DATA ON JOBS IN INDIA

Data from: ***world bank***

LINK: https://databank.worldbank.org/source/jobs#

The Republic of India is one of the world's largest countries, with a yearly average population growth of one percent. The unemployment in developing countries like India is of quite different nature. The main cause of unemployment and underemployment prevailing in the developing countries such as India is deficiency of the stock of physical capital with which to employ the growing labour force. Due to the lack of physical capital, it has not been possible to absorb the growing labour force in productive employment.

** ADR-Age Dependency Ratio (% of working-age population)

CPI-Consumer Price Index (2010 = 100)

EXP- Exports of goods and services (% of GDP)

GDP- GDP growth (annual %)

UNP- Unemployment, total (% of total labour force)

URB- Urban population (% of total)

#R Assignment 3

#Topic:Data_Extract_From_Jobs

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#Submitted to-Dr.Devesh Birwal

```
install.packages("ggplot2")
library(ggplot2)
install.packages("gridExtra")
library(gridExtra)
install.packages("readxl")
library(readxl)
install.packages("dplR")
library(dplyr)
```

```
install.packages("xlsx")
library(xlsx)

Jobs<-read_excel('C:/Users/91870/Documents/Akshita Negi/CODING/Data_Extract_From_Jobs.xlsx')

View(Jobs)
attach(Jobs)
summary(Jobs)
```

YEARS	ADR	CPI	EXP	GDP	UNP	URB
Min. :1995	Min. :52.19	Min. : 37.62	Min. :10.96	Min. : 3.841	Min. :3.490	Min. :26.61
1st Qu.:2000	1st Qu.:56.26	1st Qu.: 54.16	1st Qu.:13.13	1st Qu.: 7.574	1st Qu.:3.540	1st Qu.:27.67
Median :2005	Median :60.14	Median : 65.83	Median :19.82	Median : 8.154	Median :3.716	Median :29.23
Mean :2005	Mean :60.30	Mean : 81.06	Mean :17.27	Mean : 7.823	Mean :3.892	Mean :29.44
3rd Qu.:2010	3rd Qu.:64.30	3rd Qu.:100.00	3rd Qu.:19.82	3rd Qu.: 9.285	3rd Qu.:4.317	3rd Qu.:30.93
Max. :2015	Max. :68.61	Max. :147.67	Max. :22.59	Max. :10.260	Max. :4.396	Max. :32.78

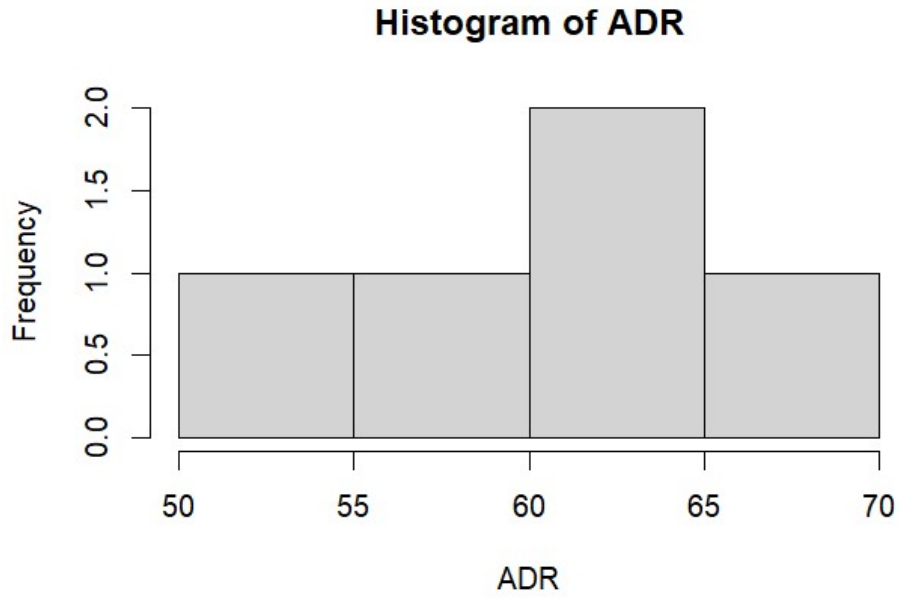
```
df<- as.data.frame(Jobs)
Jobs$ADR
Jobs$CPI
Jobs$EXP
Jobs$GDP
Jobs$UNP
Jobs$URB

#########################################################
mean(ADR)   [1] 60.299
```

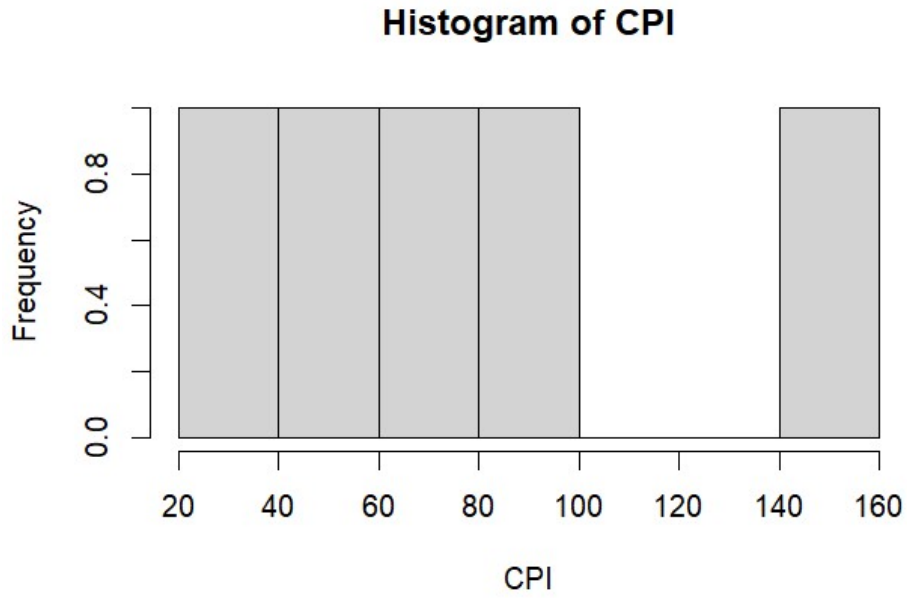
```
mean(CPI)     [1] 81.05583
mean(EXP)     [1] 17.26618
mean(GDP)     [1] 7.822939
mean(UNP)     [1] 3.8918
mean(URB)     [1] 29.4432
dim(Jobs)     [1] 5 7
ncol(Jobs)    [1] 7
colnames(Jobs) [1] "YEARS" "ADR"   "CPI"   "EXP"   "GDP"   "UNP"   "URB"
str(jobs)
```

```
tibble [5 x 7] (S3: tbl_df/tbl/data.frame)
 $ YEARS: num [1:5] 1995 2000 2005 2010 2015
 $ ADR  : num [1:5] 68.6 64.3 60.1 56.3 52.2
 $ CPI  : num [1:5] 37.6 54.2 65.8 100 147.7
 $ EXP  : num [1:5] 11 13.1 19.8 22.6 19.8
 $ GDP  : num [1:5] 7.57 3.84 9.28 10.26 8.15
 $ UNP  : num [1:5] 3.72 4.32 4.4 3.54 3.49
 $ URB  : num [1:5] 26.6 27.7 29.2 30.9 32.8
```

```
#histogram
hist(ADR)
```

