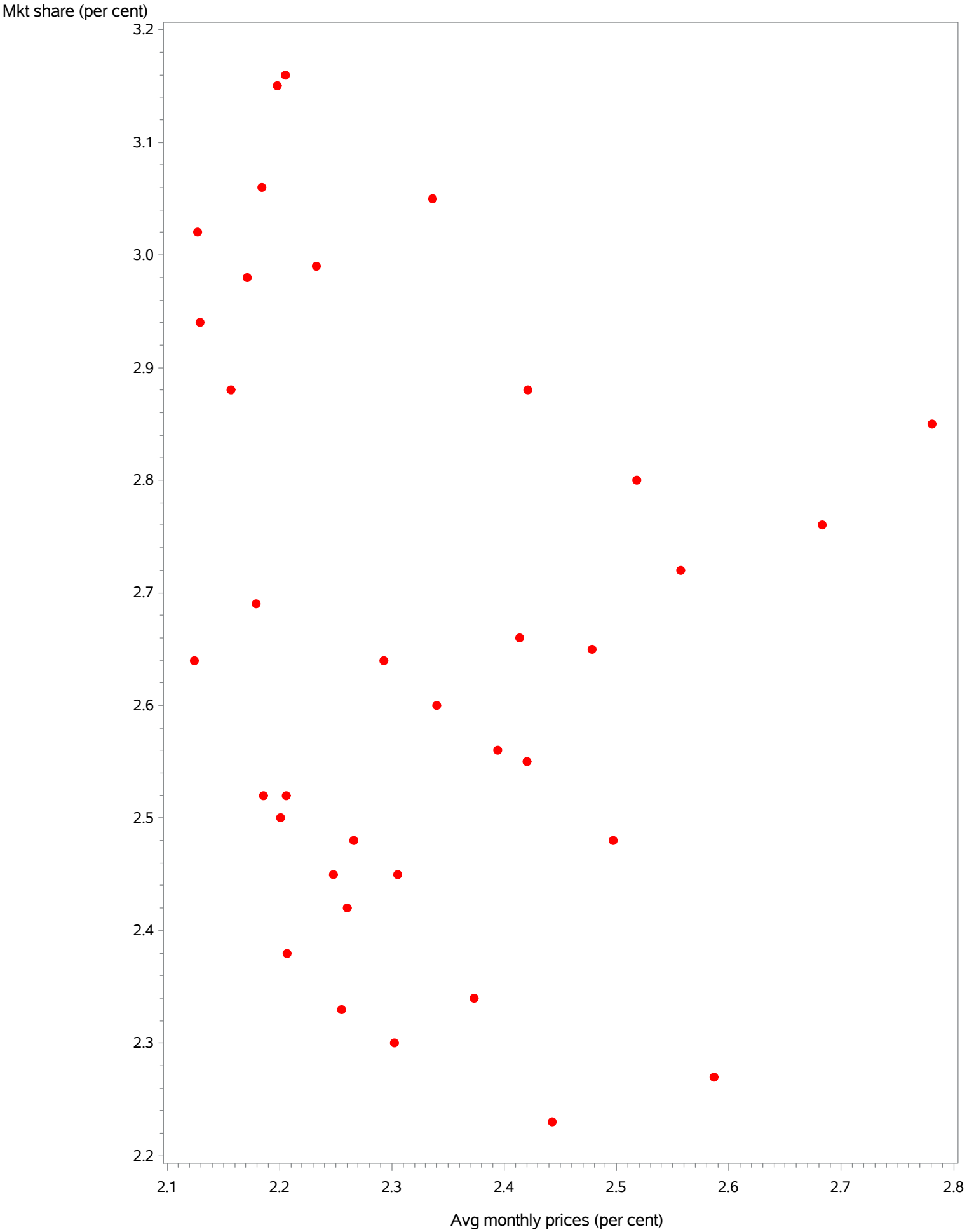
