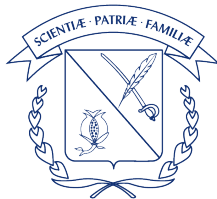


Labor Market

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FAEDIS

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- 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)

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

- 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 (Husmanns, 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.

Period: May 2024

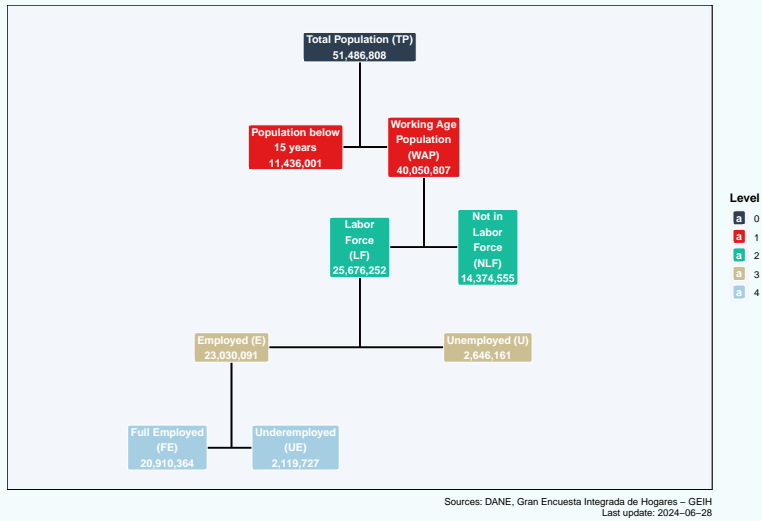


Figure 1: Labor classification of the population in Colombia

- **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”)
 - $LPR = \frac{LF}{WAP} \times 100$

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

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

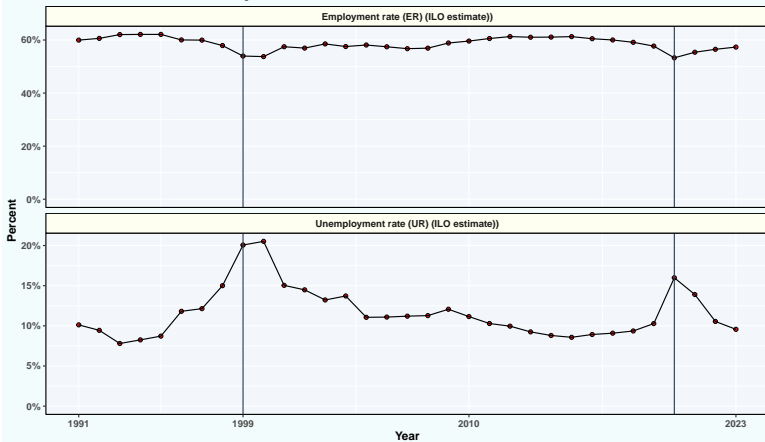
Source: World Development Indicators (WDI) – World Bank
Last update date: 2024-06-28