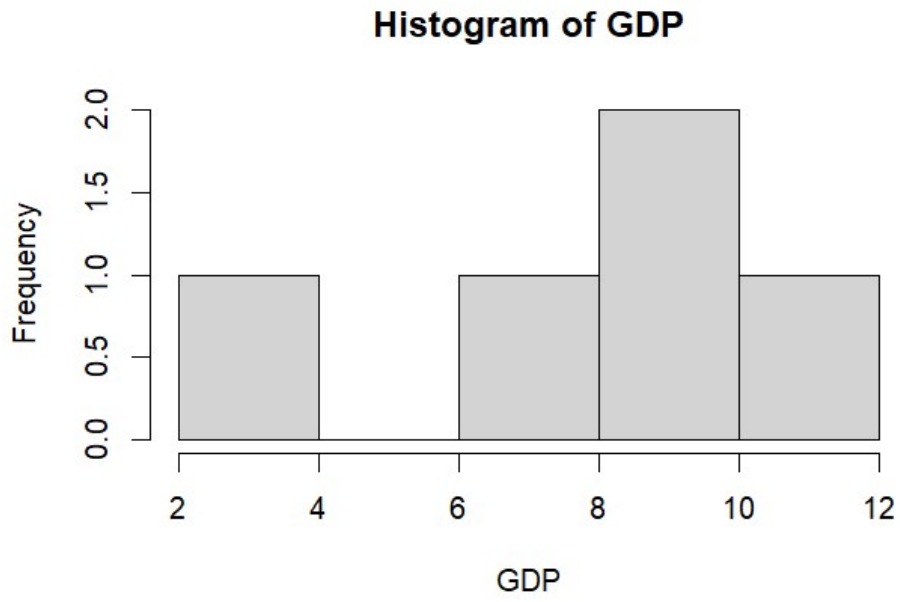


hist(CPI)



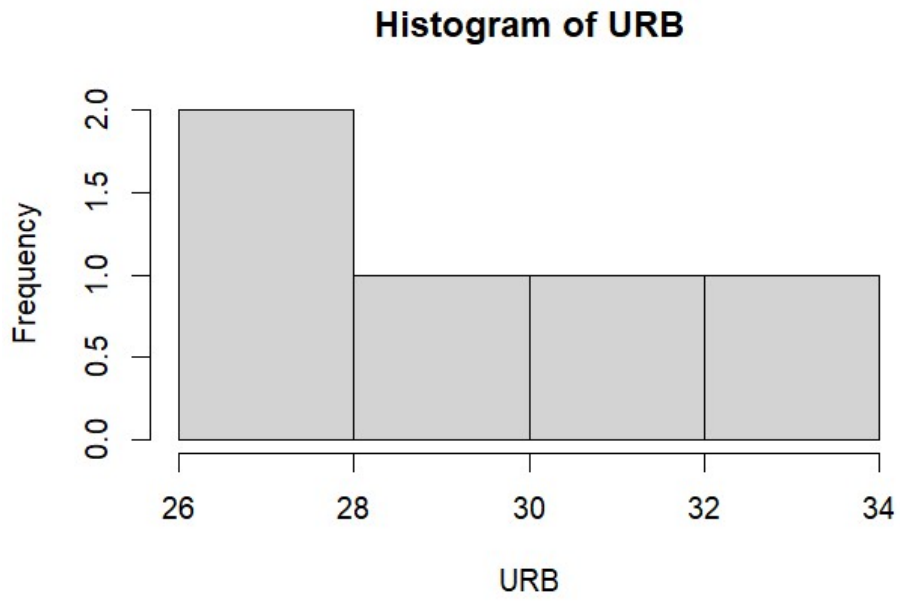
hist(EXP)

hist(GDP)



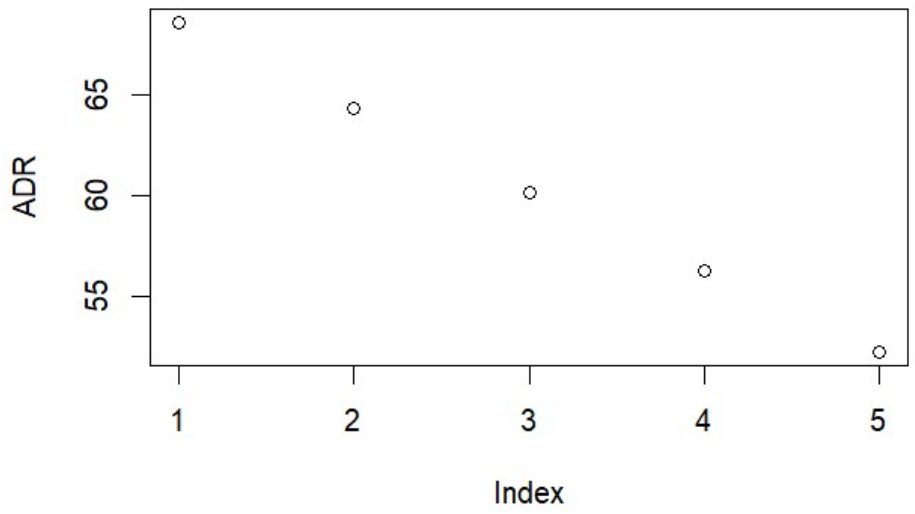
hist(UNP)

hist(URB)

