Time Series Database Interface: TSxls for Interface to Spreadsheets

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1 Introduction

The code from the vignette that generates this guide can be loaded into an editor with *edit(vignette("TSxls"))*. This uses the default editor, which can be changed using *options()*. It should be possible to view the pdf version of the guide for this package with *print(vignette("TSxls"))*.

Once R is started, the functions in this package are made available with

```
> library("TSxls")
```

This will also load required packages *TSdbi*, *DBI*, *methods*, *tframePlus*, and *zoo*.

TSxls provides methods for the *TSdbi* interface, allowing the use of spreadsheets as if they are a database. (This is a poor substitute for a real database, but is sometimes convenient.) *TSxls* does not support writing data to the spreadsheet, but see *writeXLS* to write a new spreadsheet. The spreedsheet can be a remote file which is retrieved when the connection is established.

1.1 Examples using Reserve Bank of Australia data

The following retrieves the file and maps the elements that are used: data, dates, identifiers, and series names. The mechanism for converting the data to an *R* time series object is also set by the function defined in the argument *tsrepresentation*.

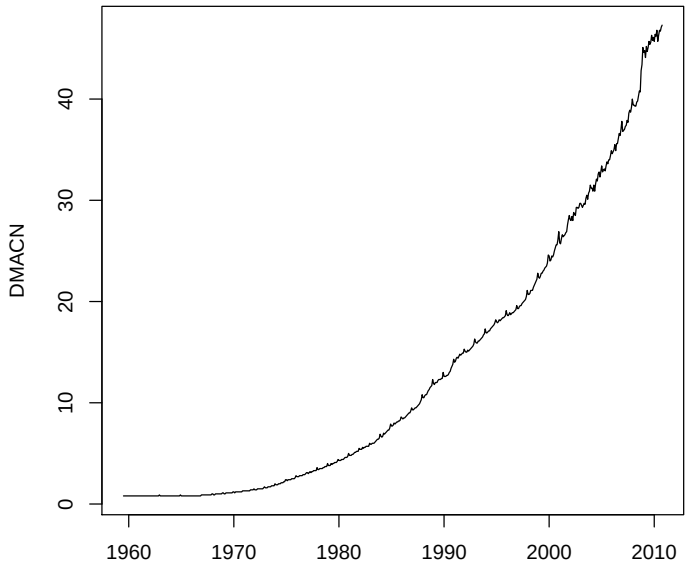
```
> con <- TSconnect("xls", dbname = "http://www.rba.gov.au/statistics/tables/xls/d03hist.xls'
      map = list(ids = list(i = 11, j = "B:Q"), data = list(i = 12:627,
          j = "B:Q"), dates = list(i = 12:627, j = "A"), names = list(i = 4:7,
          j = "B:Q"), description = NULL, tsrepresentation = function(data,
          dates) {
          ts(data, start = c(1959, 7), frequency = 12)
      }))
```

Beware that data is read into *R* when the connection is established, so changes in the spreadsheet will not be visible in *R* until a new connection is established.

Once the connection is established, data can be read from it with the same functions as for other *TSdbi* packages.

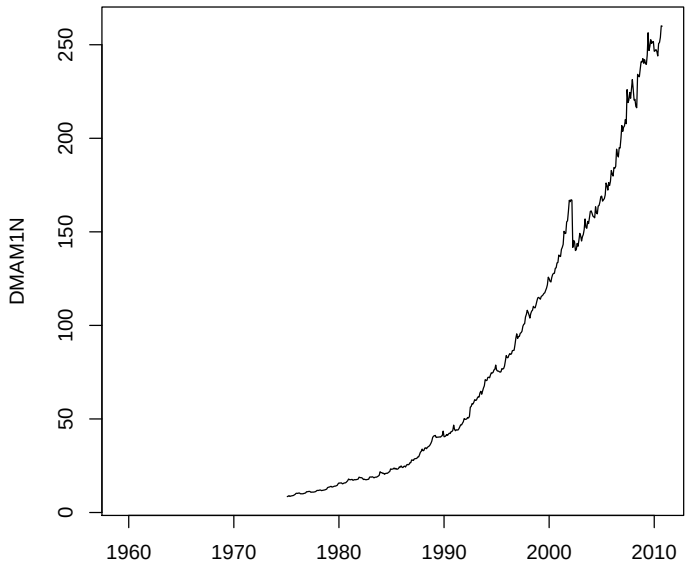
```
> x <- TSget("DMACN", con)
> tfplot(x)
> x <- TSget(c("DMAM1N", "DMAM3N"), con)
> tfplot(x)
> TSdescription(x)
```

```
[1] "  from  http://www.rba.gov.au/statistics/tables/xls/d03hist.xls"
[2] "  from  http://www.rba.gov.au/statistics/tables/xls/d03hist.xls"
```



It is also possible to specify a connection to be used as the default:

