

Project 1

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1 Iran's Labor Force Survey

Question

find the participation rate and unemployment rate separately for all people, women, men, individuals between 20 to 35 years old, individuals between 35 to 50 years old, Rural and Urban areas.

Answer

1.0.1 Introduction

This document provides an overview of the Stata code used to analyze labor market survey data from Iran, focusing on calculating and visualizing participation and unemployment rates across various demographic and geographical segments.

1.0.2 Data Preparation and Analysis

The analysis begins with data preparation steps, including setting the working directory to where the Labor Force Survey (LFS) data is stored, renaming variables for readability, and defining new variables to represent specific conditions and characteristics of the labor force:

- Variables such as **Sex**, **Age**, **Urban Condition (U_R)**, and employment status indicators are standardized for easier analysis.
- Binary flags and new variables are created to distinguish between different groups: men, women, urban residents, rural residents, and age categories (20-35 years and 35-50 years).

1.0.3 Calculating Rates

Participation and unemployment rates are calculated using the weighted sums of individuals who are active in the labor market (either employed or unemployed) and those who are employed, respectively. The rates are computed for the overall population, as well as separately for each gender, two age groups, and urban vs. rural residents. This involves:

- Generating indicators for being active and employed in the labor market.
- Aggregating these indicators using total population weights to compute participation and unemployment rates.
- Displaying these rates for overall, gender-specific, age-specific, and urban/rural categories.

1.0.4 Visualization

The final step involves creating a dataset for plotting and generating bar charts to visually compare the participation and unemployment rates across the defined groups:

- A dataset is manually set up with the calculated rates for each group.
- Bar charts are produced to display these rates, facilitating a visual comparison between different demographic and geographical segments.

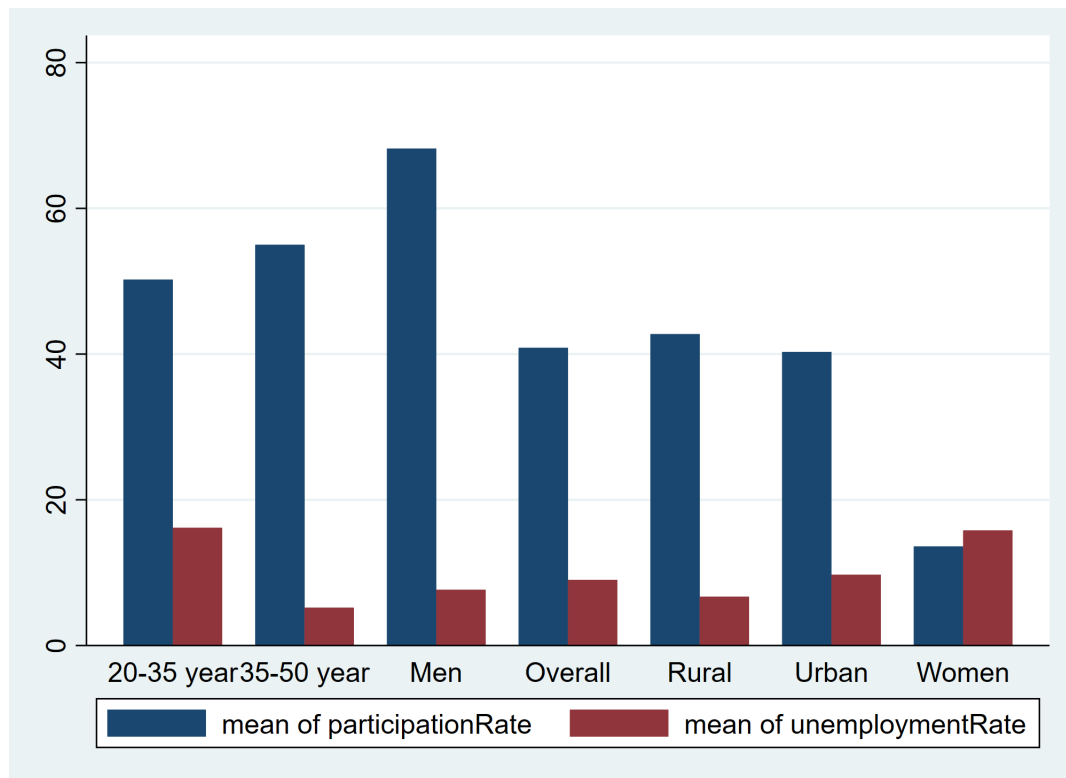


Figure 1: Participation and Unemployment Rates by Group. This bar chart illustrates the comparison of participation and unemployment rates across various groups, including gender (Men, Women), age categories (20-35 years, 35-50 years), and living areas (Urban, Rural). The rates provide insights into labor market dynamics, revealing disparities in employment opportunities and participation within these segments.

1.0.5 Conclusion

The bar charts provide a clear visual representation of the labor market dynamics, highlighting differences in participation and unemployment rates across genders, age groups, and living areas. This analysis enables a deeper understanding of the labor market in Iran, identifying specific segments that may require targeted interventions or policies.

Question

What percentage of the insured employed have a university education? Calculate separately for the total, women, and men

Answer

1.0.6 Introduction

This section outlines the methodology applied to analyze the labor market data, focusing on the insured employed individuals possessing a university education. The objective was to calculate and visualize the weighted percentages of such individuals within the total population, and separately for women and men, using Stata.

1.0.7 Methodology

The analysis involved several steps, integrating individual weights into our calculations to ensure an accurate representation of the sampled population. The main variables of interest were **Insurance**, indicating individuals insured through their job, and **HigherEdu**, denoting individuals with a university degree.

1.0.8 Data Preparation

Initially, the dataset was prepared by ensuring all relevant variables were correctly typed and by generating binary flags to represent insured individuals with higher education. The individual weights (w) were used in all calculations to reflect the sample's distribution accurately.

1.0.9 Weighted Calculations

Weighted percentages were calculated using the following steps:

- The total weight of insured individuals and the weighted sum of insured individuals with higher education were computed.
- These sums were then used to calculate the weighted percentages for the total population, women, and men, reflecting the proportion of the insured employed with university education in each segment.

