

Funds analysis

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Initialize major providers

```
rawTable <- read.csv(filePath, header=TRUE, sep=",")
universe <- rawTable[!duplicated(rawTable[c('Name')]),]
MSCI <- universe %>% filter(grepl("MSCI",Primary.Prospectus.Benchmark))
FTSE <- universe %>% filter(grepl("FTSE",Primary.Prospectus.Benchmark))
STOXX <- universe %>% filter(grepl("STOXX",Primary.Prospectus.Benchmark))
SPDJ <- universe %>% filter(grepl("(S&P|Dow|DJ)",Primary.Prospectus.Benchmark))
MajorFour <- universe %>% filter(grepl("(S&P|Dow|MSCI|FTSE|STOXX)",Primary.Prospectus.Benchmark))
Other <- universe %>% filter(grepl("(S&P|Dow|DJ|MSCI|FTSE|STOXX)",Primary.Prospectus.Benchmark)==FALSE)

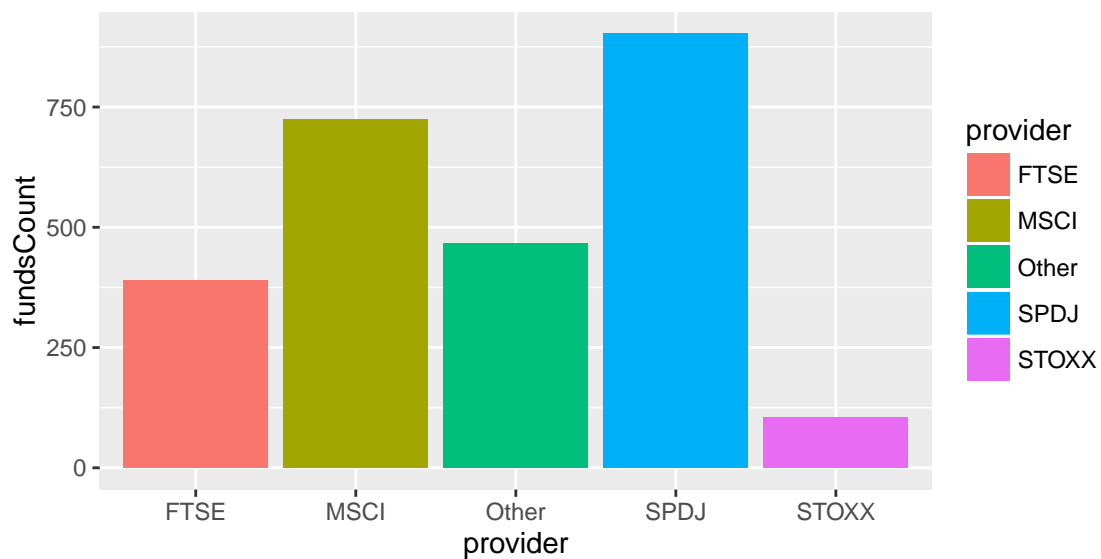
provider <- c("MSCI","FTSE","STOXX","SPDJ","Other")
fundsCount <- c(length(MSCI$Name),length(FTSE$Name),length(STOXX$Name),length(SPDJ$Name),length(Other$Name))
fundsPercent <- fundsCount/sum(fundsCount)
countTable <- data.frame(provider=provider, fundsCount=fundsCount, fundsPercent=fundsPercent)
```

