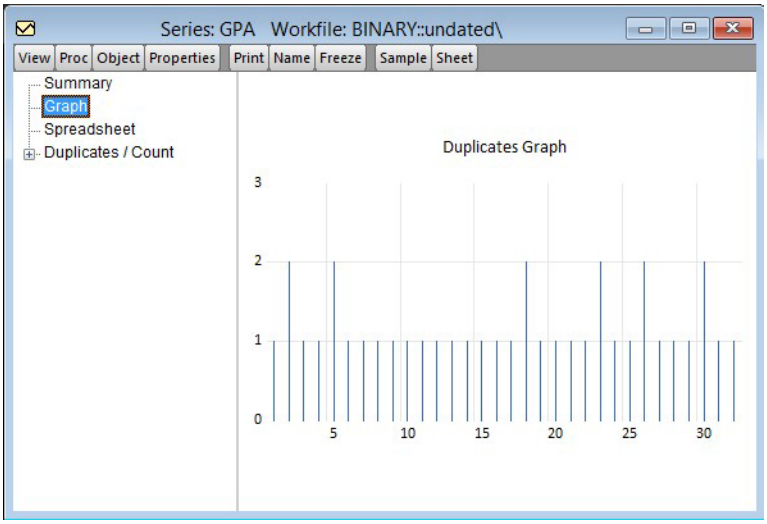
To display the new duplicates view, click on **View/Duplicate Observations** from the main menu of *either* a series or a group object. EViews will display the duplicates summary associated with your data in the current workfile sample:




Here we see the summary associated with the series GPA. The summary shows that there are 26 unique observations, and 3 sets of non-unique observations, each set comprised of a pair of observations for 6 total obs. Also displayed are the percentages in each category.

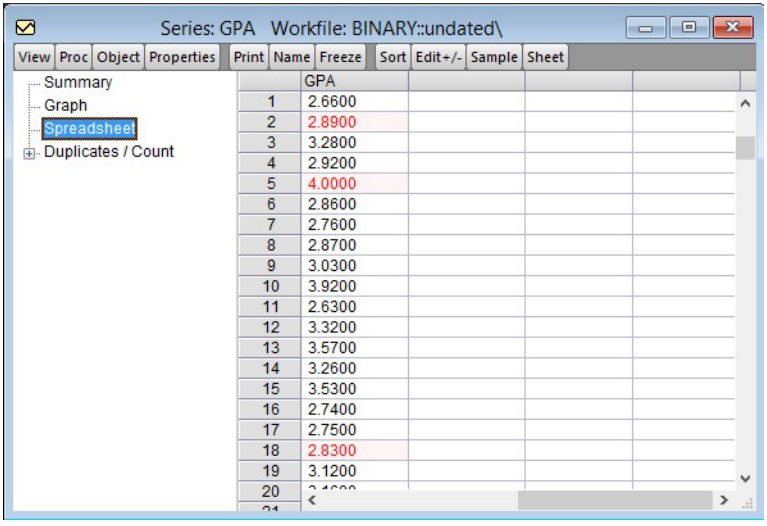
While the summary view is useful for obtaining an overview of the duplicates in the data, the real power of the duplicates view comes from clicking on one of the other items in the left-hand side tree structure.

Clicking on the **Graph** node displays a graph of the data showing the group sizes associated with each observation:




Here we see which six observations are in duplicate groups. There does not appear to be a pattern to the location of these observations.

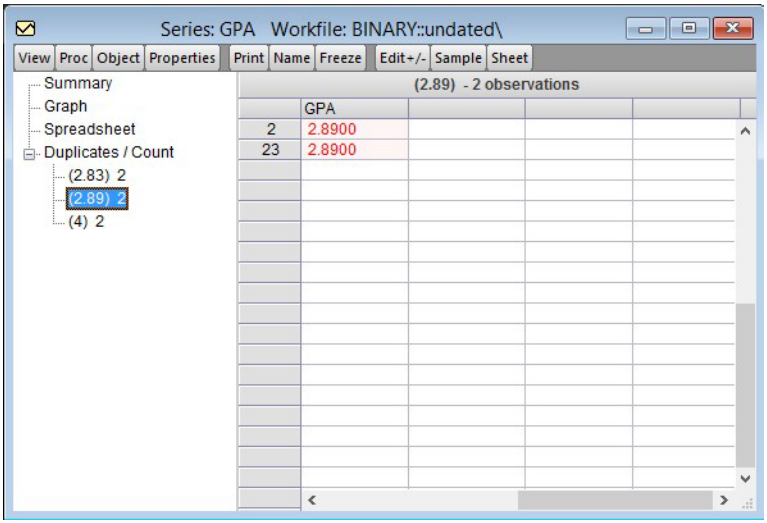
Clicking on the **Spreadsheet** node shows the data in a spreadsheet:




Observations which have duplicates are colored and shaded, with the intensity of both determined by the number of observations in the corresponding group. In this case, all of the duplicates have 2 observations in their group but in cases where there is variation in group sizes, the spreadsheet will identify which observations are in larger groups.

As with the standard EViews spreadsheet display, you may click on the **Edit +/–** button to enable editing of the observations.

Clicking on the **Duplicates/Count** node opens up the tree to show all of the duplicate groups. Clicking on a specific group takes you to a display of the observations in that group:




Again, clicking on the **Edit +/–** button will enable editing of the observations.

After examining the observations in a specific group, you may wish to see that observation in workfile context. If you move your pointer over the observation row identifier or value you will see the pointer arrow change to a target, indicating that clicking will target that observation. Simply click on the observation data to jump to the duplicates spreadsheet display with that observation selected.

Similarly, if you are in the spreadsheet display, clicking on a duplicates observation row identifier or value will jump to the observation's specific group display.

The same tools are available for group objects. In this case, duplicates refers to observations for which the values of all of the series in the group are identical.

- See also `Series::dups` (p. 603), `Alpha::dups` (p. 9), and `Group::dups` (p. 358) in the *Object Reference*.

## Split-Observations Frequency Conversion

EViews 11 expands its high-frequency to low-frequency conversion methods to include tools for splitting the high frequency data into multiple low-frequency series.

