

**APPENDIX 35**

**GEOMETRIC PROGRESSION**

## APPENDIX 35 (1/97)

### Re: Geometric Progression Coding

Multiple entry or "mark all that apply" questions are typically found in the fringe benefit, job search, and health section of the questionnaires. Starting with the 1992 Mature Women these questions will no longer be coded as geometric progressions, instead they will be coded as dichotomous or True/False variables. Most variable titles will remain identical with previous years with only an appended number indicating the different response item. Some will be changed slightly so that the coding category can become part of the title. The first time a question is coded as a series of dichotomous variables a note is added which states "THIS ITEM PREVIOUSLY CODED AS A GEOMETRIC PROGRESSION." The questions listed below are coded as geometric progressions and need to be "unpacked" as a series of dichotomous variables before they can be used. After the listing of titles is a copy of the instructions on "How to Unpack Multiple Entries in the Original Cohort Data Set" which is from an appendix in the Users Guide.

R 232.00	METHOD OF SEEKING EMPLOYMENT, 68 (UNEMPLOYED 67)
R 276.00	METHOD OF SEEKING EMPLOYMENT IF LOSS OF CURRENT JOB, 68
R 1058.00	METHOD OF SEEKING EMPLOYMENT TO BE USED IN NEXT YEAR (OLF 69)
R 1845.00	METHOD OF SEEKING EMPLOYMENT TO BE USED IN NEXT YEAR (OLF 70)
R 2635.00	METHOD OF SEEKING EMPLOYMENT IN PAST FOUR WEEKS, 71 (UNEMPLOYED 71)
R 2932.00	METHOD OF SEEKING EMPLOYMENT TO BE USED IN NEXT YEAR (OLF 71) R 2985.00 WHICH OF THE FOLLOWING HEALTH CONDITIONS DOES R EXPERIENCE AS A PROBLEM? 71
R 3459.00	METHOD OF SEEKING EMPLOYMENT IN PAST FOUR WEEKS, 72 (UNEMPLOYED 72)
R 3804.00	METHOD OF SEEKING EMPLOYMENT TO BE USED IN NEXT YEAR (OLF 72)
R 3860.00	CHILD CARE ARRANGEMENTS WOULD USE AFTER SCHOOL OR WHILE WORKING: TYPE, 72
R 4270.00	METHOD OF SEEKING EMPLOYMENT IN PAST FOUR WEEKS, 73 (UNEMPLOYED 73)
R 4290.00	METHOD OF FINDING CURRENT OR LAST JOB 73
R 4594.00	METHOD OF SEEKING EMPLOYMENT TO BE USED IN NEXT YEAR (OLF 73)
R 4654.00	METHOD OF SEEKING EMPLOYMENT USED FOR AN ALTERNATIVE JOB, 71-73
R 5768.00	TYPE OF CHILD CARE ARRANGEMENTS (0-2 YRS) 77
R 5769.00	TYPE OF CHILD CARE ARRANGEMENTS (3-5 YRS) 77
R 5770.00	TYPE OF CHILD CARE ARRANGEMENTS (6+ YRS) 77
R 5961.00	METHOD OF SEEKING EMPLOYMENT IN PAST FOUR WEEKS, 78 (UNEMPLOYED 78)
R 6000.00	METHOD OF SEEKING EMPLOYMENT USED BEFORE FINDING CURRENT JOB 78
R 6007.00	METHOD OF FINDING CURRENT JOB 78
R 6026.00	FRINGE BENEFITS AT CURRENT JOB 78
R 6045.00	USUAL METHODS OF TRAVEL TO WORK: CURRENT JOB 78
R 6247.00	METHOD OF SEEKING EMPLOYMENT TO BE USED IN NEXT YEAR (OLF 78)
R 6290.00	TYPE OF CHILD CARE ARRANGEMENT FOR (YOUNGEST CHILD) 78
R 6403.00	TYPE OF DISCRIMINATION EXPERIENCED AT WORK IN PAST 5 YEARS, 78

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## Appendix E

### Unpacking multiple entries in the Original Cohort data sets

Responses to multiple entry questions found in surveys of the four Original Cohorts are coded in a geometric progression to conserve space on the tape. Variables such as 'Method of Seeking Employment', 'Method of Finding Current or Last Job', 'Type of Financial Aid Received', 'Type of Child Care Arrangement', and numerous health-related questions have been formatted in this way since the surveys began. Multiple entry items are identified by an asterisk under the source code box in the questionnaire and by a special detailed codeblock in the documentation.

