|-> regress; lhs=cost11; rhs= one, track, pden, fden, wage11; res=res1$

-----------------------------------------------------------------------------

Ordinary least squares regression ............

LHS=COST11 Mean = -.08726

Standard deviation = .43028

---------- No. of observations = 123 DegFreedom Mean square

Regression Sum of Squares = 16.6588 4 4.16469

Residual Sum of Squares = 5.92855 118 .05024

Total Sum of Squares = 22.5873 122 .18514

---------- Standard error of e = .22415 Root MSE .21954

Fit R-squared = .73753 R-bar squared .72863

Model test F[ 4, 118] = 82.89266 Prob F > F\* .00000

Model was estimated on Sep 26, 2016 at 05:39:57 PM

--------+--------------------------------------------------------------------

| Standard Prob. 95% Confidence

COST11| Coefficient Error t |t|>T\* Interval

--------+--------------------------------------------------------------------

Constant| .01588 .02305 .69 .4924 -.02931 .06106

TRACK| .74803\*\*\* .06371 11.74 .0000 .62317 .87289

PDEN| .19834\*\* .08812 2.25 .0262 .02563 .37104

FDEN| .23994\*\*\* .04287 5.60 .0000 .15593 .32396

WAGE11| .40447\*\*\* .07264 5.57 .0000 .26210 .54683

--------+--------------------------------------------------------------------

Note: \*\*\*, \*\*, \* ==> Significance at 1%, 5%, 10% level.

-----------------------------------------------------------------------------

|-> FRONTIER; lhs=cost11; rhs= one, track, pden, fden, wage11; cost; list;eff=u1$

Normal exit: 13 iterations. Status=0, F= -13.59530

-----------------------------------------------------------------------------

Limited Dependent Variable Model - FRONTIER

Dependent variable COST11

Log likelihood function 13.59530

Estimation based on N = 123, K = 7

Inf.Cr.AIC = -13.2 AIC/N = -.107

Model estimated: Sep 26, 2016, 17:39:58

Variances: Sigma-squared(v)= .02347

Sigma-squared(u)= .06778

Sigma(v) = .15321

Sigma(u) = .26035

Sigma = Sqr[(s^2(u)+s^2(v)]= .30208

Gamma = sigma(u)^2/sigma^2 = .74277

Var[u]/{Var[u]+Var[v]} = .51202

Stochastic Cost Frontier Model, e = v+u

LR test for inefficiency vs. OLS v only

Deg. freedom for sigma-squared(u): 1

Deg. freedom for heteroscedasticity: 0

Deg. freedom for truncation mean: 0

Deg. freedom for inefficiency model: 1

LogL when sigma(u)=0 11.96346

Chi-sq=2\*[LogL(SF)-LogL(LS)] = 3.264

Kodde-Palm C\*: 95%: 2.706, 99%: 5.412

--------+--------------------------------------------------------------------

| Standard Prob. 95% Confidence

COST11| Coefficient Error z |z|>Z\* Interval

--------+--------------------------------------------------------------------

|Deterministic Component of Stochastic Frontier Model

Constant| -.17963\*\*\* .02403 -7.48 .0000 -.22672 -.13253

TRACK| .82858\*\*\* .06404 12.94 .0000 .70306 .95409

PDEN| .16485\*\* .08143 2.02 .0429 .00524 .32445

FDEN| .28848\*\*\* .04162 6.93 .0000 .20691 .37005

WAGE11| .35604\*\*\* .06761 5.27 .0000 .22353 .48855

|Variance parameters for compound error

Lambda| 1.69927\*\*\* .31414 5.41 .0000 1.08357 2.31497

Sigma| .30208\*\*\* .00166 181.48 .0000 .29882 .30535

--------+--------------------------------------------------------------------

Note: \*\*\*, \*\*, \* ==> Significance at 1%, 5%, 10% level.

-----------------------------------------------------------------------------

Data listing for stochastic frontier model

Observ Pd. Data row Observed Y Fitted Y Y - Xb E[u|e]

