

# Labor Market

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# Please Read Me

- Check the message **Welcome greeting** published in the News Bulletin Board.
- Dear student please edit your profile uploading a photo where your face is clearly visible.
- The purpose of the virtual meetings is to answer questions and not to make a summary of the study material.
- This presentation is based on (Cardenas 2020, chap. 9)

# Purpose

Examine the evolution and characteristics of the supply and demand of labor in Colombia

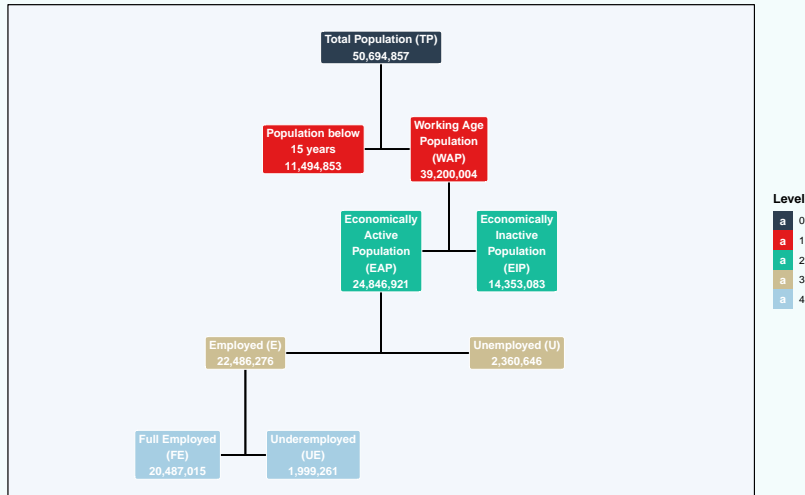
# Labor classification of the population

- To understand the indicators of the labor market from an economic perspective, it is necessary to classify the population from a labor point of view. Initially, the total population of a territory could be included but in practice the **Total Population (TP)** that is included **doesn't** cover (Hussmanns, Mehran, and Varmā 1990, chap. 2):
  - Members of the armed forces because this information is considered secret or because it is not easy to obtain information when its members are in barracks and military areas.
  - Residents in institutions such as people who are not part of the military forces but reside in military facilities, residents of penal or correctional centers and hospital residents.
- In that sense, the **Total Population (TP)** covers the non-institutional civilian population residing in households.

# Labor classification of the population

## Labor classification of the population in Colombia

Period: November 2022



Sources: DANE, Gran Encuesta Integrada de Hogares – GEIH  
Last update: 2023-01-10

# Labor market indicators

- **Percentage of the working age population** (“Porcentaje de población en edad de trabajar”)
  - $\%WAP = \frac{WAP}{PT} \times 100$
- **Labor participation rate (LPR)** (“Tasa global de participación”)
  - $LPR = \frac{EAP}{WAP} \times 100$

# Labor market indicators

- **Employment rate (ER)** (“Tasa de ocupación”)
  - $UR = \frac{E}{WAP} \times 100$
- **Unemployment rate (UR)** (“Tasa de desempleo”)
  - $UR = \frac{U}{EAP} \times 100$
- **Underemployment (UER)** (“Tasa de subempleo”)
  - $UER = \frac{UE}{EAP} \times 100$



# Labor demand

- The labor demand is the process by which the economy generates job vacancies
- How companies decide how many workers to contract?
  - Demand of the products that offer by the company
  - Wages (the price of labor)
  - Labor regulation
  - The costs of other inputs different form labor and used in production
  - The technology used by companies

# Labor market indicators

## Annual Unemployment rate (UR) and Employment rate (ER) in Colombia

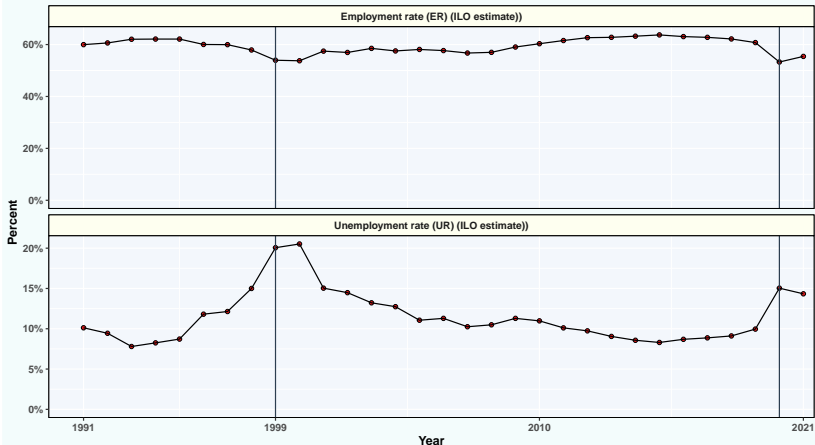
UR code WDI: SL.UEM.TOTL.ZS

UR units: percent

ER code WDI: SL.EMP.TOTL.SP.ZS

ER units: percent

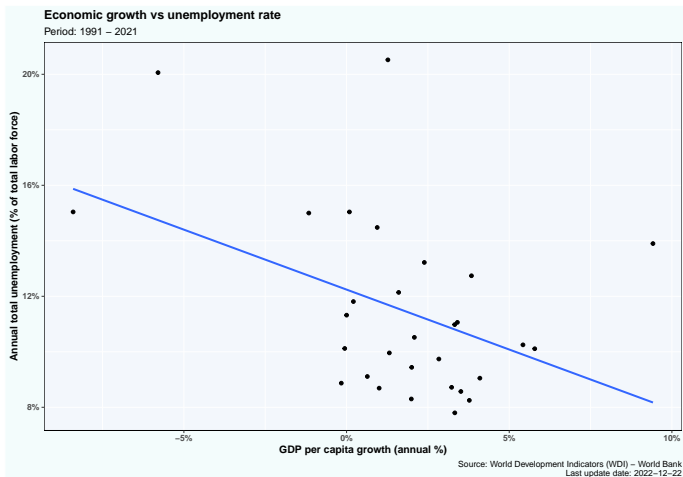
Observation: ILO estimations where ages 15 and older are considered the WAP



