

Question 6

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```
# this was not working  
#msci<- msci%>% filter(Name %in% c("MSCI_ACWI", "MSCI_USA", "MSCI_RE", "MSCI_Jap"))
```

#Introduction

This section is above portfolio construction. Here we had to build a balanced fund using the following criteria:

- Long-only strategy
- When using covariance and mean forecasts, use a look-back of less than 3 years;
- Do not hold any assets with less than 3 years' returns data;
- Apply Quarterly Re balancing;
- Limit exposure to Bonds and credit instruments at 25%;
- Limit exposure to Equities at 60%;
- Limit single asset exposure at 40

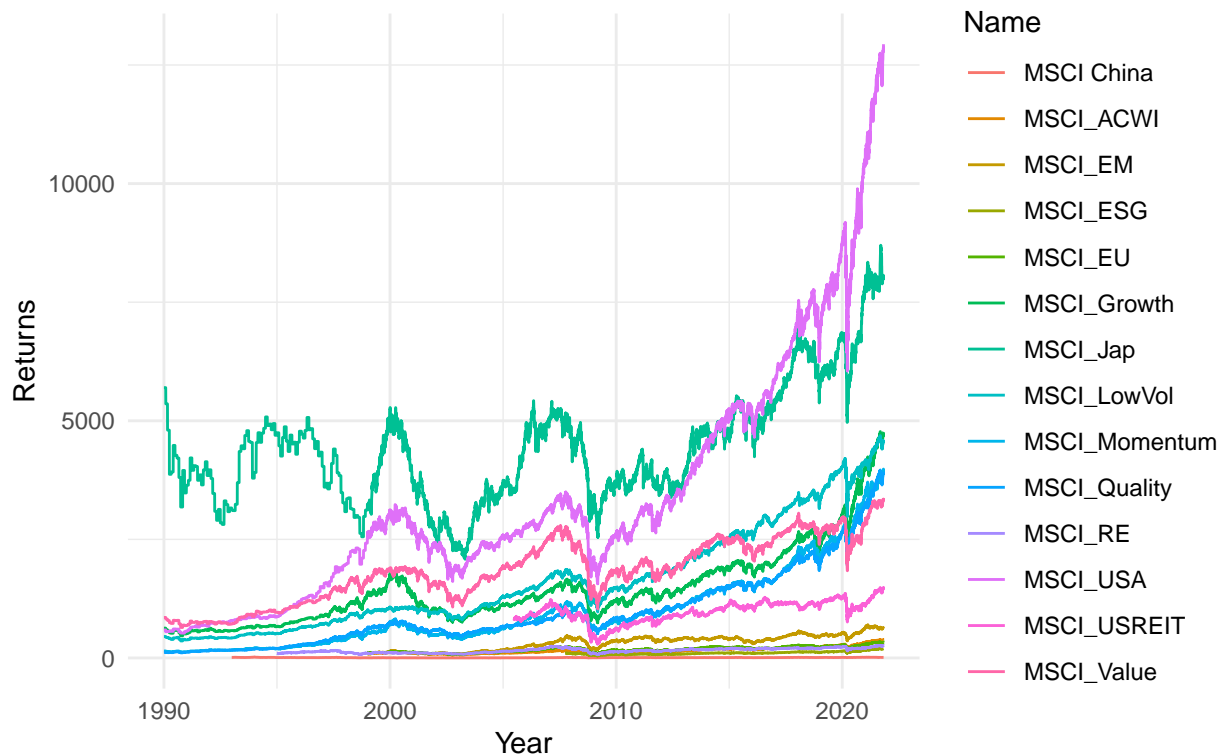
```
#use the esquisse::esquisser(msci) visualise.
```

