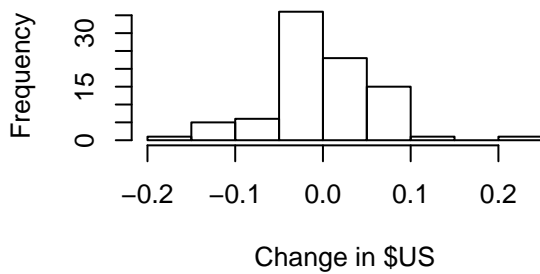


# Russell 3000 Changes

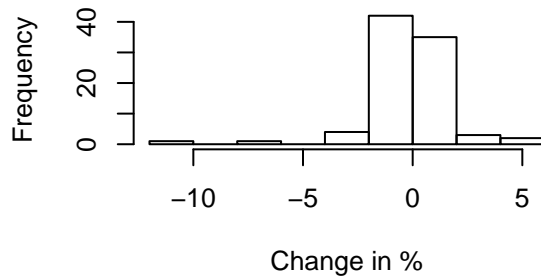
*Last name: Unger*  
*First name: Shawn*

## Deletion from Russell 3000

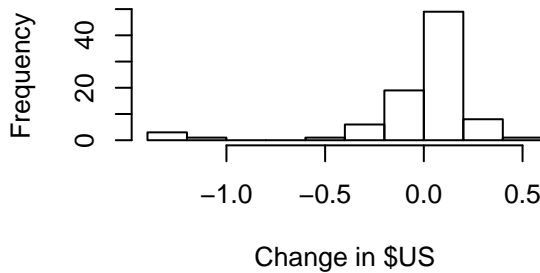
**Closing June 22 – Opening June 23**



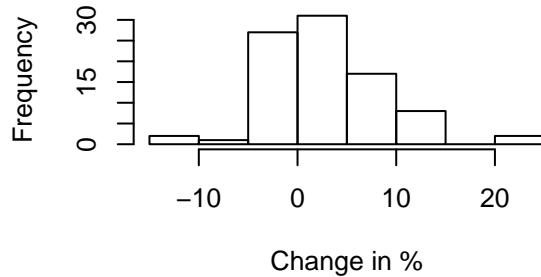
**Closing June 22 – Open June 23**



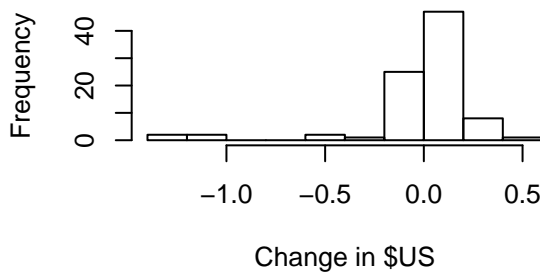
**Closing June 22 – Closing June 23**



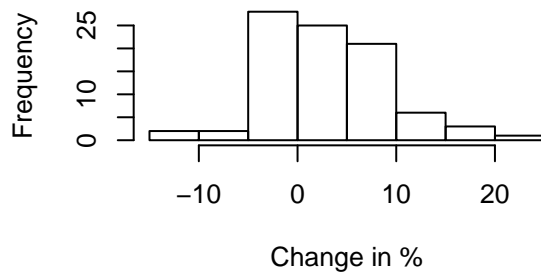
**Closing June 22 – Closing June 23**



**Opening June 23 – Closing June 23**



**Opening June 23 – Closing June 23**



Average Percentage Change in Price from Closing June 22 - Opening June 23:

## [1] -0.2099566

Average Percentage Change in Price from Open June 23 - Closing June 23:

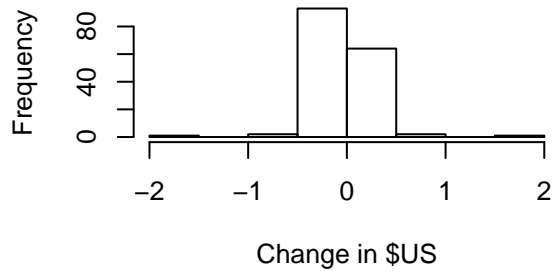
## [1] 3.273917

Average Percentage Change in Price from Closing June 22 - Closing June 23:

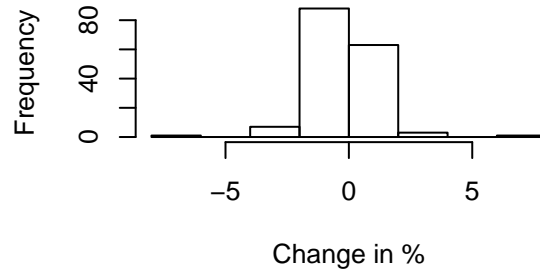
## [1] 3.111813

# Addition to Russell 3000

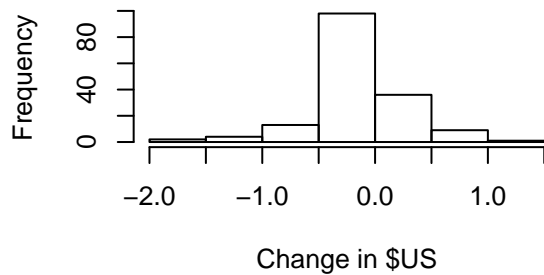
**Closing June 22 – Opening June 23**



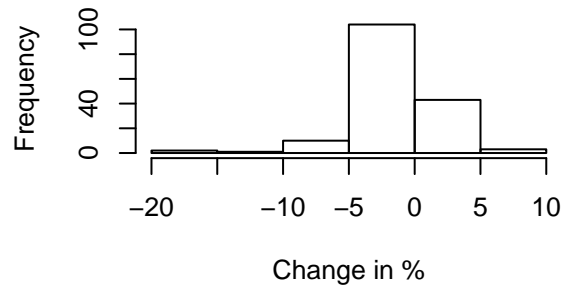
**Closing June 22 – Open June 23**



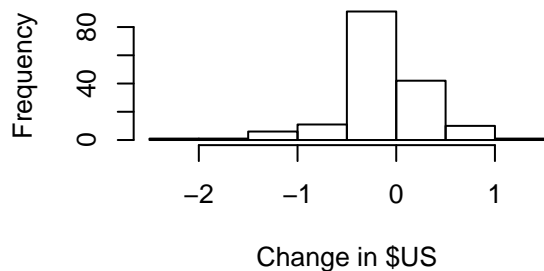
**Closing June 22 – Closing June 23**



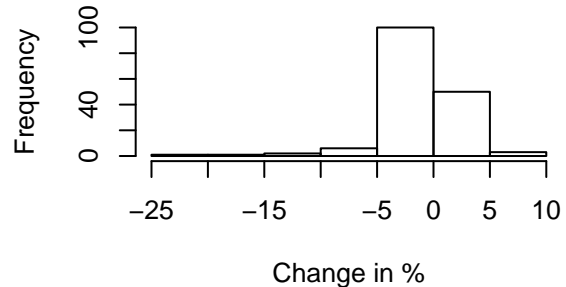
**Closing June 22 – Closing June 23**



**Opening June 23 – Closing June 23**



**Opening June 23 – Closing June 23**



Average Percentage Change in Price from Closing June 22 - Opening June 23:

```
## [1] -0.1353745
```

Average Percentage Change in Price from Open June 23 - Closing June 23:

```
## [1] -0.9816838
```

Average Percentage Change in Price from Closing June 22 - Closing June 23:

```
## [1] -1.113103
```

# Difference between Addition and Deletion

## T-test

Change between Closing June 22 and Opening June 23

```
##
## Welch Two Sample t-test
##
## data: a2$`Percent Change Overnight` and a$`Percent Change Overnight`
## t = 0.33379, df = 115.55, p-value = 0.7391
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## -0.3679926 0.5171568
## sample estimates:
## mean of x mean of y
## -0.1353745 -0.2099566
```

Change between Closing June 22-23

```
##
## Welch Two Sample t-test
##
## data: a2$`Percent Change since Close` and a$`Percent Change since Close`
## t = -6.5773, df = 126.28, p-value = 1.147e-09
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## -5.496075 -2.953756
## sample estimates:
## mean of x mean of y
## -1.113103 3.111813
```

Change between Opening June 23 and Closing June 23

```
##
## Welch Two Sample t-test
##
## data: a2$`Percent Change since Open` and a$`Percent Change since Open`
## t = -6.2625, df = 121.21, p-value = 5.977e-09
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## -5.600891 -2.910310
## sample estimates:
## mean of x mean of y
## -0.9816838 3.2739167
```

## Other Ideas

- Look at correlation of trading Volume and Percentage Change in price
- Look at correlation of trading Volume and Market Cap
- Look at correlation between exchange of security and trading Volume, Change in Price