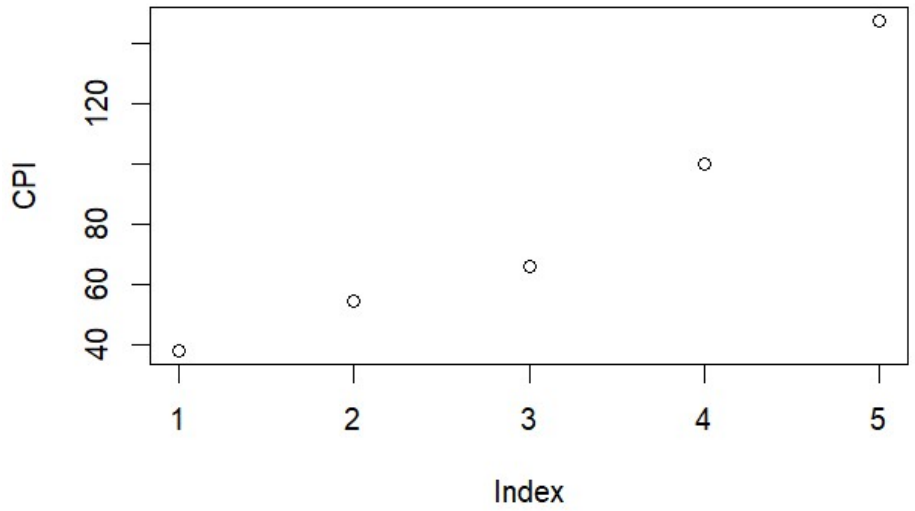


basic one dimensional plots

plot(ADR)



plot(CPI)



plot(EXP)

plot(GDP)

plot(UNP)

plot(URB)

df$YEARS<- as.factor(df$YEARS)

df$ADR<- as.numeric(df$ADR)

df$BR <- as.numeric(df$CPI)

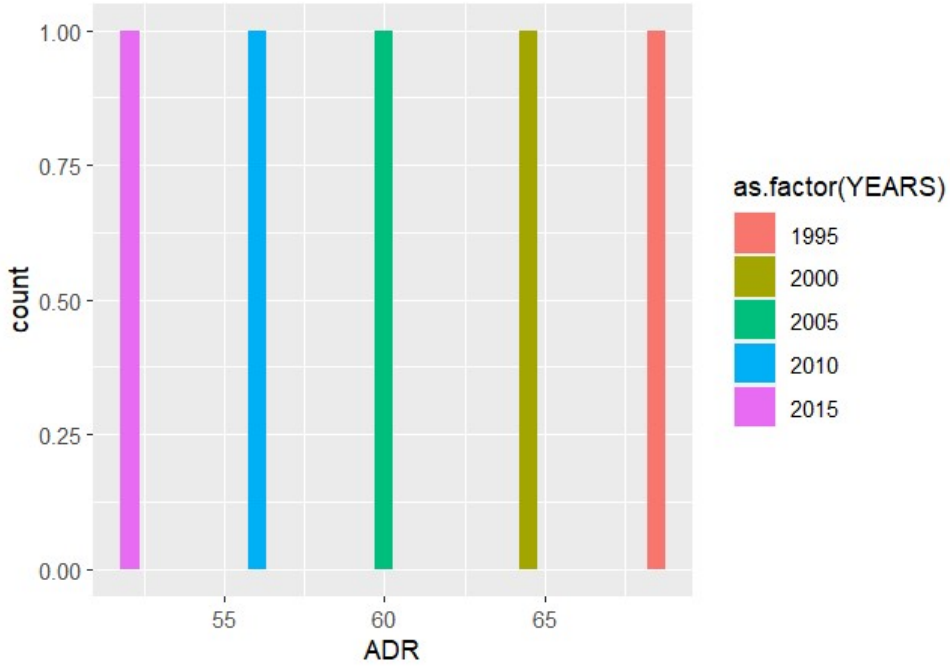
df$CHE <- as.numeric(df$EXP)

df$DR <- as.numeric(df$GDP)

df$HCI<- as.numeric(df$UNP)

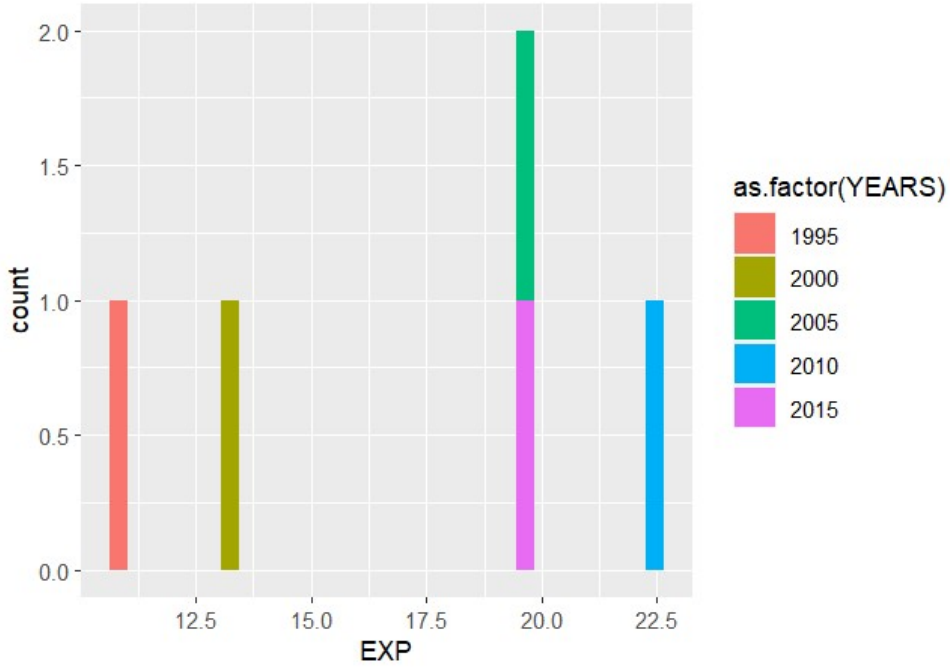
###ggplot2- data+aesthetics+ geometric expressions

ggplot(Jobs,aes(x=ADR,fill=as.factor(YEARS)))+geom_histogram(bins = 30)

