Heatmap Example for Electricity Prices

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Loading Port Data

```r
library(readr)
smf <- read_delim("https://raw.githubusercontent.com/RiUA/riua/master/smf.csv",
";", escape_double = FALSE, col_types = cols(Saat = col_number(),
Tarih = col_date(format = "%d/%m/%Y")),
trim_ws = TRUE)
```

Preparing Data and First Graphic Elements

```r
require(dplyr)
```

```
## Zorunlu paket yükleniyor: dplyr
```

```
##
## Attaching package: 'dplyr'
```
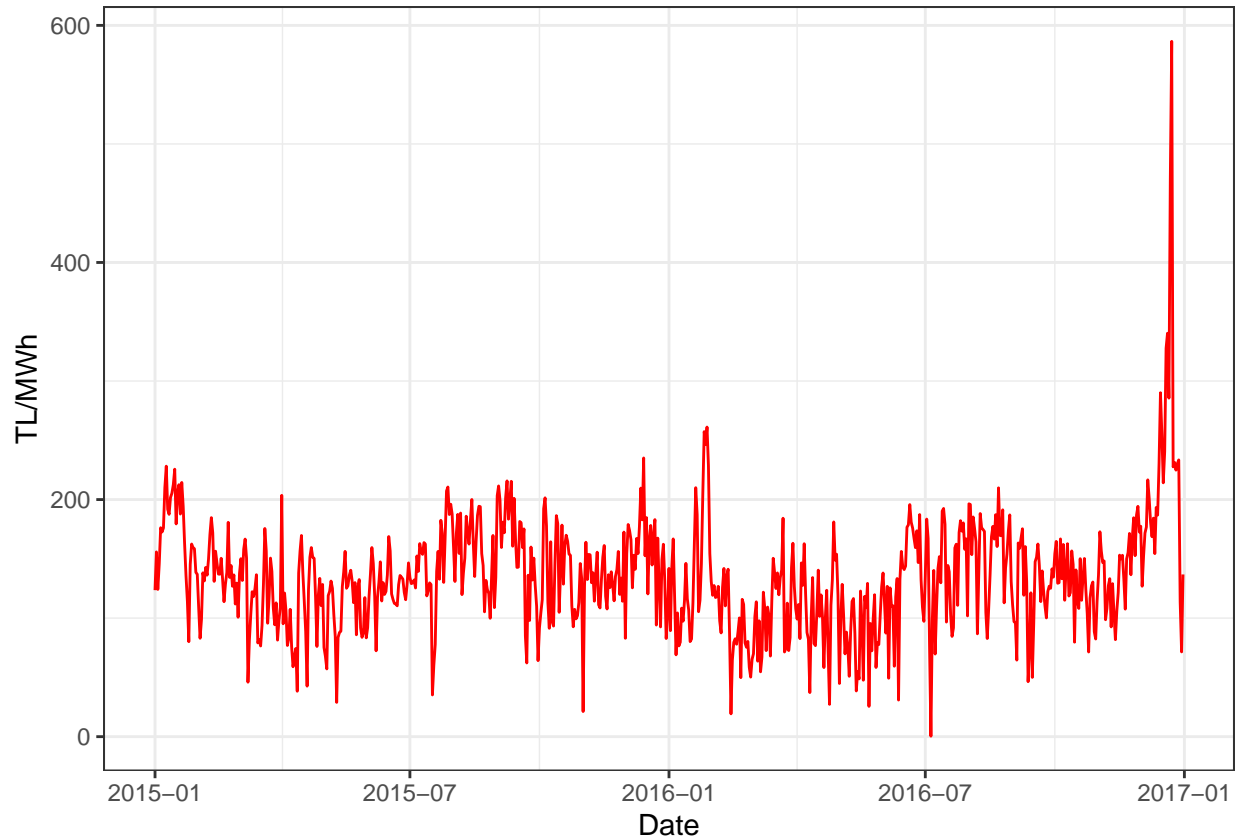
```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```r
require(ggplot2)
```

```
## Zorunlu paket yükleniyor: ggplot2
```

```r
smf.m <- smf %>%
group_by(.,Tarih) %>%
summarise(smfm = mean(SMF))
ggplot(smf.m) + geom_line(aes(x = Tarih, y = smfm),colour = "red") +
xlab("Date") + ylab("TL/MWh") + theme_bw()
```

As can be seen from the chart, prices reached their highest level at the end of 2016.

