

Handout 1: Description of Tables and Explanation of Control Variables

Learning Objectives:

Skill

- Identifying independent and dependent variables
- Quantitative writing
- Learning how to read and interpret bivariate tables displaying frequencies and percentages

Substance

- Use data to understand/discover:
 - The effect of occupation on earnings;
 - The effect of gender on earnings;
 - The effect of gender on earnings when controlling for occupation

Please read carefully below the descriptions of the tables given in Handout 2. Note how I have described the effect of occupation on earnings, the effect of gender on earnings, and the effect of gender on earnings when controlling for occupation. For your homework, you will be asked to analyze the effect of education on earnings and determine if controlling for education changes the effect of gender or race on earnings.

The effect of occupation on earnings:

When looking at earnings by occupation, we see that top white collar workers generally make the most, and service workers, other blue collar workers, and farm workers typically make the least. For example, if we examine high-end incomes, we see that 43% of top white collar workers make \$50,000 or more, compared to only about 7% of all service workers, 8% of farm workers and just 10% of all other blue collar workers. Thus, a much greater proportion of top white collar workers make high incomes compared to service workers, farm workers and blue collar workers. If we look at the bottom end of the income scale, we see the reverse. Two-thirds of all service workers and farm workers, and half of other blue collar workers make less than \$25,000 per year. By comparison, only 15% of top white collar workers fall into the low-income category. Overall, we see a clear effect of occupation on earnings. Top white collar workers fall disproportionately into the high-end income brackets, while the majority of service workers, farm workers and other blue collar workers make low incomes.

The effect of gender on earnings:

When examining the effect of gender on earnings, we see that men make disproportionately higher incomes than women. For example, if we look at high-income categories, we see that 32% of men make \$50,000 or more, compared to only 13% of women. At the other end of the income scale, we see that women are disproportionately represented in the low-income categories. For example, 46% of women make less than \$25,000, compared to only 27% of men. Overall, it is clear that men earn more than women.

The effect of education on earnings, controlling for occupation

Now we are going to examine the effect of gender on earnings, and control for occupation. It may be that women make less than men, because they go into different occupations. For example it may be that more men are in top white collar jobs, and more women are in other white collar jobs. Thus,

women have lower incomes because they go into low-income jobs. We could find this out in part by running a cross-tab between occupation and gender. (I recommend you do this – you might be surprised by the results!) Another piece of information is whether women in the same occupations actually make less than men. To do this, we want to look at gender differences in earnings for each occupational category. This way, we are holding constant the occupational category to see if gender still makes a difference. For example, we can examine just top white collar workers and see if men and women make comparable incomes within this occupational category. If men and women are paid equally within occupations (even if they are not equally represented within this occupation), then we should see few differences.

When we look at the effect of gender on earnings and control for occupation, we find, sadly enough, that gender still affects income. To determine this, start by walking through each of the cross-tabs. You will have as many tables as there are categories of the control variable (e.g., since there are six categories in the occupation variable, you will have six tables, one for each of these categories). Examine the table for earnings by gender for top white collar positions. Note that even within this category, we still see an effect of gender on earnings. Among top white collar workers, women make less than men. For example, 57% of men in top white collar jobs make \$50,000 or more, compared to only 26% of women who are in top white collar jobs. Similarly, we see a higher proportion of women in the low-income category. Twenty-one percent of women in top white collar jobs make less than \$25,000 compared to only 10% of men.

Now look at the next category, other white collar jobs. Again, do you see gender differences? Indeed, we do. Once again, a higher proportion of men than women fall into the high-income categories. For example, 32% of men in other white collar jobs make more than \$50,000 while only 7% of women do. And once again, women are disproportionately represented in the low-income jobs. In fact, half of all women who are in other white collar jobs make less than \$25,000. This compares to just 24% of the men in such jobs.

If we continue to examine the rest of the categories, we will see the same patterns. Within each occupational category, a higher percentage of men than women make high incomes, and a higher proportion of women fall into the low-income categories.

Overall, we see that even when controlling for occupation, gender continues to affect earnings: women make less than men. Regardless of occupation, we find that a higher proportion of women than men fall into the low-income categories. Likewise, a higher proportion of men than women fall into the high-income categories. Thus we see that we can not explain away the differences in earnings by occupation. Even when we control for occupation, we find that men make more than women. Apparently, occupational sex segregation is not the main answer for gender differences in earnings. Can you think of any other explanations for our findings?

General Rules for describing results:

- start with a general statement without any numbers
- back up claim with stats – and follow same direction of statement (e.g, if say “men make more than women” then show how more men fall into the high-income categories, not how more women fall into the low-income categories)
- when using stats, always say ___% of ___ (e.g. “10% of Hispanics”). Do NOT say “Hispanics are 10%.”
- when showing similarities across groups, use ‘and’

- when showing diffs, use “compared to” “while only” etc.
- have a summary statement at the end.
- Write as if you care about what you found – these numbers mean something!

Useful phrases:

- A higher proportion of ... fall into the (lower income/higher income) category
- a disproportionate number of ... fall into the ...

