Homework 6, by Somesh Srivastava, Feb 23, 2018

Executive Summary

As part of this exercise, E/P ratio has been plotted against (the 3-year average of the) lagged change in percent earnings.

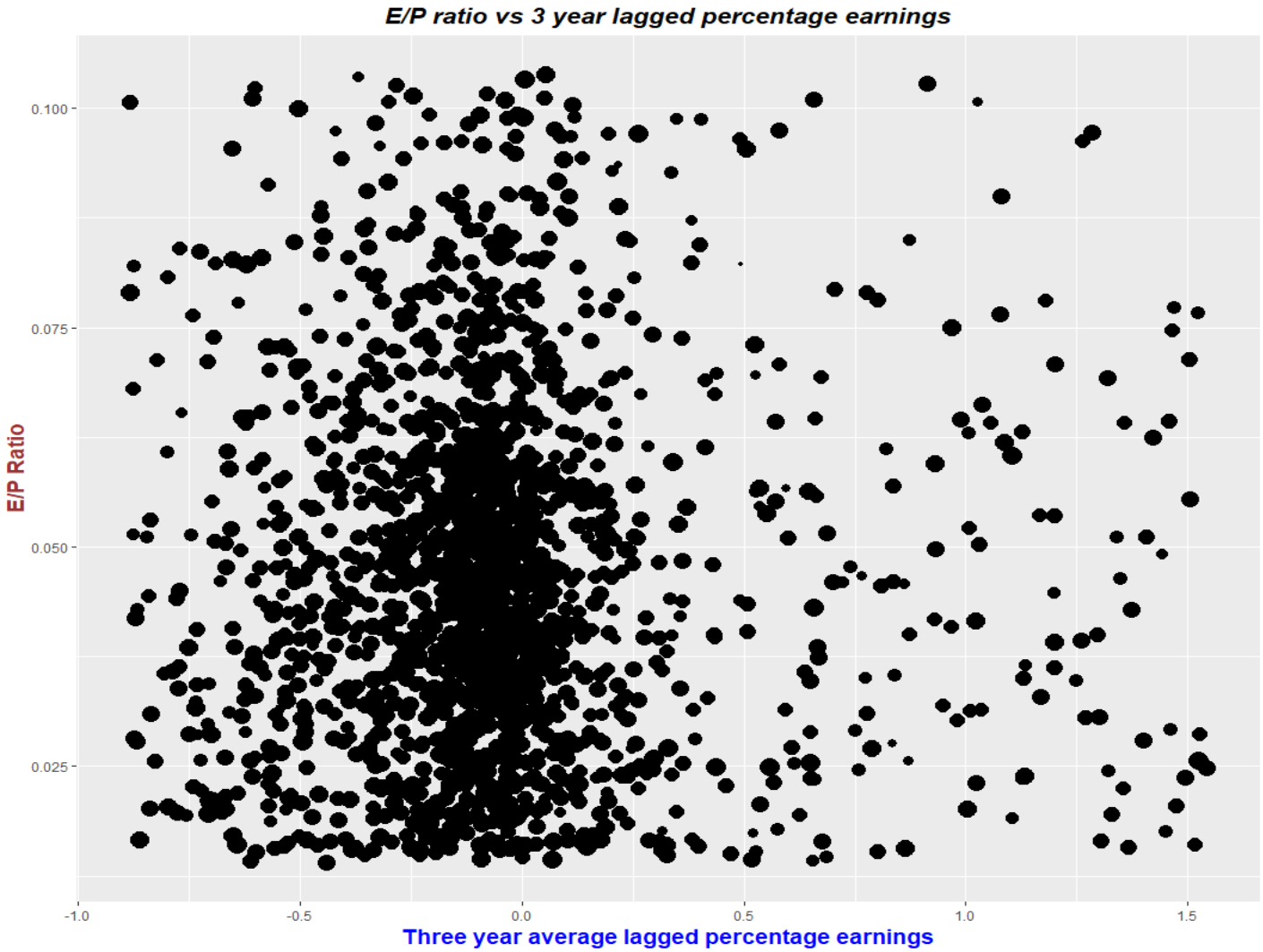
Details

E/P ratio has been taken from yahoo finance using quantmod api's. Web scrapping of Yahoo Finance method has also been used but at time it gives "HTTP 404 Not Found" error.

