PREP: POST RELEASE EMPLOYMENT PROJECT
THE EFFECTS OF WORK SKILLS ACQUISITION IN PRISON ON POST RELEASE EMPLOYMENT

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During early 1983 a renewed interest in assessing the impact of Federal Prison Industries (UNICOR) employment on post-release employability generated a request for an evaluation of the benefits of UNICOR work experience. Subsequently, UNICOR provided the funds for a broad range of novel vocational training programs and requested an additional evaluation of the impact of these programs on employment after release, relative to the other job training programs offered within the Bureau of Prisons' facilities. Both requests specified an interest in the relationships between involvement in job training programs, employability, rearrest, and recommitment. The Post-Release Employment Project resulted from a merger of these two requests and provided an economical means of evaluating both programs simultaneously.

The evaluation was initiated in a pilot phase in July, 1983 at four institutions and fully implemented system-wide in January, 1984. By allowing both study groups to share the same comparison group and utilize the same logistics of data retrieval we were able to minimize the expenditure of funds and personnel required to provide the evaluations and also limit the disruption of field operations. Moreover, combining the evaluations provided possibilities for additional group comparisons. Thus, the data obtained not only allow for comparisons of individuals with and without UNICOR work experience, or comparisons of those completing specially (UNICOR) funded programs with those completing general vocational and apprenticeship programs, but also a comparison of individuals involved in any of these programs with individuals who chose not to be involved in any job training programs. Similarly, the data allow for a comparison of the influence of UNICOR employment relative to involvement in one or more vocational or apprenticeship programs, or comparisons of any other permutations of job training experiences. These comparisons are all by-products of the merger of the two evaluations.

Although some research questions can be addressed through the collection and analysis of data from a single point in time, such methods would not provide the type of data required to investigate the questions of concern here. We are concerned with an evaluation of program outcomes, that is, an assessment of the association between some degree of program involvement and subsequent performance in the program's content area. For each case or individual observed the investigation requires a measure of program performance at one or more points in time and a measure of outcome performance (which the program is presumed to influence) at one or more subsequent points in time. Consequently, the study design required the collection of post-release employment, arrest, and commitment information for all individuals who completed either six months or more of continuous employment in UNICOR, or one or more of the vocational training or apprenticeship programs offered in the Bureau of Prisons' facilities.

In order to make some of the comparisons alluded to above, it was necessary to identify and obtain post-release outcome measures on some individuals who had not engaged in job training programs within BOP facilities. However, this requirement poses a dilemma to a fair and unbiased evaluation. Since the Bureau is not at liberty to provide program services through a randomized experimental design, in order to obtain a random allocation of individuals to one program or another, or to no program at all, there is a potential bias inherent in the evaluation which is attributable to the self-selection process involved in determining who participates in various types of programs. That is, there are individual differences (e.g., prior educational attainment, previous employment experience, previous criminal history, and other factors due to biological, social, and psychological differences, such as motivation and so forth) that determine whether an individual will self-select themselves into the study group by participating in one or more of the job training programs. And, these same factors are also likely to influence an individual's potential for successful employment and adjustment

subsequent to release. Consequently, the choice of methods applied to comparison group member selection required special consideration to ensure a fair and unbiased evaluation.

Statistical analyses designed to assess the average differences between two groups confirm these expected differences between the self-selected study group and the complementary group of inmates who chose not to engage in BOP job training programs (see Table 1). Based on an array of routinely automated measures of pre-incarceration educational attainment, employment, and criminal histories which exist for all BOP inmates, we find study members to be more motivated and productive in both licit and illicit behavior. Study group members, on average, were first arrested and first incarcerated three years younger than the population of individuals who did not engage in BOP job training programs. Furthermore, members of the study group were more likely to have a larger number of prior arrests, convictions and commitments, and on average, served a longer amount of time on their commitment than non-study group members from the population. The BOP's security designation and custody classification measures (BP-14) also indicate that study group members are likely to have a more serious instant commitment offense and require a greater level of security. On the other hand, study group cases were also more likely to have served in the military and been employed prior to their instant incarceration. The only measure which is neither statistically nor substantively different between the two groups is the number of years of education completed prior to incarceration. Both study group members and the population completed an average of 11 years of education.

