```
link='https://github.com/SamHenkels47/samhenkels2/raw/main/dataproject2.xlsx'
mydata=rio::import(link)
mydata
```

```
##                          Description  ten fifteen twenty
## 1 Computer And Electronic Products 7767    8966  12176
## 2      Machinery, Except Electrical 1509    2515   3444
## 3            Transportation Equipment  826    1176   1594
## 4              Agricultural Products 2295    1627   1825
## 5                          Chemicals 1392    1671   2015
## 6                   Other Industries 3891    4100   3817
```

```
library(reshape2)
```

```
melt(mydata,id.vars="Description")
```

```
##                          Description variable value
## 1  Computer And Electronic Products      ten  7767
## 2       Machinery, Except Electrical      ten  1509
## 3            Transportation Equipment      ten   826
## 4              Agricultural Products      ten  2295
## 5                          Chemicals      ten  1392
## 6                   Other Industries      ten  3891
## 7  Computer And Electronic Products   fifteen  8966
## 8       Machinery, Except Electrical   fifteen  2515
## 9            Transportation Equipment   fifteen  1176
## 10             Agricultural Products   fifteen  1627
## 11                         Chemicals   fifteen  1671
## 12                  Other Industries   fifteen  4100
## 13 Computer And Electronic Products    twenty 12176
## 14      Machinery, Except Electrical    twenty  3444
## 15           Transportation Equipment    twenty  1594
## 16             Agricultural Products    twenty  1825
## 17                         Chemicals    twenty  2015
## 18                  Other Industries    twenty  3817
```

```
mydataLong=melt(mydata,id.vars="Description")
names(mydataLong)[2]="year" #renaming second name
# year as an ordinal factor!
mydataLong$year=factor(mydataLong$year,
                  levels = c("ten","fifteen","twenty"),
                  ordered = TRUE)
```

