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I. INTRODUCTION

The January 1973 Current Population Survey (CPS) included supplementary questions on employment status, industry, occupation, and class of worker as of one year previous (January 1972). Since a portion of the persons who answered these retrospective employment questions had also been interviewed in the January 1972 CPS, it was possible to compare responses to the retrospective items with the actual reports given in January 1972. A computer match of the January 1972 and January 1973 CPS files on the basis of household and person identification information (age, race, sex, and line number) netted 29,491 completely matched persons.^{1/} The CPS weights were applied to these cases, and tabulations were produced for persons 18 years old and over and employed in January 1973.

This evaluation of retrospectively reported data was undertaken because of the expressed interest in including similar questions in the 1980 decennial census and because an evaluation of the 1970 census retrospective occupation question (a 5-years-ago question) had raised serious doubts about validity.^{2/} Specifically, the level of consistency between the 5-years-ago retrospective occupation response and the actual response given 5 years earlier was only about 22 percent. However, since the CPS items involved only a 1-year recall period and included an additional question on the starting date for the current job, it was felt that the CPS data might be better.

In the analysis which follows, the terms "response" and "report" are used to designate final occupational classification, not purely the person's response. In other words, both response and coding accuracy are reflected in the classification.

II. CONSISTENCY OF RETROSPECTIVE AND ACTUAL OCCUPATION RESPONSES

A. Overall Consistency.--The January 1972 occupation distributions of employed persons based on the retrospective responses and on the actual reports at that time are quite similar (table A). No occupation group differs by more than half a percentage point between the two distributions. However, when the actual and retrospective classifications are compared on a case-by-case basis, inconsistencies become evident (table B). It should be noted, though, that the inconsistencies cannot all be attributed to recall problems; coding errors can also affect the consistency level. Agreement between the two responses was measured at three levels of occupational classification--detail (3-digit occupation code), intermediate, and major group. Of all persons employed in January 1972, 59 percent retrospectively reported an occupation for that period which agreed at the detailed level with the occupation reported at that time. The consistency rate increases to 69 percent based on an intermediate group comparison and to 77 percent on a major group comparison. The levels

of agreement vary somewhat among occupations. Basing the rate on a major group comparison, farmers and professionals show relatively high response consistency (91 percent and 84 percent, respectively), whereas the consistency rate for laborers is only about 56 percent. The remainder of the occupation groups have consistency rates ranging from 71 to 82 percent.

B. Consistency by Sex, Race, and Age.--Women have somewhat more consistent classifications at the major group level than men--82 percent versus 74 percent. Consistency does not vary much by race or age, except that the rate of agreement for the youngest group (18 and 19 years old) is relatively low (56 percent). This was caused primarily by the failure to report being employed in 1972. Only about 77 percent of the persons 18 and 19 years old who had been employed in 1972 retrospectively reported this employment. This is not surprising since younger workers normally have a more tenuous attachment to the labor force.

C. Consistency by Mobility Status.--Although the overall quality of the retrospective occupation data is relatively high, the primary use of such data is to identify the characteristics of occupationally mobile persons. Therefore, it is important to determine how well the retrospective questions define this group. For this study, occupational mobility is defined as a change in major occupation group between January 1972 and January 1973 on the basis of the reports at these dates (i.e., matched comparison). It should be noted, however, that this is not a perfect standard for comparison since coding error and erroneous response differences do cause some false occupational mobility.

Of the persons who were occupationally mobile according to the matched comparison, only about 12 percent reported a retrospective occupation which agreed at the major group level with the occupation reported in January 1972. This compares to a consistency rate of 96 percent for workers who were not mobile based on the matched comparison. As shown in tables C and D, the quality of the retrospective data for occupationally mobile persons, regardless of occupation group, sex, or age, is considerably lower than that for nonmobile workers. The consistency rate for mobile workers does not exceed 20 percent for any major occupation group and is less than 10 percent for three groups--managers and administrators, craft and kindred workers, and private household workers. In contrast, the consistency rate for nonmobile workers exceeds 95 percent for most groups.