Counts including other benchmark indexes

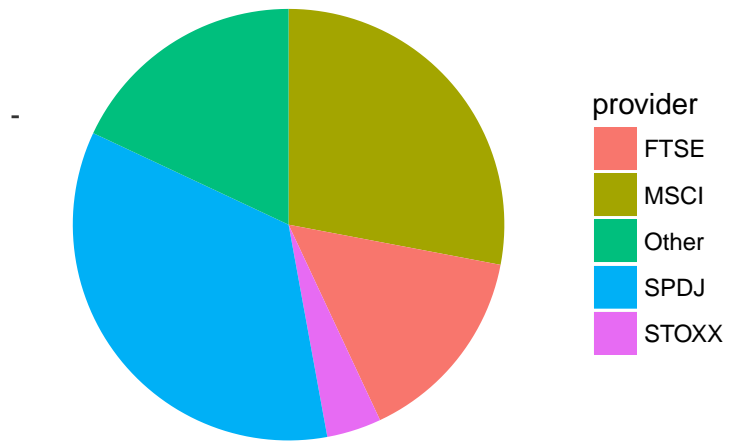
countTable

provider	fundsCount	fundsPercent
MSCI	725	0.2798147
FTSE	390	0.1505210
STOXX	106	0.0409108
SPDJ	903	0.3485141
Other	467	0.1802393

```
countTable %>%  
  ggplot(aes(x=provider, y=fundsCount, fill=provider)) +  
  geom_bar(stat="identity")
```



```
countTable %>%  
  ggplot(aes(x=factor(1), y=fundsPercent, fill=provider)) +  
  geom_bar(width=1, stat="identity") +  
  coord_polar(theta="y") +  
  theme(axis.text=element_blank(), axis.title=element_blank(), panel.background=element_blank())
```



Counts of 4 major providers, their percentage of total

```
countTableMajor <- filter(countTable, provider != "Other")
countTableMajor
```

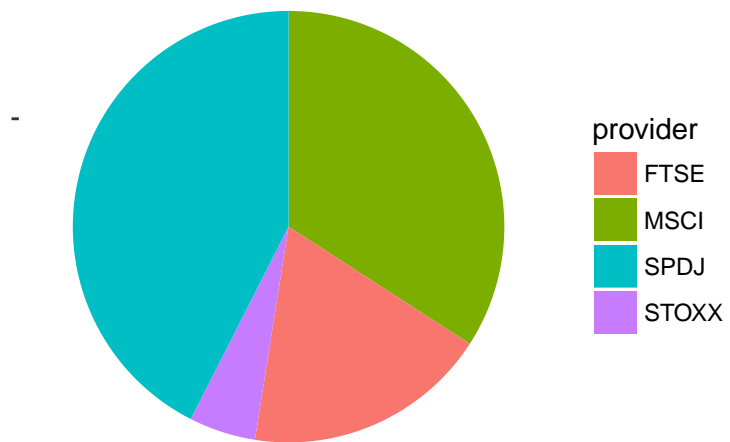
provider	fundsCount	fundsPercent
MSCI	725	0.2798147
FTSE	390	0.1505210
STOXX	106	0.0409108
SPDJ	903	0.3485141

Percentage of total: 0.8197607

```
countTableMajor %>%
  ggplot(aes(x=provider, y=fundsCount, fill=provider)) +
  geom_bar(stat="identity")
```



```
countTableMajor %>%
  ggplot(aes(x=factor(1), y=fundsPercent, fill=provider)) +
  geom_bar(width=1, stat="identity") +
  coord_polar(theta="y") +
  theme(axis.text=element_blank(), axis.title=element_blank(), panel.background=element_blank())
```