The procedure chosen to select comparison observations is designed to minimize these between-group differences by mathematically modeling the self selection process (see Rubin, 1979; Rosenbaum and Rubin, 1984; and Rosenbaum and Rubin, 1985). The process yields matched pairs of study and comparison observations who

are most similar with respect to an existing set of measures that are expected to influence both self-selection as well as one's likelihood for success subsequent to release. Table 2 demonstrates the comparison group selection procedure provides a group which is neither statistically nor substantively different from the study group. Furthermore, Table 3 demonstrates that the selection procedure provides pairs of individuals who are not statistically different with respect to the majority (70%) of the pre-incarceration measures. Where statistically significant differences do exist, study group members tend to be more serious offenders. (These statistical comparisons of the differences between the study and matched comparison observations are still premature in that they are based on less than the full complement of study and non-study group members. We should achieve the full number of observations in both groups by the end of December. However, it seems reasonable to assume that the results observed here will not change substantially.) The data obtained through this process should, therefore, provide unbiased comparisons, at least with respect to those factors which we believe will influence employment outcome and of which we have existing automated measures.

We currently have outcome information on approximately 2900 study and 800 comparison observations. This is close to the total number of study observations. We expect to have approximately the same number of comparison as study observations. Among the study observations, 57% are identified as having only UNICOR work experience, 23% have some combination of vocational or apprenticeship training, 17% have a combination of UNICOR work experience and vocational training, and the remainder have other possible combinations of job training experience.

Table 4 compares the distribution of occupational classifications for the U.S. labor force in 1983 with the distributions exhibited by the study and control groups. Both groups are highly

over-represented in the structural trades and under-represented in the professional/technical and clerical/sales occupations. While both groups are also over-represented in the services fields, the comparison group is more discrepant than the study group.

Additionally, Table 4 allows for comparisons of differences in the pre- and post-incarceration distributions within and between the study and comparison groups. The study group pre-incarceration employment profile can be characterized as primarily comprised of individuals with experience in structural work trades (23%), followed by work in clerical and sales (17%), and service delivery (15%). The dominant DOT code categories for study group observations employed by UNICOR are benchwork (48%), clerical and sales (19%), and machine trades (12%). The six and twelve month follow-up calls to probation officers provide occupational category profiles which parallel the profile prior to incarceration, although the same individuals may not occupy the same occupational specialties at each interval observed. The pre-incarceration employment profile among comparison group members looks slightly different than that of the study group. The services and structural work categories are approximately equal (21% and 20%, respectively) followed by clerical and sales occupations (16%). The six and twelve month follow-up calls yield distributions with greater representation in the structural work and clerical/sales fields and consequently resemble the distributions of occupations within the study group.

Table 5 provides some insight into the nature of individual job transitions from prior incarceration employment to post-release employment for the study and comparison groups combined. Reading across each row of the table provides an understanding of the migration from each prior incarceration occupation to the occupations held subsequent to release. The diagonal row percentages of Table 5 indicate the portion of observations employed in the same occupational classification after release as was held prior to

incarceration. The structural trades and clerical/sales occupations are the most stable, retaining approximately 50% and 40% of the individuals originally employed in these field, respectively. The machine trades are also relatively stable occupations. The processing fields retained the fewest individuals while the structural trades acquired the largest numbers of individuals. Generally, however, this table demonstrates that pre- and post-incarceration occupations are not as stable as the marginal distributions suggest, in fact there is a large amount of job mobility which needs to be explained. A succinct analysis of this segmented table (segmented with respect to study group and other predetermined and intervening affects, such as the propensity score used in the matched sampling scheme employed and the occupational specialties for which the BOP provided training), can be achieved via log-linear models which afford a simpler understanding of transitions displayed by this type of table.

