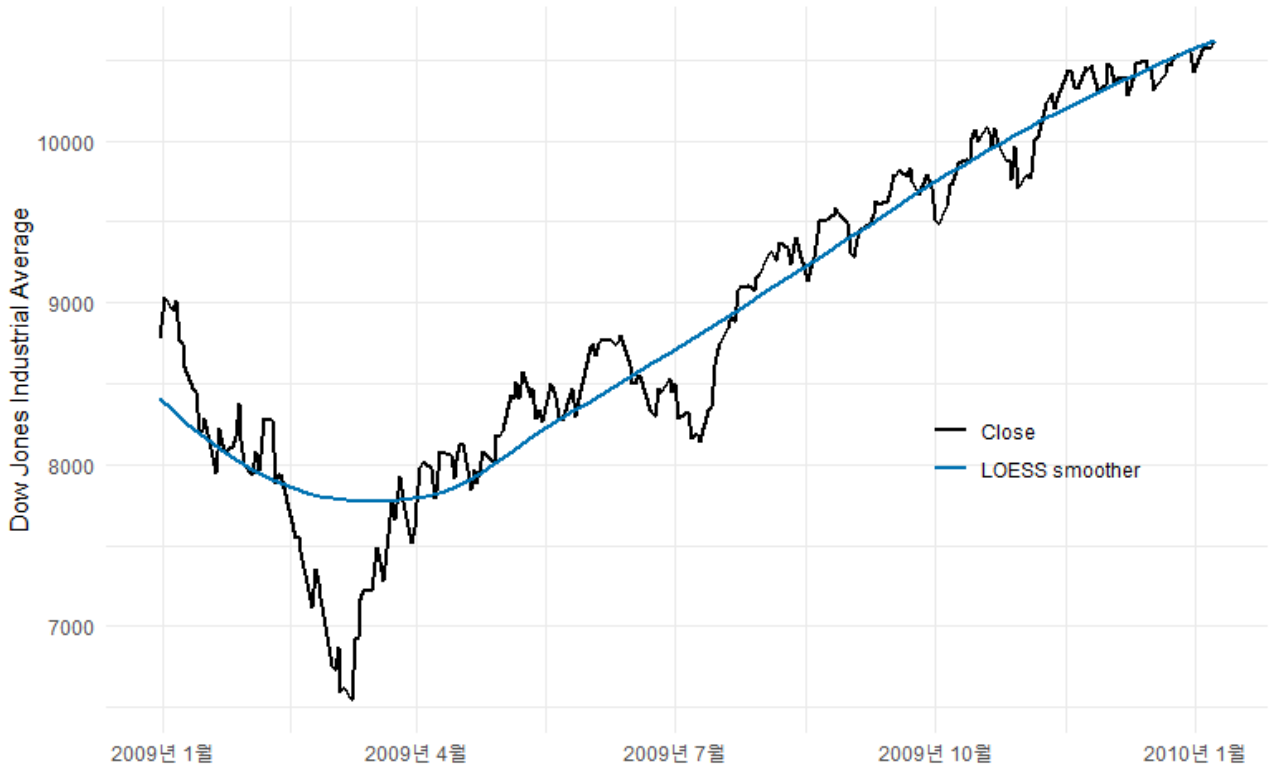
▣ Save a ggplot

```
### Packages
library(ggplot2)
library(dplyr)
```

■ Figure 14.3

```
### Figure 14.3 - data
load("dow_jones_industrial.rda")

### Figure 14.3
ggp <- dow_jones_industrial %>%
  filter(date >= "2008/12/31" & date <= "2010/01/10") %>%
  ggplot(aes(date, close, color = "close")) +
  geom_line(linewidth = 0.75) +
  geom_smooth(aes(color = "smooth"), linewidth = 1, na.rm = T, se = F) +
  scale_color_manual(name = NULL,
                     values = c(close = "#000000", smooth = "#0072b2"),
                     labels = c("Close", "LOESS smoother")) +
  ylab("Dow Jones Industrial Average") +
  scale_x_date(name = NULL,
               date_labels = "%Y년 %b월") +
  theme_minimal() +
  theme(legend.position = c(0.8, 0.4))
ggp
```