D. Comparison With Other Data.--Overall, the accuracy or consistency of the CPS retrospective occupation data compares favorably with the evaluation of the 1970 census item on occupation 5 years ago and with evaluation studies on current occupation data from the 1960 and 1970 censuses (table E). The accuracy of the 1-year-ago occupation item is somewhat higher than that measured for the 5-years-ago question and is equal to or better than the

quality measured for the current occupation data.^{3/} However, consistency between the actual and retrospective responses for occupationally mobile persons (based on the matched comparison) was lower for the 1-year-ago CPS occupation question than was true for the 5-years-ago question evaluated in 1968.^{4/} The overall consistency rate for the 5-years-ago item was 22 percent, as opposed to 12 percent for the 1-year-ago item in this study. One would expect that recall would be less accurate over 5 years than over 1 year. This perhaps indicates that the quality of occupation coding for the CPS items was less accurate than the coding in the 5-years-ago study, and that the "true" consistent response rate should be somewhat higher. The retrospective data in the 5-years-ago study were coded by experts in Washington, whereas the CPS responses were all coded by regular CPS coders. This fact lends more support to the assumption of poorer quality coding for the 1-year-ago data. However, even a consistency rate of 22 percent, as in the 5-years-ago study, cannot be considered encouraging.

III. COMPARISON OF LEVELS OF OCCUPATIONAL MOBILITY

The levels of occupational mobility between January 1972 and January 1973 measured by the retrospective comparison and the matched comparison of occupation groups are quite different. However, in interpreting these differences, the problems in comparing retrospective and matched data should be considered. Occupation data has historically been subject to variability in response and coding. Such errors cause an overstatement in the level of occupational mobility when the measure is based on a comparison of occupations reported in different surveys (i.e., matched data). On the other hand, retrospectively reported occupation data are often biased by a tendency to report one's past occupation to be the same as the current occupation, even when this is not the case.^{5/} This results in an understatement in the level of occupational mobility. Therefore, the "true" mobility rate is most likely some value between the measures derived from matched and retrospective comparisons of occupations.

As shown in table F the level of occupational mobility derived from the retrospective data is only about one-fifth that based on the matched comparison (4.2 percent vs. 22.8 percent). The difference between the retrospective mobility rate and the matched mobility rate varies slightly among major occupation groups. When the rates are based

on the occupation of origin (1972 occupation), the ratio of the retrospective to the matched mobility rate ranges from .11 for managers and administrators to .28 for sales workers.

Differences between mobility levels based on the retrospective data and the matched data increase by age (table G). For workers 18 and 19 years old, the retrospective approach measured about one-half the mobility level derived from the matched data; for persons 45 years old and over, the matched data yielded mobility rates which were more than 10 times as high as those based on the retrospective data comparison.

IV. CONCLUSION

The immediate impression one may get from this investigation is that neither matched data nor retrospective data provide adequate measures of occupational mobility. If this is the case, perhaps a better approach to the measurement of mobility is through a detailed survey instrument which can focus on job history, including promotions, changes in activities and levels of responsibility, as well as employer changes and the dates pertaining to all of these. Obviously, such detailed inquiries would not be possible in the decennial census proper. However, before ruling out the use of retrospective occupation inquiries in measuring mobility, the data in this study need to be investigated further.

FOOTNOTES

1/ Normally, more persons would be included in the matched universe, but the occurrence of CPS redesign within this time period decreased the size of the overlapping sample.

2/ Walsh, Thomas C. and Paula J. Buckholdt, Accuracy of Retrospectively Reporting Work Status and Occupation Five Years Ago, E15, No. 3, Bureau of the Census, 1970.

3/ See the series of evaluation studies from the 1970 and 1960 censuses for the methodologies of the CPS-Census Match studies and the Employer Record Check studies.

4/ See footnote 2.

5/ Walsh, Thomas C. and Paula J. Buckholdt, Effect on the "Same as Present Occupation" Circle on the Reporting of Occupation Five Years Ago, E-15, No. 2, Bureau of the Census, 1970.

Table A.--OCCUPATION DISTRIBUTION IN JANUARY 1972 BASED ON THE JANUARY 1972 CPS AND THE RETROSPECTIVE DATA IN JANUARY 1973 CPS

(Numbers in thousands. Persons 18 years old and over and employed in January 1973)

Occupation	January 1972 CPS		Retrospective data		Difference	
	Number	Percent	Number	Percent	Number	Percent
Total employed.....	20,110	100.0	19,988	100.0	-122	(X)
Professional, technical, and kindred workers..	3,055	15.2	3,034	15.2	-21	0.0
Managers and administrators.....	2,367	11.8	2,396	12.0	+29	+0.2
Sales workers.....	1,331	6.6	1,360	6.8	+29	+0.2
Clerical and kindred workers.....	3,733	18.6	3,633	18.2	-100	-0.4
Craft and kindred workers.....	2,905	14.4	2,848	14.2	-57	-0.2
Operatives, except transport.....	2,387	11.9	2,313	11.6	-74	-0.3
Transport equipment operatives.....	830	4.1	793	4.0	-37	-0.1
Laborers, except farm.....	832	4.1	816	4.1	-16	0.0
Private household workers.....	232	1.2	227	1.1	-5	-0.1
Service workers, except private household.....	2,010	10.0	2,012	10.1	+2	+0.1
Farmers and farm managers.....	285	1.4	312	1.6	+27	+0.2
Farm laborers and supervisors.....	144	0.7	148	0.7	-4	0.0
Occupation not reported.....	(X)	(X)	97	0.5	(X)	(X)

(X) Not applicable.