Example: Codes for the variable, Reference # 4561. 'Fringe Benefits Made Available to R by Current Employer, 1976 (mark all that apply)', range from 1 (the respondent reported only one such benefit, "medical insurance") to 259 (the respondent reported "medical insurance", "life insurance", and "paid sick leave") to 1023 (the respondent reported that s/he had access to all of the benefits listed). Solution: Although there are several different ways to sort out which respondent has positive answers on which components, the following provides one such approach. Todd Idson and Bill LeBlanc, in their work on employer size and turnover based on data from the NLS of Young Men, wrote the following SAS program to "unpack" or create dichotomous "yes-no" variables from such fringe benefit data. The program statements listed below can be modified by the user to include the expanded set of fringe benefits available in later survey years as well as to unpack other multiple entry variables by extending the dummy, the counter, and the number of variables to agree with total number of responses listed in the codeblock in the documentation. This program assumes an unedited NLS tape in fixed format.

This SAS program unpacks fringe benefits from the variable "fringe". It creates 10 (dichotomous) dummy variables indicating the presence or absence of each of the 10 benefits. Each dummy is set to missing if fringe is missing (coded at -999). Note that the variables are created in reverse order from the codeblock, i.e., MEDICAL is code 1 on the tape and FRINGE10 in the program.

```

TITLE1 `FRINGE BENEFITS';
DATA BENEFITS; INFILE IN;
INPUT FRINGE 18985-18988;
*TAPE POSITION FOR THE 1976 YOUNG MEN;
  LABEL FRINGE10 = `MEDICAL'
        FRINGE9  = `LIFE INS'
        FRINGE8  = `RETIRE'
        FRINGE7  = `TRNG'
        FRINGE6  = `PROF SH'
        FRINGE5  = `STOCK'
        FRINGE4  = `FRE MEAL'
        FRINGE3  = `FRE MERC'
        FRINGE2  = `PD SICK'
        FRINGE1  = `PD VAC';
  ARRAY DUMMY(10) FRINGE1-FRINGE10;
  I=0;
  DO COUNTER=512, 256, 128, 64, 32, 16, 8, 4, 2, 1;
    I+1;
    IF COUNTER <= FRINGE THEN DO;
      DUMMY(I) = 1;
      FRINGE = FRINGE - COUNTER;
    END;
    ELSE DUMMY(I)=0;
  IF FRINGE = -999 THEN DUMMY(I) = .;
  *OMIT TO SET DUMMY=0 IF MV;
  END;   DROP I FRINGE;
PROC MEANS; VAR FRINGE1-FRINGE10;
TITLE2 `PROPORTION OF (NONMISSING)
RESPONDENTS HAVING EACH BENEFIT';

```

/\* UNPACKING 1981 YOUNG MEN FRINGE BENEFITS: SPSS-X

compute FB1=0

```
variable labels FB1 '81 NONE'  
compute FB2=0  
variable labels FB2 '81 FLEX HRS'  
compute FB3=0  
variable labels FB3 '81 PD VACATION'  
compute FB4=0  
variable labels FB4 '81 PD SICK'  
compute FB5=0  
variable labels FB5 '81 FR MERCH'  
compute FB6=0  
variable labels FB6 '81 FR MEALS'  
compute FB7=0  
variable labels FB7 '81 STOCK'  
compute FB8=0  
variable labels FB8 '81 PROFIT'  
compute FB9=0  
variable labels FB9 '81 TRED'  
compute FB10=0  
variable labels FB10 '81 RETR'  
compute FB11=0  
variable labels FB11 '81 LIFE'  
compute FB12=0  
variable labels FB12 '81 HLTH'
```

```
compute fb81a=fb81  
variables labels fb81a 'VARIABLE FOR NONE'
```

```
do if (2048 le FB81)  
compute FB1=1  
compute Fb81=fb81-2048  
else  
compute Fb1=-4  
end if
```

```
do if (1024 le FB81)  
compute FB2=1  
compute FB81=FB81-1024  
else  
compute FB2=-4  
end if
```

```
do if (512 le FB81)  
compute FB3=1  
compute FB81=FB81-512  
else  
compute FB3=-4  
end if
```

```
do if (256 le FB81)  
compute FB4=1  
compute FB81=FB81-256  
else  
compute FB4=-4  
end if
```

```
do if (128 le FB81)
compute FB5=1
compute FB81=FB81-128
else
compute FB5=-4
end if
```

```
do if (64 le FB81)
compute FB6=1
compute FB81=FB81-64
else
compute FB6=-4
end if
```

```
do if (32 le FB81)
compute FB7=1
compute FB81=FB81-32
else
compute FB7=-4
end if
```

```
do if (16 le FB81)
compute FB8=1
compute FB81=FB81-16
else
compute FB8=-4
end if
```

```
do if (8 le FB81)
compute FB9=1
compute FB81=FB81-8
else
compute FB9=-4
end if
```

```
do if (4 le FB81)
compute FB10=1
compute FB81=FB81-4
else
compute FB10=-4
end if
```

```
do if (2 le FB81)
compute FB11=1
compute FB81=FB81-2
else
compute FB11=-4
end if
```

```
do if (1 le FB81)
```

```
compute FB12=1
compute FB81=FB81-1
else
compute FB12=-4
end if
```