1 1 1 .1376 -.1884 .3260 .2523

2 1 2 .2059 -.1100 .3160 .2460

3 1 3 .2197 -.0735 .2932 .2320

4 1 4 .2462 -.0862 .3324 .2563

5 1 5 .2244 -.0579 .2823 .2255

6 1 6 .4439 .1060 .3378 .2598

7 1 7 .5012 .1962 .3050 .2392

8 1 8 .4653 .1840 .2813 .2249

9 1 9 .5027 .2771 .2257 .1938

10 1 10 -.0248 -.7290 .7043 .5231

11 1 11 .0659 -.6771 .7430 .5519

12 1 12 .0634 -.6580 .7214 .5358

13 1 13 .1211 -.6704 .7914 .5878

14 1 14 .0985 -.6743 .7728 .5740

15 1 15 .3041 -.5346 .8387 .6230

16 1 16 .3894 -.4500 .8394 .6235

17 1 17 .3253 -.4675 .7928 .5888

18 1 18 .3339 -.4395 .7734 .5744

19 1 19 -.5865 -.6499 .0634 .1244

20 1 20 -.2765 -.5451 .2686 .2175

21 1 21 -.2764 -.4982 .2218 .1918

22 1 22 -.1518 -.4175 .2657 .2158

23 1 23 -.0880 -.3766 .2887 .2293

24 1 24 .0687 -.1751 .2438 .2036

25 1 25 .1251 -.1122 .2372 .2000

26 1 26 .1377 -.1381 .2759 .2217

27 1 27 .1729 -.1444 .3173 .2468

28 1 28 -.4175 -.7544 .3369 .2593

29 1 29 -.4407 -.7612 .3205 .2488

30 1 30 -.4220 -.7330 .3109 .2428

31 1 31 -.4049 -.6694 .2645 .2152

32 1 32 -.3395 -.5689 .2294 .1958

33 1 33 -.1951 -.4186 .2235 .1927

34 1 34 -.2686 -.4967 .2280 .1951

35 1 35 -.2610 -.4579 .1969 .1792

36 1 36 -.2795 -.3483 .0688 .1262

37 1 37 .3971 .1355 .2616 .2135

38 1 38 .4497 .1769 .2728 .2199

39 1 39 .4727 .2141 .2586 .2118

40 1 40 .4777 .1648 .3129 .2441

41 1 41 .5414 .1912 .3503 .2679

42 1 42 .7593 .3718 .3875 .2928

43 1 43 .7946 .4713 .3233 .2506

44 1 44 .7768 .4166 .3602 .2744

45 1 45 .8507 .4537 .3970 .2993

46 1 46 -.2259 -.2803 .0544 .1215

47 1 47 -.2015 -.2928 .0913 .1341

48 1 48 -.1776 -.3118 .1342 .1508

49 1 49 -.1674 -.2414 .0741 .1280

50 1 50 -.1600 -.1686 .0087 .1077

51 1 51 .0176 -.0472 .0648 .1249

52 1 52 .0315 .0137 .0178 .1103

53 1 53 -.0028 .2157 -.2185 .0637

54 1 54 .0194 .3021 -.2827 .0562

55 1 55 -1.2967 -.7973 -.4994 .0392

56 1 56 -1.1360 -1.0712 -.0648 .0897

57 1 57 -.8878 -.8804 -.0074 .1034

58 1 58 -.7645 -.7702 .0057 .1069

59 1 59 -.7622 -.7302 -.0320 .0972

60 1 60 -.6948 -.6596 -.0351 .0964

61 1 61 -.2587 -.4229 .1642 .1638

62 1 62 -.1933 -.3835 .1902 .1759

63 1 63 -.1435 -.3580 .2145 .1880

64 1 64 -.1050 -.3320 .2270 .1945

65 1 65 -.0328 -.2802 .2474 .2056

66 1 66 .2149 -.0462 .2611 .2132

67 1 67 .2878 .0099 .2779 .2229

68 1 68 .2488 -.0192 .2680 .2172

69 1 69 .2388 -.0346 .2734 .2203

70 1 70 .0062 .0039 .0023 .1060

71 1 71 .0534 .0567 -.0033 .1045

72 1 72 .0941 .0766 .0175 .1102

73 1 73 .1022 .0826 .0196 .1108

74 1 74 .2126 .1305 .0821 .1308

75 1 75 .3994 .2633 .1361 .1516

76 1 76 .4224 .3370 .0854 .1320

77 1 77 .3907 .3436 .0471 .1191

78 1 78 .4061 .4027 .0034 .1063

79 1 79 -.3321 -.7400 .4079 .3068

80 1 80 -.2082 -.6517 .4435 .3318

81 1 81 -.2586 -.5902 .3316 .2558

82 1 82 -.2619 -.5514 .2895 .2298

83 1 83 -.2316 -.4581 .2265 .1943

84 1 84 .0528 -.2950 .3478 .2663

85 1 85 .1215 -.1924 .3138 .2446

86 1 86 .0412 -.2221 .2633 .2145

87 1 87 .0500 -.2508 .3008 .2366

88 1 88 -.5723 -.9851 .4128 .3102

89 1 89 -.6299 -.9076 .2777 .2228

90 1 90 -.6238 -.8560 .2323 .1973

91 1 91 -.6093 -.7926 .1833 .1726

92 1 92 -.5882 -.7599 .1717 .1672

93 1 93 -.4813 -.5466 .0653 .1250

94 1 94 -.3807 -.4209 .0402 .1170

95 1 95 -.4490 -.4409 -.0081 .1032

96 1 96 -.4603 -.4151 -.0452 .0941

97 1 97 -1.1266 -1.0355 -.0911 .0842

98 1 98 -1.1394 -.9737 -.1658 .0712

99 1 99 -.8570 -.9079 .0510 .1204

100 1 100 -.8051 -.9078 .1027 .1383

101 1 101 -.7395 -.9217 .1822 .1721

102 1 102 -.5302 -.7812 .2509 .2075

103 1 103 -.5539 -.6770 .1231 .1463

104 1 104 -.5550 -.6430 .0880 .1329

105 1 105 -.5372 -.4966 -.0406 .0951

106 1 106 -.0054 -.2278 .2224 .1921

107 1 107 .0180 -.1655 .1836 .1728

108 1 108 .0626 -.0927 .1554 .1598

109 1 109 .1140 -.0786 .1926 .1771

110 1 110 .1273 -.0771 .2044 .1829

111 1 111 .3728 .1287 .2441 .2038

112 1 112 .3939 .1787 .2152 .1884

113 1 113 .3685 .2056 .1630 .1632

114 1 114 .3869 .3069 .0800 .1301

115 1 115 -.4146 -.4197 .0051 .1068

116 1 116 -.3755 -.3422 -.0333 .0969

117 1 117 -.2868 -.3412 .0545 .1215

118 1 118 -.2937 -.2212 -.0724 .0880

119 1 119 -.2472 -.2126 -.0346 .0965

120 1 120 -.1033 -.2216 .1184 .1444

121 1 121 -.0900 -.0686 -.0214 .0998

122 1 122 -.1312 -.1237 -.0075 .1034

123 1 123 -.1398 -.1049 -.0349 .0965

|-> create;eff100=exp(-u1)$$