Table B.--CONSISTENCY OF RETROSPECTIVE OCCUPATION RESPONSE ^{1/} AND JANUARY 1972 OCCUPATION RESPONSE BY MAJOR OCCUPATION GROUP, SEX, RACE, AND AGE

(Numbers in thousands. Persons 18 years old and over employed in January 1973)

Major occupation group, sex, race, and age	Total based on January 1972 CPS		Retrospective response--percent--			
	Number	Percent	Employed in Jan. 1972	Occupation 1 year ago agreed with 1972 CPS at:		
				Major group	Inter- mediate	Detail
Total employed in January 1972.....	20,110	100.0	95.8	76.8	69.1	59.1
Professional, technical, and kindred workers..	3,055	100.0	96.2	84.0	78.5	67.8
Managers and administrators.....	2,367	100.0	97.5	71.4	65.6	61.4
Sales Workers.....	1,331	100.0	94.7	72.1	70.2	57.5
Clerical and kindred workers.....	3,733	100.0	95.7	80.0	66.9	53.8
Craft and kindred workers.....	2,905	100.0	96.4	75.6	67.5	61.1
Operatives, except transport.....	2,387	100.0	95.5	73.4	60.8	49.5
Transport equipment operatives.....	830	100.0	97.2	77.3	67.6	63.0
Laborers, except farm.....	832	100.0	93.1	55.9	51.2	40.3
Private household workers.....	232	100.0	84.5	73.7	(X)	56.0
Service workers, except private household.....	2,010	100.0	95.0	82.3	78.3	64.2
Farmers and farm managers.....	285	100.0	97.5	90.9	(X)	89.5
Farm laborers and supervisors.....	144	100.0	93.8	72.2	(X)	61.1
Male.....	12,995	100.0	96.2	73.9	67.4	58.7
Female.....	7,116	100.0	94.9	82.0	72.1	59.7
White.....	18,024	100.0	95.8	77.0	69.3	59.4
Black and other races.....	2,087	100.0	95.2	75.4	67.4	56.3
18 and 19 years old.....	585	100.0	76.6	56.4	51.3	31.1
20 to 24 years old.....	1,615	100.0	91.6	72.0	61.4	45.4
25 to 34 years old.....	4,122	100.0	96.7	78.6	71.0	59.4
35 to 44 years old.....	4,533	100.0	96.6	78.2	71.3	61.8
45 to 54 years old.....	5,011	100.0	97.0	76.5	68.3	60.9
55 to 64 years old.....	3,536	100.0	96.7	78.4	70.2	61.5
65 years old and over.....	709	100.0	96.2	80.0	75.7	67.8

^{1/} Occupation 1 year ago as reported in January 1973.

X Not applicable. No intermediate occupation groups.

Table C.—CONSISTENCY OF RETROSPECTIVE OCCUPATION RESPONSE ¹/AND JANUARY 1972 OCCUPATION RESPONSE
BY OCCUPATIONAL MOBILITY STATUS ²/AND MAJOR OCCUPATION GROUP

(Numbers in thousands. Persons 18 years old and over employed in January 1973)