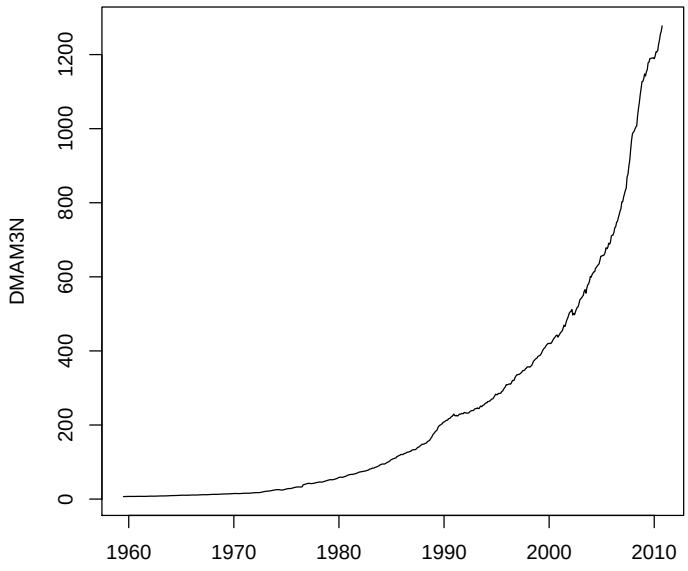
```
> options(TSconnection = con)
> tfplot(TSget(serIDs = "DMAM1N"))
```



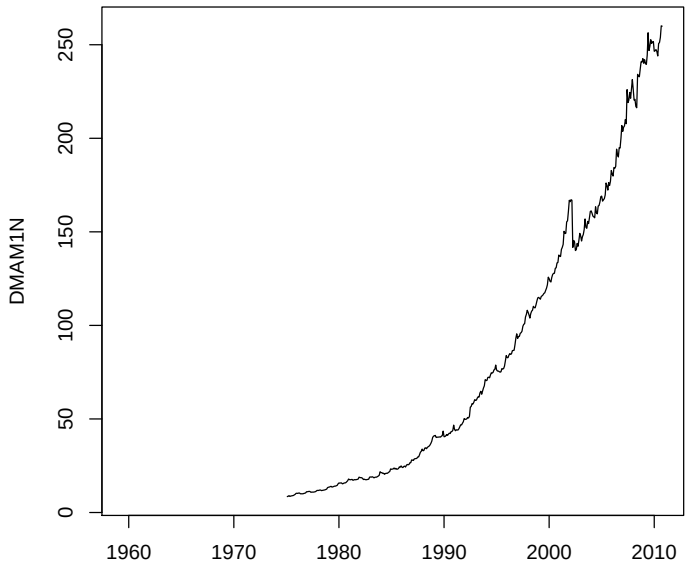
It is then not necessary to specify the *con* when the default is to be used.

```
> x2 <- TSget("DMAM3N")
> tfplot(x2)
> plot(x2)
> TSdescription(x2)

[1] "  from  http://www.rba.gov.au/statistics/tables/xls/d03hist.xls"
```



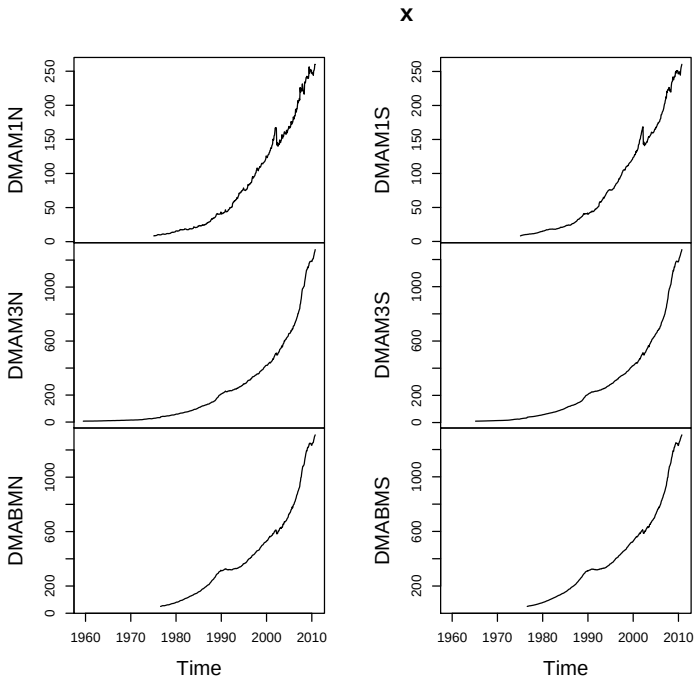

```
> x <- TSget("DMAM1N")
> tfplot(x)
> tfplot(x, xlab = TSdescription(x))
> tfplot(x, Title = "Australia M1", start = c(2000, 1))
> tfplot(x, Title = TSdoc(x), xlab = TSlabel(x), start = c(2000,
      1))
```



The function *plot* puts all series on the same graph whereas *tfplot* treats each series in the first argument as panels to be plotted.