1.0.10 Visualization

A bar chart was created to visualize these weighted percentages, facilitating a comparative analysis between the total population, women, and men. This visualization aids in understanding the distribution of higher education among the insured employed across different demographics.

1.0.11 Conclusion

The analysis provided insights into the educational background of the insured employed population, highlighting gender disparities and overall trends. By incorporating individual weights, the study ensured that the findings accurately represented the broader population, offering valuable perspectives for policy formulation and further research.

Question

From the three groups of agriculture, industry, and services, what percentage of the employed are self-employed and what percentage are wage earners?

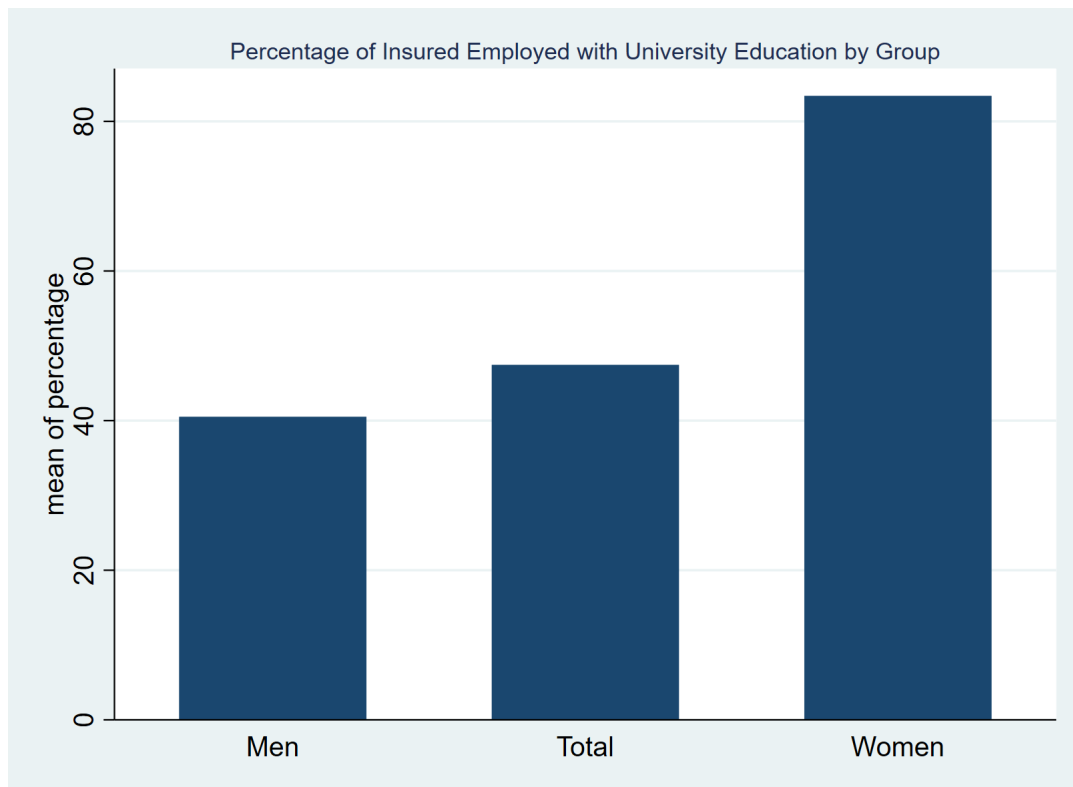


Figure 2: ” Proportion of Insured Individuals with Higher Education Degrees by Gender. This bar chart illustrates the percentage of insured individuals possessing higher education degrees within the total population, as well as segmented by gender. It highlights the educational attainment among insured men and women separately, providing insights into the distribution of higher education within the insured labor force. The chart underscores differences in educational qualifications that may exist between genders among those who are insured through their employment, reflecting on the broader implications for workforce education levels and gender disparities in access to education and employment-related insurance benefits.”

Answer

1.0.12 Analysis of Employment Types Across Sectors

This analysis segment focuses on evaluating the labor market distribution between self-employed individuals and wage earners within three major sectors: Agriculture, Industry, and Services. The objective was to quantify and compare the proportions of self-employed versus wage-earning employment types, providing insights into sector-specific employment trends.

Methodology Employment data was aggregated based on the type of sector and employment status. Each sector—Agriculture, Industry, and Services—was analyzed separately to calculate the percentage of individuals who are self-employed and those who are wage earners. The following steps outline the calculation process:

1. The total number of employed individuals within each sector was determined.
2. Among these, the number of self-employed individuals and wage earners was calculated separately.
3. Percentages were then derived by comparing the number of self-employed and wage earners to the total employment figure within each sector, using the formula:

$$\text{Percentage} = \left(\frac{\text{Number of Individuals in Category}}{\text{Total Number of Employed in Sector}} \right) \times 100$$

Findings The calculated percentages revealed distinct employment type distributions across sectors:

- **Agriculture:** Dominated by self-employed individuals, with **78.09%** being self-employed and **21.90%** wage earners.
- **Industry:** Exhibited a majority of wage earners, with **29.12%** self-employed and **70.76%** wage earners.
- **Services:** Presented a more balanced distribution, with **45.05%** self-employed and **54.73%** wage earners.

Visualization The employment type distributions were visualized in a bar chart titled “Employment Type by Sector,” illustrating the comparative analysis of self-employed and wage earners across the sectors. This visualization highlights the significant prevalence of self-employment in Agriculture, contrasted with a higher proportion of wage earners in the Industry sector, and a relatively balanced distribution in Services.

Conclusion The analysis underscores the diversity in employment types across sectors, with Agriculture being predominantly self-employed, Industry led by wage-earning jobs, and Services exhibiting a balanced mix. These insights contribute to understanding sector-specific labor dynamics, informing policy and economic development strategies.

