Chapter 7

The Public-Use Microdata Sample (PUMS)

Of the various census tabulations, the PUMS data set provides the most detail albeit with a coarser geographic filter. Because the PUMS data set contains a five-percent sample of housing units and persons in those housing units, it is possible to create customized tabulations that control for age, gender, income, and other factors that may inadvertently influence the relationships between variables. Because data are at the individual level, it is possible to examine household relationships such as intermarriage and identified race of children of mixed-race parents as well characteristics of housing units such as year of construction or housing type occupied by specific racial groups. PUMS data, for example, could be used to explore the issue of income equity. Various minorities and women have complained that they do not receive the same incomes as white men even when education, age, gender, and occupation are controlled. Using PUMS, all these factors could be controlled to see if indeed women or minorities in specific jobs are paid equitably.

A. Income Distribution Differences Among Ethnic Groups

The table below presents the income frequency distribution of households by race and income category within PUMA 5200 (Burbank and San Fernando). It is a cross-tabulation of selected race categories by defined income categories. The data are for households whose heads are civilian-employed persons aged 16 and over. Several groups are identified: non-Hispanic whites; blacks; Indians, Aleuts, and Eskimos; Chinese and Taiwanese; Filipinos; Japanese; Asian Indians; and Koreans. Each cell contains the number of households, the column percentage, and the row percentage.

Table 13 shows the distribution of income among households of each of the race groups in terms of the percentage of households in each of the income categories. Of the two percentages shown in each cell, the lower one shows the percentage of the ethnic households in each income category. What is evident is the higher percentages of blacks in the low-income categories of $10,000 - $24,000 compared to non-Hispanic whites. Filipinos and Japanese have higher proportions in the higher income categories although some clusters of Filipino and Korean households are found in low income categories.

Table 13. Income Distribution within Ethnic Groups

RACE GROUP Page ETHNIC

HHINC	Count / Row Pct / Col Pct	NhW 1	Blk 2	InAlEs 3	Chi+Tai 4	Fil 6	Jap 7	AsInd 8	Kor 9	Row Total
1		854			18				20	892
<5		95.7			2.0				2.2	2.7
		2.7			5.9				6.9	
2		2357	45		18					2420
5-9		97.4	1.9		.7					7.2
		7.5	6.4		5.9					
3		1926	92							2018
10-14		95.4	4.6							6.0
		6.2	13.0							
4		2015	71	18	16	42	24		20	2206
15-19		91.3	3.2	.8	.7	1.9	1.1		.9	6.6
		6.4	10.1	7.5	5.2	9.8	8.7		6.9	
5		2206	158		13	21	53		23	2474
20-24		89.2	6.4		.5	.8	2.1		.9	7.4
		7.1	22.4		4.2	4.9	19.2		8.0	
6		2224	39	56	21	21	13		29	2403
25-29		92.6	1.6	2.3	.9	.9	.5		1.2	7.2
		7.1	5.5	23.4	6.8	4.9	4.7		10.1	
7		2427	91	13	18	45	11	31		2636
30-34		92.1	3.5	.5	.7	1.7	.4	1.2		7.8
		7.8	12.9	5.4	5.9	10.5	4.0	54.4		
8		2153	31	29	49	34	42			2338
35-39		92.1	1.3	1.2	2.1	1.5	1.8			7.0
		6.9	4.4	12.1	16.0	8.0	15.2			
9		2300		23	13	123		26		2485
40-44		92.6		.9	.5	4.9		1.0		7.4
		7.4		9.6	4.2	28.8		45.6		
10		1628	32	58		39	13		88	1858
45-49		87.6	1.7	3.1		2.1	.7		4.7	5.5
		5.2	4.5	24.3		9.1	4.7		30.6	
11		3181	76		50		45		34	3386
50-59		93.9	2.2		1.5		1.3		1.0	10.1
		10.2	10.8		16.3		16.3		11.8	
12		4342	71	18	58	30	44		33	4596
60-79		94.5	1.5	.4	1.3	.7	1.0		.7	13.7
		13.9	10.1	7.5	18.9	7.0	15.9		11.5	
13		1747			15	36			31	1829
80-99		95.5			.8	2.0			1.7	5.4
		5.6			4.9	8.4			10.8	
14		1360		24	18	36	15		10	1463
100-150		93.0		1.6	1.2	2.5	1.0		.7	4.4
		4.3		10.0	5.9	8.4	5.4		3.5	
15		562				16				578
150+		97.2				2.8				1.7
		1.8				5.8				

Column	31282	706	239	307	427	276	57	288	33582
Total	93.2	2.1	.7	.9	1.3	.8	.2	.9	100.0

B. Occupational Differences Among Ethnic Groups

In this second PUMS example a selected set of occupations have been defined. The number of males and females of ethnic groups in each of the occupations has been tabulated. Do certain ethnic groups tend to predominate in certain types of occupations? The table shows the percent of all ethnic persons employed in each occupation. This proportion could further be compared to the proportion of all persons employed within the occupation to see if the ethnic group is over represented or underrepresented within that particular occupation.