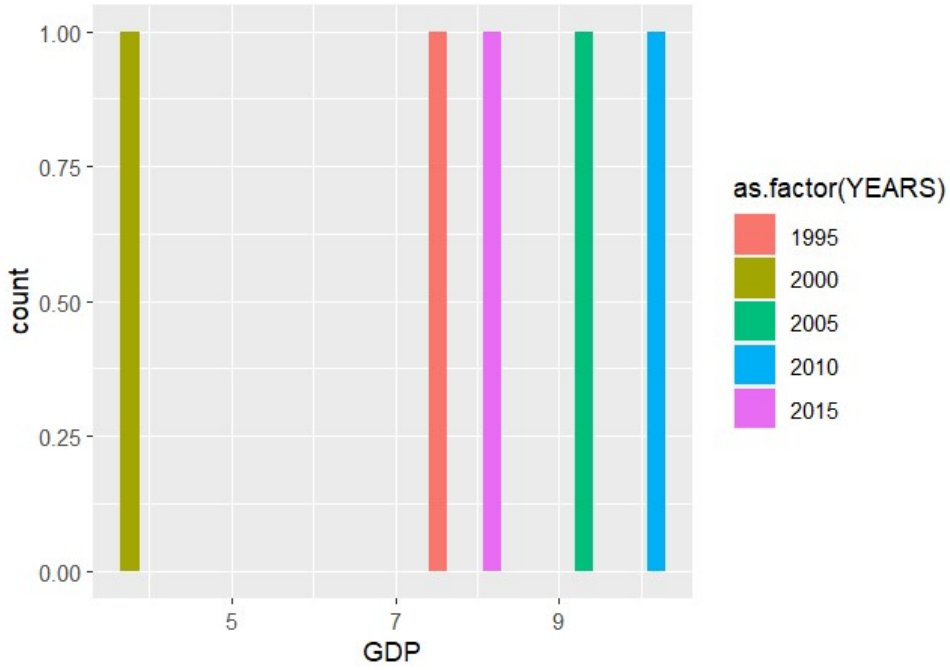


ggplot(Jobs,aes(x=CPI,fill=as.factor(YEARS)))+geom_histogram(bins = 30)

ggplot(Jobs,aes(x=EXP,fill=as.factor(YEARS)))+geom_histogram(bins = 30)



ggplot(Jobs,aes(x=GDP,fill=as.factor(YEARS)))+geom_histogram(bins = 30)

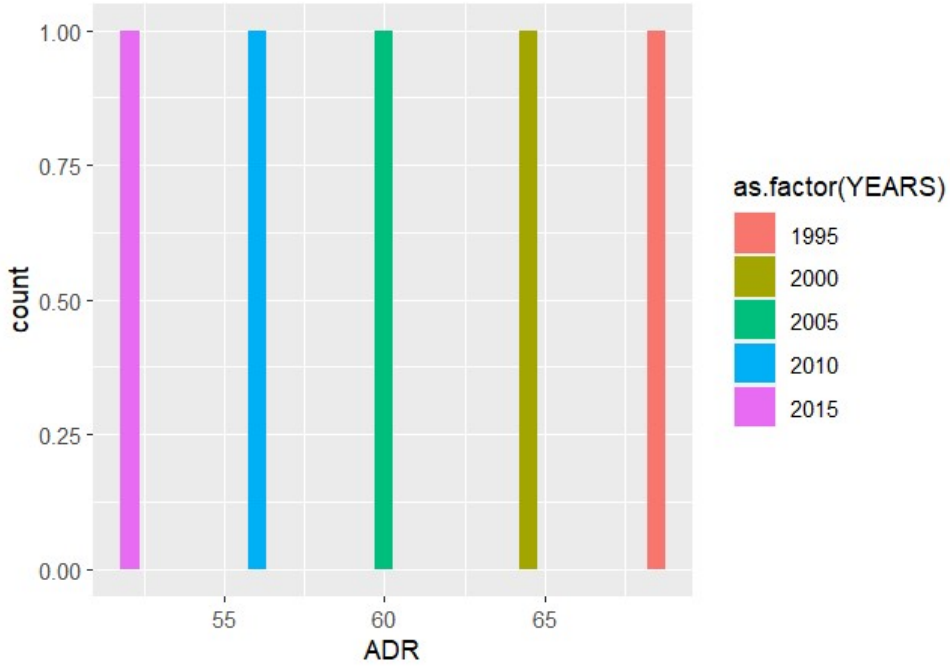


ggplot(Jobs,aes(x=UNP,fill=as.factor(YEARS)))+geom_histogram(bins = 30)

ggplot(Jobs,aes(x=URB,fill=as.factor(YEARS)))+geom_histogram(bins = 30)

Two dimensional graphs with bar charts

ggplot(Jobs,aes(x=GDP,fill=EXP))+geom_bar(position="dodge")



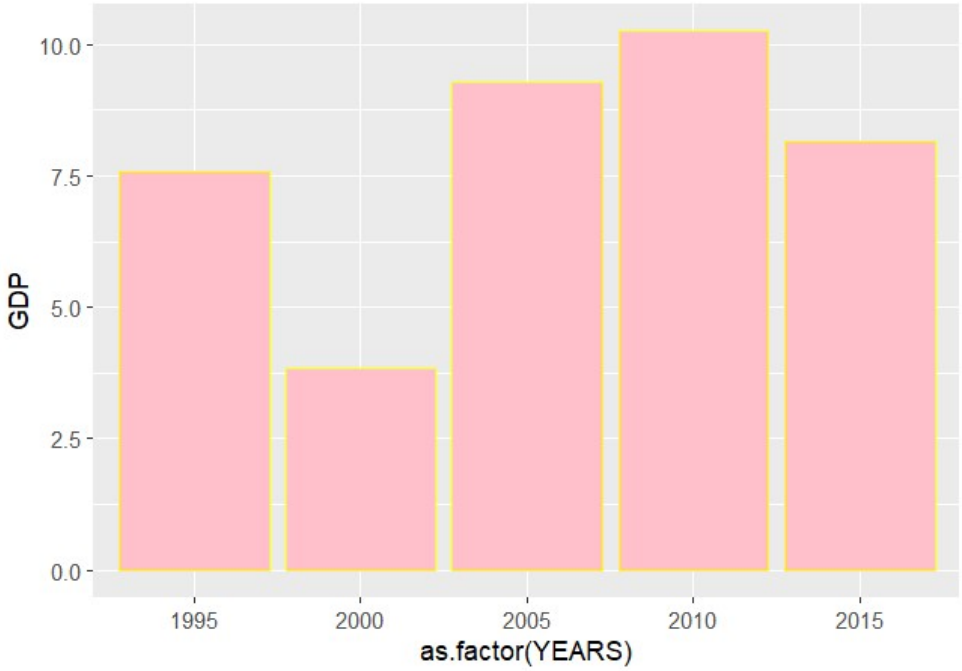
ggplot(Jobs,aes(x=as.factor(GDP),fill=as.factor(YEARS)))+geom_bar(position="stack")