The new split observations method creates multiple imported series from the single high-frequency series. By default, split will create a series for each high-frequency period within the destination low frequency period. For example, when copying between a monthly page and a quarterly page, the split option will create three series. The first series will contain the first monthly observation in each quarter, the second series will contain the second observation, and the third series will contain the third monthly observation.

When copying between a page with seven-day daily frequency and a page with monthly frequency, 31 different series will be created, with some of those series containing NAs if the month does not have the corresponding day (February will contain NAs for series 31, 30 and, in non-leap years, 29).

The split index field may be used to indicate which high-frequency periods will be used to create the low-frequency series by entering the corresponding periods in a space delimited list, or as a range with a hyphen. For example, if copying from monthly to quarter and you only want to generate series for the second and third months of the quarter, you would enter "2 3".

The split last observations method is identical to the split observations method with the exception that the indexing starts at the end of the low-frequency period rather than the start. Thus when copying from daily to monthly and entering and index of "1 2 3 4 5" or "1-5" the last 5 days of each month will be used to create the monthly series rather than the first.

For all conversion methods, you may specify how EViews handles missing data when carrying out the calculations. You may elect to propagate NAs so that whenever a missing value appears in a calculation, the result for the corresponding period will be an NA. Alternatively, you may elect not to propagate NAs so that calculations will be performed ignoring the missing values (though if all values for a period are missing, the corresponding result will still be an NA).

- "High Frequency to Low Frequency" on page 171 in *User's Guide I*.
- See also `copy` (p. 332) and `import` (p. 393) in the *Command and Programming Reference*.

## Econometrics and Statistics

EViews 11 offers a exciting new additions and improvements to its set of econometric and statistical features. The following is a brief outline of the most important new features, followed by additional discussion and pointers to full documentation.

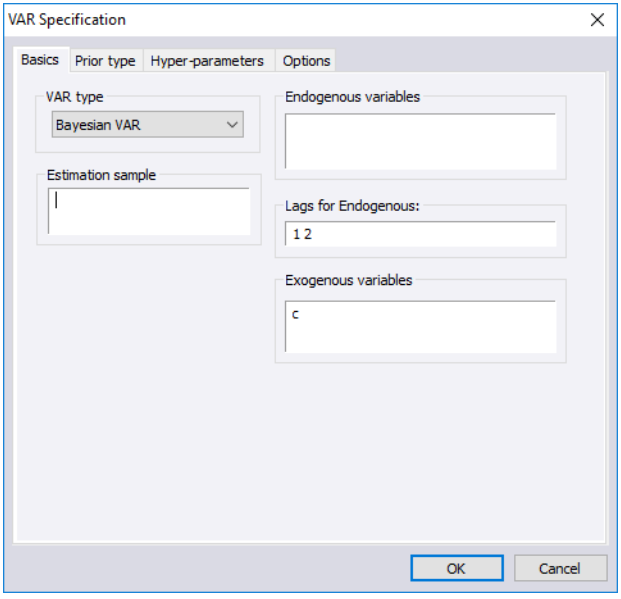
## Bayesian VARs

Bayesian VAR (BVAR) methods (Litterman 1986; Doan, Litterman, and Sims 1984; Sims and Zha 1998; Koop and Korobilis 2010; Giannone, Lenza and Primiceri 2014) provide a logical and consistent method of imposing parameter restrictions in VAR models.

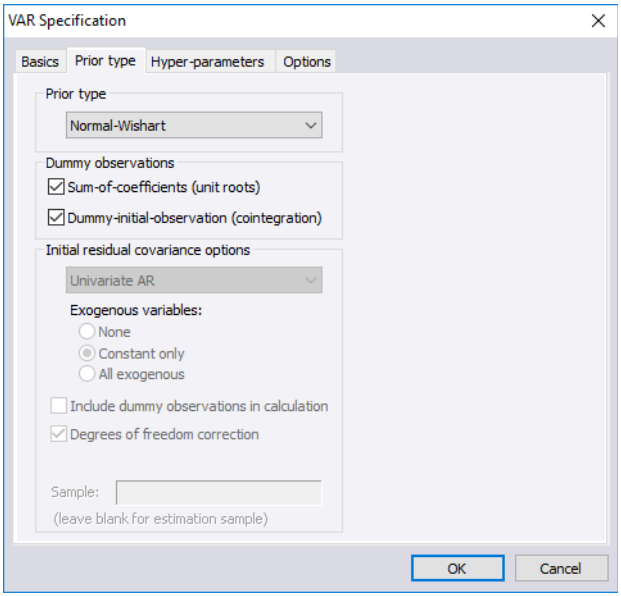
While earlier versions of EViews offered some support for Bayesian analysis, Bayesian VARs have been completely revamped for EViews 11 to include many new features.

New features include:

- New priors: Independent Normal-Wishart, and Giannone Lenze and Primiceri (2012).
- New options for including sums-of-coefficients and initial-observation dummy variables for all priors (not just Sims-Zha as in previous versions).
- New options for calculating the initial covariance matrix.
- Bayesian (MCMC) forecasting and impulse responses.




For those who have worked with Bayesian VARs in previous versions of EViews, note that support for custom hyper-parameter matrices has been removed.




- See "Bayesian VAR Models" on page 1679 of *User's Guide II* for discussion and additional features.
- Also see `bvar` (p. 905) and "Var" (p. 897) in the *Object Reference*.

## Mixed-Frequency VARs

EViews 11 now supports VAR estimation using endogenous variables of mixed frequency using the methods outlined in Ghysels (2016).

Vector Autoregression (VAR) models require all variables in the VAR to be of the same frequency—all variables in the VAR are monthly, or all are quarterly, *etc.* The single frequency requirement is generally not met in practice as macroeconomic researchers typically possess variables of different frequencies.