Initialize ESG index tracking funds

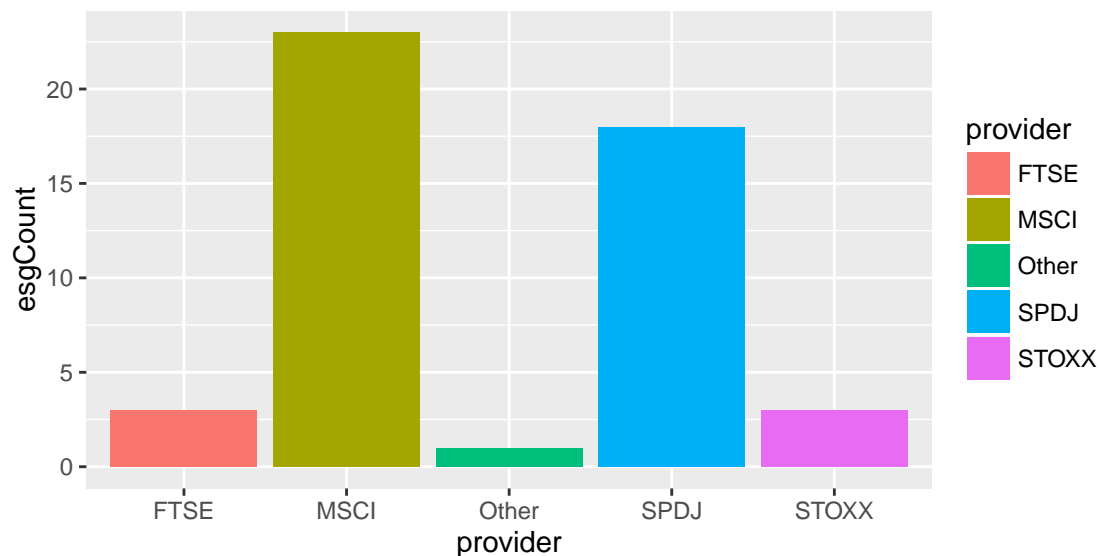
```
keywords = '(Sustain|ESG|Carbon|Climate|Enviro)'  
universesus <- universe %>% filter(grepl(keywords,Primary.Prospectus.Benchmark))  
MSCIsus <- MSCI %>% filter(grepl(keywords,Primary.Prospectus.Benchmark))  
FTSEsus <- FTSE %>% filter(grepl(keywords,Primary.Prospectus.Benchmark))  
STOXXsus <- STOXX %>% filter(grepl(keywords,Primary.Prospectus.Benchmark))  
SPDJsus <- SPDJ %>% filter(grepl(keywords,Primary.Prospectus.Benchmark))  
MajorFoursus <- MajorFour %>% filter(grepl(keywords,Primary.Prospectus.Benchmark))  
Othersus <- Other %>% filter(grepl(keywords,Primary.Prospectus.Benchmark))  
  
esgCount <- c(length(MSCIsus$Name),length(FTSEsus$Name),length(STOXXsus$Name),length(SPDJsus$Name),length(MajorFoursus$Name),length(Othersus$Name))  
esgPercent <- esgCount/sum(esgCount)  
esgTable <- data.frame(provider=provider, fundsCount=fundsCount, fundsPercent=fundsPercent, esgCount=esgCount, esgPercent=esgPercent)
```

