Search tool for possible undervalued Stocks with DCF and P/B and subsequent Stock evaluation

Justin König

20.08.2022

Contents

Motivation

Das wird mein Dokument

```r
# the chosen tickers of the Stocks are assigned with a vector to the variable
# Ticker

Ticker <-c("UNH", "GS", "DIS", "INTC", "BAC", "BA")

# creates a data frame out of the Tickers

Stocks <- data.frame(Ticker)

# variable Ticker is not longer needed, gets removed

rm(Ticker)

# uses the function basics_assignment on the data frame Stocks creating a list
# and then only uses the part of the list which is further needed

Stocks <- basics_assignement(Stocks)
```

```
## [1] "assining Industry 1 of 6 to UnitedHealth Group Incorporated"
## [1] "assining Price 1 of 6 to UnitedHealth Group Incorporated"
## [1] "calculating and assining P/E 1 of 6 to UnitedHealth Group Incorporated"
## [1] "assining Industry 2 of 6 to The Goldman Sachs Group, Inc."
## [1] "assining Price 2 of 6 to The Goldman Sachs Group, Inc."
## [1] "calculating and assining P/E 2 of 6 to The Goldman Sachs Group, Inc."
## [1] "assining Industry 3 of 6 to The Walt Disney Company"
## [1] "assining Price 3 of 6 to The Walt Disney Company"
## [1] "calculating and assining P/E 3 of 6 to The Walt Disney Company"
## [1] "assining Industry 4 of 6 to Intel Corporation"
## [1] "assining Price 4 of 6 to Intel Corporation"
## [1] "calculating and assining P/E 4 of 6 to Intel Corporation"
```

```
## [1] "assining Industry 5 of 6 to Bank of America Corporation"
## [1] "assining Price 5 of 6 to Bank of America Corporation"
## [1] "calculating and assining P/E 5 of 6 to Bank of America Corporation"
## [1] "assining Industry 6 of 6 to The Boeing Company"
## [1] "assining Price 6 of 6 to The Boeing Company"
## [1] "calculating and assining P/E 6 of 6 to The Boeing Company"
```

```
Stocks <- Stocks$list
```

$$\sum_{i=1}^{n} X_i$$

```
  toassaign_df <- Stocks
  x<-1
  FVoEq <-"FVoEq"
  FVoEq <- data.frame(FVoEq)
  PB <- "P/B"
  PB <- data.frame(PB)
  toassaign_df<- bind_cols(toassaign_df, FVoEq)
  toassaign_df<- bind_cols(toassaign_df, PB)


  while (x<=nrow(toassaign_df)) {
    company <- toassaign_df[paste(x),1]
    print(paste("checking Sector", x, "of",nrow(toassaign_df), "of", company))
    ticker <- toassaign_df[paste(x),2]
    check_for_fin <- isTRUE(toassaign_df[paste(x),3]=="Banks-Diversified" || toassaign_df[paste(x),3]==
    if(check_for_fin=="FALSE"){
      print(paste("applying DCF scraper to", company))
      scraped_DCF_data <- lapply(toassaign_df$Ticker[as.numeric(paste(x))],DCF_data_scraper)
      print(paste("calculating fair value of equit of", company))
      FVoEq <- DCF_calculation()
      toassaign_df[paste(x),6] <- FVoEq$FVoEq
      print(paste("applying book value scraper to", company))
      toassaign_df[paste(x),7] <- bookv_data(ticker)
    }
    else {
      print(paste("applying book value scraper to", company))
      toassaign_df[paste(x),6] <- "NA"
      toassaign_df[paste(x),7] <- bookv_data(ticker)
    }
    x<-x+1
  }

Stocks <- toassaign_df
rm(list=setdiff(ls(), "Stocks"))
attach(Stocks)
Stocks$Price <- as.numeric(Price)
Stocks$PE <- as.numeric(PE)
Stocks$FVoEq <- as.numeric(FVoEq)
Stocks$PB <- as.numeric(PB)
detach(Stocks)
```

```r
 # takes all Companys of the Dataframe with a lower Price then its fair value
 # and creates a new Dataframe out of it

picks_FVoEq <- Stocks[Stocks$Price < Stocks$FVoEq,]

# removes all rows with NAs in it

picks_FVoEq <- picks_FVoEq %>% drop_na()

p_under_FVoEq  <- (1-round(picks_FVoEq$Price/picks_FVoEq$FVoEq, 2))*100

p_under_FVoEq <- data.frame(p_under_FVoEq )

picks_FVoEq <- bind_cols(picks_FVoEq, p_under_FVoEq)

picks_FVoEq <- picks_FVoEq %>%
  arrange(desc(p_under_FVoEq))

picks_FVoEq <- slice(picks_FVoEq,1)

# takes all companys with a PB between 0 and 1.1

picks_fin <- Stocks[Stocks$PB < 1.1,]
picks_fin <- picks_fin[picks_fin$PB > 0,]

mean_PE <- mean(Stocks$PE)
picks_PE <- Stocks[Stocks$PE < mean_PE,]
picks_PE <- picks_PE[picks_PE$PE > 0,]

picks <- data.frame(picks_FVoEq)
picks <- bind_rows(picks, picks_fin, picks_PE)

picks <- picks %>% distinct()

picks <- picks[picks$PE < mean_PE,]

picks_fin <- subset(picks, is.na(picks$FVoEq))
picks_fin <- picks_fin[picks_fin$PB < 1.1,]

picks <- picks %>% drop_na()

picks <- bind_rows(picks, picks_fin)

rownames(picks)<- c(1:nrow(picks))
```