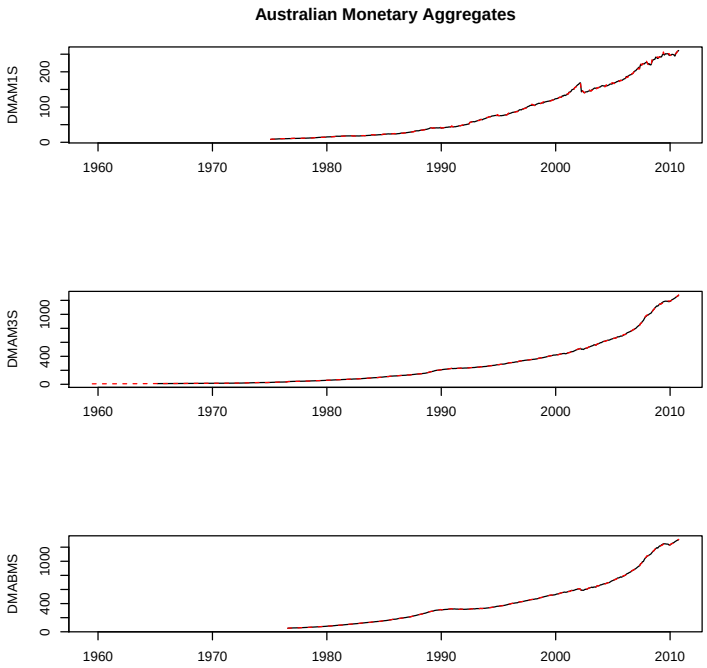
```
> x <- TSget(c("DMAM1N", "DMAM3N", "DMABMN", "DMAM1S", "DMAM3S",
      "DMABMS"))
> plot(x)
> tfplot(x, Title = "Australian Monetary Aggregates", graphs.per.page = 3)
> TSdescription(x)

[1] "  from  http://www.rba.gov.au/statistics/tables/xls/d03hist.xls"
[2] "  from  http://www.rba.gov.au/statistics/tables/xls/d03hist.xls"
[3] "  from  http://www.rba.gov.au/statistics/tables/xls/d03hist.xls"
[4] "  from  http://www.rba.gov.au/statistics/tables/xls/d03hist.xls"
[5] "  from  http://www.rba.gov.au/statistics/tables/xls/d03hist.xls"
[6] "  from  http://www.rba.gov.au/statistics/tables/xls/d03hist.xls"
```



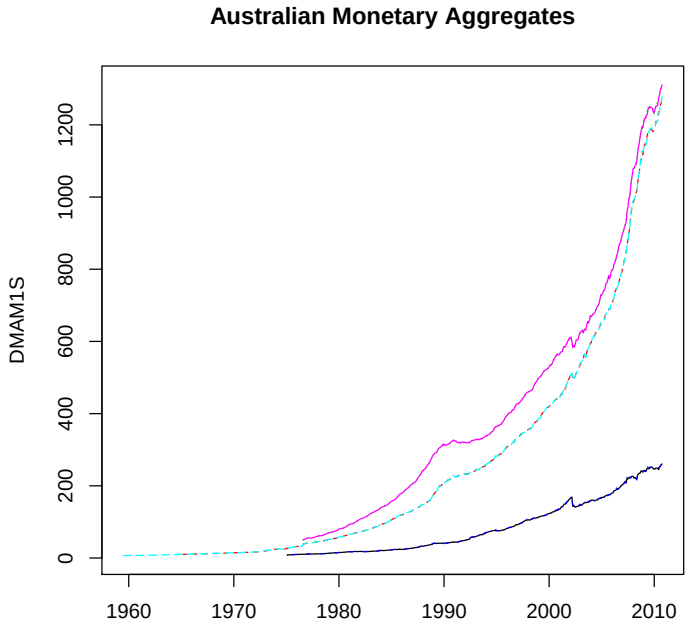
tfplot treats subsequent time series arguments as objects that should be plot on the same panels (so the number of series in each object must be the same.

```
> tfplot(TSget(c("DMAM1S", "DMAM3S", "DMABMS")), TSget(c("DMAM1N",
      "DMAM3N", "DMABMN")), Title = "Australian Monetary Aggregates")
```



It is possible to put all series on the same graph.

```
> tfplot(TSget("DMAM1S"), TSget("DMAM3S"), TSget("DMABMS"), TSget("DMAM1N"),
      TSget("DMAM3N"), TSget("DMABMN"), Title = "Australian Monetary Aggregates")
```




```
> TSdates(c("DMAM1N", "DMAM3N"), con)

     [,1]
[1,] "DMAM1N from 1959 7 to 2010 10       12"
[2,] "DMAM3N from 1959 7 to 2010 10       12"
```

See the *TSdbi* vignette for additional details on using the *TSdbi* interface.