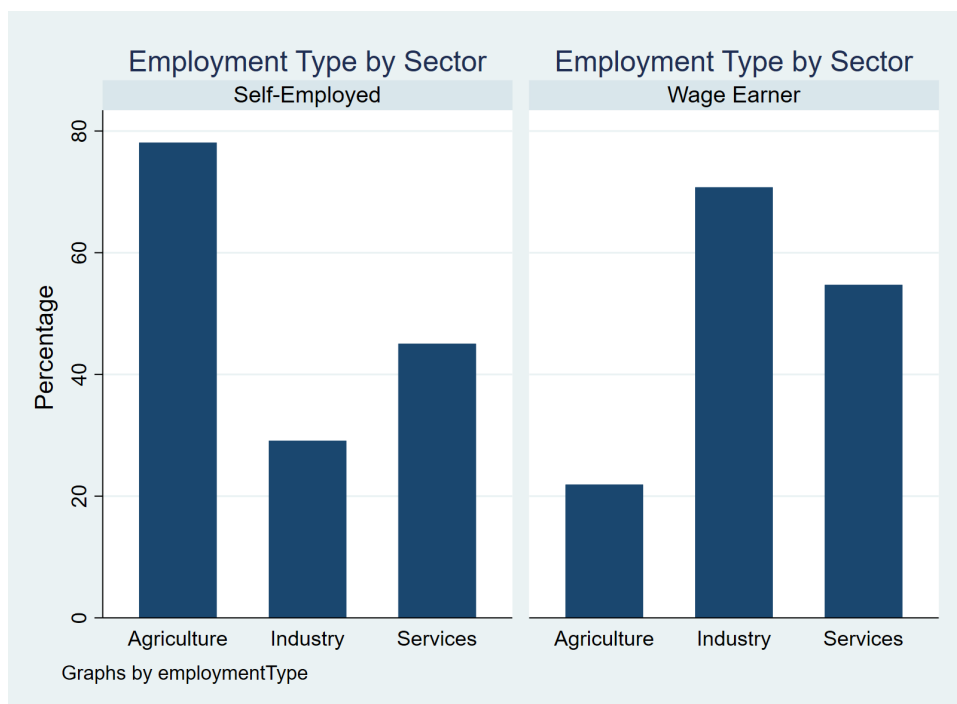


Figure 3: Bar chart illustrating the percentage of self-employed and wage earners across Agriculture, Industry, and Services sectors. The chart demonstrates the dominance of self-employment in Agriculture, a majority of wage earners in Industry, and a balanced distribution in Services.

Question

What percentage of employees in the public sector are insured? What about in the private sector? Find out separately for the total, women, and men.

Answer

1.0.13 Introduction

This report presents an analysis of the percentage of insured employees across different sectors (public and private) and demographic groups (total population, women, and men). The analysis leverages data from the Labor Force Survey (LFS), specifically from a cleaned dataset, to understand insurance coverage disparities within the workforce.

1.0.14 Methodology

The dataset used, `LFS1401Cleaned1.dta`, underwent preprocessing to include relevant indicators: whether an employee works in the public or private sector, their insurance status, and demographic information (sex). Based on these indicators, we calculated the percentage of insured employees in each sector and demographic group, applying survey weights (`w`) to ensure representativeness.

1.0.15 Calculations

For each sector (public and private), we identified insured employees and calculated weighted percentages using the following steps:

1. Generated binary indicators for women (`isWomen`) and men (`isMen`) based on the `Sex` variable.
2. For the total population, women, and men, calculated the total number of employees and the number of insured employees in each sector, applying the survey weight (`w`) to each calculation.
3. Derived the percentage of insured employees by dividing the weighted sum of insured employees by the weighted total number of employees in the respective sector and demographic group.

2 Results

The analysis revealed the following weighted percentages of insured employees:

2.0.1 Public Sector

- Total: 97.76%
- Women: 97.23%
- Men: 97.94%

2.0.2 Private Sector

- Total: 47.21%
- Women: 47.67%
- Men: 47.13%

Graphical representations of these findings are provided in Figures 6 and 7, illustrating the disparities in insurance coverage between sectors and among demographic groups.

2.0.3 Discussion

The results indicate a significant disparity in insurance coverage between the public and private sectors, with the public sector showing nearly universal coverage. The differences in coverage between women and men within each sector are minimal, suggesting that gender does not significantly affect insurance coverage within the same sector.

2.0.4 Conclusion

This analysis underscores the critical role of sector employment in insurance coverage among workers. Future policies aimed at increasing insurance coverage may need to focus more on sector-specific strategies, particularly within the private sector, to address these disparities.

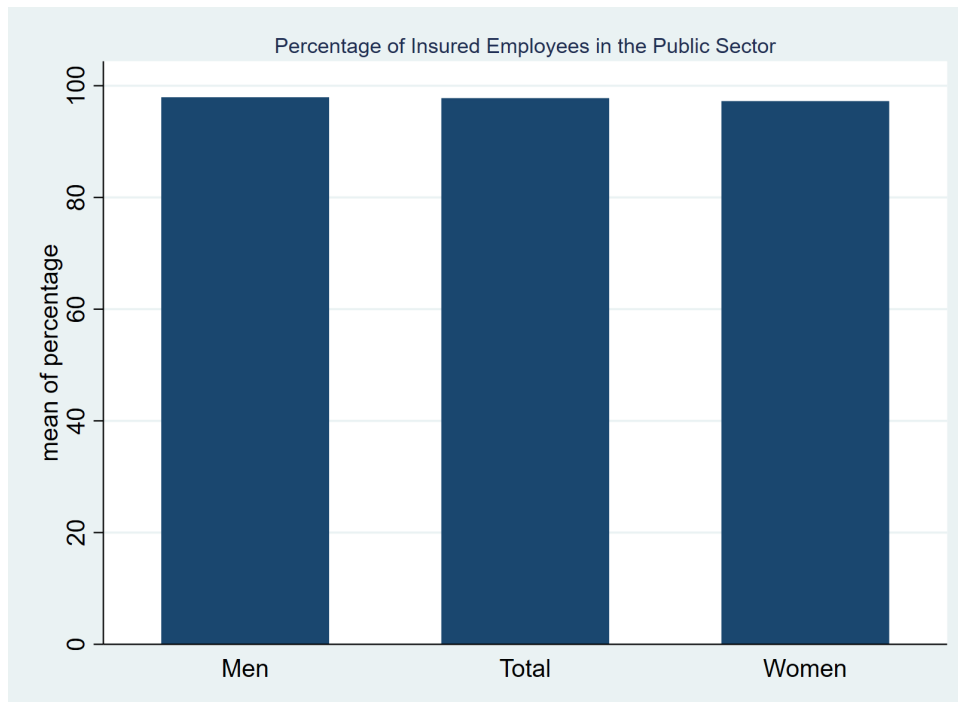


Figure 4: Percentage of Insured Employees in the Public Sector

Question

Using a bar chart, specify the number of employees in the three sectors of agriculture, industry, and services, differentiated by the size of the firm (less than 10 people, between 10 to 20 people, and more than 20 people)

Answer

2.0.5 Employer Distribution Across Sectors

This section of the report presents the analysis of employer distribution by firm size across three distinct sectors: Agriculture, Industry, and Services. The aim is to understand the structure of the labor market in terms of firm size and to identify patterns that may have implications for economic policy and business strategy.