Provider ESG index count

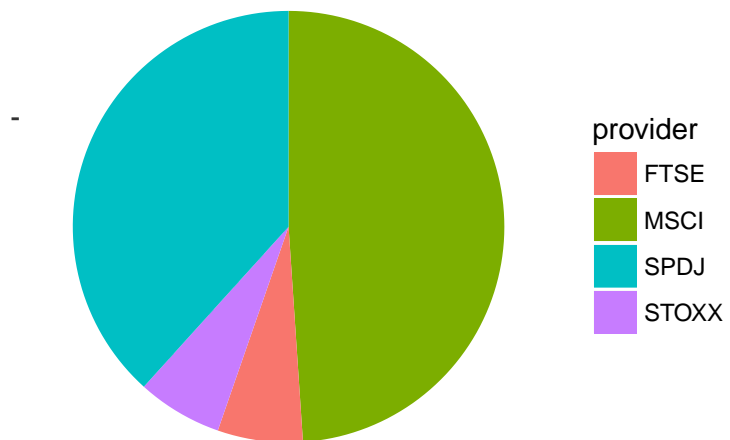
esgTable

provider	fundsCount	fundsPercent	esgCount	esgPercent	esgRatio
MSCI	725	0.2798147	23	0.4791667	0.0317241
FTSE	390	0.1505210	3	0.0625000	0.0076923
STOXX	106	0.0409108	3	0.0625000	0.0283019
SPDJ	903	0.3485141	18	0.3750000	0.0199336
Other	467	0.1802393	1	0.0208333	0.0021413

```
esgTable %>%  
  ggplot(aes(x=provider, y=esgCount, fill=provider)) +  
  geom_bar(stat="identity")
```



```
esgTable %>%  
  filter(provider != 'Other') %>%  
  ggplot(aes(x=factor(1), y=esgPercent, fill=provider)) +  
  geom_bar(width=1, stat="identity") +  
  coord_polar(theta="y") +  
  theme(axis.text=element_blank(), axis.title=element_blank(), panel.background=element_blank())
```



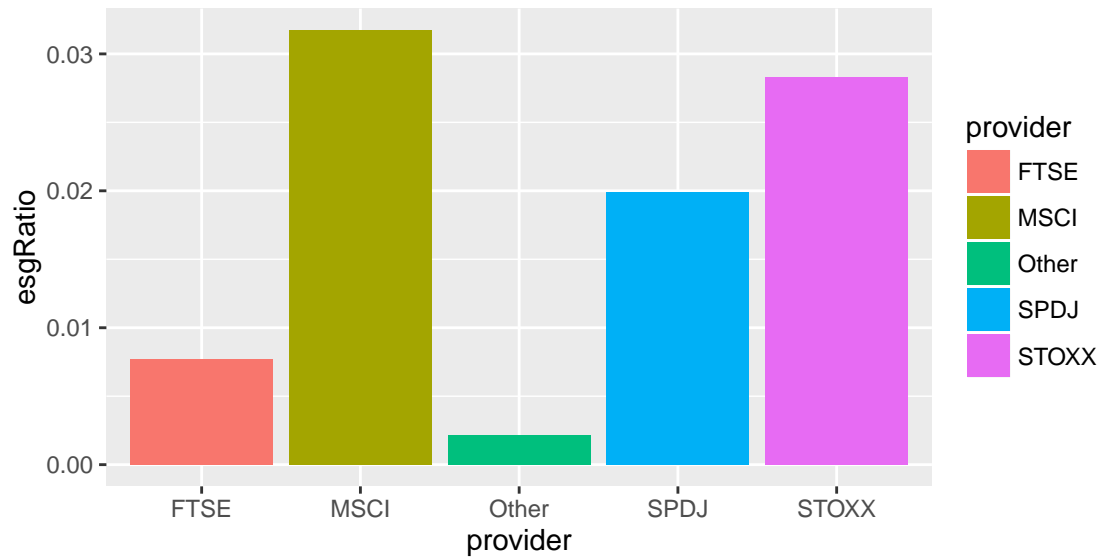
ESG index tracking fund ratio

total tracking ESG count: 48

total funds count: 2591

percentage of total: 0.0185257

```
esgTable %>%  
  ggplot(aes(x=provider, y=esgRatio, fill=provider)) +  
  geom_bar(stat="identity")
```