Now to ggplot!

```
library(ggplot2)
base=ggplot(data=mydataLong,
          aes(x=year,
              y=value,
              fill=Description))+ scale_x_discrete(labels = c('2010','2015','2020'))
base + geom_bar(stat="identity")
```
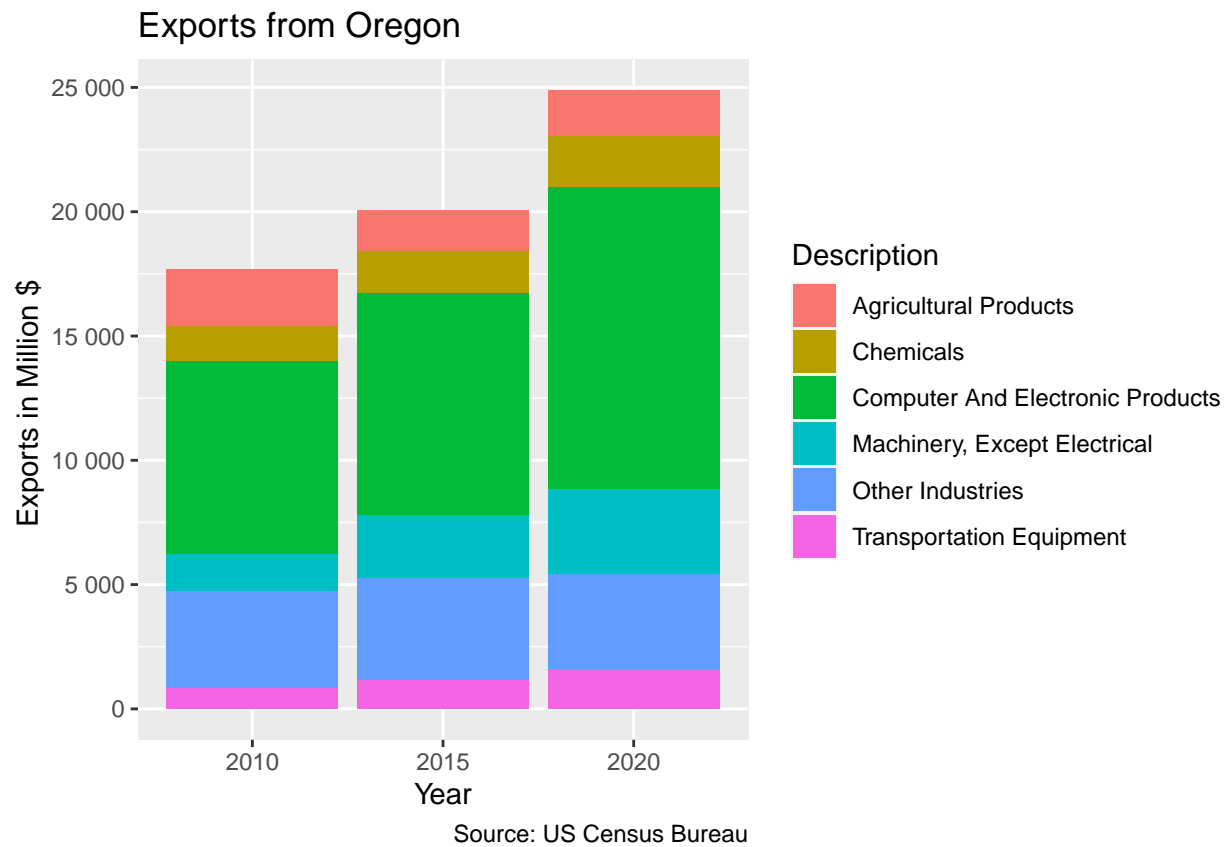
just in case:

```
plot1=base + geom_bar(stat="identity") +
    scale_y_continuous(labels = scales::number) # requires library "scales"
```
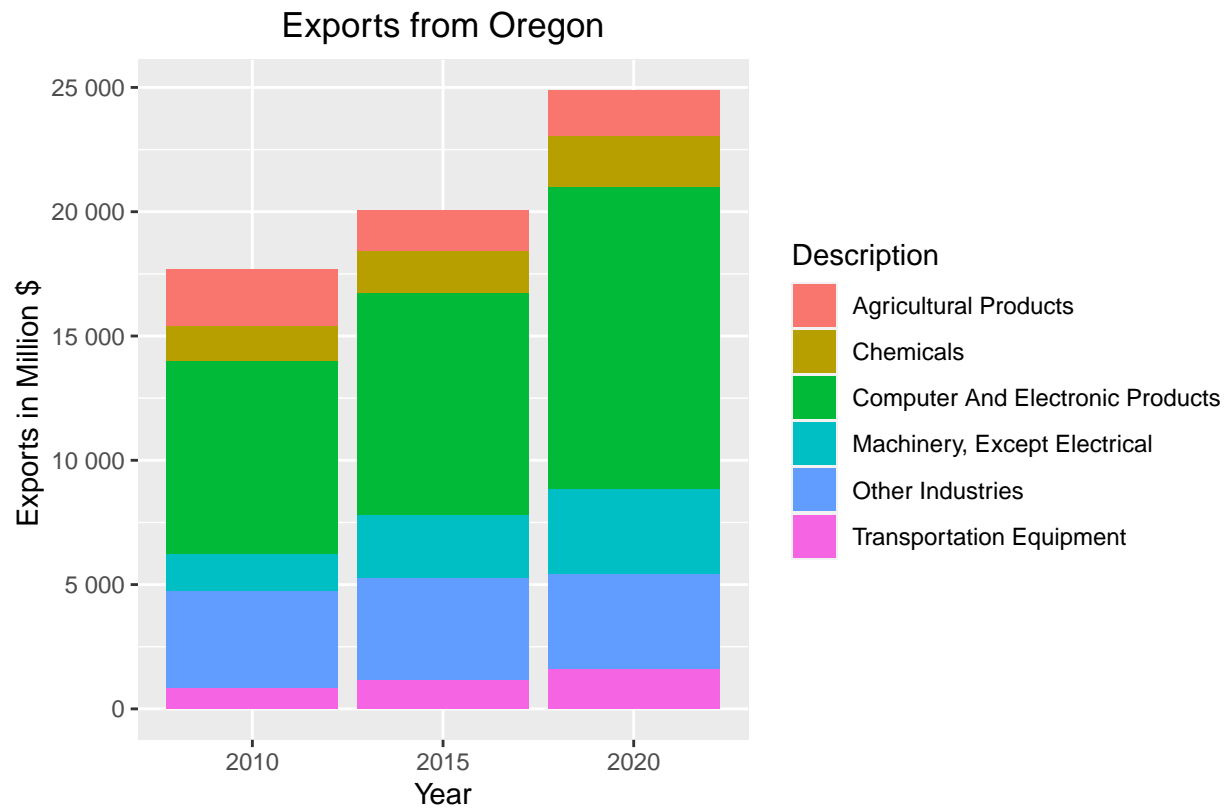
```
titleText='Exports from Oregon'
sourceText='Source: US Census Bureau'
descriptionText='Export Clasification'

plot2 = plot1 + labs(title=titleText,
                     x ="Year",
                     y = "Exports in Million $ ",
                     caption = sourceText)

plot2
```