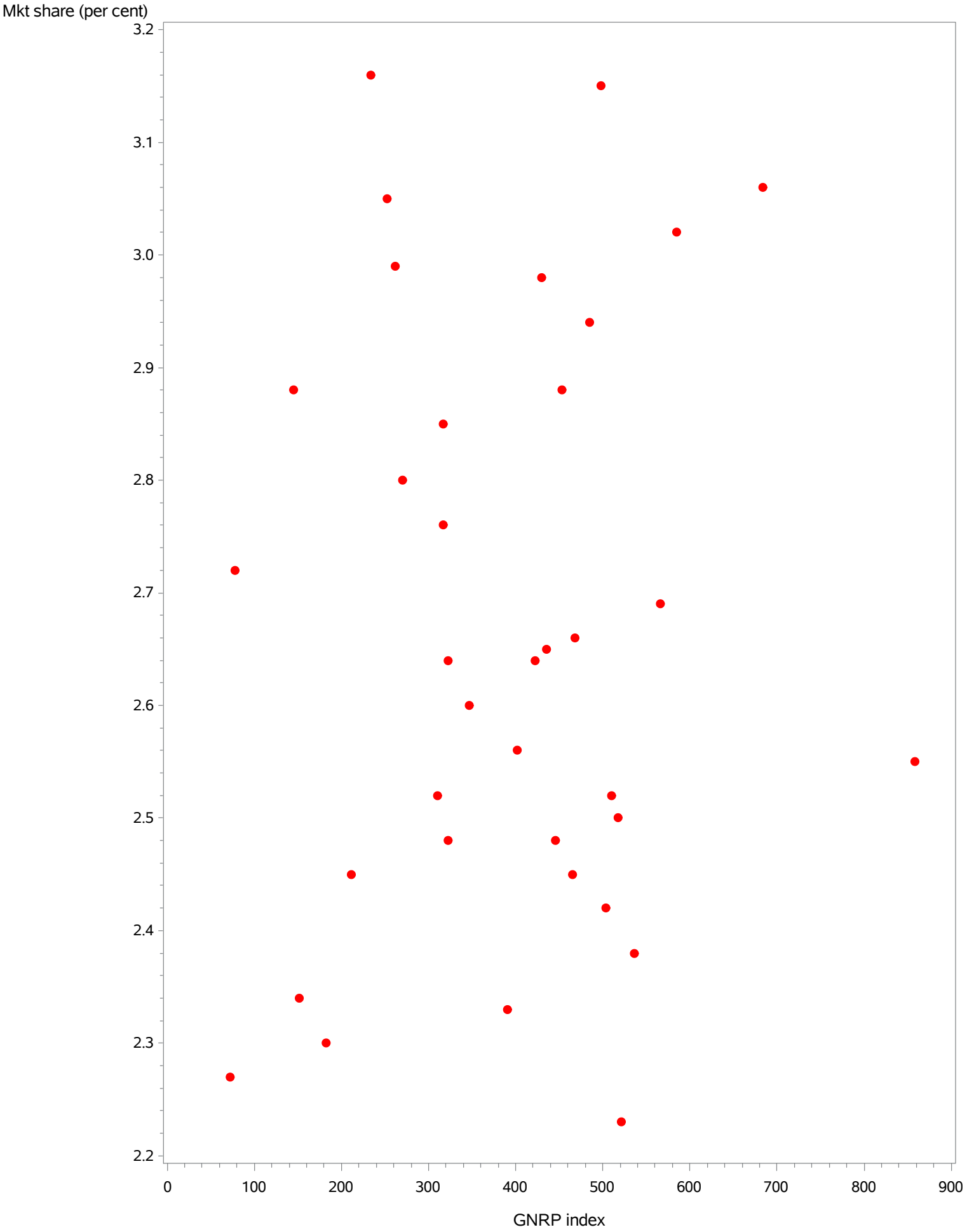