BlackRock choice

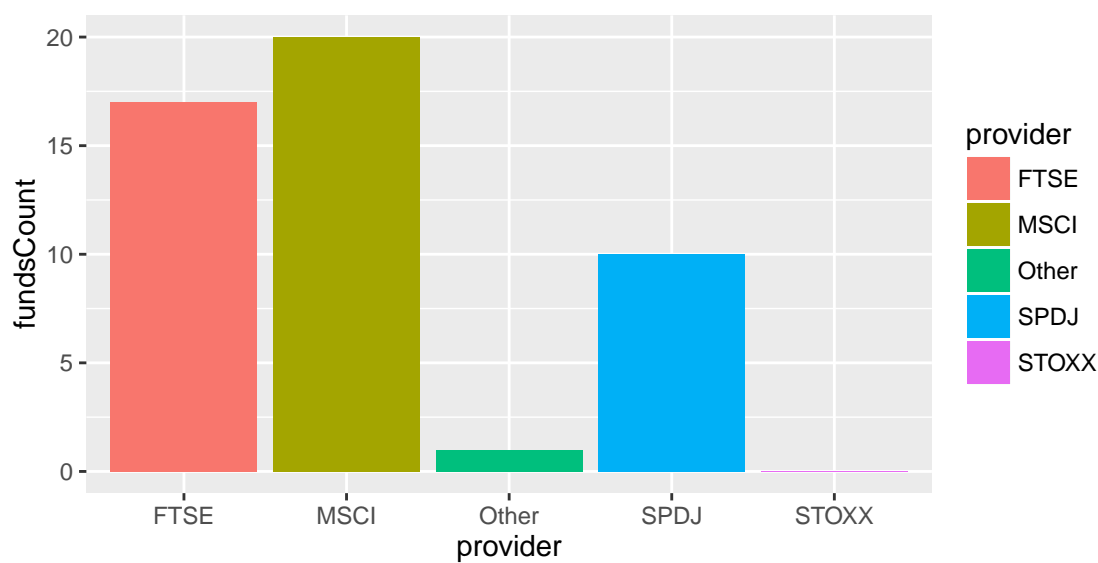
```
institutionChoice <- function(companyKeyWords, universe) {
  companyUniverse <- universe %>% filter(grepl(companyKeyWords, Name))
  MSCI <- companyUniverse %>% filter(grepl("MSCI",Primary.Prospectus.Benchmark))
  FTSE <- companyUniverse %>% filter(grepl("FTSE",Primary.Prospectus.Benchmark))
  STOXX <- companyUniverse %>% filter(grepl("STOXX",Primary.Prospectus.Benchmark))
  SPDJ <- companyUniverse %>% filter(grepl("(S&P|Dow|DJ)",Primary.Prospectus.Benchmark))
  MajorFour <- companyUniverse %>% filter(grepl("(S&P|Dow|MSCI|FTSE|STOXX)",Primary.Prospectus.Benchmark))
  Other <- companyUniverse %>% filter(grepl("(S&P|Dow|DJ|MSCI|FTSE|STOXX)",Primary.Prospectus.Benchmark))

  provider <- c("MSCI","FTSE","STOXX","SPDJ","Other")
  fundsCount <- c(length(MSCI$Name),length(FTSE$Name),length(STOXX$Name),length(SPDJ$Name),length(Other$Name))
  fundsPercent <- fundsCount/sum(fundsCount)
  countTable <- data.frame(provider=provider, fundsCount=fundsCount, fundsPercent=fundsPercent)
}

blackrockTable <- institutionChoice('(iShare|BlackRock|BLK|Blackrock)', universe)
blackrockTable
```

provider	fundsCount	fundsPercent
MSCI	20	0.4166667
FTSE	17	0.3541667
STOXX	0	0.0000000
SPDJ	10	0.2083333
Other	1	0.0208333

```
blackrockTable %>%
  ggplot(aes(x=provider, y=fundsCount, fill=provider)) +
  geom_bar(stat="identity")
```