The 3-year average of the lagged change in percent earnings has been calculated taking data from CRSP and Compustat merged database.

E/P ratio and earning percentage change average has been trucated for top and bottom 5 percentile. .

Result and Graphs



Computer Code

```
if (!require(data.table)) install.packages(data.table)
if (!require(quantmod)) install.packages("quantmod")
if (!require(XML)) install.packages("XML")
if (!require(RCurl)) install.packages("RCurl")
if (!require(dplyr)) install.packages("dplyr")
if (!require(ggplot2)) install.packages("ggplot2")

setwd("D:/MFE/Curriculum/Winter 2018/404-Corporate Finance and Risk Management - WELCH/Homework/HW6")


tickers <- stockSymbols()
tickers <- tickers[complete.cases(tickers[, 4]), ]
```

```
what_metrics <- yahooQF(c("Symbol", "P/E Ratio", "Market Capitalization"))

masterdata <- getQuote(tickers$Symbol, what=what_metrics)
masterdata <- masterdata[complete.cases(masterdata), ]

masterdata$EPRatio <- 1/masterdata$`P/E Ratio`
masterdata <- masterdata[, c(2, 4, 5)]

earnings <- fread("./Earnings.csv")
earnings <- earnings[, c("fyear", "tic", "ni")]

earnings[, lagged:=(ni-shift(ni, type = "lead"))/ni, by=c("tic")]
earnings <- earnings[complete.cases(earnings)]
earnings[, earningPercent:=mean(lagged), by=c("tic")]
earnings <- earnings[, c(2, 5)]
earnings <- unique(earnings)

colnames(earnings)[1] = "Symbol"

masterdata <- merge(masterdata, earnings, by="Symbol")

xtrun <- quantile(masterdata$earningPercent, probs = c(0.1, 0.90))
ytrun <- quantile(masterdata$EPRatio, probs = c(0.1, 0.90))

masterdata <- masterdata[ ((masterdata$earningPercent >= xtrun[1]) & (masterdata$earningPercent <= xtrun[2])),  ]
masterdata <- masterdata[ ((masterdata$EPRatio >= ytrun[1]) & (masterdata$EPRatio <= ytrun[2])),  ]

ggplot()+geom_point(data = masterdata, aes(x=masterdata$earningPercent, y=masterdata$EPRatio, size=log(masterdata$`Market Capitalization`)))+
labs(x = "Three year average lagged percentage earnings",y="E/P Ratio",colour="Labels",title="E/P ratio vs 3 year lagged percentage earnings", size = "
  theme(plot.title = element_text(color="Black", size=16, face="bold.italic", hjust=0.5),
        axis.title.x = element_text(color="blue", size=14, face="bold"),
        axis.title.y = element_text(color="#993333", size=14, face="bold"))




# getStockFin <- function(symbol) {
#   cat(symbol)
#
#   yahoo.URL <- "https://finance.yahoo.com/quote/"
#   URL <- paste(yahoo.URL, symbol,"/financials?ltr=1", sep = "")
#   stockURL <- getURL(URL)
#
#   html_text <- htmlParse(stockURL, encoding = "UTF-8")
#
#   finTable<- readHTMLTable(html_text,stringsAsFactors = FALSE)
#
#   finTable <- as.data.table(finTable)
#   View(finTable)
#
#   #earningPercent= as.numeric(gsub(",", "", finTable[26, 4:6]))/as.numeric(gsub(",", "", finTable[2, 4:6]))
#   if(nrow())
#   earnings= as.numeric(gsub(",", "", finTable[26, 4:6]))
#   averagePercentage = mean( (earnings-shift(earnings, type="lead"))/shift(earnings, type="lead"), na.rm = FALSE)
#
# }
```

References

- Wharton Research Data Services (WRDS) CRSP data taken on Feb 23, 2018.