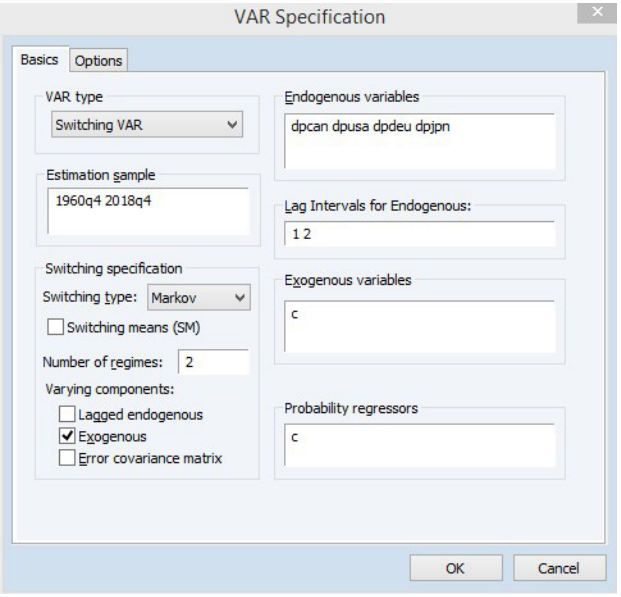
The traditional solution to mixed frequency estimation uses frequency conversion methods to convert the high frequency variables to the lowest frequency in the VAR. This aggregation leads to a loss of information as multiple observations are combined into a single data point.

In VAR models, different approaches to alleviate the data aggregation problem have recently become popular. There are three broad categories of methods for estimating these mixed frequency VARs:

- State-space approaches such as Schorfheide and Song (2013).
- U-MIDAS approaches as outlined in Ghysels (2016).

- MIDAS with polynomial weights, Ghysels (2016).

EViews 11 offers support for the unrestricted MIDAS (U-MIDAS) approach (Ghysels 2016) which has been expanded to include both Classical and Bayesian VAR techniques.



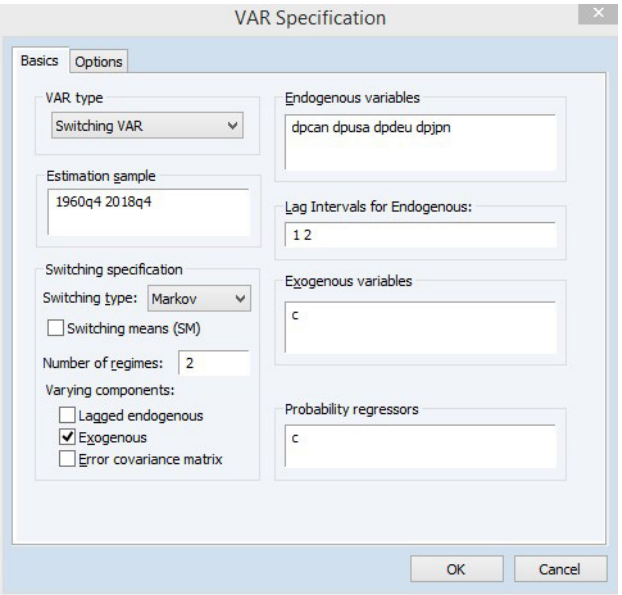

For additional discussion, see:

- "Mixed Frequency VAR" on page 1711 of *User's Guide II*.
- `mfvar` (p. 939) and "Var" (p. 897) in the *Object Reference*.

## Switching VARs

EViews 11 offers support for estimation of *switching VAR* models—VAR models with nonlinearities arising from discrete changes in regime. As in their single equation counterparts, EViews allows for both independent and Markov switching where the sample separation into regimes is not observed.

To estimate a switching VAR model, open the VAR estimation dialog and select **Switching VAR** from the **VAR type** dropdown menu:




- You may choose between **Simple** and **Markov** switching and to estimate assuming either a **Switching intercept** or **Switching means** specification.
- You should specify the number of regimes $M > 1$.
- You should specify the coefficients that are allowed to vary across regimes: whether the lagged endogenous switch or not, whether the exogenous switch or not, and whether the error covariance matrix switches or not.
- Lastly you may specify **Probability regressors** which in affect the transition probabilities.

Once estimated, EViews offers many tools for examining the regime and transition probabilties.

- See "Switching VAR" on page 1723 of *User's Guide II* for discussion and additional detail.
- See `Var::switchvar` (p. 948) and "Var" (p. 897) in the *Object Reference*.

## Elastic Net and LASSO

EViews 11 introduces tools for estimation of elastic net regression, and the special cases of ridge and LASSO models (Zou and Hastie (2005) and the textbook by Hastie, Tibshirani, and Friedman (2001)).

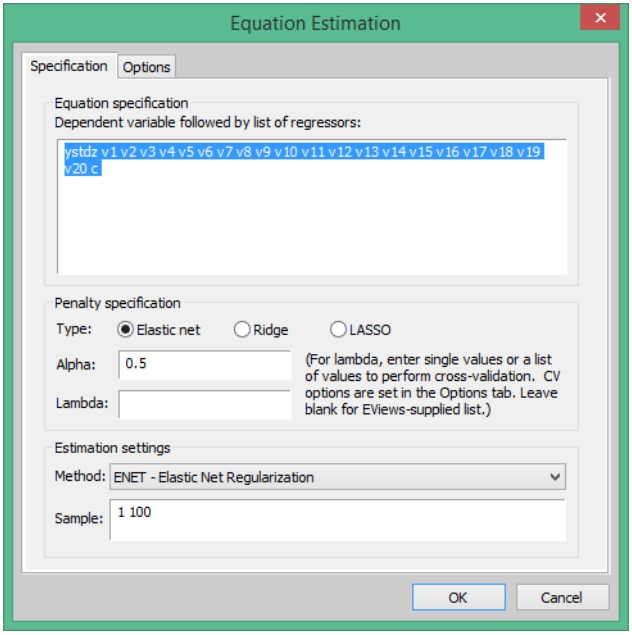
Elastic net regularization is a popular solution to the overfitting problem, where a model fits training data well but does not generalize easily to new test data. Depending on the particular parameters chosen for the elastic net model, some or all of the regressors are preserved, and their magnitudes are reduced.