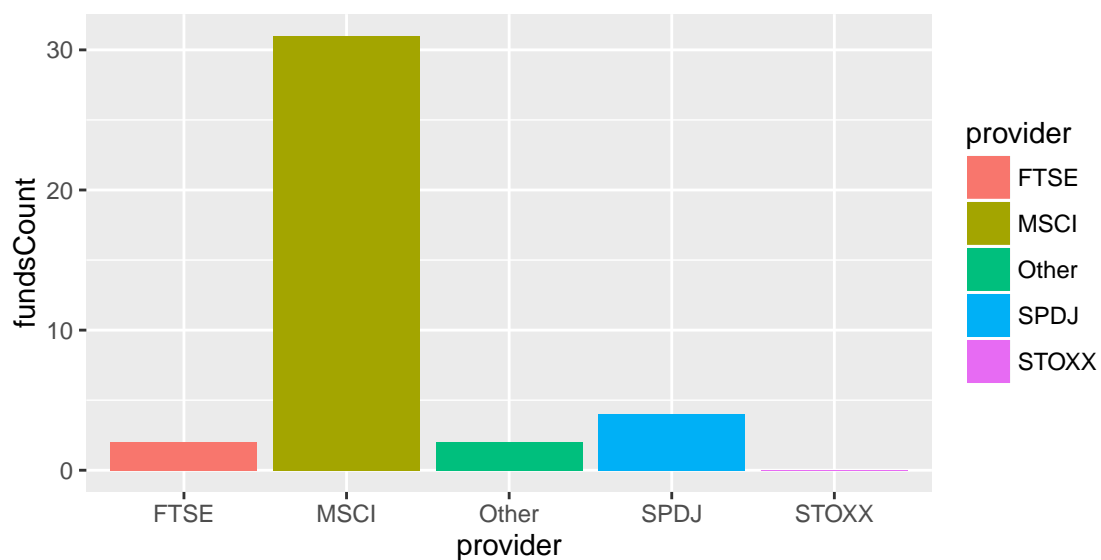


ETF choice

```
etfTable <- institutionChoice('ETF', universe)
etfTable
```

provider	fundsCount	fundsPercent
MSCI	31	0.7948718
FTSE	2	0.0512821
STOXX	0	0.0000000
SPDJ	4	0.1025641
Other	2	0.0512821

```
etfTable %>%
  ggplot(aes(x=provider, y=fundsCount, fill=provider)) +
  geom_bar(stat="identity")
```

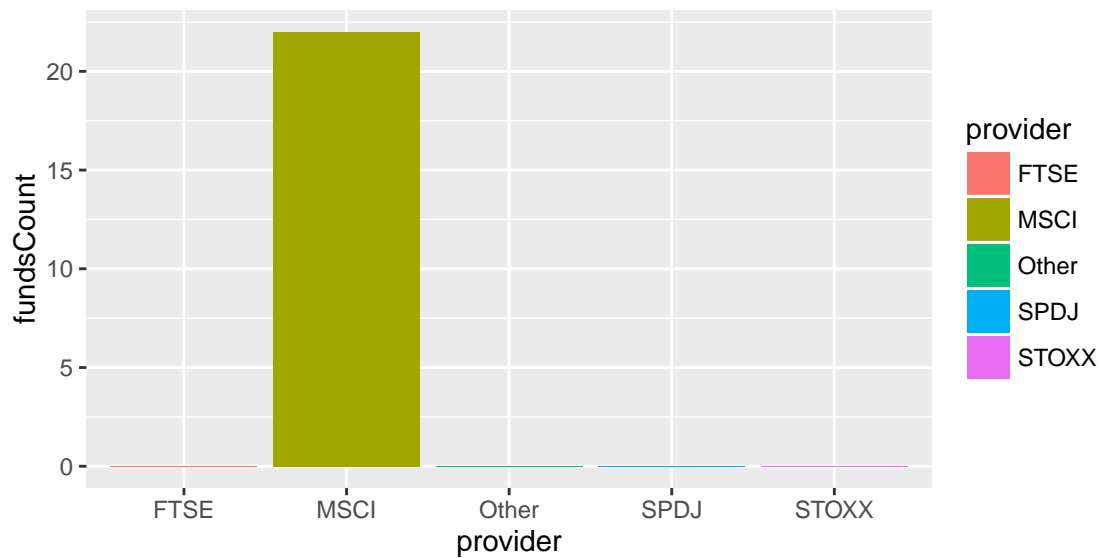


UBS choice

```
ubsTable <- institutionChoice('UBS', universe)
ubsTable
```

provider	fundsCount	fundsPercent
MSCI	22	1
FTSE	0	0
STOXX	0	0
SPDJ	0	0
Other	0	0

```
ubsTable %>%
  ggplot(aes(x=provider, y=fundsCount, fill=provider)) +
  geom_bar(stat="identity")
```