Data Preparation and Analysis The labor force survey data was first standardized by converting categorical variables to a consistent format using the `destring` command. This allowed for the categorization of employers based on the number of peers, with categories delineated for employers with less than 10 employees, between 10 and 20 employees, and more than 20 employees.

Each employer was also classified into one of three sectors: Agriculture, Industry, or Services. This classification enabled a focused analysis of the labor force distribution within each sector, taking into account the size of the firms where individuals are employed.

Results The analysis revealed that:

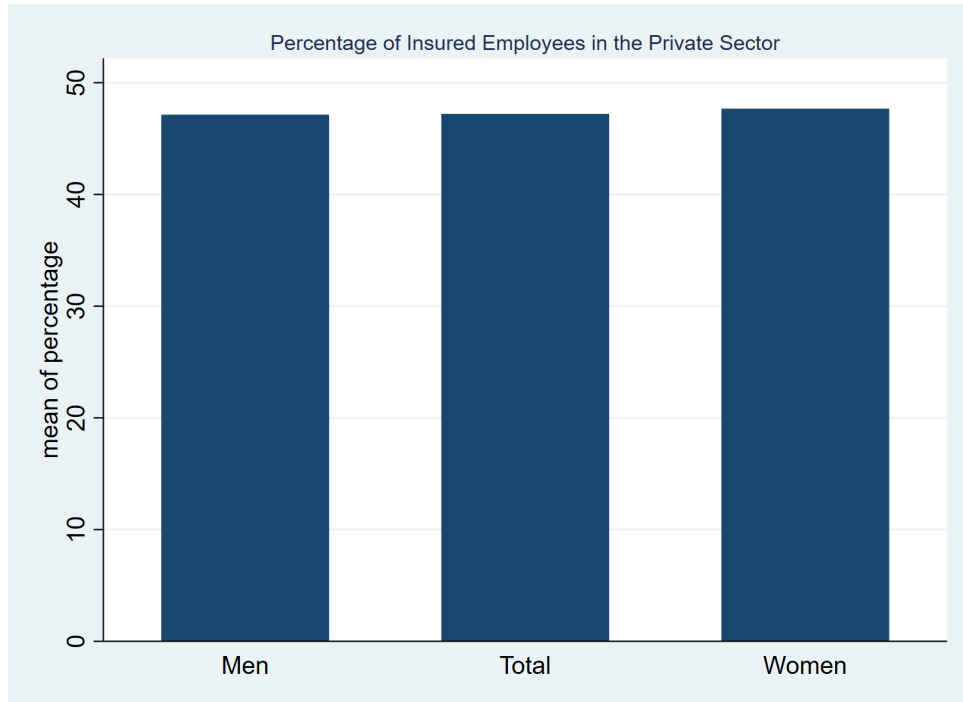


Figure 5: Percentage of Insured Employees in the Private Sector

- In Agriculture, a significant number of employers operate with less than 10 employees, indicating a sector characterized by smaller-scale operations.
- The Industry sector presents a contrast, with a higher concentration of employers reporting more than 20 employees, suggesting larger-scale industrial operations.
- Services exhibit a more balanced distribution, with notable employer representation across all firm sizes.

Visualization Three bar charts were generated to visually represent the distribution of employers across firm sizes within each sector.

Conclusion The bar charts underscore the diversity of firm sizes within each sector, providing crucial insights into the dynamics of employment and the nature of economic activity across sectors. This information can serve as a foundation for developing targeted economic policies and support mechanisms tailored to the needs of employers and employees within these sectors.

Question

For the three sectors of industry, agriculture, and services, specify for all individuals, women, and men, on average, how much work experience they have. and how long they have been employed by their last employer on average.

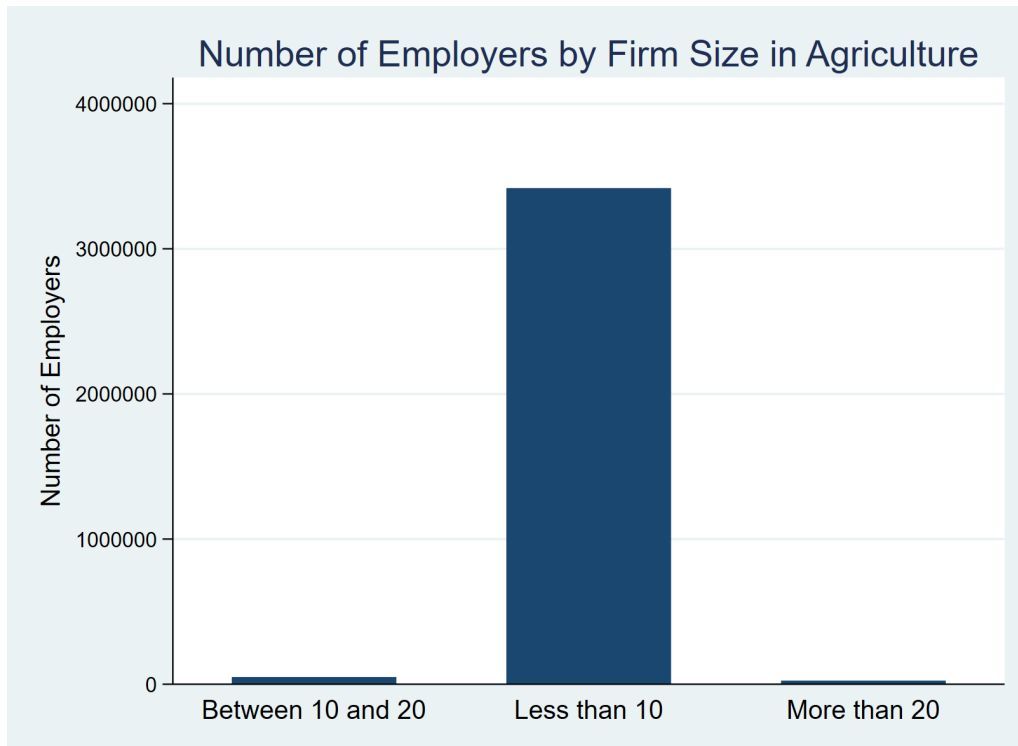


Figure 6: Distribution of employers by firm size in the Agriculture sector. The majority are small-scale, with less than 10 employees.