Elastic net, LASSO, and ridge regression are all penalized regression methods that work by shrinking the magnitudes of the regressors in the model. The usual approach is to modify the standard cost function for linear regression with a penalty term.

$$J = \frac{1}{2m}\sum_{i=1}^{m}\left(y_i - \beta_0 + \sum_{j=1}^{p} x_{ij}\beta_j\right)^2 + \lambda\left[\frac{(1-\alpha)}{2}\sum_{j=1}^{p}\beta_j^2 + \alpha\sum_{j=1}^{p}|\beta_j|\right] \tag{0.1}$$

Depending on the value of $\alpha$ in the penalty term, Equation (0.1) becomes a ridge regression model, a LASSO model, or an elastic net model. The magnitude of the penalty parameter $\lambda \geq 0$ controls the impact of the penalty. If $\lambda$ is chosen to be a "large" value, the minimization of this cost function:

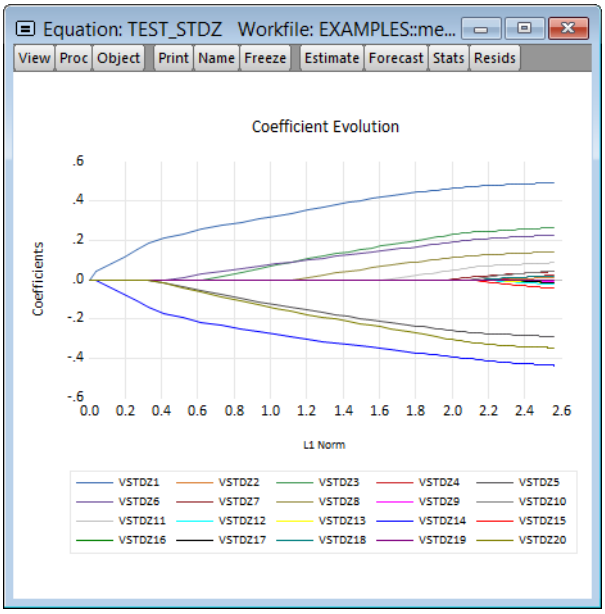
To estimate an elastic net model, **Quick/Estimate Equation...** from the main EViews menu and select **ENET - Elastic Net Regularization** from the main **Method** dropdown menu near the bottom of the dialog:




You may perform estimation over a single lambda penalization parameter and a grid search over multiple penalization parameters. When multiple parameters are used, EViews also

supports options for automatic generation of penalization parameters, as well as cross-validation tools for choosing the parameter with the lowest error.

Once your equation is estimated, EViews 11 offers specialized views of tables of the coefficients and other summary statistics, graphs of coefficient evolution with respect to the penalty parameter and other statistics, and diagnostics for cross validation.




- See "Elastic Net and LASSO" on page 1401 of *User's Guide II* for discussion and additional detail.
- See `Equation::enet` (p. 90) and "Equation" (p. 33) in the *Object Reference*.
- See also `enet` (p. 355) in the *Command and Programming Reference*.

## Functional Coefficients Regression

A flexible, middle ground between the extremes of simple linear regression and nonparametric modeling is the functional coefficients model:

$$Y_t = \beta_0(Z_t) + \sum_{i=1}^{k} \beta_i(Z_t) X_{it} + \epsilon_t \tag{0.2}$$

where the $\beta_j$ are no longer simple coefficients, but are instead functions of the variable $Z_t$. The basic idea is that for each $z$ of interest, we estimate a local regression with kernel weighted squared residuals. Then, estimating this regression for a set of $z$ traces out the functional coefficients relationship.

For example, suppose we have the single regressor functional coefficients model:

$$y_t = \beta_0(Z_t) + \beta_1(Z_t)X_t + \epsilon_t \tag{0.3}$$

We will approximate the coefficient functions $\beta_0(Z_t)$ and $\beta_1(Z_t)$ with a linear Taylor expansion at $z$. The resulting objective function is:

$$S(z) = \sum_{t=1}^{T} \{ y_t - (\beta_0 + \beta_1 X_t) - (\beta_0^{(1)} + \beta_1^{(1)} X_t))(Z_t - z)\}^2 \cdot K\left(\frac{Z_t - z}{h}\right) \tag{0.4}$$

Minimizing this objective provides estimates of the coefficients at that point,

$$\min_{\beta_0, \beta_1, \beta_0^{(1)}, \beta_1^{(1)}} S(z) \rightarrow \beta_0(z), \beta_1(z), \beta_0^{(1)}(z), \beta_1^{(1)}(z)$$

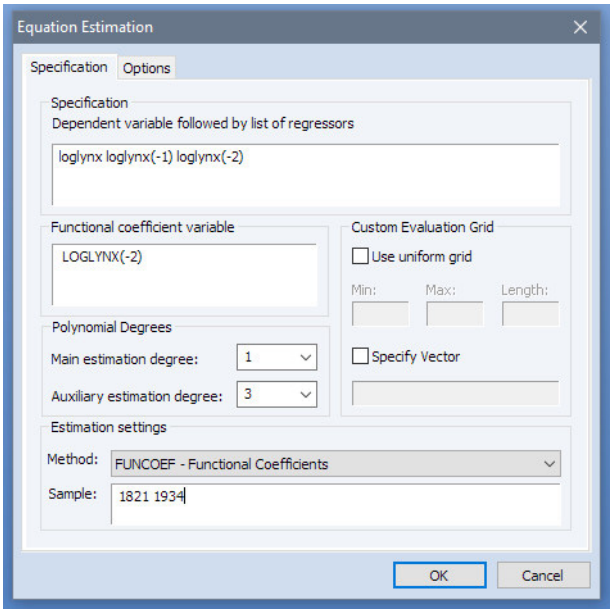
We may repeat this minimization for various $z$.

There are several points that we wish to emphasize:

- The functional coefficient estimate is a set of coefficients estimated at a corresponding set of local points $z$.
- The objective function depends on the kernel *bandwidth* $h$.
- The objective contains twice as many coefficients as the base model to account for the presence of the first derivatives in the Taylor approximation. We are, however, typically interested only in $\beta_0$ and $\beta_1$.