There are numerous influences which can affect our perception of the performance of the Bureau's job training programs. We have made an effort to control as many sources of bias and confounding as possible. We have chosen the comparison group so as to eliminate as much self-selection bias as possible. We have obtained a detailed profile of pre- and post-incarceration characteristics relevant to employability with which to control for individual differences that might otherwise be inappropriately attributed to the programs, or in some other way incorrectly influence our interpretation of the data. Moreover, we have obtained local and global macroeconomic and labor market indicators (e.g., the major types of industries, the distribution of employers throughout the city or town, the availability of public transportation, the level of unemployment, and the distributions of ages, incomes and races) for every area to which study or comparison group members have been released. These economic and labor market indicators will provide a means of statistically controlling for local and global employment factors beyond the

control of the training programs, factors which would nevertheless be confused with program performance if the outcome measures were not adjusted to diminish their influence.

When data collection concludes in December, we will begin to analyze the data with respect to the outcomes of the approximately 3000 study and 3000 comparison observations. At that point in time we will be able to fully employ all of the statistical controls we have built in to the data collection process. We will be in a position to address the major evaluation issues with a great deal of confidence that our findings are not artifacts due to limitations of the data, and our inferences and conclusions are not confounded by circumstances in the communities to which the participants are released. We will, at last, be in a position to provide comparative information about the various programs based on relatively unadulterated measures of program participant employment outcomes.

References

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Rosenbaum, P. R., and Rubin, D. B. (1985), "Constructing a Control Group Using Multivariate Matched Sampling Methods That Incorporate the Propensity Score," The American Statistician, 39, 33-38.

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TABLE 1

DIFFERENCES BETWEEN STUDY AND CONTROL RESERVOIR ON PRE-INCARCERATION HISTORY VARIABLES WITH ESTIMATION OF MISSING VALUES

	Group Mean	Minimum Value	Maximum Value	Number of Cases	T Value	Probability
Age at first arrest:						
Study Group	21.31	6.00	67.00	2053	-14.33	.00
Comparison Reservoir	23.89	6.00	87.00	19144		
Age at completion of highest educational level:						
Study Group	17.71	6.00	49.00	2051	4.03	.00
Comparison Reservoir	17.41	6.00	61.00	19118		
Age at first commitment:						
Study Group	25.48	6.00	67.00	2052	-15.77	.00
Comparison Reservoir	28.71	8.00	77.00	19115		
Age at current commitment:						
Study Group	32.32	18.00	67.00	2057	-13.85	.00
Comparison Reservoir	35.16	12.00	86.00	19654		
Age at current discharge:						
Study Group	34.60	19.00	69.00	2057	- 9.71	.00
Comparison Reservoir	36.58	13.00	87.00	19648		
Number of prior arrests:						
Study Group	3.03	0.00	99.00	2053	6.88	.00
Comparison Reservoir	2.16	0.00	99.00	19153		
Number of prior commitments:						
Study Group	0.17	0.00	28.00	2053	6.64	.00
Comparison Reservoir	0.09	0.00	90.00	19147		
Number of prior convictions:						
Study Group	1.45	0.00	99.00	2053	6.63	.00
Comparison Reservoir	0.97	0.00	96.00	19148		
Years of education:						
Study Group	11.02	0.00	16.00	2051	0.78	.44
Comparison Reservoir	10.98	0.00	16.00	19142		
Longest number of months served (on previous commitments):						
Study Group	1.83	0.00	721.00	2049	7.73	.00
Comparison Reservoir	0.91	0.00	721.00	19068		
Months of military service:						
Study Group	0.10	0.00	300.00	2057	3.23	.00
Comparison Reservoir	0.05	0.00	361.00	19835		

TABLE 1 (CONTINUED)