Occupational mobility status and major occupation group in January 1972	Total based on January 1972 CPS		Retrospective response--percent--			
	Number	Percent	Employed in Jan. 1972	Occupation 1 year ago agreed with 1972 CPS at:		
				Major group	Inter- mediate	Detail
OCCUPATIONALLY MOBILE						
Total.....	4,577	100.0	92.0	11.8	10.8	8.5
Professional, technical, and kindred workers	442	100.0	91.6	10.0	8.8	7.2
Managers and administrators.....	654	100.0	96.3	6.0	5.8	5.8
Sales workers.....	403	100.0	91.1	17.9	17.1	2.5
Clerical and kindred workers.....	693	100.0	93.8	12.6	11.4	9.5
Craft and kindred workers.....	682	100.0	93.1	8.1	7.2	6.5
Operatives, except transport.....	623	100.0	92.1	12.2	10.1	9.1
Transport equipment operatives.....	204	100.0	96.1	15.7	14.2	14.2
Laborers, except farm.....	392	100.0	90.0	12.8	12.0	10.2
Private household workers.....	48	100.0	56.3	6.3	(X)	6.3
Service workers, except private household...	365	100.0	86.3	19.2	18.9	15.6
Farmers and farm managers.....	24	100.0	91.7	13.6	(X)	13.6
Farm laborers and supervisors.....	47	100.0	80.9	19.1	(X)	19.1
NOT OCCUPATIONALLY MOBILE						
Total.....	15,533	100.0	96.9	96.0	86.2	77.5
Professional, technical, and kindred workers	2,613	100.0	97.0	96.5	90.3	79.6
Managers and administrators.....	1,713	100.0	98.0	96.4	88.3	85.2
Sales workers.....	928	100.0	96.1	95.6	93.3	81.5
Clerical and kindred workers.....	3,040	100.0	96.2	95.4	79.4	68.2
Craft and kindred workers.....	2,223	100.0	97.3	96.4	86.1	80.8
Operatives, except transport.....	1,764	100.0	96.7	95.1	78.6	69.0
Transport equipment operatives.....	625	100.0	97.8	97.6	85.1	84.3
Laborers, except farm.....	440	100.0	96.1	94.3	86.1	77.5
Private household workers.....	184	100.0	91.8	91.8	(X)	70.7
Service workers, except private household...	1,646	100.0	96.8	96.3	91.4	79.6
Farmers and farm managers.....	261	100.0	98.5	98.1	(X)	97.7
Farm laborers and supervisors.....	97	100.0	100.0	97.9	(X)	90.7

X Not applicable. No intermediate occupation group.

¹/ Occupation 1 year ago as reported in January 1973.

²/ Mobility status based on a comparison of major occupation groups as reported in January 1972 and in January 1973.

Table D.--CONSISTENCY OF RETROSPECTIVE OCCUPATION RESPONSE^{1/} AND JANUARY 1972 OCCUPATION RESPONSE BY OCCUPATIONAL MOBILITY STATUS ^{2/}, SEX, AND AGE

(Numbers in thousands. Persons 18 years old and over employed in January 1973)

Occupational mobility status, sex, and age	Total (based on January 1972 CPS)		Retrospective response--percent--			
	Number	Percent	Employed in Jan. 1972	Occupation 1 year ago agreed with 1972 CPS at:		
				Major group	Inter- mediate	Detail
<u>Occupationally Mobile</u>						
Male.....	3,410	100.0	93.2	10.8	10.1	8.4
Female.....	1,167	100.0	88.8	14.7	13.1	8.8
18 and 19 years old.....	267	100.0	69.7	27.3	25.1	19.1
20 to 24 years old.....	502	100.0	83.7	23.7	21.7	17.5
25 to 34 years old.....	913	100.0	93.4	16.2	14.6	11.9
35 to 44 years old.....	958	100.0	94.5	10.8	9.8	7.0
45 to 54 years old.....	1,095	100.0	96.0	4.3	4.0	3.3
55 to 64 years old.....	724	100.0	94.2	6.4	6.2	4.8
65 years old and over.....	118	100.0	98.3	2.5	2.5	1.7
<u>Not Occupationally Mobile</u>						
Male.....	9,584	100.0	97.3	96.4	87.8	80.4
Female.....	5,949	100.0	96.1	95.3	83.6	72.8
18 and 19 years old.....	319	100.0	82.1	80.9	72.7	57.4
20 to 24 years old.....	1,113	100.0	95.3	93.7	79.1	68.7
25 to 34 years old.....	3,209	100.0	97.7	96.3	87.1	78.1
35 to 44 years old.....	3,574	100.0	97.2	96.4	87.7	79.7
45 to 54 years old.....	3,915	100.0	97.4	96.7	86.2	78.4
55 to 64 years old.....	2,812	100.0	97.4	96.9	86.7	77.6
65 years old and over.....	591	100.0	95.8	95.4	90.4	81.4

^{1/} Occupation 1 year ago as reported in January 1973.

^{2/} Mobility status based on a comparison of major occupation groups as reported in January 1972 and in January 1973.