ggplot(Jobs,aes(x=as.factor(CPI),fill=as.factor(YEARS)))+geom_bar(position="fill")

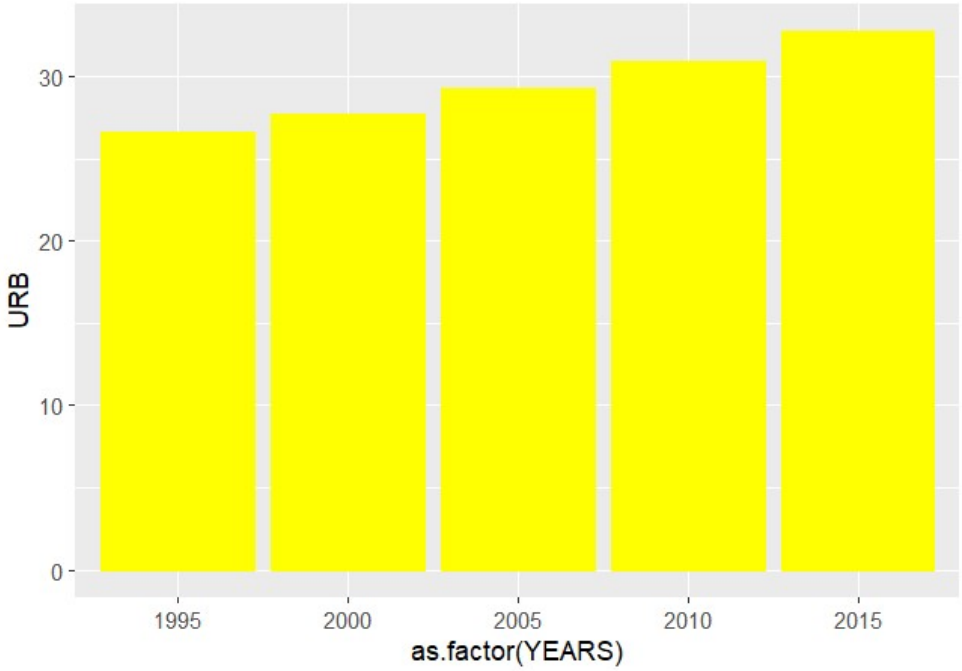
ggplot(Jobs,aes(x=as.factor(UNP),fill=as.factor(YEARS)))+geom_bar(position="fill")

#two dimensional graph with column chart

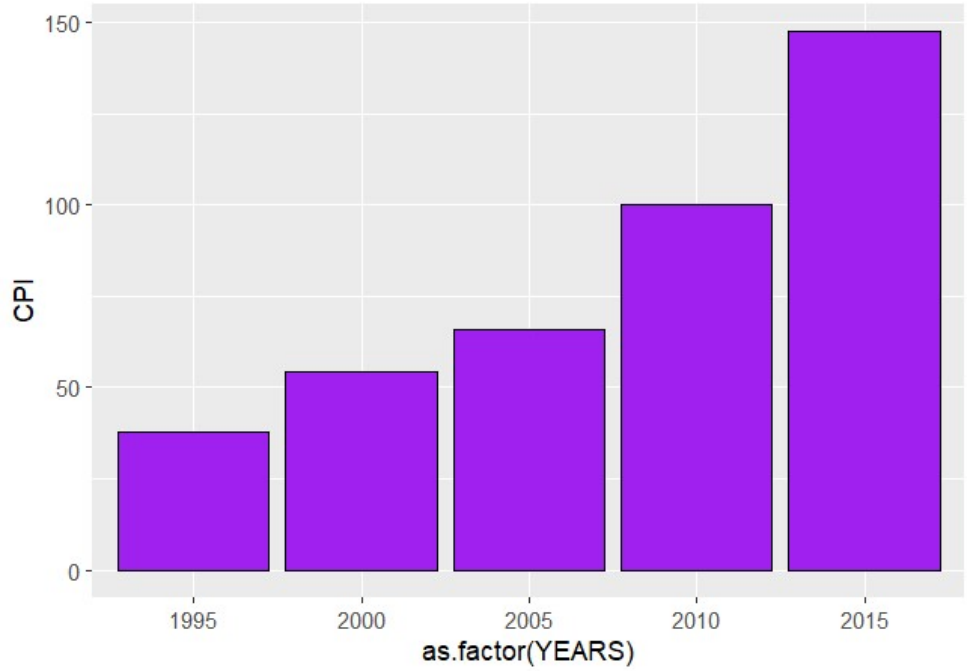
ggplot(Jobs,aes(x=as.factor(YEARS),y=GDP))+geom_col(color="YELLOW",fill="PINK")



ggplot(Jobs,aes(x=as.factor(YEARS),y=URB))+geom_col(color="YELLOW",fill="YELLOW")

