

Spreadsheet for use in Question 7

Part A Manipulation of Residuals

Firm	Residual	Residual-Min(Residual)	Residual-95th% residual
1	0.6932	1.7698	1.3810
2	0.7709	1.8475	1.4587
3	1.1375	2.2141	1.8254
4	-0.1026	0.9740	0.5852
5	-0.3826	0.6940	0.3052
6	0.1137	1.1903	0.8015
7	0.0985	1.1751	0.7863
8	0.3017	1.3783	0.9896
9	-0.0096	1.0670	0.6783
10	0.0714	1.1480	0.7592
11	-0.1397	0.9369	0.5481
12	-0.1592	0.9174	0.5286
13	0.1217	1.1983	0.8096
14	-0.1650	0.9116	0.5228
15	-0.0392	1.0374	0.6486
16	-0.2562	0.8204	0.4316
17	-0.2238	0.8528	0.4641
18	-0.0867	0.9899	0.6012
19	-1.0766	0.0000	-0.3888
20	-0.6674	0.4092	0.0205

Part B Computation of efficiency from residuals

Firm	Efficiency (COLS adjustment)	Efficiency (95th% adjustment)
1	17%	25%
2	16%	23%
3	11%	16%
4	38%	56%
5	50%	74%
6	30%	45%
7	31%	46%
8	25%	37%
9	34%	51%
10	32%	47%
11	39%	58%
12	40%	59%
13	30%	45%
14	40%	59%
15	35%	52%
16	44%	65%
17	43%	63%
18	37%	55%
19	100%	100%
20	66%	98%

Part C Percentile analysis

Analysis of the efficiency score which corresponds to each percentile of the distribution (low

Percentile	Efficiency (COLS)	Efficiency (95th% adjustment)
0%	11%	16%
10%	17%	25%
20%	29%	43%
30%	31%	45%
40%	33%	49%
50%	36%	54%
60%	38%	57%

70%	40%	59%
80%	43%	63%
90%	52%	76%
100%	100%	100%

Computations

User determined percentile (for user investigation)	75%
User determined residual	-0.179705549
75th percentile residual	-0.179705549
95th percentile residual	-0.687830764
Minium residual	-1.0766

Residual-75th% residual	Residual-User Determined% residual
0.8729	0.8729
0.9506	0.9506
1.3172	1.3172
0.0771	0.0771
-0.2029	-0.2029
0.2934	0.2934
0.2782	0.2782
0.4814	0.4814
0.1701	0.1701
0.2511	0.2511
0.0400	0.0400
0.0205	0.0205
0.3014	0.3014
0.0147	0.0147
0.1405	0.1405
-0.0765	-0.0765
-0.0441	-0.0441
0.0930	0.0930
-0.8969	-0.8969
-0.4877	-0.4877

Efficiency (75th% adjustment)	Efficiency (User Determined% adjustment)
42%	42%
39%	39%
27%	27%
93%	93%
100%	100%
75%	75%
76%	76%
62%	62%
84%	84%
78%	78%
96%	96%
98%	98%
74%	74%
99%	99%
87%	87%
100%	100%
100%	100%
91%	91%
100%	100%
100%	100%

to high)

Efficiency (75th% Adjustment)	Efficiency (User Determined% Adjustment)
27%	27%
41%	41%
72%	72%
75%	75%
82%	82%
89%	89%
94%	94%

98%
100%
100%
100%

98%
100%
100%
100%

adjust this % to see how the distribution of efficiency scores changes (see Part C) when alter the extent to which the OLS line is shifted