Table E.--COMPARISON OF THE ACCURACY OF THE RETROSPECTIVE 1-YEAR-AGO OCCUPATION DATA WITH THE ACCURACY OF OTHER RETROSPECTIVE AND CURRENT OCCUPATION DATA

Major occupation group	Accuracy rates of occupation data ^{1/}					
	Retrospective occupation data		Current occupation data			
	CPS Occu- pation 1 year ago	Occupa- tion 5 years ago ^{2/}	1970 CPS- Census Match	1970 Employer Record Check ^{3/}	1960 CPS- Census Match	1960 Employer Record Check
Total.....	80.2	74.0	76.8	80.6	80.6	83.2
Professional, technical, and kindred workers.	87.5	85.8	84.9	83.6	89.4	89.7
Managers and administrators.....	73.6	68.8	57.2	60.0	65.0	64.1
Sales workers.....	76.3	67.5	78.5	79.5	83.3	91.7
Clerical and kindred workers.....	83.9	77.9	82.0	84.9	88.0	84.7
Craft and kindred workers.....	78.8	74.8	75.2	76.9	79.2	84.1
Operatives, except transport.....	77.5	75.1	81.1	81.8	82.9	86.5
Transport equipment operatives.....	79.9		79.6	95.6		
Laborers, except farm.....	60.0	47.5	50.4	51.7	59.3	54.0
Private household workers.....	87.7	80.0	80.6	(NA)	92.1	(NA)
Service workers, except private household....	87.1	79.9	82.9	87.0	86.0	85.2
Farmers and farm managers.....	94.2	77.1	83.0	(NA)	84.6	(NA)
Farm laborers and supervisors.....	77.6	50.0	77.2	(NA)	75.0	(NA)

Note: Since the other studies measured only the accuracy of occupation responses and did not consider errors in reporting work status and nonresponse, data from this study were adjusted accordingly. The universe was restricted to persons who correctly reported (retrospectively) their work status in January 1972 and also reported an occupation. Thus, the rates given here do not agree with others shown in this report.

NA Not available.

^{1/} Accuracy rates are based on a comparison at the major occupation group level.

^{2/} Based on the 1968 Subject Response Study.

^{3/} Preliminary data.

Table F.—OCCUPATIONAL MOBILITY RATES^{1/} FROM THE MATCHED AND RETROSPECTIVE COMPARISONS BY OCCUPATION OF ORIGIN AND OCCUPATION OF DESTINATION

Occupation	Mobility rates by occupation of origin			Mobility rates by occupation of destination		
	Matched comparison	Retrospective comparison	Ratio: Retrospective/matched	Matched comparison	Retrospective comparison	Ratio: Retrospective/matched
Total, 18 years and over..	22.8	4.2	0.18	22.8	4.2	0.18
Professional, technical, and kindred	14.5	2.2	0.15	15.9	2.7	0.17
Managers and administrators.....	27.6	2.9	0.11	31.2	4.6	0.15
Sales workers.....	30.3	8.6	0.28	30.2	5.4	0.18
Clerical and kindred workers.....	18.6	3.3	0.18	17.4	4.1	0.24
Craft and kindred workers.....	23.5	3.0	0.13	24.1	4.5	0.19
Operatives, except transport.....	26.1	5.4	0.21	24.9	7.0	0.28
Transport equipment operatives.....	24.6	5.6	0.23	22.6	5.7	0.25
Laborers, except farm.....	47.2	11.1	0.24	44.7	9.0	0.20
Private household workers.....	20.6	2.4	0.12	15.6	1.8	0.12
Service workers, except private household.....	18.1	4.8	0.27	17.0	5.0	0.29
Farmers and farm managers.....	8.4	1.8	0.21	14.4	1.3	0.09
Farm laborers and supervisors.....	32.9	7.3	0.22	19.2	0.7	0.04

^{1/} Percent of all persons working in January 1972 and January 1973 who changed major occupation groups.

Table G.—OCCUPATIONAL MOBILITY RATES^{1/} FROM THE MATCHED AND RETROSPECTIVE COMPARISONS ACCORDING TO OCCUPATION OF ORIGIN BY SEX AND AGE

Sex and age	Matched comparison	Retrospective comparison	Ratio: retrospective/matched
Male.....	26.2	4.7	0.18
Female.....	16.4	3.4	0.21
18 and 19 years.....	45.6	23.1	0.51
20 to 24 years.....	31.1	11.7	0.38
25 to 34 years.....	22.2	5.7	0.26
35 to 44 years.....	21.1	3.5	0.17
45 to 54 years.....	21.9	1.7	0.08
55 to 64 years.....	20.5	1.5	0.07
65 years and over.....	16.6	0.6	0.04

^{1/} Percent of all persons working in January 1972 and January 1973 who changed major occupation groups.