	Group Mean	Minimum Value	Maximum Value	Number of Cases	T Value	Probability
History of escapes (BP14):						
Study Group	0.00	0.00	7.00	2027	4.19	.00
Comparison Reservoir	0.00	0.00	7.00	18183		
History of violence (BP14):						
Study Group	0.02	0.00	7.00	2027	4.02	.00
Comparison Reservoir	0.00	0.00	7.00	18183		
Type of detainer (BP14):						
Study Group	0.01	0.00	7.00	2027	3.46	.00
Comparison Reservoir	0.01	0.00	7.00	18183		
Expected length of incarceration (BP14):						
Study Group	0.38	0.00	5.00	2027	23.36	.00
Comparison Reservoir	0.09	0.00	5.00	18183		
Severity of current offense (BP14):						
Study Group	2.72	0.00	7.00	2027	9.02	.00
Comparison Reservoir	2.31	0.00	7.00	18183		
Type of prior commitments (BP14):						
Study Group	1.23	0.00	3.00	2027	5.02	.00
Comparison Reservoir	1.08	0.00	3.00	18183		
Pre-commitment status (BP14):						
Study Group	2.15	0.00	6.00	2057	-2.95	.00
Comparison Reservoir	2.35	0.00	6.00	19835		
Security total (BP14):						
Study Group	1.68	0.00	29.00	2027	9.50	.00
Comparison Reservoir	0.86	0.00	36.00	18183		
Individual security level (BP14):						
Study Group	1.53	1.00	5.00	2031	7.95	.00
Comparison Reservoir	1.38	1.00	6.00	18249		
Propensity score:						
Study Group	0.13	-3.34	4.83	2057	-7.12	.00
Comparison Reservoir	0.30	-3.99	6.05	19835		

Values of the BP14 items are three, four, or five point ordinal scales. For example, on the item asking about the type of prior commitments, the response categories are 0 (none), 1 (minor), and 3 (serious).

TABLE 2

DIFFERENCES BETWEEN STUDY AND MATCHED CONTROL GROUPS ON PRE-INCARCERATION HISTORY VARIABLES WITH ESTIMATION OF MISSING VALUES

	Group Mean	Minimum Value	Maximum Value	Number of Cases	T Value	Probability
Age at first arrest:						
Study Group	21.31	6.00	67.00	2053	-0.65	.51
Matched Control Group	21.46	7.00	66.00	2003		
Age at completion of highest educational level:						
Study Group	17.71	6.00	49.00	2051	-0.21	.83
Matched Control Group	17.73	7.00	61.00	2003		
Age at first commitment:						
Study Group	25.48	6.00	67.00	2052	-0.28	.78
Matched Control Group	25.55	8.00	67.00	2002		
Age at current commitment:						
Study Group	32.32	18.00	67.00	2057	-0.29	.77
Matched Control Group	32.40	18.00	67.00	2007		
Age at current discharge:						
Study Group	34.60	19.00	69.00	2057	1.67	.10
Matched Control Group	34.16	19.00	86.00	2007		
Number of prior arrests:						
Study Group	3.03	0.00	99.00	2053	1.23	.22
Matched Control Group	2.80	0.00	63.00	2003		
Number of prior commitments:						
Study Group	0.17	0.00	28.00	2053	-0.04	.96
Matched Control Group	0.18	0.00	23.00	2003		
Number of prior convictions:						
Study Group	1.45	0.00	99.00	2053	1.31	.19
Matched Control Group	1.31	0.00	66.00	2003		
Years of education:						
Study Group	11.02	0.00	16.00	2051	-0.47	.63
Matched Control Group	11.06	0.00	16.00	2003		
Longest number of months served (on previous commitments):						
Study Group	1.83	0.00	721.00	2049	0.28	.78
Matched Control Group	1.78	0.00	252.00	2003		
Months of military service:						
Study Group	0.10	0.00	300.00	2057	0.38	.70
Matched Control Group	0.09	0.00	312.00	2007		

TABLE 2 (CONTINUED)

	Group Mean	Minimum Value	Maximum Value	Number of Cases	T Value	Probability
History of escapes (BP14):						
Study Group	0.00	0.00	7.00	2027	0.62	.53
Matched Control Group	0.00	0.00	7.00	1996		
History of violence (BP14):						
Study Group	0.02	0.00	7.00	2027	0.21	.84
Matched Control Group	0.02	0.00	7.00	1996		
Type of detainer (BP14):						
Study Group	0.01	0.00	7.00	2027	-0.19	.85
Matched Control Group	0.01	0.00	7.00	1996		
Expected length of incarceration (BP14):						
Study Group	0.38	0.00	5.00	2027	-0.52	.60
Matched Control Group	0.40	0.00	5.00	1996		
Severity of current offense (BP14):						
Study Group	2.72	0.00	7.00	2027	0.22	.83
Matched Control Group	2.70	0.00	7.00	1996		
Type of prior commitments (BP14):						
Study Group	1.23	0.00	3.00	2027	-1.46	.14
Matched Control Group	1.30	0.00	3.00	1996		
Pre-commitment status (BP14):						
Study Group	2.15	0.00	6.00	2057	1.15	.25
Matched Control Group	2.05	0.00	6.00	2007		
Security total (BP14):						
Study Group	1.68	0.00	29.00	2027	-0.93	.35
Matched Control Group	1.82	0.00	28.00	1996		
Individual security level (BP14):						
Study Group	1.53	1.00	5.00	2031	0.08	.94
Matched Control Group	1.53	1.00	6.00	2000		
Propensity score:						
Study Group	0.13	-3.34	4.83	2057	0.65	.52
Matched Control Group	0.11	-3.28	4.83	2007		