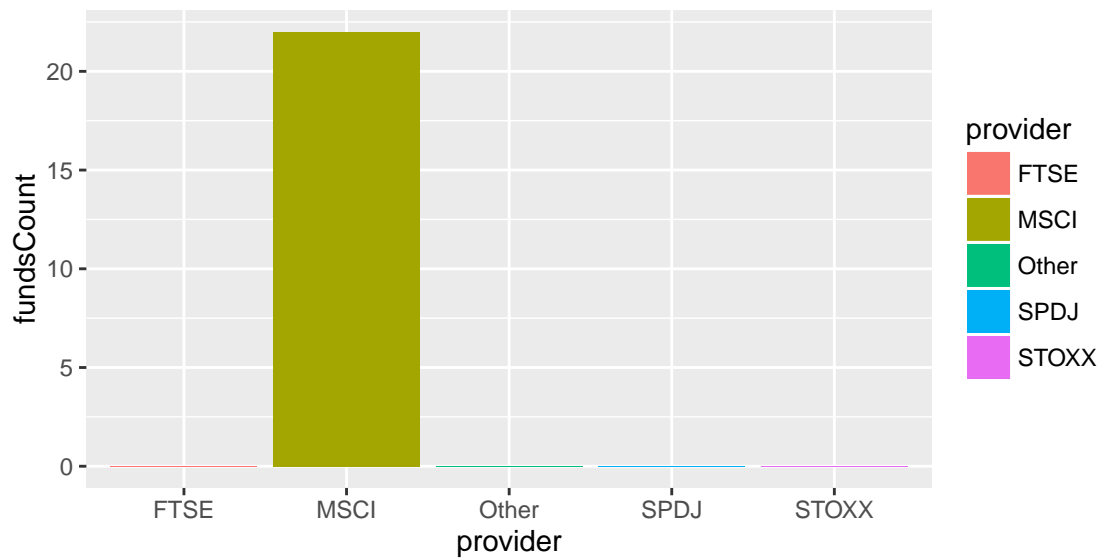


HSBC choice

```
hsbcTable <- institutionChoice('UBS', universe)
hsbcTable
```

provider	fundsCount	fundsPercent
MSCI	22	1
FTSE	0	0
STOXX	0	0
SPDJ	0	0
Other	0	0

```
hsbcTable %>%
  ggplot(aes(x=provider, y=fundsCount, fill=provider)) +
  geom_bar(stat="identity")
```