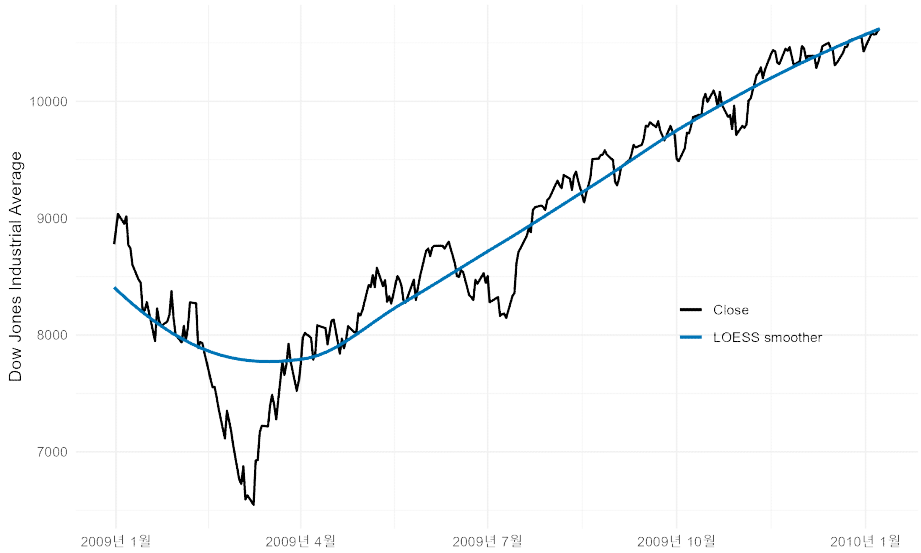
■ Get or Set Working Directory

```
### Get or Set Working Directory
getwd()
#setwd(choose.dir())
```

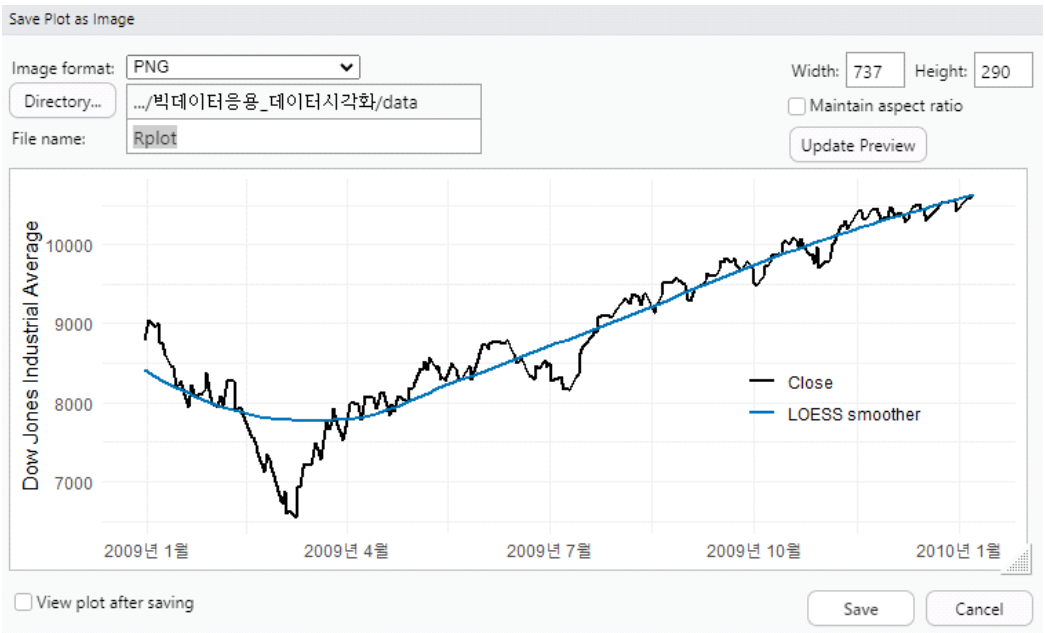
■ PNG

- 참고: ?ggsave

```
### PNG
# ?ggsave
ggsave("Figure 14.3.png", ggp)
ggsave("Figure 14.3.png", ggp, path = choose.dir())
ggsave("Figure 14.3.png", ggp, path = choose.dir(),
       width = 16, height = 9, units = "cm")
```