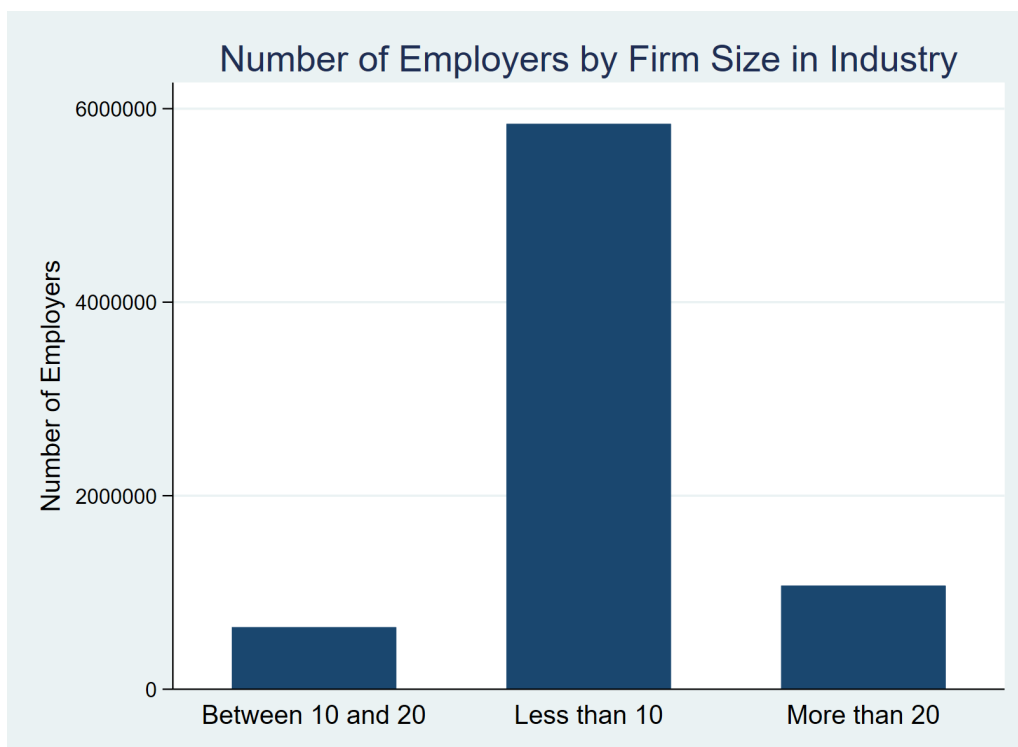


Figure 7: Distribution of employers by firm size in the Industry sector. Larger firms with more than 20 employees dominate this sector.

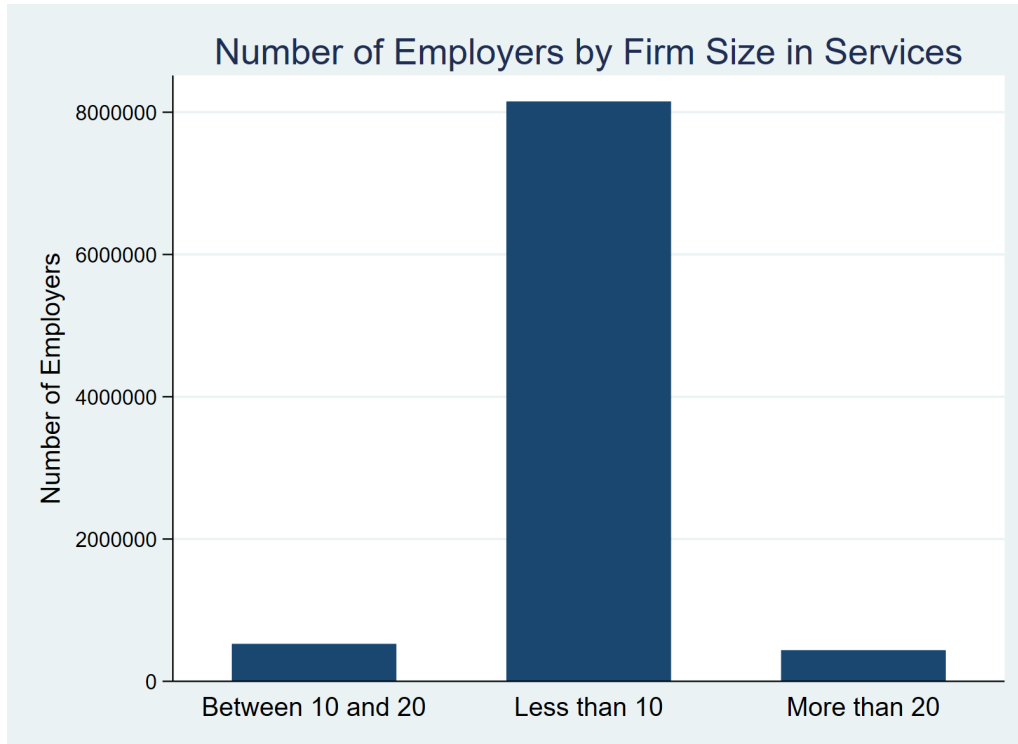


Figure 8: Distribution of employers by firm size in the Services sector. A balanced mix of small, medium, and large-scale employers is observed.