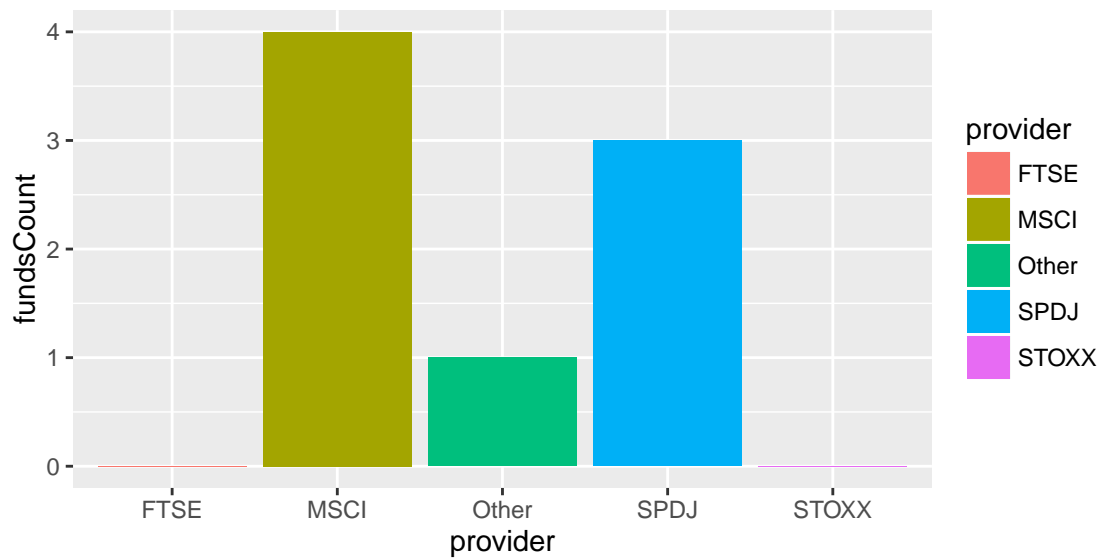


Fidelity choice

```
fdTable <- institutionChoice('Fidelity', universe)
fdTable
```

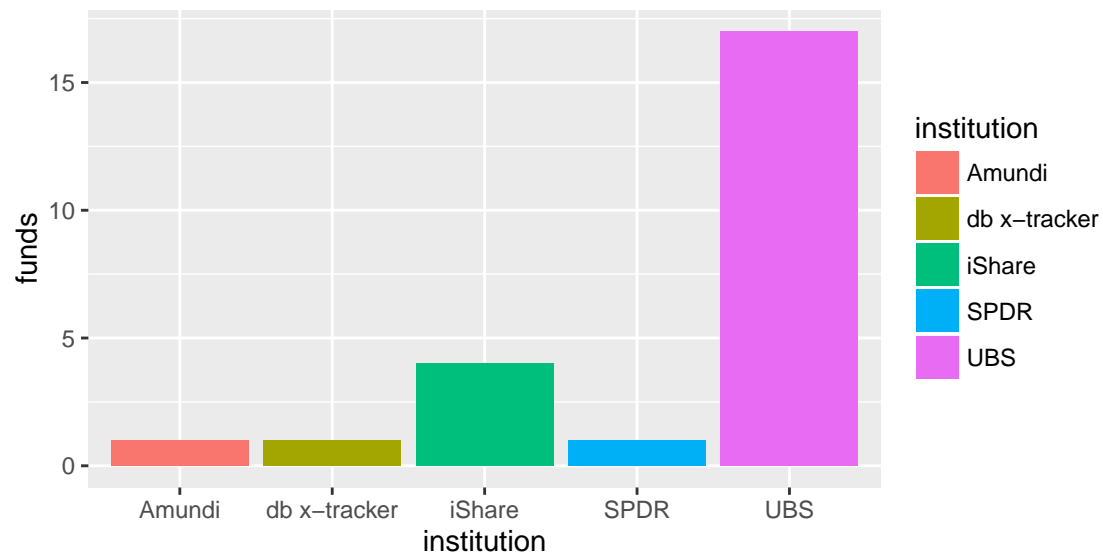
provider	fundsCount	fundsPercent
MSCI	4	0.500
FTSE	0	0.000
STOXX	0	0.000
SPDJ	3	0.375
Other	1	0.125

```
fdTable %>%
  ggplot(aes(x=provider, y=fundsCount, fill=provider)) +
  geom_bar(stat="identity")
```



MSCI ESG index tracking funds

```
institution <- c("UBS", "iShare", "SPDR", "Amundi", "db x-tracker")
mscifunds <- c(17, 4, 1, 1, 1)
MSCIesg <- data.frame(institution=institution, funds=mscifunds)
MSCIesg %>%
  ggplot(aes(x=institution, y=funds, fill=institution)) +
  geom_bar(stat="identity")
```



Some conclusions drawn from these plots:

- lots of ESG funds prefer to track a parent index instead of a ESG index, because it shows better performance and they are not limited to the methodology for choosing stocks. eg. HSBC
- the amount of ESG index tracking funds is only a very tiny portion of the overall universe, further strengthen the last point
- Most passive funds tracks a ESG index, most active funds tracks the parent index
- Most popular should be MSCI and SPDJ. Some of my thoughts: MSCI uses independent research and have a very mature ESG rating and index construction scheme, SPDJ is used more by having various rating schemes to satisfy all sort of needs
- ...