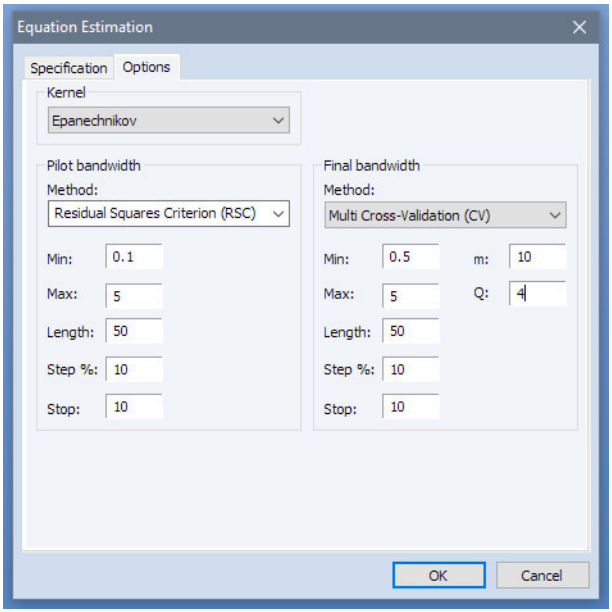
EViews 11 offers tools for estimating functional coefficients regression, for displaying results, and for summarizing the estimation procedure.

To estimate a functional coefficient model, **Quick/Estimate Equation...** from the main EViews menu and select **FUNCOEF - Functional Coefficients** from the main **Method** dropdown menu near the bottom of the dialog to display the functional coefficients dialog:

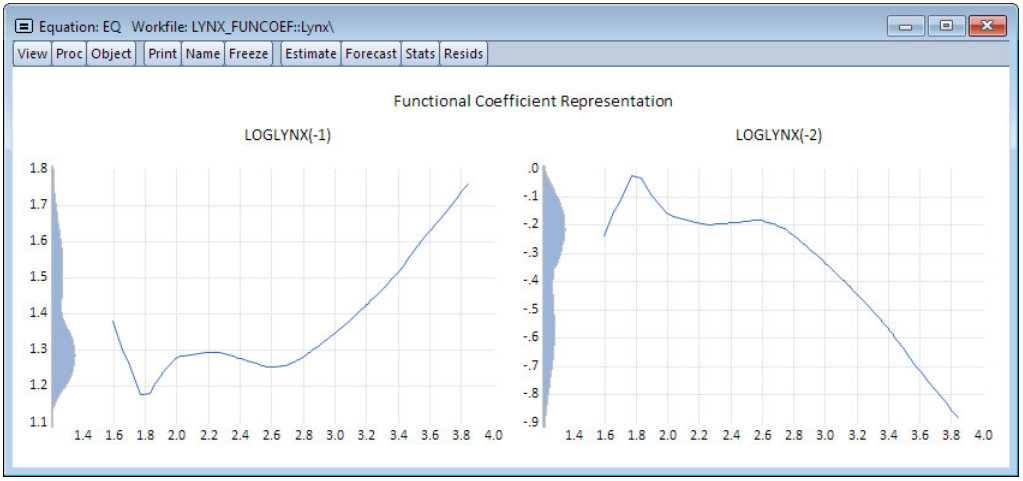



You sill specify the basic regression specification, functional coefficients value, degrees of the polynomials, and points at which to evaluate the regression.

The **Options** page allows you to specify various settings for estimation:




Once estimated, there are various views and procs you may use to analyze the results:



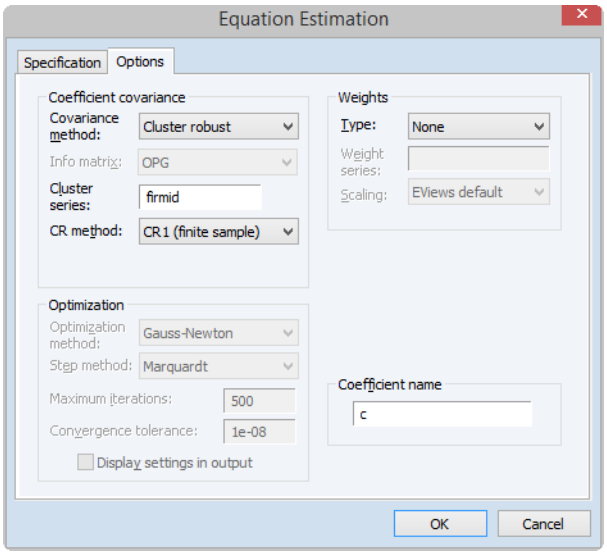

- See "Functional Coefficient Regression" on page 1423 of *User's Guide II* for discussion and additional detail.
- See `Equation::funcoef` (p. 100) and "Equation" (p. 33) in the *Object Reference*.
- See also `funcoef` (p. 372) in the *Command and Programming Reference*.

## Cluster-Robust Covariances

In many settings, observations may be grouped into different groups or "clusters" where errors are correlated for observations in the same cluster and uncorrelated for observations in different clusters (Liang and Zeger, 1986; Wooldridge, 2003; Cameron and Miller, 2015). EViews offers support for estimation of coefficient covariances that are robust to either one and two-way clustering.

In EViews 11 these cluster robust covariances are newly available for a variety of alternative specifications—instrumental variables and GMM, generalized linear models, (GLM), and various limited dependent variables models such as binary (probit and logit), count, ordered, censored (Tobit).

When estimating an equation using various methods, the **Covariance method** dropdown on the **Options** may be used to select **Cluster robust** covariance estimation.




You will then be prompted to enter the name of one or two series in the **Cluster series edit field**, and to select the (cluster robust) **CR method** from among approaches ranging from d.f. corrected to methods using finite sample corrections based on the leverage for observations.

We note that the leverage corrections are not available for the newly implemented IV, GMM, and limited dependent variables forms of the models. Moreover, we strongly caution that in many cases, the cluster-robust standard errors are more properly viewed as cluster-robust QML covariances, which may be associated with QML coefficient estimates with undesirable properties.

- See "Cluster-Robust Covariances" on page 933 of *User's Guide II* for general discussion and additional detail.

