

FINANCIAL STATEMENTS FROM COMPUSTAT[®] QUARTERLY INDUSTRIAL DATA FILES

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ABSTRACT

The COMPUSTAT financial data base is distributed by Standard and Poor's Compustat Services, Inc. The expanded annual industrial file from this data base can be assessed using the macro SPYR as described in the 1982 edition of SAS/ETS. Following a similar format, two macros were developed to read the COMPUSTAT quarterly industrial files and output the selected data items to SAS data sets. The macros default to building data sets of all variables for every quarter for every company on the file. Options allow for selection of data items, years, and companies.

A third macro, FINSTATQ, is listed that allows for inclusion of all data items in the 100-item file pertinent to a balance sheet statement. The data is transposed and labelled and thus presented in a familiar format.

INTRODUCTION

COMPUSTAT quarterly industrial data files are distributed by Standard and Poor's Compustat Services, Inc. The 40-item file contains forty data items for a period of 40 quarters; the 100-item file includes 100 data items for a period of 20 quarters. These files may be accessed using the SAS macros SPQTR40 and SPQTR100, respectively, that were developed based upon the macro SPYR described in the 1982 edition of SAS/ETS. The macros both use the same set of options to delimit the data to specified variables for a defined set of companies and/or years.

After the data sets are created, they may be printed or analyzed with the Procs available in SAS. The macro FINSTATQ provides an example to use the data in a familiar format for financial statements. FINSTATQ is based on the macro FINSTAT (Hirsch, et al.) that is specific to the COMPUSTAT annual industrial series.

MACRO SPQTR40

SPQTR40 reads the data from the 40-item quarterly industrial file and creates a data set with the selected companies and variables. The DCB of this quarterly file should be DCB = (RECFM = VS, LRECL = 6968, BLKSIZE = 6972). If the macro is used with no options specified, the default data set created will contain the entire set of data for forty quarters for every company on the file. The options that are available to control the inclusion of observations and variables are

OUT = ,	name of output data set
DDNAME = SPQTRFIL	ddname of file
BEGYR = ,	first year
ENDYR = ,	final year
SELECT = ,	keep list of variables
SELCRIT = ,	company selection criteria.

The listing of the macro and its use is illustrated in Figure 1. The options statement requests an output data set TEST, containing the variables CONAME YEAR QTR V1-V4 for a specific company number. An observation is created for each of the quarters in 1985 through 1986.

MACRO SPQTR100

SPQTR100 reads the data from the 100-item quarterly industrial file and creates a data set with the selected companies and variables. The DCB of this file should be DCB = (RECFM = VS, LRECL = 9728, BLKSIZE = 9732). The default data set will contain the data for 20 quarters for every company on the file. The available options to delimit this data set are the same as those in SPQTR40. This macro is listed in Figure 2.

MACRO FINSTATQ

FINSTATQ selects the variables that are needed for the balance sheet as these data items are defined in the Compustat manual. PROC TRANSPOSE is used to transpose each data set, and all the data items are labelled so that the information is presented in a useful format. Figure 3 lists the statements in this macro. This sequence of statements could be repeated with appropriate variable selection and labels to produce other financial statements from the 100-item quarterly industrial file.

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REFERENCES

- Hirsch, M.S., Byington, J.R., Dodd, M.T. "Financial Statements and Ratios from COMPUSTAT: Accessed and Displayed Using SAS Software." Proceedings of the Ninth Annual SAS Users Group International Conference, 1984.
- SAS Institute Inc. SAS User's Guide: Basics, Version 5 edition. SAS Institute Inc., Cary, NC, 1985.
- SAS Institute Inc. SAS/ETS User's Guide, 1982 edition. SAS Institute Inc., Cary, NC, 1982.
- Standard & Poor's Compustat Services, Inc., Industrial Compustat Handbook.