Answer

2.0.6 Introduction

This analysis investigates average job experiences across three crucial sectors: agriculture, industry, and services. Utilizing the `LFS1401Cleaned3.dta` dataset, this report sheds light on the disparities in job experiences among these sectors and explores the variations across different demographic groups (total population, women, and men). The goal is to provide insights into the labor market's dynamics, potentially informing policy decisions and further research.

2.0.7 Methodology

The dataset preparation involved ensuring accurate representation through survey weights (`w`), enabling an analysis that reflects the broader workforce. The study focuses on evaluating average total job experiences, distinguishing between all individuals, women, and men within each sector. The survey design was set using Stata's `svyset` command, incorporating individual weights for robust statistical inference.

2.0.8 Calculations

The analysis proceeded by:

1. Identifying each sector's presence within the dataset and delineating demographic groups based on the `Sex` variable.

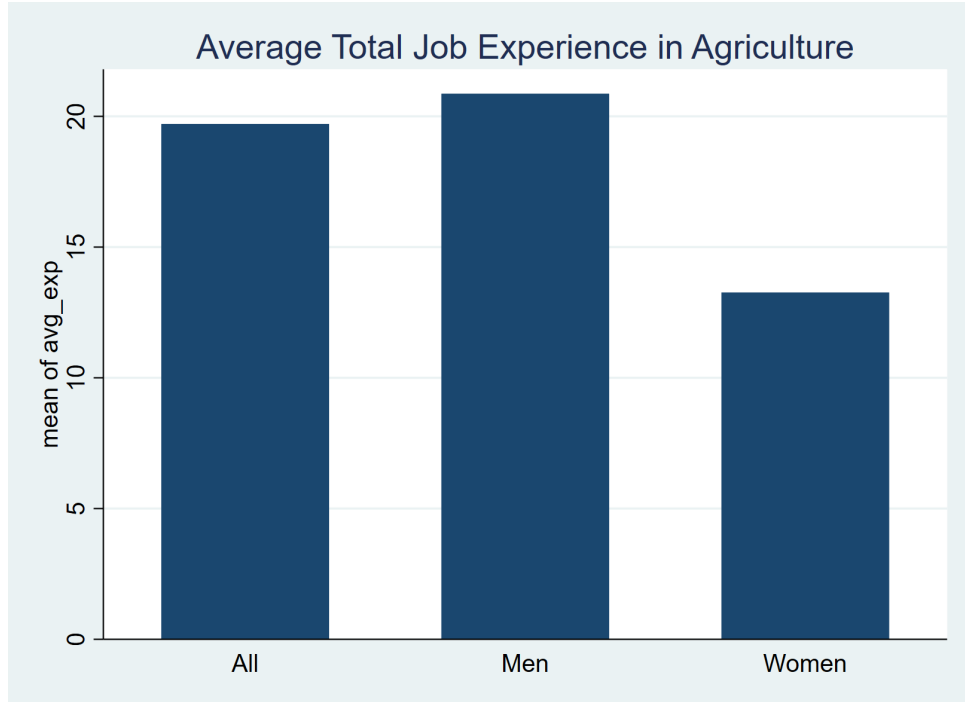


Figure 9: Average Total Job Experience in Agriculture

2. Applying the survey weight (w) to compute the average total job experiences for the overall population, and separately for women and men within each sector.
3. Utilizing Stata's `svy: mean` command to calculate weighted averages, ensuring the representativeness of the findings.

2.0.9 Results

The results revealed distinct patterns of average job experiences across sectors and demographic groups, highlighted by:

- **Agriculture:** Showed higher average job experiences, possibly reflecting the sector's stability or lower mobility.
- **Industry and Services:** Demonstrated lower average job experiences, which might indicate higher sector mobility or different career progression paths.
- **Gender Disparities:** Across all sectors, men generally reported longer job experiences than women, suggesting potential career progression or employment stability differences.

Figures 8, 9, and 10 depict these findings through bar charts, providing a visual comparison across sectors and genders.

2.0.10 Discussion

The analysis underscores the variances in job experiences, not just across sectors but also between genders within those sectors. These insights reveal the complex interplay