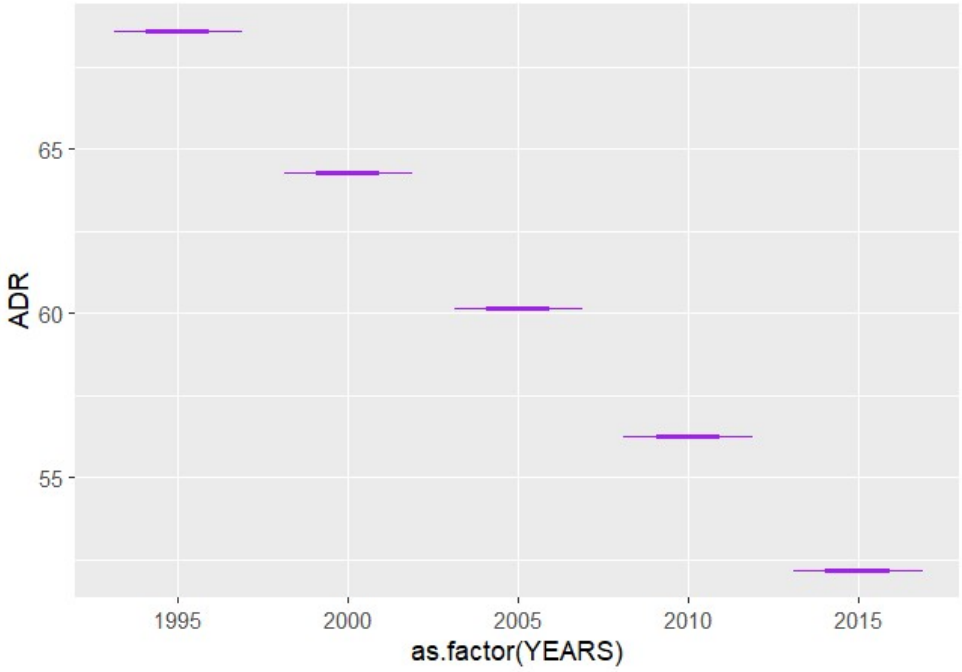


ggplot(Jobs,aes(x=as.factor(YEARS),y=CPI))+geom_col(color="BLACK",fill="PURPLE")

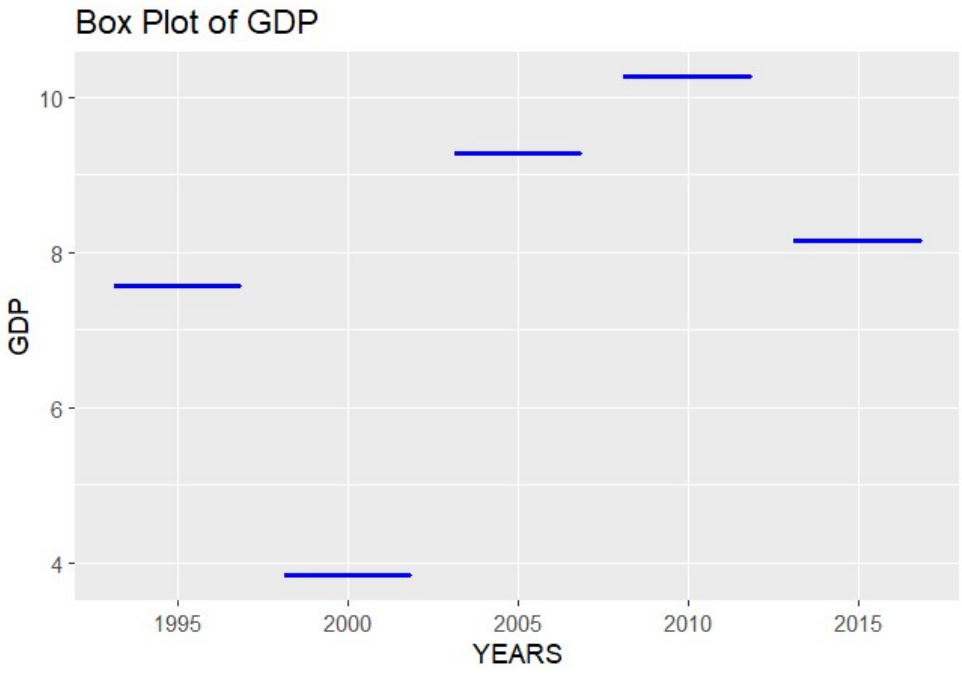



```
ggplot(Jobs,aes(x=as.factor(YEARS),y=UNP))+geom_col(color="BLACK",fill="RED")
ggplot(Jobs,aes(x=as.factor(YEARS),y=EXP))+geom_col(color="BLACK",fill="LIGHT BLUE")

#box plots and other additions
ggplot(Jobs, aes(x=as.factor(YEARS),y=ADR))+ geom_boxplot()
ggplot(Jobs, aes(x=as.factor(YEARS),y=ADR))+ geom_boxplot(fill="BLACK",color="PURPLE", notch = TRUE)
```



ggplot(Jobs, aes(x=as.factor(YEARS),y=GDP))+ geom_boxplot(fill="BLACK",color="BLUE")+labs(title = "Box Plot of GDP", x="YEARS", y="GDP")



ggplot(Jobs, aes(x=as.factor(YEARS),y=EXP))+ geom_boxplot(fill="RED",color="BLACK")+

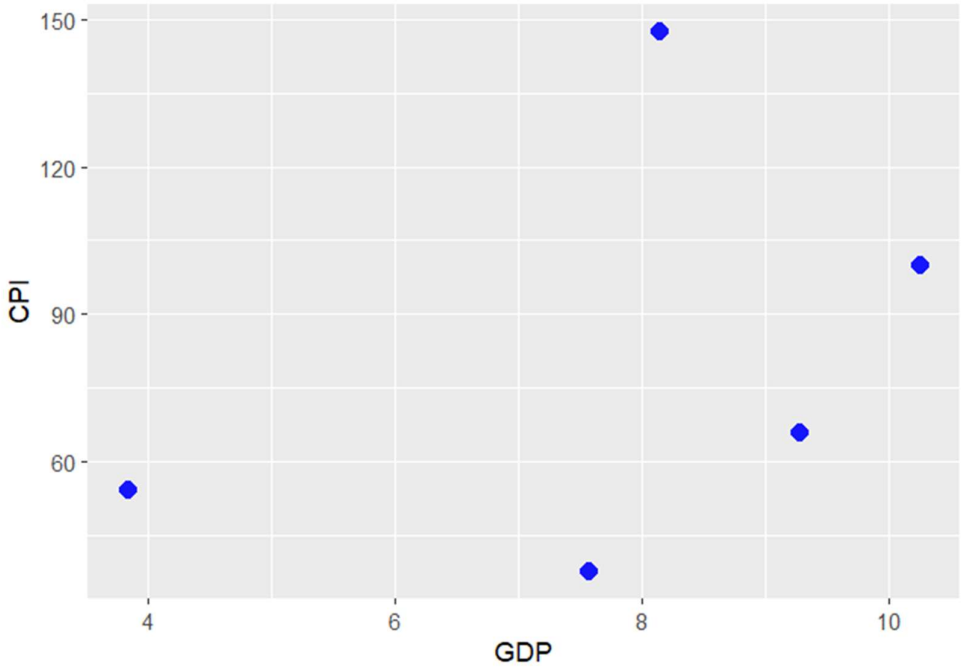
labs(title = "Box Plot of EXP", x="NO. OF YEARS", y="EXPORT OF GOODS AND SERVICES")+