Figure 2: Annual Unemployment rate (UR) and Employment rate (ER) in Colombia

- 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

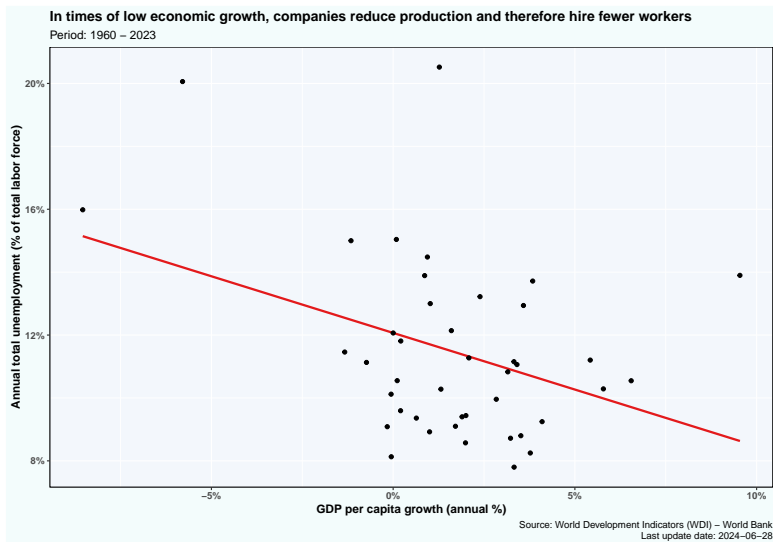


Figure 3: Economic growth vs unemployment rate

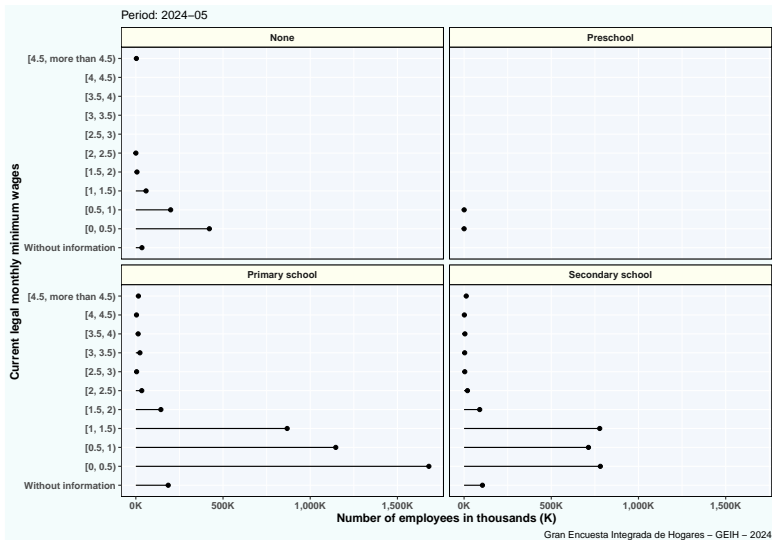


Figure 4: Employed population according to last educational degree obtained and income bracket

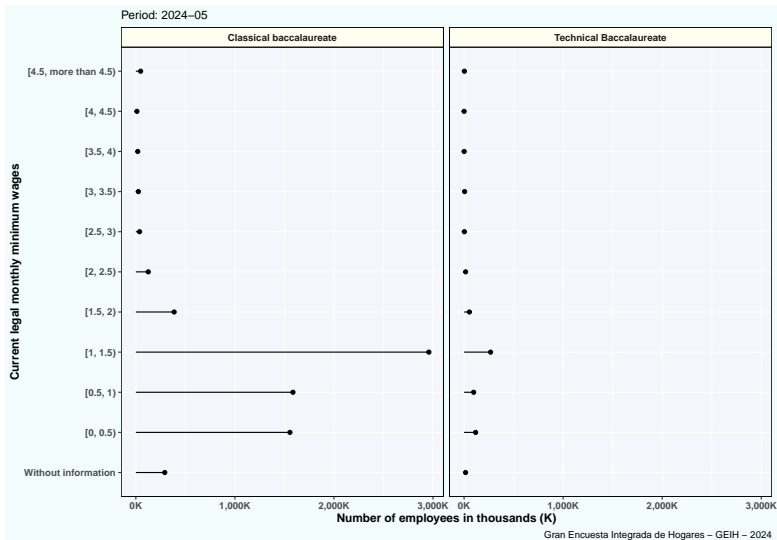


Figure 5: Employed population according to last educational degree obtained and income bracket

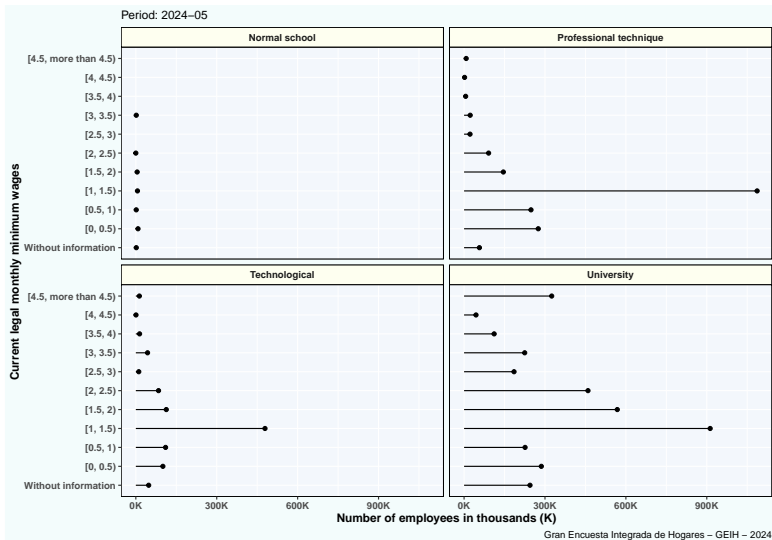


Figure 6: Employed population according to last educational degree obtained and income bracket