Exports from Oregon

Source: US Census Bureau

```
plot3 = plot2 + theme(plot.caption = element_text(hjust = 0),
                      plot.title = element_text(hjust = 0.5))
plot3
```
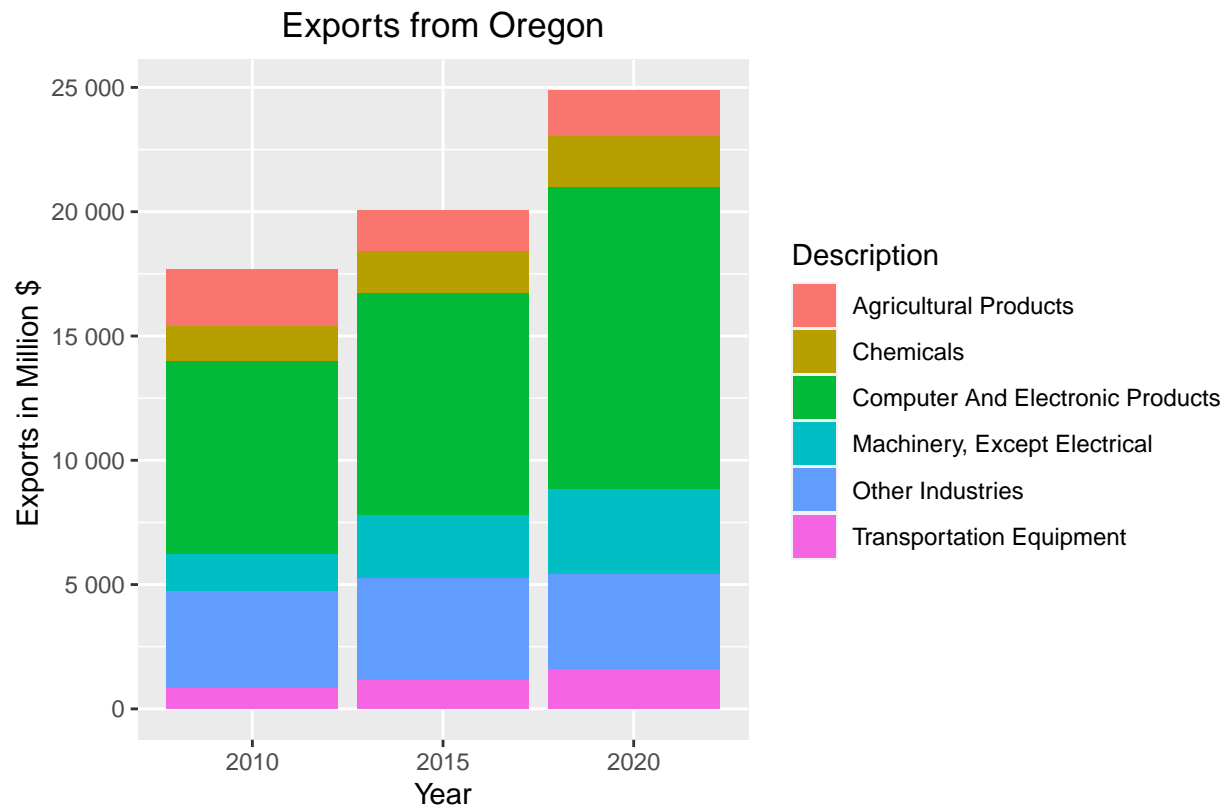
Exports from Oregon