```
library(ggplot2)
```

```
ggplot(msci) +  
  aes(x = date, y = Price, colour = Name) +  
  geom_line(size = 0.5) +  
  scale_color_hue(direction = 1) +  
  labs(x = "Year", y = "Returns", title = "MSCI indexes", subtitle = "MSCI Return series") +  
  theme_minimal()
```

MSCI indexes

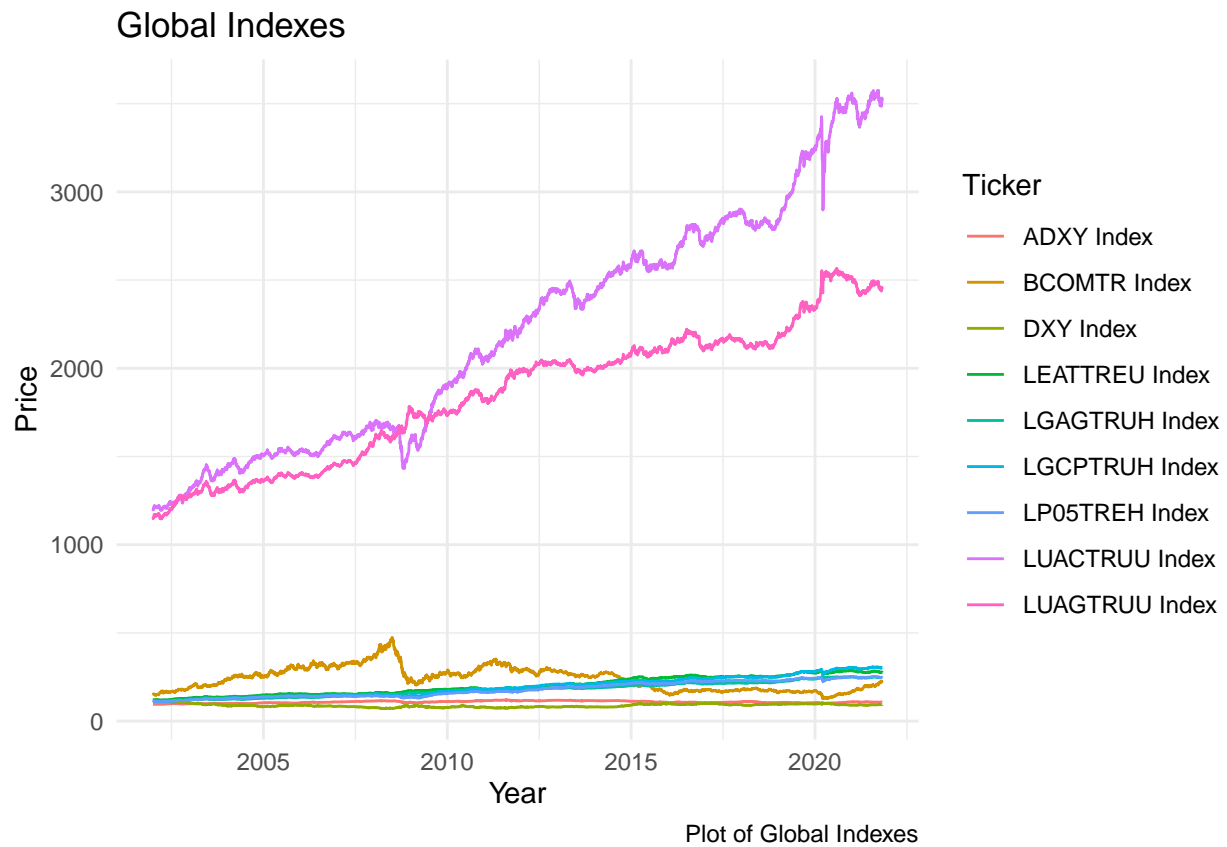
MSCI Return series



#use the `esquisse::esquisser(MAA)` visualise.

```
library(ggplot2)
```

```
ggplot(MAA) +  
  aes(x = date, y = Price, colour = Ticker) +  
  geom_line(size = 0.5) +  
  scale_color_hue(direction = 1) +  
  labs(x = "Year", y = "Price", title = "Global Indexes", caption = "Plot of Global Indexes") +  
  theme_minimal()
```



Lets combine these data sets and try some portfolio construction

```
#colnames(msci)[2] <- "Ticker"
#dataset <- rbind(MAA, msci)
```