# Testing and Diagnostics

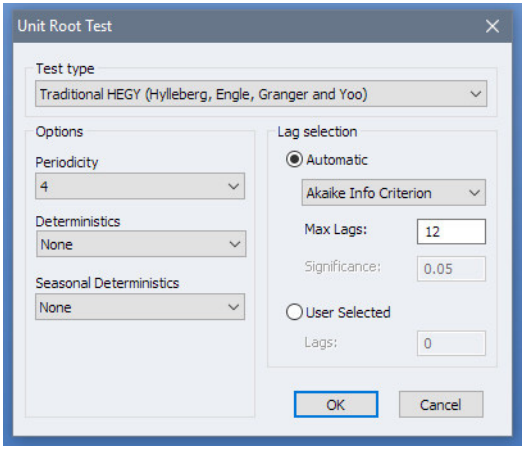
The new estimators described in "Estimation," on page 9 all have various estimator-specific views for testing and diagnostics.

## Seasonal Unit Root Testing

An important element of time series data is *seasonality* or *cyclicality*. Typically, seasonality is treated as a stationary feature in most time series models. Nevertheless, non-stationarity, particularly of the unit-root kind, can be an important feature within the cyclical components themselves, and can give rise to similar inferential inaccuracies and concerns one often encounters with traditional unit root series. Accordingly, identifying the presence of unit roots at one or more seasonal frequencies is the subject of the battery of tests known as *seasonal unit root* tests.

EViews 11 offers several seasonal unit root tests, including the classical Hylleberg, *et al.* (1990, HEGY) test, the Smith and Taylor (1999) likelihood ratio test, the Canova and Hansen (1995) test, the Taylor (2003) robust stationarity test, and the Taylor (2005) variance ratio test.

To begin, double click on a series name to open the series window. From there, select **View/Unit Root Tests/Seasonal Unit Root Tests...**




You may choose between:

- Traditional Hylleberg, Engle, Granger, and Yoo (HEGY) test
- HEGY Likelihood Ratio test

- Canova-Hansen test
- Variance ratio test

For example, results for a traditional HEGY test are of the form:

Seasonal Unit Root Test for AIRPASSENGERS
Method: Traditional HEGY
Periodicity (Seasons): 12
Non-Seasonal Deterministics: None
Seasonal Deterministics: None
Lag Selection: 2 (Automatic: AIC, maxlags=12)
Sample Size: 130

| Null Hypothesis | | Significance Level | | |
|---|---|---|---|---|
| Unit root at: | Test Stat. | 1% | 5% | 10% |
| Frequency 0 | -2.390602 | | | |
| n=120 | | -2.48 | -1.92 | -1.60 |
| n=140 | | -2.55 | -1.93 | -1.60 |
| n=130* | | -2.52 | -1.92 | -1.60 |
| Frequency 2PI/12 and 22PI/12 | 5.281402 | | | |
| n=120 | | 33.98 | 8.15 | 3.75 |
| n=140 | | 30.48 | 8.15 | 3.77 |
| n=130* | | 32.23 | 8.15 | 3.76 |
| Frequency 4PI/12 and 20PI/12 | 2.343020 | | | |
| n=120 | | 33.98 | 8.15 | 3.75 |
| n=140 | | 30.48 | 8.15 | 3.77 |
| n=130* | | 32.23 | 8.15 | 3.76 |
| Frequency 6PI/12 and 18PI/12 | 1.059733 | | | |
| n=120 | | 33.98 | 8.15 | 3.75 |
| n=140 | | 30.48 | 8.15 | 3.77 |
| n=130* | | 32.23 | 8.15 | 3.76 |
| Frequency 8PI/12 and 16PI/12 | 0.327604 | | | |
| n=120 | | 33.98 | 8.15 | 3.75 |
| n=140 | | 30.48 | 8.15 | 3.77 |
| n=130* | | 32.23 | 8.15 | 3.76 |
| Frequency 10PI/12 and 14PI/12 | 0.796306 | | | |
| n=120 | | 33.98 | 8.15 | 3.75 |
| n=140 | | 30.48 | 8.15 | 3.77 |
| n=130* | | 32.23 | 8.15 | 3.76 |
| Frequency PI | -2.519200 | | | |
| n=120 | | -2.48 | -1.92 | -1.60 |
| n=140 | | -2.55 | -1.93 | -1.60 |
| n=130* | | -2.52 | -1.92 | -1.60 |

- See "Seasonal Unit Root Testing" on page 1547 of *User's Guide II* for discussion and additional detail.
- See `Series::seasuroot` (p. 635)
- in the *Object Reference*.

# External Interfaces

## Python Connectivity

EViews 11 offers bi-directional communication between EViews and the Python programming language.

Previously, the communication between the EViews and Pyton was only in one-direction as the freely available `pyeviews` package allowed you call EViews from your Python program, but there was no direct support for Python from within EViews.

EViews 11 now allow you to use Python packages and code from within EViews.

### Python From EViews

EViews 11 allows you to use Python packages and code from within EViews to improve your workflow. Similar to EViews 10's integration with Matlab® and R, with EViews 11 you can send EViews data into the Python environment, execute Python functions, and then retrieve data back into EViews with simple commands.

EViews supports Python 2 (version 2.7.15 or greater) and Python 3 (version 3.6.5 or greater).

The syntax for the Python related `xopen` options is:

```
xopen(p)
```

or

```
xopen(type=p)
```

We support the following Python data types:

```
list
tuple
dictionary
numpy.ndarray
pandas.series
pandas.dataframe
```

The last three lines require the prior installation of the `numpy` and the `pandas` Python packages.

The syntax for Python related `xput` commands is therefore:

```
xput(ptype=list|tuple|dictionary|ndarray|series|dataframe)
```

#### EViews from Python

While the new python connectivity in EViews 11 allows you to call python from EViews, we remind you that the previously existing `pyeviews` package allows you to call EViews from Python. Similarly to the `xopen` command, once Python is started and `pyeviews` has been loaded (as `evp` in this example) you may open a connection to EViews with the command:

```
eviewsapp = evp.GetEViewsApp(instance='new', showwindow=True)
```

Analogous to the `xput` command, data (in this case a series) may be transferred from Python to EViews with the command:

```
evp.PutPythonAsWF(series, app=eviewsapp, newwf=False)
```

See the whitepaper http://www.eviews.com/download/whitepapers/pyeviews.pdf for more information about the `pyeviews` package.

## Other Features

There are a number of other features and improvements that are not mentioned above.

