

```
|-> regress; lhs=cost11; rhs= one, track, pden, fden, wage11; res=res1$
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-----
Ordinary least squares regression .....
LHS=COST11 Mean = -.08726
Standard deviation = .43028
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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
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	Coefficient	Standard Error	t	Prob. t >T*	95% Confidence 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=ul$
Normal exit: 13 iterations. Status=0, F= -13.59530
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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
```

	Coefficient	Standard Error	z	Prob. z >Z*	95% Confidence Interval
COST11					

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)\$\$