

000518

BMDP2R - STEPWISE REGRESSION

Version: PC90 (1990 IBM PC/MS-DOS) Date: 07/23/91 at 08:57:01
 Site: 160-1751
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```
/input var=5.
title= 'STEPWISE LINEAR REGRESSION ON SPECIFIC GRAVITY FARO90 DATA.'.
format= free.
file = 'a:faro90sg.dat'.
/var names are smpnbr,pb,zn,fe,sg.
label=smpnbr.
/regress dependent=sg.
/end
```

```
REGRESSION INTERCEPT. . . . .NON ZERO
REGRESSION WEIGHT VARIABLE. . . . .
PRINT COVARIANCE MATRIX . . . . . NO
PRINT CORRELATION MATRIX. . . . . NO
PRINT ANOVA AT EACH STEP. . . . . YES
PRINT STEP OUTPUT . . . . . YES
PRINT REGRESSION COEFFICIENT SUMMARY TABLE. . . YES
PRINT PARTIAL CORRELATION SUMMARY TABLE . . . . NO
PRINT F-RATIO SUMMARY TABLE . . . . . NO
PRINT SUMMARY TABLE . . . . . YES
PRINT DATA OR DIAGNOSTICS . . . . . NO
PRINT CORRELATION OF REGRESSION COEFFICIENTS. . NO
PRINT NORMAL PROBABILITY PLOT . . . . . NO
PRINT DETRENDED NORMAL PROBABILITY PLOT . . . . NO
PRINT PLOTS FOR XVAR AND YVAR . . . . . NO
PRINT PLOTS AND DATA. . . . . NO
PRINT PLOTS WITH STATISTICS . . . . . NO
PRINT DIAGNOSTIC PLOT(S). . . . . NO
PRINT CASE-BY-STATISTIC PLOTS . . . . . NO
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PRINT ADDED VARIABLE MINIPLOTS. . . . . NO
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NUMBER OF CASES READ. . . . . 133
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*** NOTE *** A NEGATIVE WEIGHT IS TREATED AS A ZERO AND IS INCLUDED
 IN THE COUNT OF THE NUMBER OF CASES WITH ZERO WEIGHT.

VARIABLE NO.	NAME	MEAN	STANDARD DEVIATION	COEFFICIENT OF VARIATION	SMALLEST VALUE	LARGEST VALUE
2	pb	2.1620	2.3233	1.074597	0.0200	11.7000
3	zn	3.9241	3.8828	0.989490	0.0200	19.9000
4	fe	21.6200	9.9081	0.458282	1.6500	41.5300
5	sg	3.7853	0.3682	0.150119	2.7700	4.8900

REGRESSION TITLE
 STEPWISE LINEAR REGRESSION ON SPECIFIC GRAVITY FAR090 DATA.

STEPPING ALGORITHM F
 MAXIMUM NUMBER OF STEPS 10
 DEPENDENT VARIABLE 5 sg
 MINIMUM ACCEPTABLE F-TO-ENTER 4.000, 4.000
 MAXIMUM ACCEPTABLE F-TO-REMOVE 3.900, 3.900
 MINIMUM ACCEPTABLE TOLERANCE 0.01000
 SUBSCRIPTS OF THE INDEPENDENT VARIABLES 2 3 4

STEP NO. 0

STD. ERROR OF EST. 0.5682

ANALYSIS OF VARIANCE

	SUM OF SQUARES	DF	MEAN SQUARE
RESIDUAL	42.622330	132	0.3228964

VARIABLES IN EQUATION				VARIABLES NOT IN EQUATION			
VARIABLE	COEFF.	STD.ERR OF COEFF	F TOL. REMOVE(L)	VARIABLE	PARTIAL CORR.	F TOL. ENTER(L)	F
(CONSTANT	3.7853)						
				pb	0.3990	1.0000	24.81(1)
				zn	0.3813	1.0000	22.29(1)
				fe	0.9083	1.0000	617.55(1)