Editing Day, Week and Month Values

```r
smf.m$Day <- factor(weekdays(smf.m$Tarih, T))
smf.m$day <- as.numeric(format(smf.m$Tarih, "%u"))
smf.m$Week <- as.numeric(format(smf.m$Tarih, "%W"))
smf.m$Month <- as.numeric(format(smf.m$Tarih, "%m"))
smf.m$Year <- as.numeric(format(smf.m$Tarih, "%Y"))
```

Creating the Chart

```r
library(dplyr)
library(ggplot2)
library(viridis)
```

```
## Warning: package 'viridis' was built under R version 4.4.1
```

```
## Zorunlu paket yükleniyor: viridisLite
```

```
library(ggthemes)
ggplot(smf.m, aes(x = Week, y = reorder(Day,-day), fill = smfm)) +
scale_fill_viridis(name="SMF",option = "D", limits = c(0, max(smf.m$smfm)))+
geom_tile(color = "white", size = 0.4) + facet_wrap("Year", ncol = 1) +
scale_x_continuous(expand = c(0, 0), breaks = seq(1, 52, length = 12),
labels = c("Jan", "Feb", "Mar", "Apr", "May", "June", "July", "Aug",
"Sep", "Oct", "Nov", "Dec"))+
ylab("Day") + theme_tufte()
```

```
## Warning: Using 'size' aesthetic for lines was deprecated in ggplot2 3.4.0.
## i Please use 'linewidth' instead.
## This warning is displayed once every 8 hours.
## Call 'lifecycle::last_lifecycle_warnings()' to see where this warning was
## generated.
```
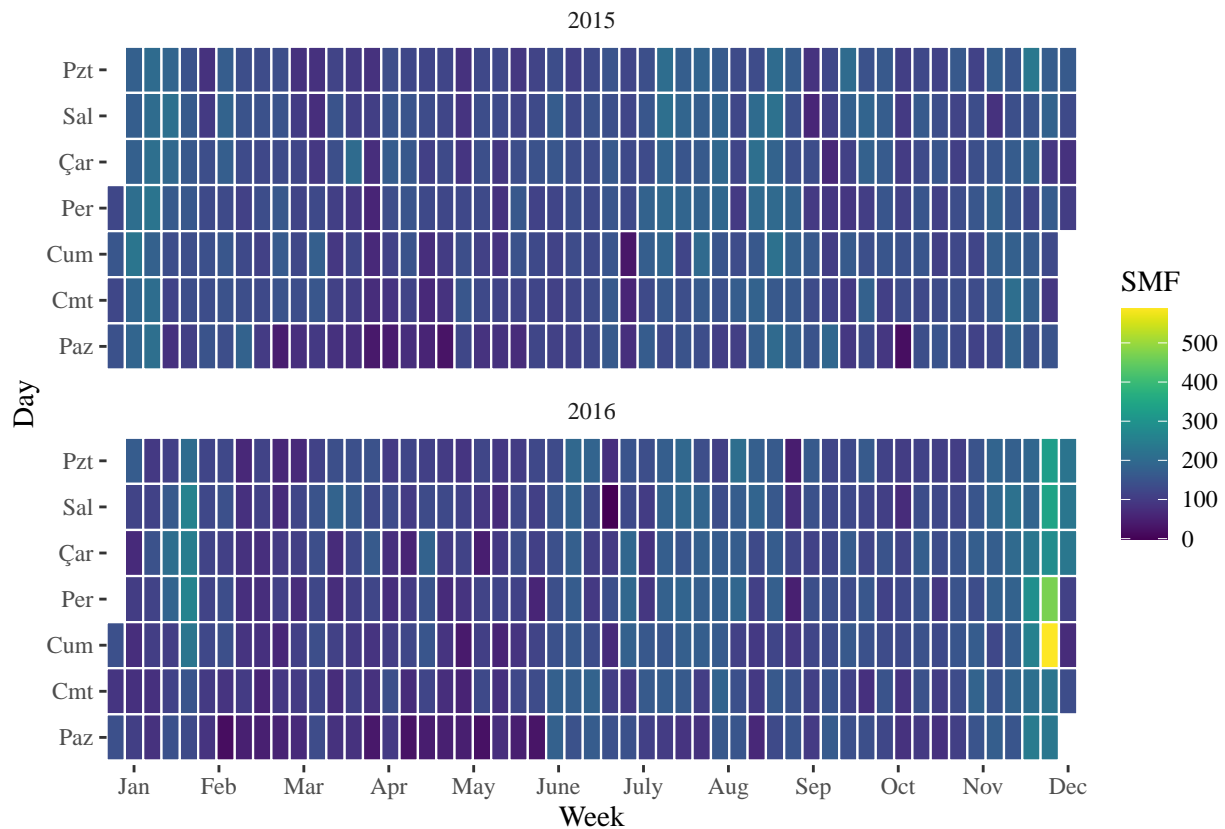

From this Chart, we can say that prices were more stable in 2015, but prices started to rise towards the end of 2016.