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FIGURE 1

READ THE COMPUSTAT II 40-ITEM QUARTERLY INDUSTRIAL FILE
MACRO SPQTR40

```
// EXEC SAS.OPTIONS='MACRO, MCOMPILE'
//SPQTRFIL DD UNIT=TAPE VOL=SER=LABEL DISP=OLD
OPTIONS NOSOURCE NONOTES NODATE LINESIZE=80;
%MACRO SPQTR40(OUT=, /* DATA SET BEING CREATED */
DDNAME=SPQTRFIL, /* DDNAME TO READ SPQTR DATA */
BEGYR=, /* FIRST YEAR OF SELECTION */
ENDYR=, /* LAST YEAR OF SELECTION */
SELECT=, /* VARIABLE LIST TO KEEP */
SELCRIT=); /* OTHER SELECTION CRITERIA */

*-----MACRO TO READ COMPUSTAT II QUARTERLY INDUSTRIAL FILE-----*
THIS MACRO SHOULD BE USED ONLY WITH THOSE 360/370 GENERAL FORMAT
FILES PROVIDED BY STANDARD AND POOR'S COMPUSTAT SERVICES
PERTAINING TO QUARTERLY FILES (EITHER FOR INDIVIDUAL COMPANIES OR
AGGREGATES). THE DDNAME GIVEN SHOULD REFER TO THE NON-LABELED
TAPE PROVIDED, OR TO A COPY OF THE TAPE FILE. IN EITHER CASE,
THE DCB OF THE FILE SHOULD BE:
DCB=(RECFM=VS,LRECL=6968,BLKSIZE=6972)
*-----*
DATA &OUT; INFILE &DDNAME RECFM=VS LRECL=6968 BLKSIZE=6972;
*-----INPUT THE COMPANY-LEVEL FIELDS-----*
INPUT
@6401
DNUM RB4. /* INDUSTRY NUMBER */
CNUM $8. /* CUSIP COMPANY NUMBER */
CIC RB4. /* CUSIP ISSUE NUMBER AND CHECK NIGIT */
FILE RB4. /* FILE IDENTIFICATION CODE */
@6581
SMBL $8. /* STOCK TICKER SYMBOL */
LIST RB4. /* EXCHANGE LISTING AND S&P INDEX CODE */
@6909
INAME $28. /* INDUSTRY NAME */
CONAME $28. @; /* COMPANY NAME */
*====GENERATE IF STATEMENT BASED ON SELECTION CRITERIA, IF GIVEN====*;
IF %LENGTH(&SELCRIT) >= 0 %THEN
IF &SELCRIT %STR( );
*-----*
*-----READ THE DATA FOR 40 QUARTERS (QUARTERS PER RECORD)-----*
DO QR=1 TO 40;
COL=6421+4*(QR-1);
INPUT
@COL
FYR RB4. @; /* FISCAL YEAR END MONTH */
@COL
YEAR QTR) /* DATA YEAR */
(RB4. +156) @; /* DATA QUARTER */
*====GENERATE AN IF STATEMENT IF BEGYR AND/OR ENDYR GIVEN====*;
%LOCAL IFSTMT LESS GR;
%IF &BEGYR <= %THEN %DO;
%LET IFSTMT=1;
%LET LESS= &BEGYR <= ;
%END;
%IF &ENDYR <= %THEN %DO;
%LET IFSTMT=1;
%LET GR= <=&ENDYR;
%END;
%IF &IFSTMT=1 %THEN
IF &LESS YEAR &GR THEN DO %STR( );
*-----PROCESS DATA FOR A YEAR IF THAT YEAR IS ACCEPTED-----*
COL=-159+160*QR;
INPUT @COL
(V1-V40) (RB4.) @; /* THE SERIES OF DATA ITEMS */
OUTPUT;
*====GENERATE AN END STATEMENT IF A DO STATEMENT GIVEN EARLIER====*;
%IF &IFSTMT=1 %THEN
END %STR( );
*-----*
*====GENERATE A KEEP STATEMENT IF SELECT WAS SPECIFIED====*;
IF %LENGTH(&SELECT) >= 0 %THEN
KEEP &SELECT %STR( );
*-----*
%MEND;

%SPQTR40(OUT=TEST,SELECT=CONAME YEAR QTR V1-V4,BEGYR=85,ENDYR=86,
SELCRIT=CNUM='000000');
PROC PRINT;
```

