



## Methods Lab #3: Analyzing Gender Equity among Business Firms

Due March 6th, at the beginning of class

### Objectives:

- To understand and apply the concepts of equity and neutrality
- To develop and hone your skills using spreadsheet-based data tools for policy analysis
- To practice skills in analyzing and interpreting imperfect data
- To practice developing professionalism in policy report writing

### Overview

The National Women in Business Council is concerned that some of our Nation's top business firms are hiring women at a lower rate than men of equivalent experience. They are also concerned that women in business firms are receiving lower wages than men of equivalent experience.

You are hired as a consultant for the National Women in Business Council to evaluate four of the Nation's most reputable business employers and evaluate the degree to which the accusations of gender inequality are true, and supported by data. These firms are: *Penrose Corporation*, *Magnacorp*, *Numera-tec*, and *Suncorp*. You are tasked with comparing firm-level data against both national data on business employees and citywide data on business employees, for the cities in which these four firms' corporate headquarters are located.

The Excel file titled "Methods Lab 3" contains five worksheets.<sup>1</sup>

1. The worksheet labeled "Incorporation" indicates the city in which each firm is incorporated.
2. The worksheet labeled "National Wages" provides data on the national median salary among employees in business, by year of experience.
3. The worksheet labeled "Experience by City" provides data on the number of employees in business for each of the four cities, by year of experience. It includes a separate table of data for the number of employees in these cities who are women.
4. The worksheet labeled "Hiring by Firm" provides data on the total number of employees by experience for both men and women for each of the four firms.
5. The worksheet labeled "Wages by Firm" provides wage data for men and women by experience for each firm.

The approach that you will take with this data includes analysis, comparison and graphical interpretation. You will be evaluated on your ability to make basic calculations and figures in Excel, as well as your ability to evaluate and explain those calculations and figures in professional policy writing.

You are to prepare your responses as a policy write-up. Your final project will be in the form of a written policy brief, submitted in paper on the due date listed above. The Excel file provides template tables that will help you in completing this assignment.

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<sup>1</sup> **DISCLAIMER:** the data provided in this methods lab are hypothetical. No conclusions about the state of women's employment in business can be drawn beyond this assignment. Similarly, the company names and cities are hypothetical and for purposes of this assignment only, and no inferences should be made regarding employment or salaries within those cities or to companies with similar or equivalent names.

**Task 1: National Gender Income Neutrality**

Is the accusation that men in business in the United States make more money than women in business, justified?

*(2 Points)*

A) Provide evidence by calculating the **percent** of the national median salary men receive, by year of experience. Then calculate the **percent** of the national median salary women receive, by year of experience. Provide the percent calculations in a single table and paste them into your word document. (Note: you are looking for percent, which is calculated by dividing a salary figure for a gender by the national median figure, and then multiplying by 100. If the salary is larger than the median, the percent should be larger than 100.)

After you complete the template table in Excel, you can copy the table into your Word document. (Recommendation: copy the table as an enhanced metafile image using the Excel option “Paste Special.”)

*(2 Points)*

B) Provide a brief description (less than 100 words) of the table you have provided. What does it show? Does it provide any evidence for a claim that the principle of “Distributional Equity” is violated in wage rates by gender at the national level?

**Task 2: Citywide Gender Employment Neutrality**

Is the accusation that men in our four sample cities are hired at a greater rate than women, justified?

*(2 Points)*

A) Provide evidence by calculating the **percent** of all employees in business represented by women, by city and by years of experience. Provide a single table containing these calculations, and provide this table in your response. Do not forget to include the row for percent of TOTAL employment represented by women.

After you complete the template table in Excel, copy the table into your policy brief Word document. (Recommendation: copy the table as an enhanced metafile picture using the Excel option “Paste Special.”)

*(3 Points)*

B) Provide a brief description (less than 100 words) of the table you have provided. What does it show? Does it provide any evidence for a claim that the principle of “Distributional Equity” is violated in gender hiring in our four sample cities? Are any cities more gender neutral than others in terms of business hiring? Is there any evidence that distributional equity is affected by the level of experience?

**Task 3: Gender Employment Neutrality by Firm**

Each of the four firms is facing accusations that they hire women in business at lower rates than all business firms in their respective cities. Is this accusation justified?

*(2 Points)*

A) Provide evidence by calculating the **percent** of all employees in each firm represented by women. Do a separate calculation for women with less than ten years of experience, and women with ten or more years of experience. Do not forget to include the TOTAL percent of women hired by firm.

After you complete the template table in Excel, copy the table into your Word document. (Recommendation: copy the table as an enhanced metafile picture using the Excel option “Paste Special.”)

(2 Points)

B) Construct a table that shows the TOTAL **percent** of women hired in business within each city. Use this as a comparison with the table you provided in Part A, above. (Note: the values in this table should be the same as the values in the last row of your table from Question #2.)

After you complete the template table in Excel, copy the table into your Word document. (Recommendation: copy the table as an enhanced metafile picture using the Excel option “Paste Special.”)

(2 Points)

C) Provide a brief description (less than 100 words) describing the tables you have created. Do your calculations support or refute the accusation that women hired in each of the four companies are hired at a lower rate than women in all business firms in their respective cities? (In other words, can a company like Penrose Corporation defend itself by saying that it hires a greater percentage of women than do other business firms in Chicago?)

(2 Point)

D) Do the claims that you make in Part C depend upon the hiring of women with more, versus less experience? In other words, is there a vertical equity concern? Use your calculations of business women hiring in each of the four firms for less than ten years of experience, and ten or more years of experience.

#### **Task 4: Wage Neutrality by Firm**

Is the accusation that women are not paid as highly as men justified by the data? Is this true within each of our four firms? And, is this true in comparison to national wages?

(4 Points)

A) Create a 2-dimensional line chart of wages by year of experience. Include a separate series (line plot) for each of the following data series:

1. All Business Employees (National Median Wages)
2. Male Business Employees (National Median Wages)
3. Female Business Employees (National Median Wages)
4. Male Business Employees (Penrose)
5. Female Business Employees (Penrose)
6. Male Business Employees (Magnacorp)
7. Female Business Employees (Magnacorp)
8. Male Business Employees (Numera-tec)
9. Female Business Employees (Numera-tec)
10. Male Business Employees (Suncorp)
11. Female Business Employees (Suncorp)

(Recommendation: copy the figure as an enhanced metafile picture using the Excel option “Paste Special.”)

(4 points)

B) Provide a brief description (less than 100 words) describing your figure. Use your skills at visual evaluation to draw conclusions from the presented figure. Are the claims that women are not paid as highly as men justified by the data, either at the national level, or among the four firms you have analyzed? What is the extent of wage neutrality indicated by the wage data, both at the national level and among the four firms?