**IMF (Internation Monetary of Fund) API**

**Getting Started:**

Download IMFData package in r

* + install.packages(“IMFData”)
  + library(IMFData)

You can use the imf\_data function to download the data the IMF makes available via its API. To do this you will need at least the following information:

* database\_id: the ID of the specific database you wish to download the data series from. You can find the list of IDs and their description using the imf\_ids function.
* indicator: the IMF indicators of the variables you want to download. One way to find these is to:
* Use the database\_id for the database you want to access with the imf\_codelist function to find the code list of the database.
* Then using the indicator code (usually CL\_INDICATOR\_database\_id) in imf\_codes, you can find the data series indicator codes in that database.
* *Tip*: if you have a number of country identifiers that are not in ISO2C format, you can use the helpful [countrycode](https://cran.r-project.org/package=countrycode) package to convert them.
* country: one or more ISO two letter country codes for the countries you would like to download the data for. If country = 'all' then all available countries will be downloaded.
* start and end: the start and end years for which you would like to download the data.
* freq: the frequency of the series you want to download. Often series are available annually, quarterly, and monthly.

**Example:**

Let’s say that we want to download Effective Exchange Rate (CPI base) for China and the UK for the year 2013:

**library**(imfr)

real\_ex <- **imf\_data**(database\_id = 'IFS', indicator = 'EREER\_IX',

country = **c**('CN', 'GB'), freq = 'A',

start = 2013, end = **current\_year**())

real\_ex

## iso2c year EREER\_IX

## 1 CN 2013 115.2979

## 2 CN 2014 118.9859

## 3 CN 2015 131.6297

## 4 GB 2013 105.7684

## 5 GB 2014 113.7014

## 6 GB 2015 121.7981

While many quantities of interest from the IMF database are in simple country-time-variable format, many are not. For example, Direction of Trade Statistics include country-year-variable and a “counterpart area”. By default, imf\_data would only return the first, but not the last.

Because of the many possible data structures available from the imf, imf\_data allows you to return the entire API call as a list. From this list you can then extract the requested data. To do this use the return\_raw = TRUE argument, e.g.:

data\_list <- **imf\_data**(database\_id = "DOT", indicator = "TXG\_FOB\_USD",

country = "US", return\_raw = TRUE)

Then extract the data series (it is typically contained in CompactData$DataSet$Series):

data\_df <- data\_list$CompactData$DataSet$Series

**names**(data\_df)

## [1] "@FREQ" "@REF\_AREA" "@INDICATOR"

## [4] "@COUNTERPART\_AREA" "@UNIT\_MULT" "@TIME\_FORMAT"

## [7] "Obs"

You can then subset and clean up data\_df to suit your purposes.

**To Learn more about IMF data, visit the following page:**

<https://github.com/mingjerli/IMFData>

<https://cran.r-project.org/web/packages/IMFData/IMFData.pdf>