Source: World Development Indicators (WDI) – World Bank  
Last update date: 2022-12-22

# Labor demand

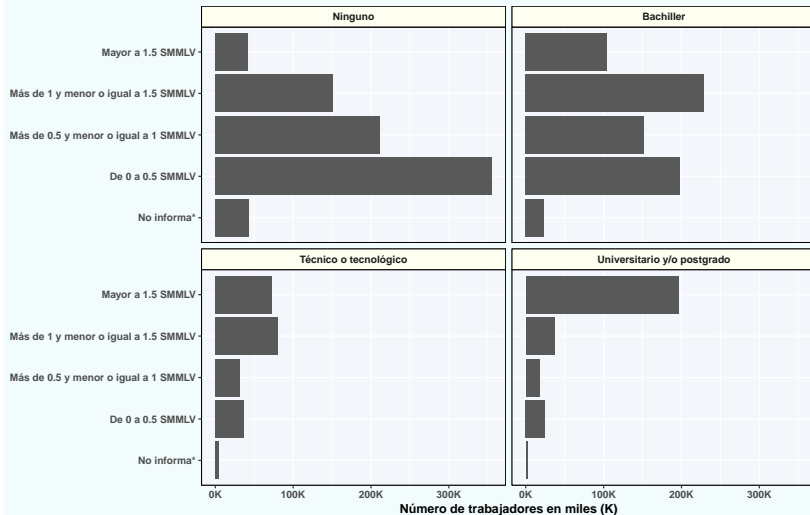
- In times of low economic growth, companies reduce production and therefore hire fewer workers.



## Población ocupada según último título educativo obtenido y rangos de ingresos

Periodo: 2020

En la categoría 'No informa\*' se incluye los trabajadores sin renumeración



- Mincer equation

- $\log_e(w_{it}) = \log_e(w_o) + \beta_1 Ed_{it} + \beta_2 Ex_{it} + \beta_2 Ex_{it}^2 + \epsilon_{it}$ 
  - $\log_e$ : natural logarithm
  - $w_{it}$ : wage of individual  $i$  in period  $t$
  - $w_o$ : wage without any level of education an experience
  - $Ed_{it}$ : years of education of individual  $i$  in period  $t$
  - $Ex_{it}$ : potential experience of individual  $i$  in period  $t$  which is equal to the age minus the years of education minus six
  - $\epsilon_{it}$ : are other components of individual  $i$  in period  $t$  that might affect the wage

# Labor regulation

- The labor regulation refers to (Cárdenas Santamaría et al. 2013, p 407):
  - The laws governing labor contracts
  - Laws governing labor relations that empower unions to represent workers collectively
  - Social security laws governing the response to social needs such as unemployment, maternity, old age, disability, death and sickness

# Labor regulation

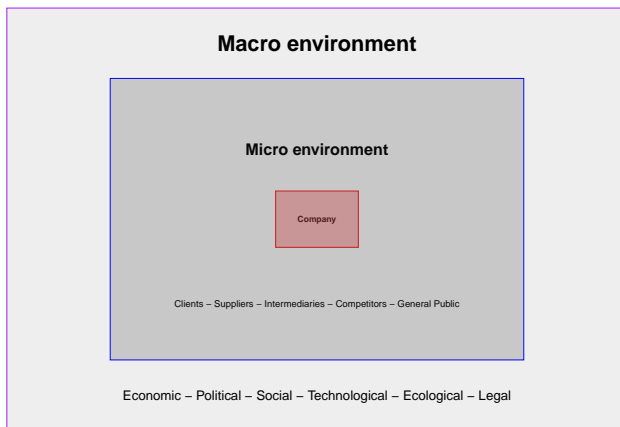
- Resources

- **Calculadora Laboral - Mintrabajo**

- <https://www.mintrabajo.gov.co/atencion-al-ciudadano/tramites-y-servicios/mi-calculadora>

# Economic environment and the Company

- Set of economic factors and forces that influence the development of and organization.



Based on <https://foda-dafo.com/>



# Acknowledgments I

- To my family that supports me
- To the taxpayers of Colombia and the **UMNG students** who pay my salary
- To the **Business Science** and **R4DS Online Learning** communities where I learn **R**
- To the **R Core Team**, the creators of **RStudio IDE** and the authors and maintainers of the packages **tidyverse**, **tidyquant**, **readxl**, and **tinytex** for allowing me to access these tools without paying for a license
- To the **Linux kernel community** for allowing me the possibility to use some **Linux distributions** as my main **OS** without paying for a license

# References

- Cardenas, Mauricio. 2020. *Introducción a La Economía Colombiana*. 4th ed. Alfaomega.
- Cárdenas Santamaría, Mauricio, Roberto Junguito, Camilo García, and María Fernanda Rosales. 2013. *Introducción a La Economía Colombiana*. Bogotá, Colombia: Alfaomega.
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