FIGURE 2

READ THE COMPUSTAT II/100-ITEM QUARTERLY INDUSTRIAL FILE
MACRO SPQTR100

```
// EXEC SAS,OPTIONS='MACRO,MCOMPILE'
//SPQTRFIL DD UNIT=TAPE,VOL=SER=LABEL,DISP=OLD
OPTIONS NOSOURCE NONOTES NODATE LINESIZE=80;
%MACRO SPQTR100(OUT=, /* DATA SET BEING CREATED */
DDNAME=SPQTRFIL, /* DDNAME TO READ SPQTRS */
BEGYR=, /* FIRST YEAR OF SELECTION */
ENDYR=, /* LAST YEAR OF SELECTION */
SELECT=, /* VARIABLE LIST TO KEEP */
SELCRIT=); /* OTHER SELECTION CRITERIA */
*-----MACRO TO READ COMPUSTAT II QUARTERLY FILE-----*
THIS MACRO SHOULD BE USED ONLY WITH THOSE 360/370 GENERAL FORMAT
FILES PROVIDED BY STANDARD AND POOR'S COMPUSTAT SERVICES
PERTAINING TO QUARTERLY FILES (EITHER FOR INDIVIDUAL COMPANIES OR
AGGREGATES) THE DDNAME GIVEN SHOULD REFER TO THE NON-LABELED
TAPE PROVIDED, OR TO A COPY OF THE TAPE FILE. IN EITHER CASE,
THE DCB OF THE FILE SHOULD BE:
DCB=(RECFM=VS,LRECL=9728,BLKSIZE=9732)
*-----*
DATA &OUT; INFILE &DDNAME RECFM=VS LRECL=9728 BLKSIZE=9732;
*-----INPUT THE COMPANY-LEVEL FIELDS-----*
INPUT
@1
DNUM RB4. /* INDUSTRY NUMBER */
CNUM $8. /* CUSIP COMPANY NUMBER */
(CIC /* CUSIP ISSUE NUMBER AND CHECK DIGIT */
REC /* RECORD NUMBER */
FILE /* FILE IDENTIFICATION CODE */
ZLIST) (RB4.) /* EXCHANGE LISTING AND S&P INDEX CODE */
@57
DUP RB4. /* DUPLICATE FILE CODE */

INAME $28. /* INDUSTRY NAME */
CONAME $28. /* COMPANY NAME */
SMBL $8. @; /* STOCK TICKER SYMBOL */
*====GENERATE IF STATEMENT BASED ON SELECTION CRITERIA, IF GIVEN====*
%IF %LENGTH(&SELCRIT) >= 0 %THEN
IF &SELCRIT %STR( );
*-----*
*-----READ THE DATA FOR 20 QUARTERS (QUARTERS PER RECORD)-----*
DO QR=1 TO 20;
COL=125+4*(QR-1);
INPUT
@COL
(FYR /* FISCAL YEAR END MONTH */
YEAR /* DATA YEAR */
QTR /* DATA QUARTER */
SOURCE /* SOURCE DOCUMENT CODE */
UCODE) /* UPDATE CODE */
(RB4. +76) @;
*====GENERATE AN IF STATEMENT IF BEGYR AND/OR ENDYR GIVEN====*
%LOCAL IFSTMT LESS GR;
%IF &BEGYR <= %THEN %DO;
%LET IFSTMT=1;
%LET LESS= &BEGYR <= ;
%END;
%IF &ENDYR <= %THEN %DO;
%LET IFSTMT=1;
%LET GR= <=&ENDYR ;
%END;
%IF &IFSTMT=1 %THEN
IF &LESS YEAR &GR THEN DO %STR( );
*-----*
*-----PROCESS DATA FOR A YEAR IF THAT YEAR IS ACCEPTED-----*
COL=465+60*QR;
INPUT @COL
(QFNT1-QFNT30)($2.)@; /* FOOTNOTES */
COL=1325+400*QR;
INPUT @COL
(V1-V100)(RB4.)@ /* THE SERIES OF DATA ITEMS */
OUTPUT;
*====GENERATE AN END STATEMENT IF A DO STATEMENT GIVEN EARLIER====*
%IF &IFSTMT=1 %THEN
END %STR( );
*-----*
END; /* ENDS DO QR=1 TO 20 LOOP */
*====GENERATE A KEEP STATEMENT IF SELECT WAS SPECIFIED====*
%IF %LENGTH(&SELECT) >= 0 %THEN
KEEP &SELECT %STR( );
*-----*
%MEND;
```