### Series Generating Functions

#### General Functions

You may also use the following new functions when generating a series:

- @bridge – series with NAs replaced by the nearest preceding non-NA value
- @demean – translate to have mean 0
- @demeanby – translate to have mean 0 for each by-group
- @detrend – residuals from a regression on an intercept and trend
- @dupsid – identifier for duplicate groups
- @dupsobs – number of observations in the corresponding duplicate group
- @fracdiff – fractional difference
- @pctiles – percentiles
- @periodtodate – period-to-date
- @stdize – standardize to have mean 0 and variance 1
- @stdizep – standardize to have mean 0 and variance 1 (using population variance estimate)

- @ytd – year-to-date

### Summary Statistics

The following previously existing functions now take an optional argument. Non-zero values for this argument refer to the number of decimal points to take account of when performing the operation:

- @trmean – trimmed mean
- @intercept – intercept from regression on intercept and trend variable
- @trendcoef – slope from regression on intercept and trend variable

## Distribution Functions

EViews 11 introduces distribution support for random generation and density of:

- multivariate normal
- Wishart
- inverse Wishart

For the multivariate normal, Wishart, and inverse Wishart distributions, the basic functions perform a random draw from the distribution or provide the density of the distribution at a point. Distributions are parameterized in part or in full by a scale matrix, which can be supplied in several additional forms.

See "Multivariate Distributions" on page 595 in the *Command and Programming Reference*.

## Matrix Functions

In addition to the "Series Generating Functions" on page 54 functions above which may be applied to matrix elements, EViews 11 offers new matrix-specific functions:

- @sweep – perform the sweep operation
- @rsweep – perform the reverse sweep operation
- @qr – calculate the QR decomposition
- @seq – create arithmetic sequence
- @seqm – create multiplicative sequence
- @colcumprod – column-specific cumulative product
- @colcumsum – column-specific cumulative sum
- @coldemean – column-specific demean
- @coldetrend – column-specific detrend
- @colpctiles – column-specific percentiles

- @colstdize – column-specific standardize
- @colstdizep – column-specific standardize using population variance estimate

In addition, EViews 10 expands the set of column functions that produce descriptive statistics for each column in a matrix.

- @ctrmean – column-specific trimmed mean
- @cintercept – column-specific intercept from trend regression
- @ctrendcoef – column-specific slope from trend regression

## Object Data Members

EViews 11 offers an expanded set of object data members that provide access to information about the object.

### Equation Data Members

*Vectors and Matrices*

**@lambdacoefs**..... enet lambdas and coefficients *(new)*.
**@lambdasum** ..... enet summary path *(new)*.
**@lambda** ..... enet lambda path *(new)*.
**@lambdaerrors**..... enet measurement error means and standard errors *(new)*.

### Geomap Data Members

*Scalar Values*

**@minx**..... minimum horizontal position of the geomap.
**@maxx** ..... maximum horizontal position of the geomap.
**@miny**..... minimum vertical position of the geomap.
**@maxy** ..... maximum vertical position of the geomap.
**@count** ..... number of areas in the geomap.
**@id("attr","val")** .. the id number of the area which has the matching attribute value for the specified attribute name.

*String values*

**@attr**("*arg*") ..... string containing the value of the *arg* attribute, where the argument is specified as a quoted string.
**@description**..... string containing the geomap object's description (if available).
**@detailedtype** ..... string with the object type: "GEOMAP".
**@displayname**..... string containing the geomap object's display name. If the geomap has no display name set, the name is returned.
**@name** ..... string containing the geomap object's name.
**@remarks** ..... string containing the geomap object's remarks (if available).

**@type**.....string with the object type: "GEOMAP".

**@updatetime** .....string representation of the time and date at which the geomap was last updated.

### VAR Data Members

*Vectors and Matrices*

**@postresidcov**.....estimated posterior error covariance for Bayesian models; ordinary residual covariance, otherwise.

**@swcompanion(i)**.switching companion matrix for the full set of lag coefficients in regime $i$.

**@swimpfact(i)** .....switching factorization matrix for regime $i$ used in last impulse response view.

**@swlagcoefs** .....switching coefficient matrix containing the full set of horizontally concatenated lag coefficient matrices for regime $i$.

**@swlagcoefsum(i)** sum of the switching lag coefficient matrices for regime $i$.

## Updated Command List

(Unless otherwise specified, all of the object views and procedures are in *Command and Programming Reference*.)

### Commands

**copy**.....copy objects within and between workfiles, workfile pages, and databases (p. 332) *(updated)*.

**dbopen**.....open a database (p. 349) *(updated)*.

**fetch** .....fetch objects from databases or databank files (p. 362) *(updated)*.

**import**.....imports data from a foreign file or a previously saved workfile into the current default workfile (p. 393) *(updated)*.

**xopen** .....open a connection to an external application (p. 564) *(updated)*.

**xput**.....send an EViews object to an external application (p. 567) *(updated)*.

### Interactive Use Commands

**binary**.....binary dependent variable models (including probit, logit, gompit) models) (p. 303) *(updated)*.

**censored** .....censored and truncated regression (including Tobit) model (p. 311) *(updated)*.

**count** .....count data modeling (includes Poisson, negative binomial and quasi-maximum likelihood count models) (p. 340) *(updated)*.

**enet** .....elastic net regression (including LASSO and ridge regression) (p. 355) *(new)*.

**funcoef**..... functional coefficients regression (p. 372) *(new)*.
**glm** ..... Generalized Linear Models (GLM) (p. 375) *(updated)*.
**gmm** ..... generalized method of moments (p. 380) *(updated)*.
**ordered** ..... ordinal dependent variable models (includes ordered probit, ordered logit, and ordered extreme value models) (p. 441) *(updated)*.

## Updated Object List

(Unless otherwise specified, all of the object views and procedures are in *Object Reference*.)