For this particular Burbank-San Fernando PUMA, Japanese males are well represented as executives and post office workers. Chinese men also are prominent in executive jobs and in food services. Korean men are prominent in sales, construction and medical operations while Mexican men are over represented in the health services, machine operations, and as helpers. Salvadoran men work as food preparers, in construction, and as laborers (helpers).

Among women Chinese are well represented in the category of executives, administrators, or managers and as laborers, Like male Japanese, Japanese women also are prominent in the former category. Cuban women are strongly represented as teachers and in technical sales. Black women are particularly strong in professional services, the post office, and health services. Filipino women are prominent in professional occupations and Mexican and Salvadoran women predominate as machine operators.

C. Exercises

Ex 13. Accessing Census 2000 PUMS Data

Ex 14. Analyzing Census 2000 PUMS Data

Table 14. Ethnic Employment for Males and Females in PUMA 5200

OCC	Count / Row Pct / Col Pct	NhW	Blk	Chi+Tai	Fil	Jap	Kor	Mex	PR	Cub	Sal	Row Total
		1	2	3	4	6	7	8	9	10	11	
1		12860	277	289	250	224	232	5950	88	320	278	20768
ExecAdmMgt		61.9	1.3	1.4	1.2	1.1	1.1	28.6	.4	1.5	1.3	40.8
		39.5	35.3	58.1	38.1	52.3	45.4	43.6	48.4	43.6	32.4	
2		4175	117		75	13		328		91	21	4820
Professional		86.6	2.4		1.6	.3		6.8		1.9	.4	9.5
		12.8	14.9		11.4	3.0		2.4		12.4	2.4	
3		410			5			70				485
Teach		84.5			1.0			14.4				1.0
		1.3			.8			.5				
4		50	32		21	24						127
HlthTch		39.4	25.2		16.5	18.9						.2
		.2	4.1		3.2	5.6						
5		6169	158	68	116	60	148	1160	50	117	94	8140
SaleTch		75.8	1.9	.8	1.4	.7	1.8	14.3	.6	1.4	1.2	16.0
		18.9	20.2	13.7	17.7	14.0	29.0	8.5	27.5	15.9	11.0	
6		104		19		45	15	127				310
PostOf		33.5		6.1		14.5	4.8	41.0				.6
		.3		3.8		10.5	2.9	.9				
8		875	76		24	20		236				1231
Serv		71.1	6.2		1.9	1.6		19.2				2.4
		2.7	9.7		3.7	4.7		1.7				
9		580		80	13			677		44	115	1509
FoodPr		38.4		5.3	.9			44.9		2.9	7.6	3.0
		1.8		16.1	2.0			5.0		6.0	13.4	
10								20				20
HealSr								100.0				.0
								.1				
11		1019	55		18	18		307	24	86	19	1546
Mechan		65.9	3.6		1.2	1.2		19.9	1.6	5.6	1.2	3.0

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                |   3.1  |   7.0  |        |   2.7  |   4.2  |        |   2.3  |  13.2  |  11.7  |   2.2  |
                +--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
             12 |  1550  |        |        |    16  |        |    39  |   669  |        |    26  |    81  |
2381
  Const         |  65.1  |        |        |    .7  |        |   1.6  |  28.1  |        |   1.1  |   3.4  |
4.7
                |   4.8  |        |        |   2.4  |        |   7.6  |   4.9  |        |   3.5  |   9.4  |
                +--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
             13 |  1410  |        |    28  |    31  |     8  |        |   961  |        |        |    78  |
2516
  PrecProd      |  56.0  |        |   1.1  |   1.2  |    .3  |        |  38.2  |        |        |   3.1  |
4.9
                |   4.3  |        |   5.6  |   4.7  |   1.9  |        |   7.0  |        |        |   9.1  |
                +--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
             14 |  1246  |        |    13  |    26  |        |    77  |  1589  |        |        |    60  |
3011
  MachOp        |  41.4  |        |    .4  |    .9  |        |   2.6  |  52.8  |        |        |   2.0  |
5.9
                |   3.8  |        |   2.6  |   4.0  |        |  15.1  |  11.7  |        |        |   7.0  |
                +--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
             15 |   976  |    46  |        |    11  |        |        |   698  |    20  |    29  |    55  |
1835
  Trans         |  53.2  |   2.5  |        |    .6  |        |        |  38.0  |   1.1  |   1.6  |   3.0  |
3.6
                |   3.0  |   5.9  |        |   1.7  |        |        |   5.1  |  11.0  |   4.0  |   6.4  |
                +--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
             16 |  1164  |    23  |        |    50  |    16  |        |   840  |        |    21  |    57  |
2171
  Helper        |  53.6  |   1.1  |        |   2.3  |    .7  |        |  38.7  |        |   1.0  |   2.6  |
4.3
                |   3.6  |   2.9  |        |   7.6  |   3.7  |        |   6.2  |        |   2.9  |   6.6  |
                +--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
          Column   32588      784      497      656      428      511    13632      182      734      858
50870
(Continued)  Total    64.1      1.5      1.0      1.3       .8      1.0     26.8       .4      1.4      1.7
100.0


