M034030039 財管碩三 羅竑宇 財金程式設計

作業一.找出每季第四周的周一

假設:

1. 每月第一天就被算做第一周,無論當天是禮拜幾

2. 每周自周一起, 周日訖,用2017年日期做

程式碼:

dates=seq(as.Date('2017/01/01'),by='quarter',length.out = 4)

Dates=dates+(wday(dates)==1)\*weeks(2)+(wday(dates)!=1)\*weeks(3)

Dates=Dates+days(2-wday(dates))

結果:

[1] "2017-01-16" "2017-04-17" "2017-07-17" "2017-10-16"

作業二.

Step1: 先從TEJ抓到資料=>存成fundmental\_data.csv  
Step2: 請看fund\_Analysis.R作以下分析  
a.挑Debt Ratio小於50%  
b.再挑股票淨值大於10元的  
c.再找PE(小到大rank)前100名公司  
d.再找PB(小到大rank)前50名公司  
e.再找DY(大到小rank)前10名公司  
f.再找CDR(大到小rank)前5名公司  
最後從2016/11/21持有到2017/3/21的五檔平均報酬率(用調整後價格)

程式碼:

rm(list=ls())

setwd("C:/Users/HongYu/Desktop/")

#-----------------initial parameter----------------------

DR\_ratio<-0.5\*100

NV\_value<-10

PE\_rank<-100

PB\_rank<-50

DY\_rank<-10

CDR\_rank<-5

#-----------------initial parameter----------------------

f\_data<-read.csv("Fundamentaldata.csv",stringsAsFactors=F)

f\_data[,2]<-as.Date(f\_data[,2])

f\_data[,4]<-as.numeric(f\_data[,4])

f\_data[,5]<-as.numeric(f\_data[,5])

f\_data[,10]<-as.numeric(f\_data[,10])

f\_data[,11]<-as.numeric(f\_data[,11])

f\_data1<-na.omit(f\_data)

colnames(f\_data1)<-c("Company","Date","DR","PE","PB","PSR","DY","CDR","NV","1121Close","321Close")

#DR<0.5

f\_data2<-f\_data1[which(f\_data1$DR<DR\_ratio),]

#NV>10

f\_data3<-f\_data2[which(f\_data2$NV>NV\_value),]

#PE(small->big)

f\_data4<-f\_data3[order(f\_data3$PE),][1:PE\_rank,]

#PB(small->big)

f\_data5<-f\_data4[order(f\_data4$PB),][1:PB\_rank,]

#DY\_rank(big->small)

f\_data6<-f\_data5[order(-f\_data5$DY),][1:DY\_rank,]

#CDR\_rank(big->small)

f\_data7<-f\_data6[order(-f\_data6$CDR),][1:CDR\_rank,]

print(f\_data7$Company)

PortfolioRt=mean(f\_data7[,11]/f\_data7[,10])-1

結果:

[1] "3056 總太" "2530 華建" "2536 宏普" "2374 佳能" "8249 菱光"

PortfolioRt

[1] 0.17606557680071244

作業三.

類似作業二,要求ROE>10%,DY從大到小選前30%,DR選前20,10,5檔

程式碼:

rm(list=ls())

setwd("C:/Users/HongYu/Desktop/")

#-----------------initial parameter----------------------

ROE=10

#-----------------initial parameter----------------------

f\_data<-read.csv("fundamental.csv",stringsAsFactors=F)

f\_data[,6]<-as.numeric(f\_data[,6])

f\_data[,5]<-as.numeric(f\_data[,5])

f\_data1<-na.omit(f\_data)

colnames(f\_data1)<-c("Company","ROE","DY","DR","321Close","1121Close")

#ROE>10

f\_data2<-filter(f\_data1,ROE>10)

#Companies which have DY in top 30% of f\_data2

f\_data3<-arrange(f\_data2,desc(DY))

f\_data3<-head(f\_data3,round(0.3\*(dim(f\_data3)[1])))

#arrange according to DR

f\_data4<-arrange(f\_data3,DR)

#calculate holding period return

f\_data4$HPR<-f\_data4$`321Close`/f\_data4$`1121Close`-1

#5-stock portfolio

(HPR\_5=mean(f\_data4$HPR[1:5]))

#10-stock portfolio

(HPR\_10=mean(f\_data4$HPR[1:10]))

#20-stock portfolio

(HPR\_20=mean(f\_data4$HPR[1:20]))

#stock list for top 20

print(f\_data4$Company[1:20])

結果:

#5-stock portfolio

[1] 0.0091913580415759807

#10-stock portfolio

[1] 0.053101450748033428

#20-stock portfolio

[1] 0.11095193599464678

#stock list for top 20

[1] "8422 可寧衛" "2441 超豐" "9943 好樂迪" "6216 居易"

[5] "8481 政伸" "6224 聚鼎" "8429 金麗-KY" "6202 盛群"

[9] "1773 勝一" "6206 飛捷" "2114 鑫永銓" "4977 眾達-KY"

[13] "1232 大統益" "6525 捷敏-KY" "4557 永新-KY" "4952 凌通"

[17] "2493 揚博" "1477 聚陽" "9924 福興" "3034 聯詠"