■ PNG - RStudio: [Plots] > Export > Save Plot as Image

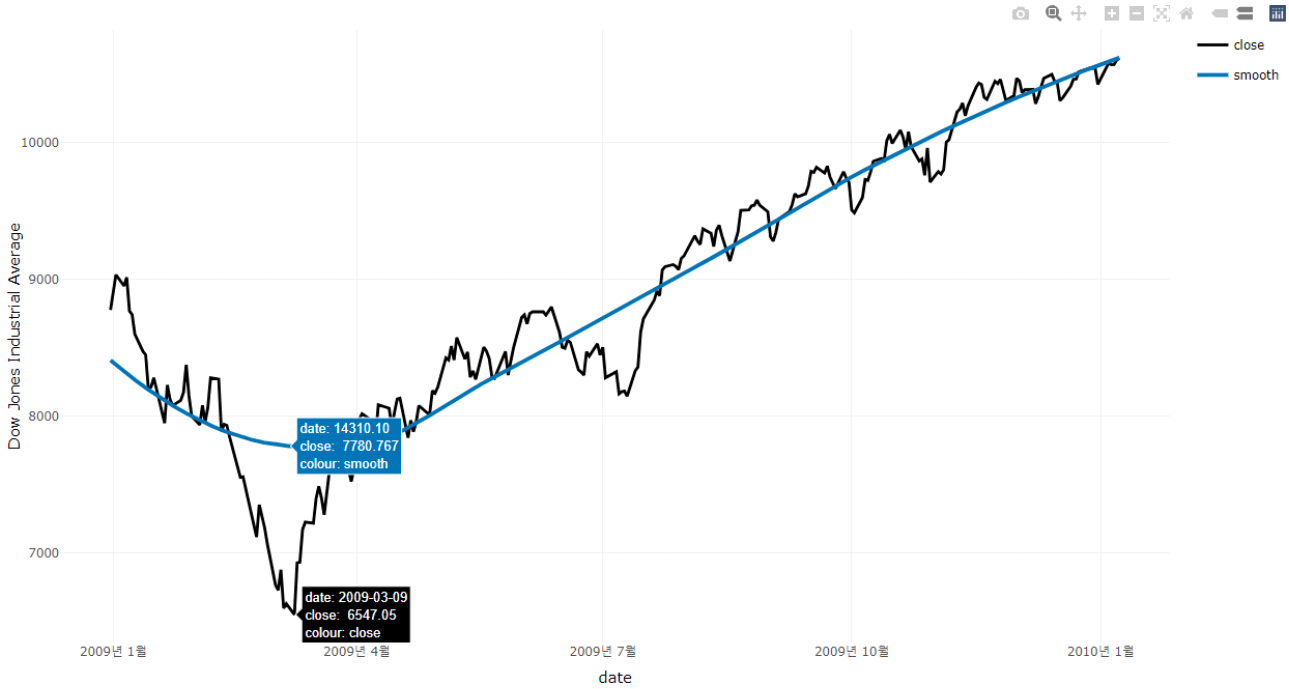


■ HTML

- 참고: https://plotly.com/ggplot2/

```
### HTML
# https://plotly.com/ggplot2/
install.packages("plotly")
library(plotly)

ggp %>% ggplotly() %>% htmlwidgets::saveWidget("Figure 14.3.html")
```



■ HTML - RStudio: [Viewer] > Export > Save As Web page

■ PowerPoint

- 참고: https://ardata-fr.github.io/officeverse/officer-for-powerpoint.html

```r
### PowerPoint
# https://ardata-fr.github.io/officeverse/officer-for-powerpoint.html
install.packages(c("officer", "rvg"))

# Function Definition
write.pptx <- function(ggp, out.pptx.file, title="", append = F,
                       left = 0.5, top = 1.7, width = 9, height = 5){
  # read pptx
  if(append){
    out <- officer::read_pptx(out.pptx.file)
  } else {
    out <- officer::read_pptx()
  }
  # add ggplot
  out <- out %>%
    officer::add_slide() %>%
    officer::ph_with(rvg::dml(ggobj = ggp),
                     officer::ph_location(left = left,
                                          top = top,
                                          width = width,
                                          height = height))
  # add title
  if(title!=""){
    out <- out %>%
      officer::ph_with(value = title,
                       location = officer::ph_location_type(type = "title"))
  }
  base::print(out, target = out.pptx.file)
}

write.pptx(ggp, "Figure 14.3.pptx")
write.pptx(ggp, "Figure 14.3.pptx", title = "Figure 14.3", append = T)
```