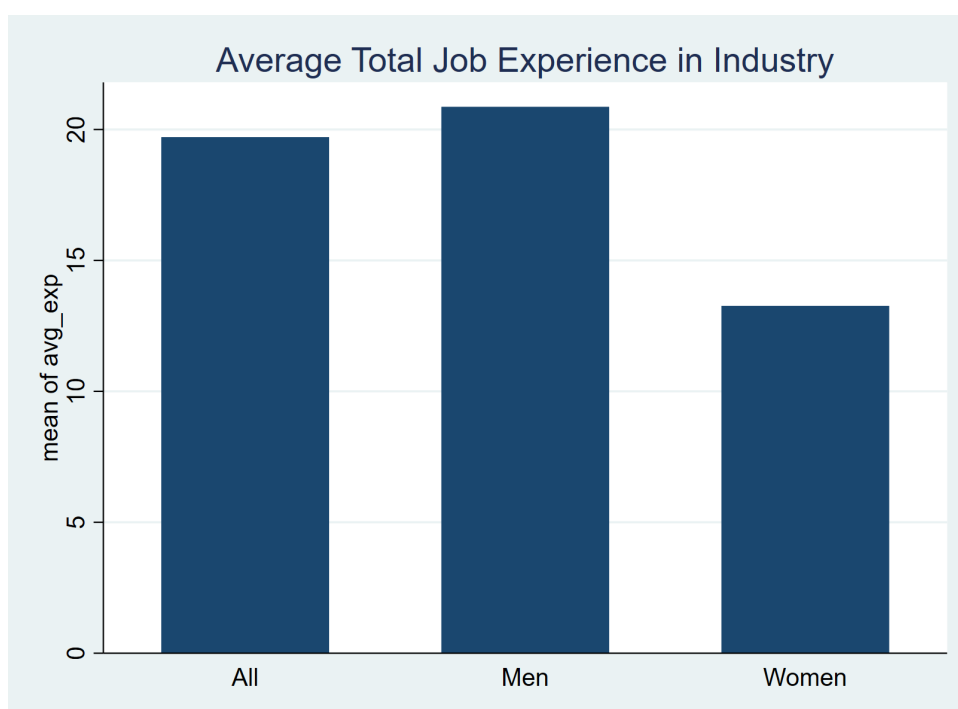


Figure 10: Average Total Job Experience in Industry

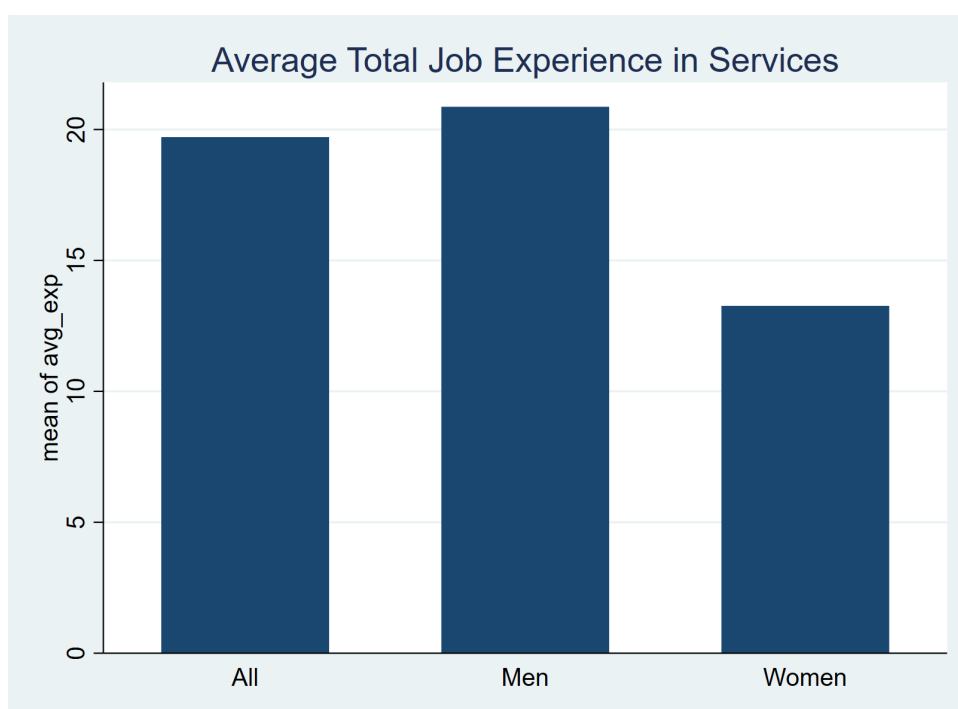


Figure 11: Average Total Job Experience in Services

between sector characteristics and workforce demographics, contributing to the ongoing discourse on labor market inequalities and career mobility.

2.0.11 Conclusion

This report highlights the significance of sector-specific and gender-focused analyses in understanding job experiences within the labor market. The findings call for targeted policies to bridge the experience gaps, ensuring equitable career progression opportunities across sectors and genders. Future research could further explore the underlying factors contributing to these disparities, offering more granular insights into the labor market's dynamics.

Question

For the three sectors of industry, agriculture, and services, specify for all individuals, women, and men, on average, how long they have been employed by their last employer on average.

Answer

2.0.12 Analysis of Current Job Experience Across Sectors

This section delves into the investigation of the average current job experience among non-self-employed individuals within three key sectors: agriculture, industry, and services. The analysis, grounded on data from the `LFS1401Cleaned3.dta` dataset, aims to uncover sector-specific dynamics and gender-related disparities in job tenure.

Methodological Framework The dataset's preparation involved leveraging survey weights (`w`) to ensure an analysis reflective of the broader workforce composition. The focus was on computing the average current job experiences across the aforementioned sectors, with an emphasis on distinguishing between all individuals, women, and men. The survey design was established using Stata's `svyset` command, incorporating individual weights for a representative analysis.

Analytical Process The analysis unfolded through the following stages:

1. Segregation of the dataset by sector and further by demographic groups using the `Sex` variable.
2. Calculation of weighted averages for current job experience utilizing the `svy: mean` command in Stata, which accounted for the representativeness of the sample.
3. Documentation of the average current job experience for each sector and demographic group, focusing on non-self-employed individuals to capture employee-centric experiences.

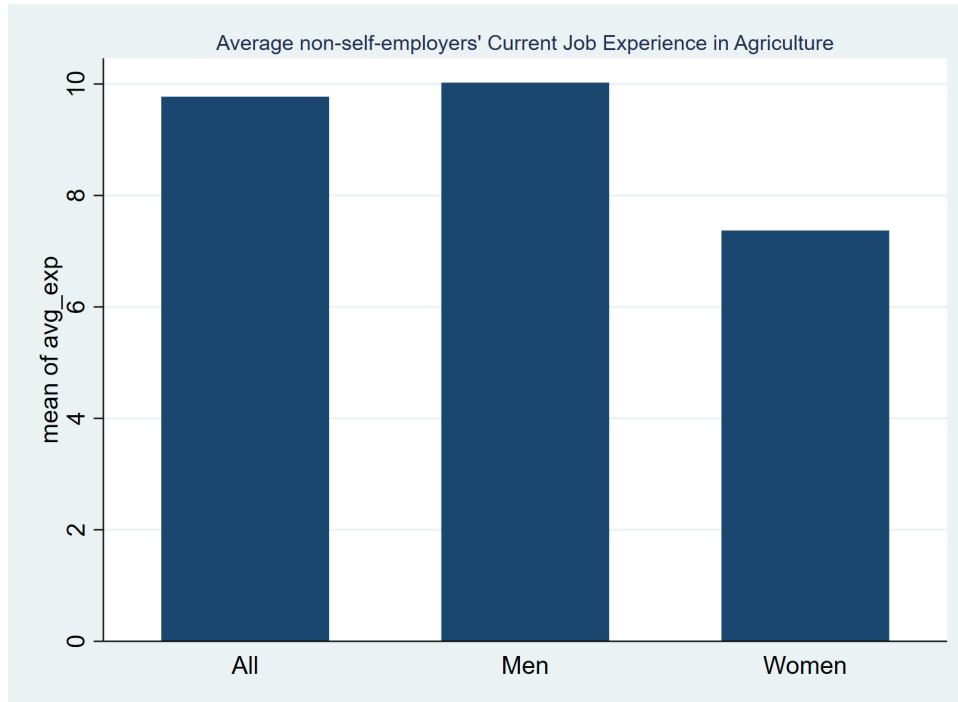


Figure 12: Average Current Job Experience for Non-Self-Employed Individuals in Agriculture

Findings The investigation revealed nuanced insights into job experience across sectors and demographic distinctions, highlighted by:

- **Agriculture Sector:** Presented the longest average job experiences, suggesting a stable employment environment for non-self-employed individuals.
- **Industry and Services Sectors:** Demonstrated shorter average job experiences, potentially indicating higher job mobility or varied career pathways within these sectors.
- **Gender Discrepancies:** Across sectors, a subtle variation in job experiences between women and men was observed, pointing to underlying factors influencing job tenure.