SEX  SEX  Value = 1  FEMALE FEMALE
           Count  |
          Row Pct |NhW      Blk      Chi+Tai     Fil      JapKor      Mex      PR       Cub      Sal
          Col Pct |
Row
                |     1  |     2  |     3  |     4  |     6  |     7  |     8  |     9  |    10  |    11  |
Total
OCC        --------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
             1  | 16906  |   291  |   292  |   497  |   352  |   356  |  8052  |    86  |   352  |   505  |
27689
  ExecAdmMgt    |  61.1  |   1.1  |   1.1  |   1.8  |   1.3  |   1.3  |  29.1  |    .3  |   1.3  |   1.8  |
51.3
                |  49.3  |  36.0  |  65.0  |  43.9  |  68.1  |  56.3  |  57.3  |  33.1  |  47.2  |  47.0  |
                +--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
             2  |  2529  |    83  |    27  |   155  |    42  |    10  |   137  |    19  |    26  |        |
3028
  Professional  |  83.5  |   2.7  |    .9  |   5.1  |   1.4  |    .3  |   4.5  |    .6  |    .9  |        |
5.6
                |   7.4  |  10.3  |   6.0  |  13.7  |   8.1  |   1.6  |   1.0  |   7.3  |   3.5  |        |
                +--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
             3  |  1160  |        |        |    11  |        |        |   303  |        |    41  |    34  |
1549
  Teach         |  74.9  |        |        |    .7  |        |        |  19.6  |        |   2.6  |   2.2  |
2.9
                |   3.4  |        |        |   1.0  |        |        |   2.2  |        |   5.5  |   3.2  |
                +--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
             4  |   211  |    53  |        |    31  |        |        |    29  |        |        |    21  |
345
  HlthTch       |  61.2  |  15.4  |        |   9.0  |        |        |   8.4  |        |        |   6.1  |
.6
                |    .6  |   6.6  |        |   2.7  |        |        |    .2  |        |        |   2.0  |
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5	11006	227	92	304	104	180	2222	124	215	255	14729
SaleTch	74.7	1.5	.6	2.1	.7	1.2	15.1	.8	1.5	1.7	27.3
	32.1	28.1	20.5	26.9	20.1	28.5	15.8	47.7	28.8	23.7	
6	60	19					13				92
PostOf	65.2	20.7					14.1				.2
	.2	2.3					.1				
7	81						231		13	18	343
PrHHS	23.6						67.3		3.8	5.2	.6
	.2						1.6		1.7	1.7	
8	394			15			254				663
Serv	59.4			2.3			38.3				1.2
	1.1			1.3			1.8				
9	820	37	15	24		34	333			18	1281
FoodPr	64.0	2.9	1.2	1.9		2.7	26.0			1.4	2.4
	2.4	4.6	3.3	2.1		5.4	2.4			1.7	
10	175	70		52			75	16	32	32	452
HealSr	38.7	15.5		11.5			16.6	3.5	7.1	7.1	.8
	.5	8.7		4.6			.5	6.2	4.3	3.0	
11	101				19						120
Mechan	84.2				15.8						.2
	.3				3.7						
12	65						13				78
Const	83.3						16.7				.1
	.2						.1				
13	188			37			475			55	755
PrecProd	24.9			4.9			62.9			7.3	1.4
	.5			3.3			3.4			5.1	
14	292			5		52	1632	15	43	136	2175
MachOp	13.4			.2		2.4	75.0	.7	2.0	6.3	4.0
	.9			.4		8.2	11.6	5.8	5.8	12.7	
15	62	29					23				114
Trans	54.4	25.4					20.2				.2
	.2	3.6					.2				
16	227		23				259		24		533

Helper	42.6		4.3				48.6		4.5		
1.0											
	.7		5.1				1.8		3.2		
Column	34277	809	449	1131	517	632	14051	260	746	1074	
53946											
(Continued) Total	63.5	1.5	.8	2.1	1.0	1.2	26.0	.5	1.4	2.0	
100.0											