Values of the BP14 items are three, four, or five point ordinal scales. For example, on the item asking about the type of prior commitments, the response categories are 0 (none), 1 (minor), and 3 (serious).

TABLE 3

PAIRED T-TEST OF STUDY GROUP AND MATCHED CONTROL GROUP

Variable	T Value	Probability
Age at first arrest	-0.07	0.94
Age at completion of highest educational level	-0.04	0.96
Age at current commitment	1.32	0.19
Age at current discharge	4.77	0.00
Number of prior arrests	3.92	0.00
Number of prior commitments	2.05	0.04
Number of prior convictions	3.24	0.00
Years of education	-1.24	0.22
Longest number of months served (on previous commitments)	2.32	0.02
Months of military service	0.86	0.39
History of escapes (BP14)	0.24	0.81
History of violence (BP14)	0.08	0.93
Type of detainer (BP14)	-1.04	0.30
Expected length of incarceration (BP14)	3.01	0.00
Severity of current offense (BP14)	-0.01	0.99
Type of prior commitments (BP14)	-2.10	0.04
Pre-commitment status (BP14)	1.87	0.06
Security total (BP14)	-1.17	0.24
Individual security level (BP14)	-0.40	0.69
Propensity score	-0.02	0.98
Longest number of years served	-0.18	0.86
Years on job at arrest	1.25	0.21

The t-tests are based on 2022 paired study and comparison group observations. Values of the BP14 items are three, four, or five point ordinal scales. For example, on the item asking about the type of prior commitments, the response categories are 0 (none), 1 (minor), and 3 (serious).

TABLE 4

OCCUPATIONAL CHANGES IN THE STUDY GROUP

Occupational Classification	U.S. Labor Force, 1983	Pre-Incarceration	Vocational Training	Apprenticeship Training	UNICOR	CTC	Six Month Follow-Up	Twelve Month Follow-Up
Professional, Technical	26.4%	13.5%	12.7%	17.5%	2.3%	8.1%	11.9%	11.9%
Clerical, Sales	28.0	16.7	15.0	3.5	19.0	20.5	18.0	19.3
Service	13.7	15.4	5.3	16.7	3.0	13.6	13.8	11.9
Agriculture, Fishing	3.7	4.4	1.6	2.6	0.0	1.9	2.9	3.3
Processing	3.3	2.0	5.5	4.4	1.4	2.0	1.5	1.0
Machine Trade	6.9	9.1	25.4	14.9	12.4	10.5	10.4	10.4
Benchwork	3.6	4.3	4.2	7.9	47.9	3.9	3.3	3.8
Structural Work	7.7	23.5	23.8	29.8	3.9	30.5	26.0	26.0
Miscellaneous	6.7	11.1	6.4	2.6	10.1	9.1	12.2	12.3
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Number of Cases	100,922,000	2837	1357	114	2024	2538	2312	1624