Bouma

**Handout 2: Gender, Occupation and Earnings
Frequencies for all Fulltime workers, aged 25-64, 2000**

RaceLat

NLWhite	Black	Latino	Asian	AmIndian
73.4%	11.9%	9.8%	4.1%	0.8%

Gender

Male	Female
57.7%	42.3%

Famtype

MrrdCpl	MaleFam	FemIFam	MaleNonF	FemINonF
65.8%	4.7%	10.6%	10.8%	8.1%

Earning

<25K	25-35K	35-50K	50-70K	70-100K	100K+
35.1%	20.3%	20.4%	12.9%	6.4%	4.7%

Educ

LTHS	HSGrad	SomeColl	CollGrad
9.5%	31.6%	27.7%	31.2%

Occup

TopWC	OtrWC	Service	TopBC	OtrBC	Farm
33.8%	27.2%	10.4%	12.5%	13.9%	2.2%

The occupations have been defined and categorized in the following ways:

- **Top White Collar (TopWC)** – professional workers, executives, administrators, and managers
- **Other White Collar (OtrWC)** – administrative support, clerical and sales workers, technicians, and related support
- **Service (Service)** – private household, protective service, and other service workers
- **Top Blue Collar (TopBC)** – “skilled blue collar” jobs such as precision production, craft, and repair workers
- **Other Blue Collar (OtrBC)** – workers in less skilled blue collar jobs
- **Farm (Farm)** – workers in farm, forestry, and fishery occupations

**Earnings by Occupation
Full-Time Workers, Aged 25-64, 2000**

	TopWC	OtrWC	Service	TopBC	OtrBC	Farm
<25K	15.1%	39.6%	67.1%	31.1%	49.6%	68.3%
35.1%						
25-35K	17.4%	24.2%	16.0%	22.5%	22.6%	13.1%
20.3%						
35-50K	24.5%	19.1%	9.5%	25.8%	18.0%	11.0%
20.4%						
50-70K	20.6%	9.2%	5.0%	14.4%	7.7%	4.0%
12.9%						
70-100K	12.1%	4.6%	1.5%	5.0%	1.8%	1.6%
6.4%						
100K+	10.3%	3.4%	0.8%	1.2%	0.4%	1.9%
4.7%						
All	33,283,596	26,790,752	10,265,343	12,331,100	13,644,580	2,121,303
	N=98,436,674					

Earnings by Gender for All Full-Time Workers, Aged 25-64, 2000

	Male	Female	
<25K	27.2%	45.9%	35.1%
25-35K	18.8%	22.5%	20.3%
35-50K	22.1%	18.2%	20.4%
50-70K	16.3%	8.4%	12.9%
70-100K	8.7%	3.3%	6.4%
100K+	7.0%	1.7%	4.7%
All	56,827,145	41,609,529	N = 98,436,674

The following six tables examine the effects of gender on earnings, controlling for occupation. Each table shows the earnings of men and women, within a specific occupational category.

Earnings By Gender, Top White Collar Positions

	Male	Female	
<25K	9.8%	21.3%	15.1%
25-35K	12.4%	23.2%	17.4%
35-50K	20.7%	28.9%	24.5%
50-70K	24.0%	16.7%	20.6%
70-100K	16.9%	6.6%	12.1%
100K+	16.3%	3.3%	10.3%
All	17,893,435	15,390,161	N = 33,283,596

Earnings By Gender, for **OTHER WHITE COLLAR WORKERS**

	Male	Female	
<25K	23.5%	50.4%	39.6%
25-35K	19.8%	27.1%	24.2%
35-50K	24.6%	15.3%	19.1%
50-70K	16.5%	4.3%	9.2%
70-100K	8.6%	2.0%	4.6%
100K+	6.9%	1.0%	3.4%
All	10,790,503	16,000,249	N = 26,790,752

Earnings by Gender, **SERVICE WORKERS (Occup = Service)**

	Male	Female	
<25K	50.9%	80.9%	67.1%
25-35K	20.5%	12.3%	16.0%
35-50K	14.9%	4.9%	9.5%
50-70K	9.7%	1.0%	5.0%
70-100K	2.7%	0.5%	1.5%
100K+	1.3%	0.4%	0.8%
All	4,703,339	5,562,004	N = 10,265,343

- **Top White Collar (TopWC)** – professional workers, executives, administrators, and managers
- **Other White Collar (OtrWC)** – administrative support, clerical and sales workers, technicians, and related support
- **Service (Service)** – private household, protective service, and other service workers

Earnings by Gender, **TOP BLUE COLLAR JOBS (Occup = TopBC)**

	Male	Female	
<25K	28.9%	53.6%	31.1%
25-35K	22.2%	25.2%	22.5%
35-50K	27.3%	11.4%	25.8%
50-70K	15.1%	8.0%	14.4%
70-100K	5.4%	1.1%	5.0%
100K+	1.2%	0.8%	1.2%
All	11,216,100	1,115,000	N = 12,331,100

Earnings by Gender, **OTHER BLUE COLLAR, (Occup = OtrBC)**

	Male	Female	
<25K	41.9%	75.1%	49.6%
25-35K	25.0%	14.6%	22.6%
35-50K	21.0%	8.2%	18.0%
50-70K	9.4%	1.9%	7.7%
70-100K	2.3%	0.0%	1.8%
100K+	0.5%	0.1%	0.4%
	(56,046)	(2,906)	

Earnings by Gender, **FARMERS (Occup = Farm)**

	Male	Female	
<25K	65.5%	81.8%	68.3%
25-35K	13.8%	9.8%	13.1%
35-50K	12.7%	2.8%	11.0%
50-70K	3.9%	4.7%	4.0%
70-100K	1.9%	0.2%	1.6%
100K+	2.2%	0.8%	1.9%
All	1,758,256	363,047	N = 2,121,303

- **Top Blue Collar (TopBC)** – “skilled blue collar” jobs such as precision production, craft, and repair workers
- **Other Blue Collar (OtrBC)** – workers in less skilled blue collar jobs
- **Farm (Farm)** – workers in farm, forestry, and fishery occupations