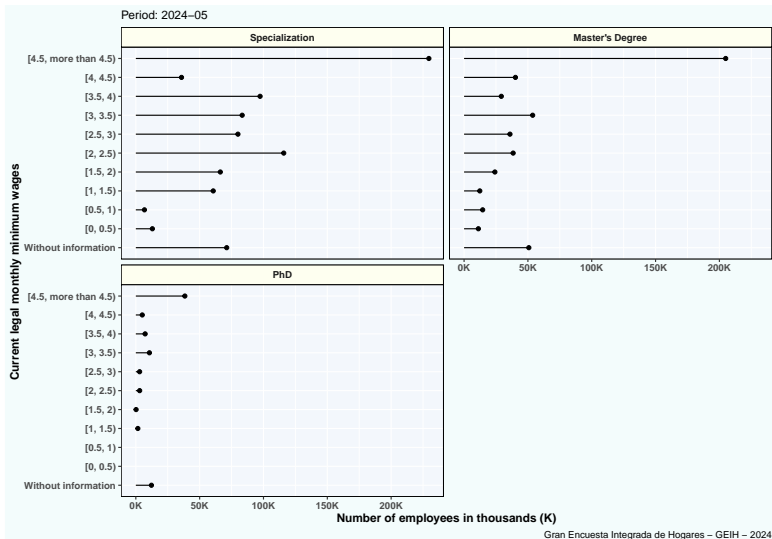


Figure 7: Employed population according to last educational degree obtained and income bracket

- Mincer equation

- $\log_e(w_{it}) = \log_e(w_o) + \beta_1 Ed_{it} + \beta_2 Ex_{it} + \beta_2 Ex_{it}^2 + \epsilon_{it}$

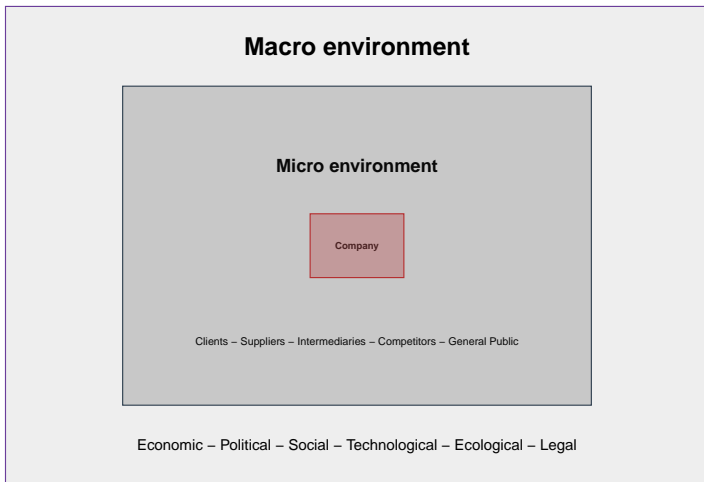
- \log_e : natural logarithm
 - w_{it} : wage of individual i in period t
 - w_o : wage without any level of education an experience
 - ϵ_{it} : years of education of individual i in period t
 - Ex_{it} : potential experience of individual i in period t which is equal to the age minus the years of education minus six
 - ϵ_{it} : are other components of individual i in period t that might affect the wage

- The labor regulation refers to:
 - 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

- Resources

- **Calculadora Laboral - Mintrabajo**

- <https://www.mintrabajo.gov.co/web/guest/inicio> > Atención al Ciudadano > Trámites y Servicios > Mi Calculadora



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

Figure 8: Set of economic factors and forces that influence the development of an organization

- 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** and **π -thon**
- To the **R Core Team**, the creators of **RStudio IDE**, **Quarto** 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 I

Cardenas, Mauricio. 2020. *Introducción a La Economía Colombiana*. 4th ed. Alfaomega.

Husmanns, Ralf, Farhad Mehran, and Vijaya Varmā. 1990. *Surveys of Economically Active Population, Employment, Unemployment, and Underemployment: An ILO Manual on Concepts and Methods*. Geneva: International Labour Office. https://www.ilo.org/global/statistics-and-databases/publications/WCMS_215885/lang--en/index.htm.