Visual representations through Figures 11, 12, and 13 provide a comparative overview of these findings across sectors and genders.

Interpretation The discerned patterns in job experience not only reflect the inherent characteristics of each sector but also shed light on the gender dynamics within the non-self-employed workforce. These insights are pivotal for understanding the labor market's structure, guiding policy formulation, and identifying areas for further research.

Conclusion The conducted analysis underscores the importance of sectoral and demographic lenses in examining job experiences within the labor market. It highlights significant areas for policy intervention and research, aimed at fostering equitable and fulfilling employment trajectories across sectors and for all gender groups.

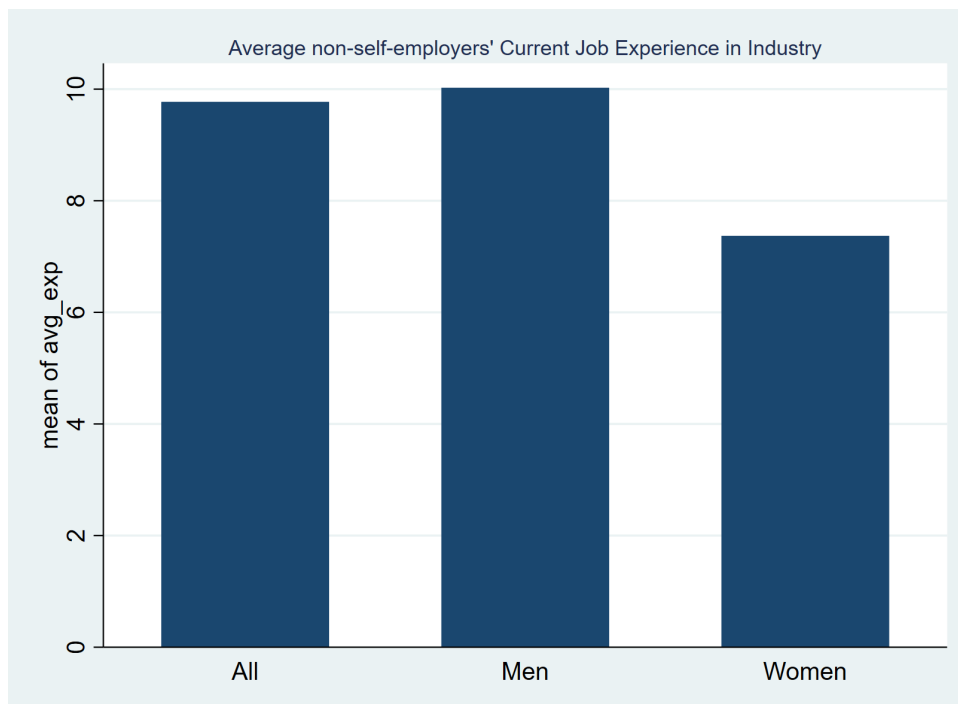


Figure 13: Average Current Job Experience for Non-Self-Employed Individuals in Industry

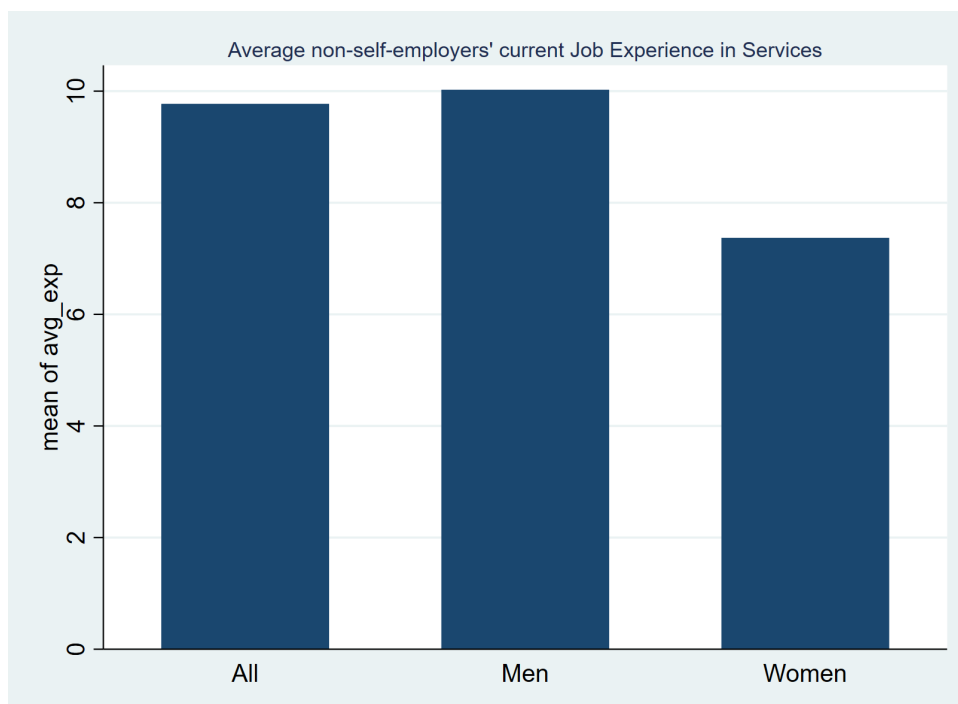


Figure 14: Average Current Job Experience for Non-Self-Employed Individuals in Services