scale_x_discrete(breaks=c("5","10","15","20","25"),labels=c("five","ten","fifteen","twenty","twentyfive"))+

```
 scale_y_continuous(breaks = c(10,15,20,25,30),labels=c("ten","fifteen","twenty","twenfive","thirty"))
```

```
ggplot(Jobs,aes(x=GDP,y=YEARS))+geom_point()
```

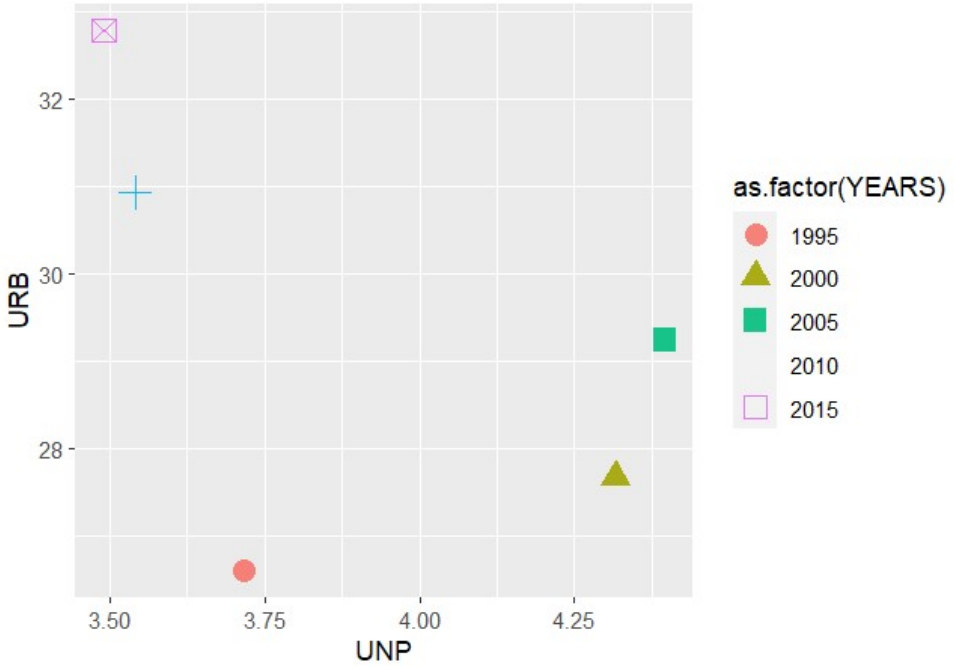
```
ggplot(Jobs,aes(x=GDP,y=CPI))+geom_point(pch=16,color="BLUE",size=3,alpha=0.9)
```



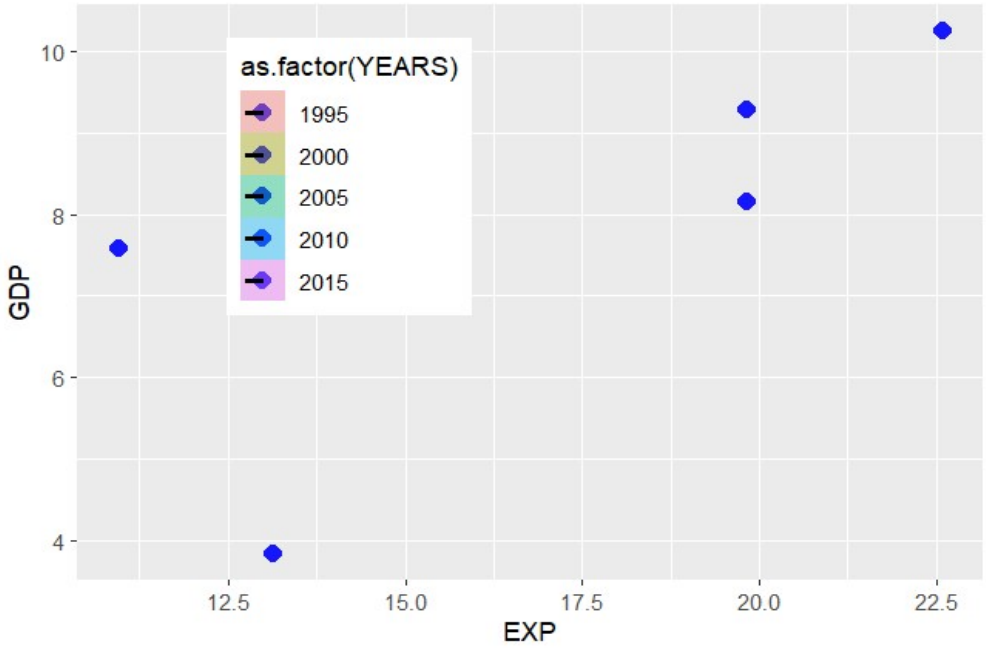

```
ggplot(Jobs,aes(x=UNP,y=YEARS,shape=as.factor(YEARS)))+geom_point(color="BLACK",size=3,alpha=0.9)
```

```
ggplot(Jobs,aes(x=UNP,y=URB,shape=as.factor(YEARS),color=as.factor(YEARS)))+geom_point(size=4,alpha=0.9)
```

```
ggplot(Jobs,aes(x=UNP,y=URB))+geom_point(pch=16,color="RED",size=3,alpha=0.9)+
 facet_wrap(~as.factor(YEARS),ncol = 2)
```




```
ggplot(Jobs,aes(x=EXP,y=GDP,fill=as.factor(YEARS)))+geom_point(pch=16,color="BLUE",size=3,alpha=0.9)+
 geom_smooth(method ="lm",color="BLACK",linetype=2)+theme(legend.position = c(.3,.7))
```