FIGURE 3

FINANCIAL STATEMENTS FROM QUARTERLY DATA
BALANCE SHEET

MACRO FINSTATQ

```
%SPQTR100(OUT=TEST,BEGYR=85,ENDYR=86,
SELECT=CONAME YEAR QTR V32-V62 V71,
SELCRIT=CNUM='000000');

OPTIONS LS=110;
DATA B1;SET TEST; TTG=V41+V42;
PROC TRANSPOSE DATA=B1 OUT=B2;ID YEAR QTR;
VAR V36-V44 TTG ;
DATA ASSETS;
SET B2;
PROC FORMAT; VALUE $LABELS
V36 ='CASH AND SHORT-TERM INVESTMENTS'
V37 ='RECEIVABLES - TOTAL'
V38 ='INVENTORIES - TOTAL'
V39 ='CURRENT ASSETS - OTHER'
V40 ='CURRENT ASSETS - TOTAL'
TTG ='PROPERTY,PLANT,EQUIPMENT - TOTAL(GROSS)'
V41 ='DEPRECIATION,DEPLETION,AMORTIZATION(ACC)'
V42 ='PROPERTY,PLANT,EQUIPMENT - TOTAL(NET)'
V43 ='ASSETS - OTHER'
V44 ='ASSETS-TOTAL/LIAB & STKHOLD EQUITY-TOTAL'
;PROC PRINT; FORMAT NAME $LABELS.;
TITLE4; TITLE6 'BALANCE SHEET - ASSETS';
TITLE7 '-----';
PROC TRANSPOSE DATA =B1 OUT=B3; ID YEAR QTR;
VAR V44-62 V71;
DATA ASSET; SET B3;
PROC FORMAT; VALUE $LABEL
V45 =DEBT IN CURRENT LIABILITIES
V46 =ACCOUNTS PAYABLE
V47 =INCOME TAXES PAYABLE
V48 ='CURRENT LIABILITIES - OTHER'
V49 ='CURRENT LIABILITIES - TOTAL'
V50 ='LIABILITIES-OTHER'
V51 ='LONG-TERM DEBT - TOTAL'
V52 =DEFERRED TAXES AND INVESTMENT TAX CREDIT
V53 ='MINORITY INTEREST(BALANCE SHEET)'
V54 ='LIABILITIES - TOTAL'
V55 ='PREFERRED STOCK - CARRYING VALUE'
V71 =' PREFERRED STOCK - REDEEMABLE'
V59 ='COMMON EQUITY - TOTAL'
V56 =' COMMON STOCK'
V57 =' CAPITAL SURPLUS'
V58 =' RETAINED EARNINGS'
V60 ='STOCKHOLDERS EQUITY - TOTAL'
V44 ='ASSETS-TOTAL/LIAB & STKHOLD EQUITY-TOTAL'
;PROC PRINT; FORMAT NAME $LABEL.;
TITLE6 'BALANCE SHEET - LIABILITIES AND NET WORTH';
TITLE7 '-----';
```