OCCUPATIONAL CHANGES IN THE COMPARISON GROUP

Occupational Classification	U.S. Labor Force, 1983	Pre-Incarceration	CTC	Six Month Follow-Up	Twelve Month Follow-Up
Professional, Technical	26.4%	12.5%	11.8%	12.9%	12.5%
Clerical, Sales	28.0	15.9	17.6	19.8	20.0
Service	13.7	20.6	11.2	12.4	11.1
Agriculture, Fishing	3.7	4.0	5.9	4.5	5.2
Processing	3.3	3.5	1.8	1.9	2.0
Machine Trade	6.9	7.5	10.0	8.0	7.7
Benchwork	3.6	4.1	3.5	3.8	3.1
Structural Work	7.7	20.3	30.6	26.9	26.2
Miscellaneous	6.7	11.6	7.6	9.8	12.1
	100.0%	100.0%	100.0%	100.0%	100.0%
Number of Cases	100,922,000	2132	170	792	610

TABLE 5

PRE-INCARCERATION JOB BY CTC JOB

FREQUENCY / PERCENT / ROW PCT / COL PCT	PROFESS+ TECH	CLERICAL + SALES	SERVICE	AGRICUL+ FISHING	PROCESS- ING	MACHINE TRADE	BENCH- WORK	STRUCTU- RAL WORK	MISCEL- LANEOUS	TOTAL
PROFESSIONAL AND TECHNICAL	92	98	34	4	4	16	13	63	22	346
	3.66	3.90	1.35	0.16	0.16	0.64	0.52	2.50	0.87	13.75
	26.59	28.32	9.83	1.16	1.16	4.62	3.76	18.21	6.36	
	44.44	19.25	10.37	8.16	7.84	5.95	13.13	8.15	9.52	
CLERICAL AND SALES	38	195	49	8	5	28	6	63	28	420
	1.51	7.75	1.95	0.32	0.20	1.11	0.24	2.50	1.11	16.69
	9.05	46.43	11.67	1.90	1.19	6.67	1.43	15.00	6.67	
	18.36	38.31	14.94	16.33	9.80	10.41	6.06	8.15	12.12	
SERVICE	17	67	116	6	10	36	15	89	31	387
	0.68	2.66	4.61	0.24	0.40	1.43	0.60	3.54	1.23	15.38
	4.39	17.31	29.97	1.55	2.58	9.30	3.88	23.00	8.01	
	8.21	13.16	35.37	12.24	19.61	13.38	15.15	11.51	13.42	
AGRICULTURAL AND FISHING	9	8	10	15	5	6	1	40	15	109
	0.36	0.32	0.40	0.60	0.20	0.24	0.04	1.59	0.60	4.33
	8.26	7.34	9.17	13.76	4.59	5.50	0.92	36.70	13.76	
	4.35	1.57	3.05	30.61	9.80	2.23	1.01	5.17	6.49	
PROCESSING	4	8	5	3	1	6	2	13	5	47
	0.16	0.32	0.20	0.12	0.04	0.24	0.08	0.52	0.20	1.87
	8.51	17.02	10.64	6.38	2.13	12.77	4.26	27.66	10.64	
	1.93	1.57	1.52	6.12	1.96	2.23	2.02	1.68	2.16	
MACHINE TRADE	7	32	18	0	6	75	11	69	11	229
	0.28	1.27	0.72	0.00	0.24	2.98	0.44	2.74	0.44	9.10
	3.06	13.97	7.86	0.00	2.62	32.75	4.80	30.13	4.80	
	3.38	6.29	5.49	0.00	11.76	27.88	11.11	8.93	4.76	
BENCHWORK	6	9	17	4	6	11	19	23	10	105
	0.24	0.36	0.68	0.16	0.24	0.44	0.76	0.91	0.40	4.17
	5.71	8.57	16.19	3.81	5.71	10.48	18.10	21.90	9.52	
	2.90	1.77	5.18	8.16	11.76	4.09	19.19	2.98	4.33	
STRUCTURAL WORK	25	52	52	4	9	52	16	326	50	586
	0.99	2.07	2.07	0.16	0.36	2.07	0.64	12.96	1.99	23.29
	4.27	8.87	8.87	0.68	1.54	8.87	2.73	55.63	8.53	
	12.08	10.22	15.85	8.16	17.65	19.33	16.16	42.17	21.65	
MISCELLANEOUS	9	40	27	5	5	39	16	87	59	287
	0.36	1.59	1.07	0.20	0.20	1.55	0.64	3.46	2.34	11.41
	3.14	13.94	9.41	1.74	1.74	13.59	5.57	30.31	20.56	
	4.35	7.86	8.23	10.20	9.80	14.50	16.16	11.25	25.54	
TOTAL	207	509	328	49	51	269	99	773	231	2516
	8.23	20.23	13.04	1.95	2.03	10.69	3.93	30.72	9.18	100.00