ENTER VARIABLE TO MOVE NEXT :
 !V to View Output; ENTER to accept: fe --->

STEP NO. 1

VARIABLE ENTERED 4 fe

MULTIPLE R 0.9083
 MULTIPLE R-SQUARE 0.8250
 ADJUSTED R-SQUARE 0.8237

STD. ERROR OF EST. 0.2386

ANALYSIS OF VARIANCE

	SUM OF SQUARES	DF	MEAN SQUARE	F RATIO
REGRESSION	35.163230	1	35.16323	617.55
RESIDUAL	7.4590990	131	0.5693969E-01	

VARIABLES IN EQUATION				VARIABLES NOT IN EQUATION				
VARIABLE	COEFF.	STD.ERR OF COEFF	F TOL. REMOVE(L)	VARIABLE	PARTIAL CORR.	F TOL. ENTER(L)	F	
(CONSTANT	2.6590)							
fe	0.521E-01	0.21E-02	1.0000	617.55(1)	pb	0.6994	0.9857	124.51(1)
					zn	0.7083	0.9910	130.90(1)

ENTER VARIABLE TO MOVE NEXT :

STEP NO. 2

VARIABLE ENTERED 3 zn

MULTIPLE R 0.9554
MULTIPLE R-SQUARE 0.9128
ADJUSTED R-SQUARE 0.9115

STD. ERROR OF EST. 0.1691

ANALYSIS OF VARIANCE

	SUM OF SQUARES	DF	MEAN SQUARE	F RATIO
REGRESSION	38.905650	2	19.45283	680.41
RESIDUAL	3.7166730	130	0.2858979E-01	

VARIABLES IN EQUATION

VARIABLES NOT IN EQUATION

VARIABLE	COEFF.	STD.ERR OF COEFF	F TOL.	REMOVE(L)	VARIABLE	PARTIAL CORR.	F TOL.	ENTER(L)
(CONSTANT	2.5232)							
zn	0.436E-01	0.38E-02	0.9910	130.90(1)	pb	0.3110	0.3508	13.81(1)
fe	0.505E-01	0.15E-02	0.9910	1144.02(1)				

ENTER VARIABLE TO MOVE NEXT :
!V to View Output; ENTER to accept: pb --->

STEP NO. 3

VARIABLE ENTERED 2 pb

MULTIPLE R 0.9598
MULTIPLE R-SQUARE 0.9212
ADJUSTED R-SQUARE 0.9194

STD. ERROR OF EST. 0.1613

ANALYSIS OF VARIANCE

	SUM OF SQUARES	DF	MEAN SQUARE	F RATIO
REGRESSION	39.265160	3	13.08839	502.92
RESIDUAL	3.3571730	129	0.2602460E-01	

VARIABLES IN EQUATION

VARIABLES NOT IN EQUATION

VARIABLE	COEFF.	STD.ERR OF COEFF	F TOL.	REMOVE(L)	VARIABLE	PARTIAL CORR.	F TOL.	ENTER(L)
(CONSTANT	2.5208)							
pb	0.0379	0.0102	0.3508	13.81(1)				
zn	0.254E-01	0.61E-02	0.3527	17.40(1)				
fe	0.501E-01	0.14E-02	0.9857	1231.12(1)				

ENTER VARIABLE TO MOVE NEXT :
!V to View Output; ENTER to accept: NONE --->

**** F LEVELS(4.000, 3.900) OR TOLERANCE INSUFFICIENT FOR FURTHER STEPPING

VARIABLES	0 Y-INTCPT	2 pb	3 zn	4 fe
STEP 0	3.7853*	0.0976	0.0558	0.0521
1	2.6590*	0.0721	0.0436	0.0521*
2	2.5232*	0.0379	0.0436*	0.0505*
3	2.5208*	0.0379*	0.0254*	0.0501*

$$\frac{25}{.05} = 1.25$$

*** NOTE *** 1) REGRESSION COEFFICIENTS FOR VARIABLES IN THE EQUATION ARE INDICATED BY AN ASTERISK.
 2) THE REMAINING COEFFICIENTS ARE THOSE WHICH WOULD BE OBTAINED IF THAT VARIABLE WERE TO ENTER IN THE NEXT STEP.

SUMMARY TABLE

STEP NO.	VARIABLE		MULTIPLE CHANGE			F TO ENTER	F TO REMOVE	NO. OF VAR. INCLUDED
	ENTERED	REMOVED	R	RSQ	IN RSQ			
1	4 fe		0.9083	0.8250	0.8250	617.95		1
2	3 zn		0.9554	0.9128	0.0878	130.90		2
3	2 pb		0.9598	0.9212	0.0084	13.81		3