

# Using the Icelandic Centre for Retail Studies PX-Web API

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June 24, 2016

## 1 Loading the PX-Web library

Let's begin by loading the `pxweb` library that we will use for interacting with the API. This ofcourse assumes that the library has been installed already.

```
library(pxweb)

## pxweb: R tools for PX-WEB API.
## Copyright (C) 2014 Mans Magnusson, Leo Lahti, Love Hansson
## https://github.com/ropengov/pxweb
```

## 2 Downloading individual series

Next we download some data. Let's get the indices for sale of alcohol in fixed prices in 2015.

```
url <- "http://px.rsv.is/PXWeb/api/v1/en/Sm%C3%A1s%C3%B6lun%C3%ADsitalan/
Retail_turnover.px"

get_pxweb_data(url = url,
  dims = list(Year = c('14'),
    Month = c('*'),
    Prices = c('1'),
    Category = c('1'),
    "Indices_and_changes" = c('0')),
  clean = TRUE)
```

|       | Year | Month     | Indices and changes | Category | Prices | values |
|-------|------|-----------|---------------------|----------|--------|--------|
| ## 1  | 2015 | January   | Index               | Alcohol  | Fixed  | 103.4  |
| ## 2  | 2015 | February  | Index               | Alcohol  | Fixed  | 103.2  |
| ## 3  | 2015 | March     | Index               | Alcohol  | Fixed  | 111.6  |
| ## 4  | 2015 | April     | Index               | Alcohol  | Fixed  | 129.5  |
| ## 5  | 2015 | May       | Index               | Alcohol  | Fixed  | 129.1  |
| ## 6  | 2015 | June      | Index               | Alcohol  | Fixed  | 138.2  |
| ## 7  | 2015 | July      | Index               | Alcohol  | Fixed  | 193.5  |
| ## 8  | 2015 | August    | Index               | Alcohol  | Fixed  | 136.2  |
| ## 9  | 2015 | September | Index               | Alcohol  | Fixed  | 119.3  |
| ## 10 | 2015 | October   | Index               | Alcohol  | Fixed  | 125.1  |
| ## 11 | 2015 | November  | Index               | Alcohol  | Fixed  | 115.2  |
| ## 12 | 2015 | December  | Index               | Alcohol  | Fixed  | 201.2  |

### 3 Downloading multiple series

Finally we make a chart for each index. Let's begin by downloading the data.

```
url <- "http://px.rsv.is/PXWeb/api/v1/en/Sm%C3%A1s%C3%B6luv%C3%ADsitalan/
      Retail_turnover.px"

data <- get_pxweb_data(url = url,
  dims = list(Year = c('*'),
              Month = c('*'),
              Prices = c('1'),
              Category = c('*'),
              "Indices_and_changes" = c('0')),
  clean = TRUE)
```

#### 3.1 Creating proper timestamps

In order to display the time series properly we must create a column in the data set with a date value.

```
months <- data.frame(
  num = 1:12,
  name = month.name)

data <- merge(x=data, y=months, by.x="Month", by.y="name")

data$period <- as.Date(paste0(data$Year, "-", data$num, "-01"))
```

#### 3.2 Plotting the data

Let's take a peek at the data before plotting.

```
head(data[,c(8,4,5,6)], n=10)

##           period           Category Prices values
## 1  2008-04-01      Hardware    Fixed      NA
## 2  2002-04-01      Alcohol    Fixed    92.3
## 3  2011-04-01 Fast moving consumer goods Fixed 135.1
## 4  2002-04-01      Furniture    Fixed      NA
## 5  2012-04-01 Fast moving consumer goods Fixed 129.2
## 6  2001-04-01      Alcohol    Fixed      NA
## 7  2001-04-01 Fast moving consumer goods Fixed      NA
## 8  2006-04-01 Fast moving consumer goods Fixed 123.6
## 9  2006-04-01      Alcohol    Fixed 126.4
## 10 2012-04-01      Alcohol    Fixed 113.7
```

And finally plot all the series at once.

```
library(ggplot2)

ggplot(data, aes(x=period, y=values)) +
  geom_line() + facet_wrap(~ Category, scales="free", ncol=2)
```