### Alphas

*Alpha Views*

**dups**..... duplicates display for observations in the alpha series (p. 9) *(new)*.

### Equations

*Equation Methods*

**binary** ..... binary dependent variable models (including probit, logit, gompit) models) (p. 52) *(updated)*.
**censored**..... censored and truncated regression (including Tobit) model (p. 62) *(updated)*.
**count** ..... count data modeling (includes Poisson, negative binomial and quasi-maximum likelihood count models) (p. 83) *(updated)*.
**enet**..... elastic net regression (including LASSO and ridge regression) (p. 90) *(new)*.
**funcoef**..... functional coefficients regression (p. 100) *(new)*.
**glm** ..... Generalized Linear Models (GLM) (p. 106) *(updated)*.
**gmm** ..... generalized method of moments (p. 111) *(updated)*.
**ordered** ..... ordinal dependent variable models (includes ordered probit, ordered logit, and ordered extreme value models) (p. 152) *(updated)*.
**tsls**..... two-stage least squares regression (p. 188) *(updated)*.

*Equation Views*

**coefevol**..... display the graph of coefficients versus lambda, R-squared, or L1 norms, for elastic net, ridge, and LASSO models (p. 67) *(new)*.
**coefmatrix**..... display matrix of lambda and coefficients for elastic net, ridge, and LASSO models (p. 68) *(new)*.
**cverror** ..... display lambda, the mean values of the training and test error measures, and the standard errors of those measures, for elastic net, ridge, and LASSO model (p. 86) *(new)*.
**funbias**..... functional coefficients equation bias results (p. 99) *(new)*.

**funbw** ..... functional coefficients equation bandwidth results (p. 99) *(new)*.
**funci** ..... functional coefficients equation coefficient confidence intervals (p. 102) *(new)*.
**funcor** ..... functional coefficients correlation results (p. 103) *(new)*.
**funcov**..... functional coefficients covariance results (p. 103) *(new)*.
**funresults**..... functional coefficients results (p. 104) *(new)*.
**funtest**..... perform functional coefficients hypothesis and stability tests (p. 104) *(new)*.

*Equation Procs*

**makefunresults**..... save coefficients, residuals, bias, variance, and confidence intervals for functional coefficients equations (p. 139) *(new)*.

## Geomaps

*Geomap Declaration*

**geomap** ..... declare geomap object (p. 253) *(new)*.

*Geomap Views*

**attr**..... table of area attributes (p. 251) *(new)*.
**display** ..... display default map view (p. 252) *(new)*.
**label**..... label view (p. 253) *(new)*.

*Geomap Procs*

**addtext**..... place text in geomaps (p. 248) *(new)*.
**clearhist** ..... clear the contents of the history attribute (p. 251) *(new)*.
**clearremarks** ..... clear the contents of the remarks attribute (p. 252) *(new)*.
**legend** ..... set legend specific options (p. 254) *(new)*.
**link**..... link an attribute in the geomap to a series in the workfile (p. 255) *(new)*.
**load** ..... load a shapefile from disk (p. 255) *(new)*.
**makeattrser** ..... make geomap series containing linked attribute values (p. 256) *(new)*
**mask**..... make visible specified areas in the geomap (p. 257) *(new)*.
**olepush** ..... push updates to OLE linked objects in open applications (p. 257) *(new)*.
**options**..... change display options settings for the geomap (p. 258) *(new)*.
**save** ..... save default view to a graphics file (p. 259) *(new)*.
**setattr**..... set the value of an object attribute (p. 261) *(new)*.
**setfillcolor** ..... define the fill (background) color used in geomap shapes using values in a series (p. 261) *(new)*.
**setfont**..... set the font for the geomap text (p. 267) *(new)*.

**unmask** ..... make visible specified areas in the geomap (p. 268) *(new)*.

## Group

*Group Views*

**dups** ..... duplicates display for observations in the group (p. 358) *(new)*.

*Group Procs*

**setfillcolor** ..... set custom spreadsheet fill coloring for the group (p. 377) *(new)*.

**settextcolor** ..... set custom spreadsheet text coloring for the group (p. 386) *(new)*.

## Series

*Series Views*

**dups** ..... duplicates display for observations in the series (p. 603) *(new)*.

**seasuroot** ..... seasonal unit root test on an ordinary series (p. 635) *(new)*.

*Series Procs*

**setfillcolor** ..... set custom spreadsheet fill coloring for the series (p. 641) *(new)*.

**settextcolor** ..... set custom spreadsheet text coloring for the series (p. 650) *(new)*.

## VAR

*Var Methods*

**bvar** ..... Bayesian VAR (p. 905) *(updated)*.

**mfvar** ..... mixed frequency VAR (p. 939) *(new)*.

**switchvar** ..... switching VAR (including simple and Markov switching) (p. 948) *(new)*.

*Var Views*

**drawcoefs** ..... draw from the posterior coefficient distribution (p. 916) *(new)*.

**drawrescov** ..... draw from the posterior error covariance distribution (p. 917) *(new)*.

**impulse** ..... impulse response functions (p. 924) *(updated)*.

**residcor** ..... residual correlation matrix (p. 942) *(updated)*.

**residcov** ..... residual covariance matrix (p. 943) *(updated)*.

**rgmprobs** ..... display the regime probabilities in a switching VAR (p. 916) *(new)*.

**transprobs** ..... display the state transition probabilities in a switching VAR (p. 953) *(new)*.

*Var Procs*

**forecast** ..... produce dynamic forecasts from an estimated VAR or VEC (p. 920) *(updated)*.

**makergmprobs** ..... save the regime probabilities from a switching VAR (p. 935) *(new)*.

maketransprobs.....save the state transition probabilities in a switching regression equation (p. 937) *(new)*.

# EViews 11 Compatibility Notes

The following discussion describes EViews 11 compatibility issues for users of earlier versions.

## Workfile Compatibility

With few exceptions, EViews 11 workfiles are backward compatible with EViews 10. Note that the following objects are new or have been modified in Version 11:

- Estimation objects estimated with methods that employ new features (Elastic net, functional coefficients, switching VAR, mixed-frequency VAR, Bayesian VAR, estimators with newly supported cluster robust covariances).
- Bayesian VARs estimated from earlier versions of the EViews are not fully compatible with EViews 11. The original VAR object with specification may still be read, but will not have the associated results.

If you have saved workfiles containing any of the above objects and open them in earlier versions, EViews will delete the incompatible object and notify you that one or more objects were not read. If you then save the workfile, you will lose the objects. We recommend that you make a copy of any workfiles that contain these objects if you would like to use these workfiles in earlier versions of EViews.