Source: US Census Bureau
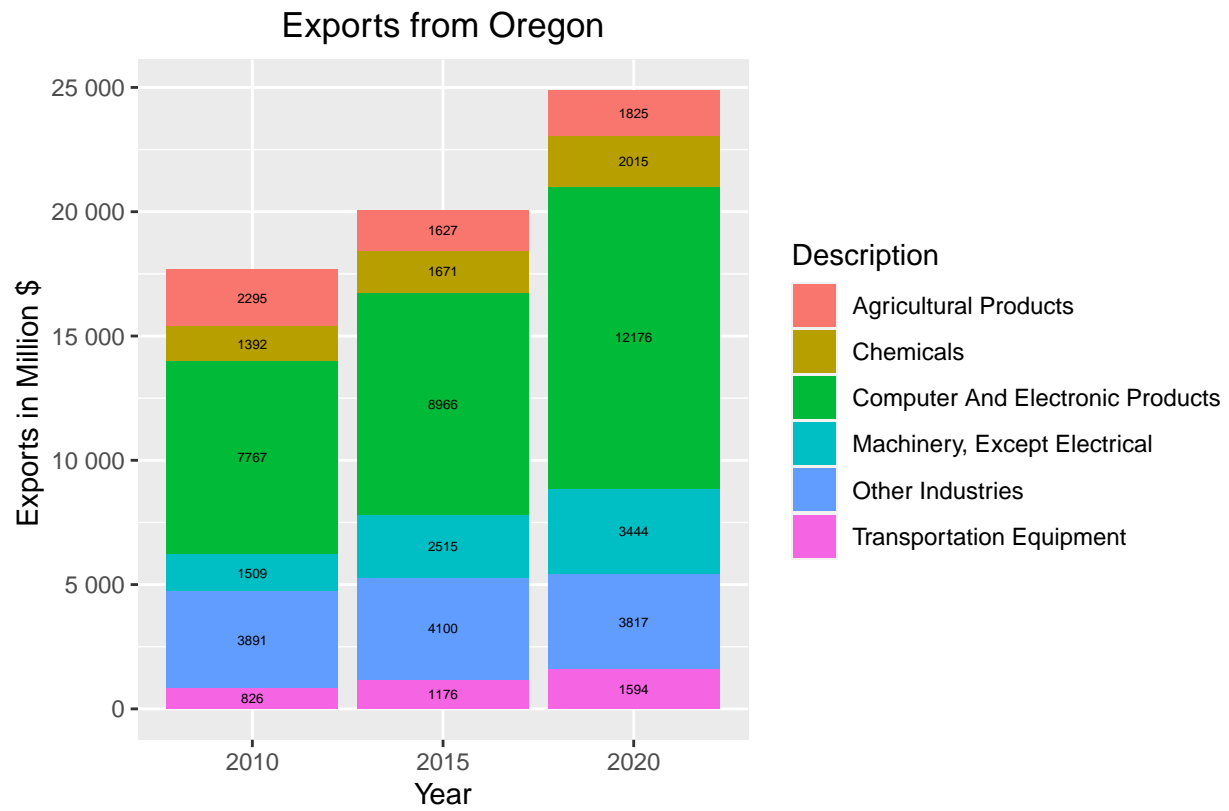
```
plot4 = plot3 + scale_x_discrete("Year", labels = c ("ten" = "2010","fifteen"= "2015", "twenty" = "2020
```

```
## Scale for 'x' is already present. Adding another scale for 'x', which will
## replace the existing scale.
```

```
plot4
```

Exports from Oregon

Source: US Census Bureau

```
plot5 = plot4 +  geom_text(aes(label = value),position = position_stack(vjust = 0.5,), size = 1.6)

plot5
```

Exports from Oregon

Source: US Census Bureau

```
saveRDS(plot5,file = 'chart2.rds')
saveRDS(plot5,file='chart2.rds')
```