TABLE 5 (CONTINUED)

PRE-INCARCERATION JOB BY SIX MONTH FOLLOW-UP JOB

FREQUENCY / PERCENT / ROW PCT / COL PCT	PROFESS+ TECH	CLERICAL + SALES	SERVICE	AGRICUL+ FISHING	PROCESS-ING	MACHINE TRADE	BENCH-WORK	STRUCTU-RAL WORK	MISCEL-LANEOUS	TOTAL
PROFESSIONAL AND TECHNICAL	87	83	33	8	4	18	12	39	23	307
	4.04	3.85	1.53	0.37	0.19	0.83	0.56	1.81	1.07	14.24
	28.34	27.04	10.75	2.61	1.30	5.86	3.91	12.70	7.49	
	32.83	20.75	12.18	10.53	12.12	8.26	13.64	6.85	9.75	
CLERICAL AND SALES	57	142	45	7	4	22	12	49	19	357
	2.64	6.59	2.09	0.32	0.19	1.02	0.56	2.27	0.88	16.56
	15.97	39.78	12.61	1.96	1.12	6.16	3.36	13.73	5.32	
	21.51	35.50	16.61	9.21	12.12	10.09	13.64	8.61	8.05	
SERVICE	33	51	93	9	7	30	11	65	30	329
	1.53	2.37	4.31	0.42	0.32	1.39	0.51	3.01	1.39	15.26
	10.03	15.50	28.27	2.74	2.13	9.12	3.34	19.76	9.12	
	12.45	12.75	34.32	11.84	21.21	13.76	12.50	11.42	12.71	
AGRICULTURAL AND FISHING	13	10	5	27	4	7	4	29	10	109
	0.60	0.46	0.23	1.25	0.19	0.32	0.19	1.35	0.46	5.06
	11.93	9.17	4.59	24.77	3.67	6.42	3.67	26.61	9.17	
	4.91	2.50	1.85	35.53	12.12	3.21	4.55	5.10	4.24	
PROCESSING	4	7	6	3	0	7	1	8	6	42
	0.19	0.32	0.28	0.14	0.00	0.32	0.05	0.37	0.28	1.95
	9.52	16.67	14.29	7.14	0.00	16.67	2.38	19.05	14.29	
	1.51	1.75	2.21	3.95	0.00	3.21	1.14	1.41	2.54	
MACHINE TRADE	15	25	9	5	4	60	8	54	15	195
	0.70	1.16	0.42	0.23	0.19	2.78	0.37	2.50	0.70	9.04
	7.69	12.82	4.62	2.56	2.05	30.77	4.10	27.69	7.69	
	5.66	6.25	3.32	6.58	12.12	27.52	9.09	9.49	6.36	
BENCHWORK	6	7	14	2	3	8	11	30	13	94
	0.28	0.32	0.65	0.09	0.14	0.37	0.51	1.39	0.60	4.36
	6.38	7.45	14.89	2.13	3.19	8.51	11.70	31.91	13.83	
	2.26	1.75	5.17	2.63	9.09	3.67	12.50	5.27	5.51	
STRUCTURAL WORK	29	35	44	8	5	37	19	238	45	460
	1.35	1.62	2.04	0.37	0.23	1.72	0.88	11.04	2.09	21.34
	6.30	7.61	9.57	1.74	1.09	8.04	4.13	51.74	9.78	
	10.94	8.75	16.24	10.53	15.15	16.97	21.59	41.83	19.07	
MISCELLANEOUS	21	40	22	7	2	29	10	57	75	263
	0.97	1.86	1.02	0.32	0.09	1.35	0.46	2.64	3.48	12.20
	7.98	15.21	8.37	2.66	0.76	11.03	3.80	21.67	28.52	
	7.92	10.00	8.12	9.21	6.06	13.30	11.36	10.02	31.78	
TOTAL	265	400	271	76	33	218	88	569	236	2156
	12.29	18.55	12.57	3.53	1.53	10.11	4.08	26.39	10.95	100.00

