EviewsR: Seamless Integration of Eviews and R

Sagiru Mati

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About EviewsR

EviewsR is an R package that can run Eviews program from R. It also adds `eviews` as knit-engine to `knitr` package.

Installation

EviewsR can be installed using the following commands in R.

```
install.packages("EviewsR")

            OR

devtools::install_github('sagirumati/EviewsR')
```

Setup

To run the package successfully, you need to do one of the following

- Don't do anything if the name of EViews executable is one of the following: `EViews12_x64`, `EViews12_x86`, `EViews11_x64`, `EViews11_x86`, `EViews10`. The package will find the executable automatically.
- Rename the Eviews executable to `eviews` or one of the names above.
- Alternatively, you can use `set_eviews_path` function to set the path the EViews executable as follows:

```
set_eviews_path("C:/Program Files (x86)/EViews 10/EViews10.exe")
```

Usage

Please load the EviewsR package as follows:

```{r}
library(EviewsR)
```

Creating a workfile from R

An Eviews workfile can be created using `eviews_wfcreate` function in R.

```
eviews_wfcreate(wf="EviewsR_workfile",page="EviewsR_page",frequency = "m",
start_date = "1990",end_date = "2022")
```

Eviews chunk

A chunk for Eviews can be created by supplying `eviews` as the engine name as shown below:

````
```{eviews EviewsR,eval=T}
    'This program is created in R Markdown with the help of EviewsR package
  %path=@runpath
  cd %path
  wfcreate(page=EviewsR_page,wf=EviewsR_workfile) m 2000 2022
  for %y EviewsR package page1 page2
  pagecreate(page={%y}) EviewsR m 2000 2022
  next
  pageselect EviewsR_page
  rndseed 123456
  genr y=rnd
  genr x=rnd
  equation ols.ls y c x
  freeze(EviewsROLS,mode=overwrite) ols
  freeze(EviewsR_Plot,mode=overwrite) y.line
  wfsave EviewsR_workfile
```
````

The above chunk creates an Eviews program with the chunk's content, then automatically open Eviews and run the program, which will create an Eviews workfile with pages containing monthly sample from 2000 to 2022. The program will also save an Eviews workfile named `EviewsR` in the current directory.

The `eviews` chunk automatically returns the outputs of each equation object as a dataframe, accessible via `eviews$equationName`. For example, The R^2 of the `ols` equation object is 0.00114, which can be accessed using `` `r eviews$ols$r2[1]` ``.

Executing EViews commands in R

A set of Eviews commands can be executed with the help of `exec_commands` function in R. The above Eviews chunk can be translated using this function.

```
exec_commands(c('%path=@runpath','cd %path',
  'wfcreate(page=EviewsR_page,wf=EviewsR_workfile) m 2000 2022',
  'for %y EviewsR package page1 page2',
  'pagecreate(page={%y}) EviewsR m 2000 2022',
  'next',
'  pageselect EviewsR_page',
  'rndseed 123456',
'  genr y=rnd',
  'genr x=rnd',
  'equation ols.ls y c x',
  'freeze(EviewsROLS,mode=overwrite) ols',
  'freeze(EviewsR_Plot,mode=overwrite) y.line',
  'wfsave EviewsR_workfile',
  'exit'))
```

Simulation of random walk

A set of random walk series can be simulated in R using EViews engine, thanks to `rwalk` function.

```
rwalk(wf="eviewsr_workfile",series="X Y Z",page="",rndseed=12345,frequency="M",num_observations=100)
```

Creating EViews object

The function `create_object` can be used to create an Eviews object in the existing EViews workfile.

```
create_object(wf="EviewsR_workfile",action="equation",action_opt="",object_name="eviews_equation",view_
```

Importing table as kable

Eviews tables can be imported as `kable` object by `import_table` function. Therefore, we can include the results of the OLS generated by the Eviews chunk using the following R chunk;

For the OLS result only:

```
# options(knitr.kable.NA = '')
import_table(wf="EViewsR_workfile",page="EviewsR_page",table_name = "EViewsrOLS",table_range = "r7c1:r1
```

Saving EViews workfile

An EViews workfile can be saved various output formats using `eviews_wfsave` in function in R.

```
eviews_wfsave(wf="eviewsr_workfile",source_description = "EviewsR_wfsave.csv")
```

Saving EViews page

Similar to Eviews workfile, an Eviews page can be saved in various formats by `eviews_pagesave` function.

```
eviews_pagesave(wf="eviewsr_workfile",source_description = "EviewsR_pagesave.csv",drop_list = "y")
```

Importing data to EViews

Data can be imported from external sources by `eviews_import` function.

```
eviews_import(wf="eviewsr_workfile",source_description = "EviewsR_pagesave.csv")
```

Import data from EViews

Use `import` function to import data from EViews to R as a dataframe. The function creates a new environment `eviews`, whose objects can be accessed via `eviews$object_name`.

```
import(object_name = "import",wf="eviewsr_workfile",keep_list = c("x","y"))
plot(eviews$import$y,type="l",ylab="EviewsR",col="red")
```

Exporting dataframe to EViews

Use `export` function to export dataframe object to Eviews.

```
export(wf="eviewr_export",source_description=eviews$import,start_date = '1990',frequency = "m")
```

EViews graph

EViews graph can be included in R Markdown or Quarto document by `eviews_graph` function.

```
y=cumsum(rnorm(100))
x=cumsum(rnorm(100))
uu=data.frame(x,y)

 eviews_graph(wf="EviewsR_workfile",page = "EviewsR_page",series="x y",mode = "overwrite",options = "m"
#> [1] ""
#> [1] "eviewsgraph_xy.png"
```

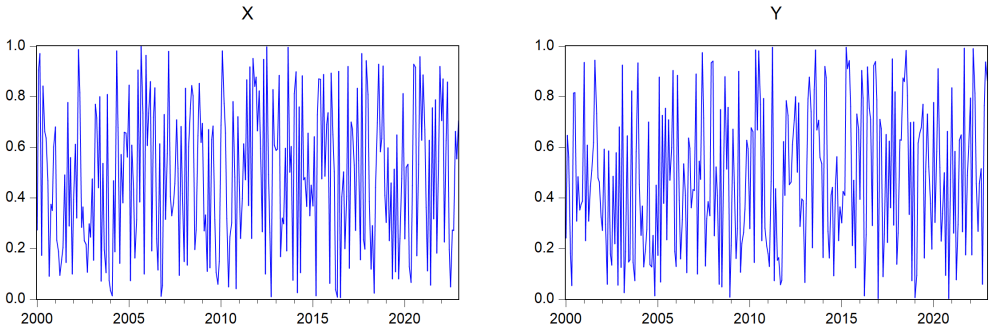

Figure 1: EviewsR example figure

Demo

The demo files are included and can be accessed via demo(package="EviewsR")

```
demo(create_object())
demo(eviews_graph())
demo(eviews_wfcreate())
```

Template

Template for R Markdown is created. Go to `file->New File->R Markdown-> From Template->EviewsR`.

Please download the example files from Github.