

# #Chapter 1 - Introduction Econometrics - J. Wooldridge

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Upload package for data base

```
library(wooldridge)
```

Package for data analysis

```
library(dplyr)
```

Upload the Database

```
data<-wooldridge::wage1  
  
attach(data)
```

Ex 1 - Use the data in WAGE1.RAW for this exercise

**(i) Find the average education level in the sample. What are the lowest and highest years of education?**

```
mean_educ<-mean(educ)  
  
mean_educ
```

```
## [1] 12.56274
```

So the medium value for years of education are 12.5 years

```
min_educ<-min(educ)  
  
min_educ
```

```
## [1] 0
```

The minimum value for years of education are 0.

```
max_educ<-max(educ)  
  
max_educ
```

```
## [1] 18
```

The maximum value for years of education are 18 years

**(ii) Find the average hourly wage in the sample. Does it seem high or low?**

```
mean_wage<-mean(wage)
```

```
mean_wage
```

```
## [1] 5.896103
```

The medium salary/hour are \$5.89

**(v) How many women are in the sample? How many men?**

```
num_woman <- data %>%  
  filter(female ==1) %>%  
  summarise(n=n())
```

```
num_woman
```

```
##      n  
## 1 252
```

There are 252 woman in the sample

Now, counting the number of mens in the sample

```
num_man <- data %>%  
  filter(female ==0) %>%  
  summarise(n=n())
```

```
num_man
```

```
##      n  
## 1 274
```

There are 274 man in the sample

## Exercise 2

##Use the data in BWGHT.RAW to answer this question.

```
data2<-wooldridge::bwght
```

```
attach(data2)
```

```
## The following object is masked from package:wooldridge:  
##  
##      bwght
```

**(i) How many women are in the sample, and how many report smoking during pregnancy?**

**(ii) What is the average number of cigarettes smoked per day? Is the average a good measure of the “typical” woman in this case? Explain.**

```
mean_cigs<-mean(cigs)
```

```
mean_cigs
```

```
## [1] 2.087176
```

The mean value for smoked cigarretes is 2.08

**\*\***(iii) Among women who smoked during pregnancy, what is the average number of cigarettes smoked per day? How does this compare with your answer from part (ii), and why?

```
mean_smoked<-mean(packs)
```

```
mean_smoked
```

```
## [1] 0.1043588
```

**(iv) Find the average of fatheduc in the sample. Why are only 1,192 observations used to compute this average?**

```
mean_fatheduc<-mean(fatheduc, na.rm=T)
```

```
mean_fatheduc
```

```
## [1] 13.18624
```

The mean value for father's education is 13.18 years. There's only 1,192 observations in the sample because there's presence of NA's

**(v) Report the average family income and its standard deviation in dollars.**

```
mean_income<-mean(faminc)
```

```
mean_income
```

```
## [1] 29.02666
```

```
sd_income<-sd(faminc)
```

```
sd_income
```

```
## [1] 18.73928
```

The mean income value is \$29,026 and the sd is \$18.730

#Exercise 3

**EX 3 data in MEAP01.RAW are for the state of Michigan in the year 2001. Use these data to answer the following questions.**

Upload of database

```
data3<-wooldridge::meap01
```

```
attach(data3)
```

**(i) Find the largest and smallest values of math4. Does the range make sense? Explain.**

```
larg<-max(math4)
```

```
larg
```

```
## [1] 100
```

```
small<-min(math4)
```

```
small
```

```
## [1] 0
```

**How many schools have a perfect pass rate on the math test? What percentage is this of the total sample?**

```
perf_pass_rate<- data3 %>%  
  filter(math4==100) %>%  
  summarise(n=n())
```

```
perf_pass_rate
```

```
##      n  
## 1  38
```

There are 38 students with perfect pass rate in the sample

```
share_perf_pass_rate<-((38)/(1823)*100)
```

```
share_perf_pass_rate
```

```
## [1] 2.084476
```

The percentual share of perfect pass rate is 2.08%

**(iii) How many schools have math pass rates of exactly 50%?**

```
pass_rate50<- data3 %>%  
  filter(math4==50) %>%  
  summarise(n=n())
```

```
pass_rate50
```

```
##      n  
## 1  17
```

17 students passed in the exame with grade of 50%