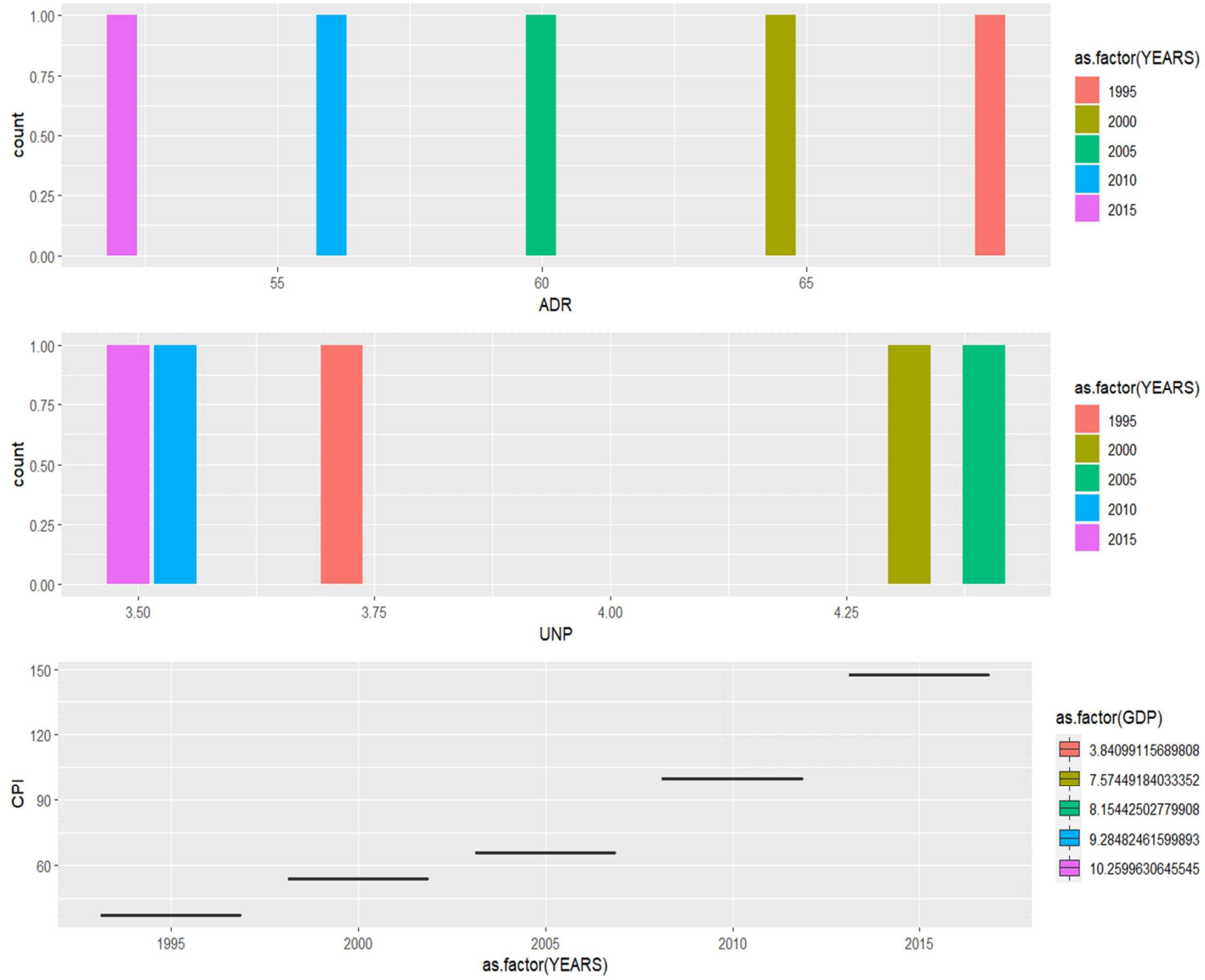



```
g1 <-ggplot(Jobs, aes(ADR,fill=as.factor(YEARS)))+geom_histogram(bins=30)
```

```
g2 <-ggplot(Jobs, aes(UNP,fill=as.factor(YEARS)))+geom_bar()
```

g3 <- ggplot(Jobs, aes(x=as.factor(YEARS),y=CPI,fill=as.factor(GDP)))+geom_boxplot()

grid.arrange(g1,g2,g3,ncol=2)



getwd()

##

CONCLUSION:

Followings are the results and conclusions that we can draw:

- Age dependency ratios provide information about how the demographic structure of a country impacts the proportion of non-working and working persons. We can see from the data that in India, the Age Dependency Ratio was falling

over the 20 years from **68.6% to 52.19%** in 1995-2015 respectively. This shows that relative dependency of the old age population is lower than the adult population.

- CPI was increasing from 1995-2015(37.6%-147.6%). Changes in the CPI reflect price changes in the economy. When there is an upward change in the CPI, this means there has been an increase in the average change in prices over time. This eventually leads to adjustments in the cost of living and income.
- Growth in exports provides a much needed pathway for job creation in India. According to this data the highest export in goods and services was in 2010**(22.59%)** after that in fall in 2015**(19.8%)**. But there is a good scope for India, considering the size of our economy, our potential, the base of our manufacturing and service industry, it has the potential to grow a lot.
- A rise in employment levels is the natural result of increased GDP levels caused by an increase in consumer demand for goods and services. Our data shows GDP rises from **7.5%to 10.2%** in 2010. Such a rise in both GDP and employment levels is an indication that the economy is booming.
- Our data shows total unemployment remain stagnant over the years. There is a negative relationship between unemployment and GDP. A 1% increase in unemployment , decreases the GDP by 4% in 2000.
- The data show that about 63 percent of India's population lived in cities or large urban areas in 2015. According to our data, Urbanisation in India increasing for the last 20 years. Due to increase in urbanisation, it tantalizing employment opportunities.