TABLE 5 (CONTINUED)

PRE-INCARCERATION JOB BY TWELVE MONTH FOLLOW-UP JOB

FREQUENCY / PERCENT / ROW PCT / COL PCT	PROFESS+ TECH	CLERICAL + SALES	SERVICE	AGRICUL+ FISHING	PROCESS-ING	MACHINE TRADE	BENCH-WORK	STRUCTU-RAL WORK	MISCEL-LANEOUS	TOTAL
PROFESSIONAL AND TECHNICAL	61	55	20	6	3	13	10	27	22	217
	3.85	3.47	1.26	0.38	0.19	0.82	0.63	1.71	1.39	13.71
	28.11	25.35	9.22	2.76	1.38	5.99	4.61	12.44	10.14	
	31.61	18.09	10.87	9.09	15.00	8.39	15.15	6.59	11.89	
CLERICAL AND SALES	43	105	32	9	1	14	12	32	20	268
	2.72	6.63	2.02	0.57	0.06	0.88	0.76	2.02	1.26	16.93
	16.04	39.18	11.94	3.36	0.37	5.22	4.48	11.94	7.46	
	22.28	34.54	17.39	13.64	5.00	9.03	18.18	7.80	10.81	
SERVICE	19	43	69	6	4	22	9	51	21	244
	1.20	2.72	4.36	0.38	0.25	1.39	0.57	3.22	1.33	15.41
	7.79	17.62	28.28	2.46	1.64	9.02	3.69	20.90	8.61	
	9.84	14.14	37.50	9.09	20.00	14.19	13.64	12.44	11.35	
AGRICULTURAL AND FISHING	8	6	2	22	3	3	2	20	8	74
	0.51	0.38	0.13	1.39	0.19	0.19	0.13	1.26	0.51	4.67
	10.81	8.11	2.70	29.73	4.05	4.05	2.70	27.03	10.81	
	4.15	1.97	1.09	33.33	15.00	1.94	3.03	4.88	4.32	
PROCESSING	4	5	2	2	0	5	0	13	3	34
	0.25	0.32	0.13	0.13	0.00	0.32	0.00	0.82	0.19	2.15
	11.76	14.71	5.88	5.88	0.00	14.71	0.00	38.24	8.82	
	2.07	1.64	1.09	3.03	0.00	3.23	0.00	3.17	1.62	
MACHINE TRADE	7	21	11	4	2	43	5	37	17	147
	0.44	1.33	0.69	0.25	0.13	2.72	0.32	2.34	1.07	9.29
	4.76	14.29	7.48	2.72	1.36	29.25	3.40	25.17	11.56	
	3.63	6.91	5.98	6.06	10.00	27.74	7.58	9.02	9.19	
BENCHWORK	6	8	7	1	2	8	9	26	2	69
	0.38	0.51	0.44	0.06	0.13	0.51	0.57	1.64	0.13	4.36
	8.70	11.59	10.14	1.45	2.90	11.59	13.04	37.68	2.90	
	3.11	2.63	3.80	1.52	10.00	5.16	13.64	6.34	1.08	
STRUCTURAL WORK	24	27	31	10	4	28	13	175	34	346
	1.52	1.71	1.96	0.63	0.25	1.77	0.82	11.05	2.15	21.86
	6.94	7.80	8.96	2.89	1.16	8.09	3.76	50.58	9.83	
	12.44	8.88	16.85	15.15	20.00	18.06	19.70	42.68	18.38	
MISCELLANEOUS	21	34	10	6	1	19	6	29	58	184
	1.33	2.15	0.63	0.38	0.06	1.20	0.38	1.83	3.66	11.62
	11.41	18.48	5.43	3.26	0.54	10.33	3.26	15.76	31.52	
	10.88	11.18	5.43	9.09	5.00	12.26	9.09	7.07	31.35	
TOTAL	193	304	184	66	20	155	66	410	185	1583
	12.19	19.20	11.62	4.17	1.26	9.79	4.17	25.90	11.69	100.00