UTILIZING SAS/AF AND SCREEN CONTROL LANGUAGE: 
A CENSUS BUREAU APPLICATION

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ABSTRACT

The Enterprise Statistics Branch at the Census Bureau conducts the Surveys of Minority-Owned Business Enterprises (SMOBE) and Women-Owned Businesses (WOB) every five years. The data are collected, tabulated, and released in various formats such as publication, CD-ROM, etc. Micro-data are stored for analytical purposes and requests for special tabulations. In the past, special tabulation requests were referred to a programming division to be performed on a mainframe - a very costly and time-consuming procedure.

For the 1987 surveys, the branch was able to download the data to an IBM-compatible 486 PC. Custom tabulations were prepared within the office on a request basis utilizing the SAS system. The majority of these requests were for number of businesses at the 4-digit Standard Industrial Classification code level. The custom programming on the PC was more efficient than on the mainframe; however, due to the number of requests for 4-digit SIC information, it was decided to generalize the selection and tabulation process.

SAS/AF software with Screen Control Language (SCL) was used to create an interactive system which would allow any SMOBE/WOB staff analyst to quickly and easily run special tabulations, rather than custom code each request. This paper discusses the development and implementation of the interactive system.

INTRODUCTION

The system creates tabulations in a timely manner, however, frills were kept to a minimum. The programs were written under considerable time constraints. The approach taken in writing the programs was to produce a product to fulfill the immediate needs of the staff; in the future, the system can be modified to perform more elaborate tasks and to direct the output to alternative devices.

Separate variations of the same program were used rather than one comprehensive program to process the various groups (Black; Hispanic; Asian Americans, American Indians, and Other Minorities; and Women). For the purposes of this paper, the Black stratum for Baltimore, MD is used in the examples.

SELECTING FROM THE MAIN MENU

The analyst enters a batch command from the DOS prompt to execute the special tabulation program. The main menu appears in Figure 1.

Tabulations can be run for states, cities, places, and metropolitan statistical areas.

Figure 1

The menu was designed to allow the analyst to select the appropriate type of geographic area or to exit the program.
ENTERING THE DATA REQUEST

Once the selection has been made, the analyst is required to enter a stratum and the appropriate geographic code(s). (See Figure 2)

Figure 2

Following are the attributes for the variables in the place program screen. (Figures 3 - 5)

EXTRACTING THE DATA

Once the entries have been made, the program then extracts the required data items, which are employer code (designating whether a business is an employer or has no paid employees) and 4-digit SIC code, using the following statements:

ԑ /******** BLACK STRATUM ********/
ԑ /**** EXTRACT APPROPRIATE RECORDS ****/
ԑ if (stratum='B' and state=' ' and place=' ') then submit immediate;
ԑ data temp(keep=em sic4);
ԑ set dsname.blackfile(where=(st='&state' and plc='&place'));
ԑ run;
ԑ Once the records have been extracted, they are then sorted by SIC code using PROC SORT.
ԑ /**** SORT TEMPORARY DATA SET ****/
ԑ proc sort data=temp out=sorted;
ԑ by sic4;
ԑ run;
ԑ After sorting, counts for all businesses and only those with paid employees are tabulated by SIC code.
CREATE FINAL DATA SET AND PERFORM CALCULATIONS

data final;
set sorted;
by sic4;
retain pdfirms 0;
retain allfirms 0;
if first.sic4 then do;
pdfirms = 0; allfirms = 0;
end;
allfirms + 1;
if em = '2' then pdfirms + 1;
if last.sic4 then output;
run;

PRINTING THE TABULATION

Once the data are tabulated, the analyst is then taken to the print screen. The analyst must confirm the stratum and enter the name of the geographic area (Figures 6-7)

Figure 6

BUILD: DISPLAY PRINT.PROGRAM (B)
Command ➔
Print Program
00001 Make the appropriate entries below. Type the geographic name exactly as you want to appear on the printed output.
00002 Examples: Los Angeles County, CA; Washington, DC MSA; Alaska
00003 Verify the stratum:
00004 B = Black
00005 H = Hispanic
00006 A = Asian
00007 W = Women
00008 Type the geographic area name:
00011 &
00012 When the cursor reappears on the command line, press F10 to continue.

Figure 7

BUILD: ATTR PRINT.PROGRAM (B)
Command ➔
Use the scroll commands or function keys to review the fields:
Field name: FIELD1 Page: 1 Row: 7 Col: 23 Length: 1
Alias: STRATUM Cape: X Pad: Protect:
Type: CHAR Cursor: X Just: E Required: X
Prompt: _ Autoskip: _ Non-display: _
Error color: RED attr: REVERSE Help: ..............
List: SHAW
Initial:
Replace:
The output is sent to the OUTPUT window and from there is directed to a preselected laser printer. An example of the printed output is in Figure 8 below.

After the tabulation is printed, the analyst is sent back to the main menu to make another selection.

EXITING THE PROGRAM

When the analyst chooses option 5 to exit, a verification message appears. (See Figure 9) (Figure 10 describes the attributes for the exit program.)

init:
return;

main:
return;

term:

if yes_no = 'Y' then call execmd('bye');
return;

If "Y" is entered, the program terminates and the DOS prompt returns.
CONCLUSION

The SMOBE and WOB programs are highly publicized. The publications provide only summary totals for the smaller geographic areas. Using the system, the staff is able to furnish more detailed information upon request. These requests can now be processed quickly and easily. The data users receive the requested information faster and also save money.