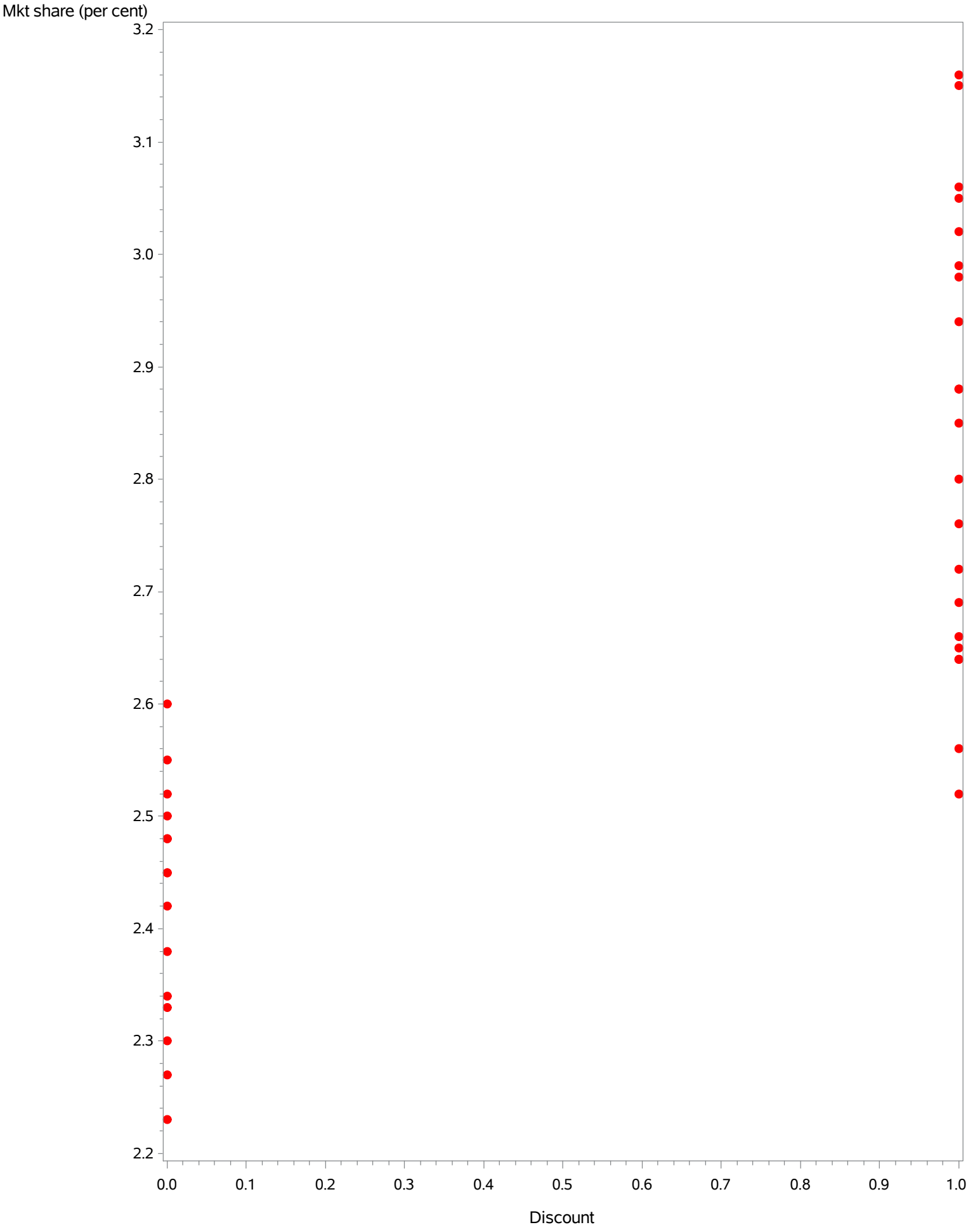
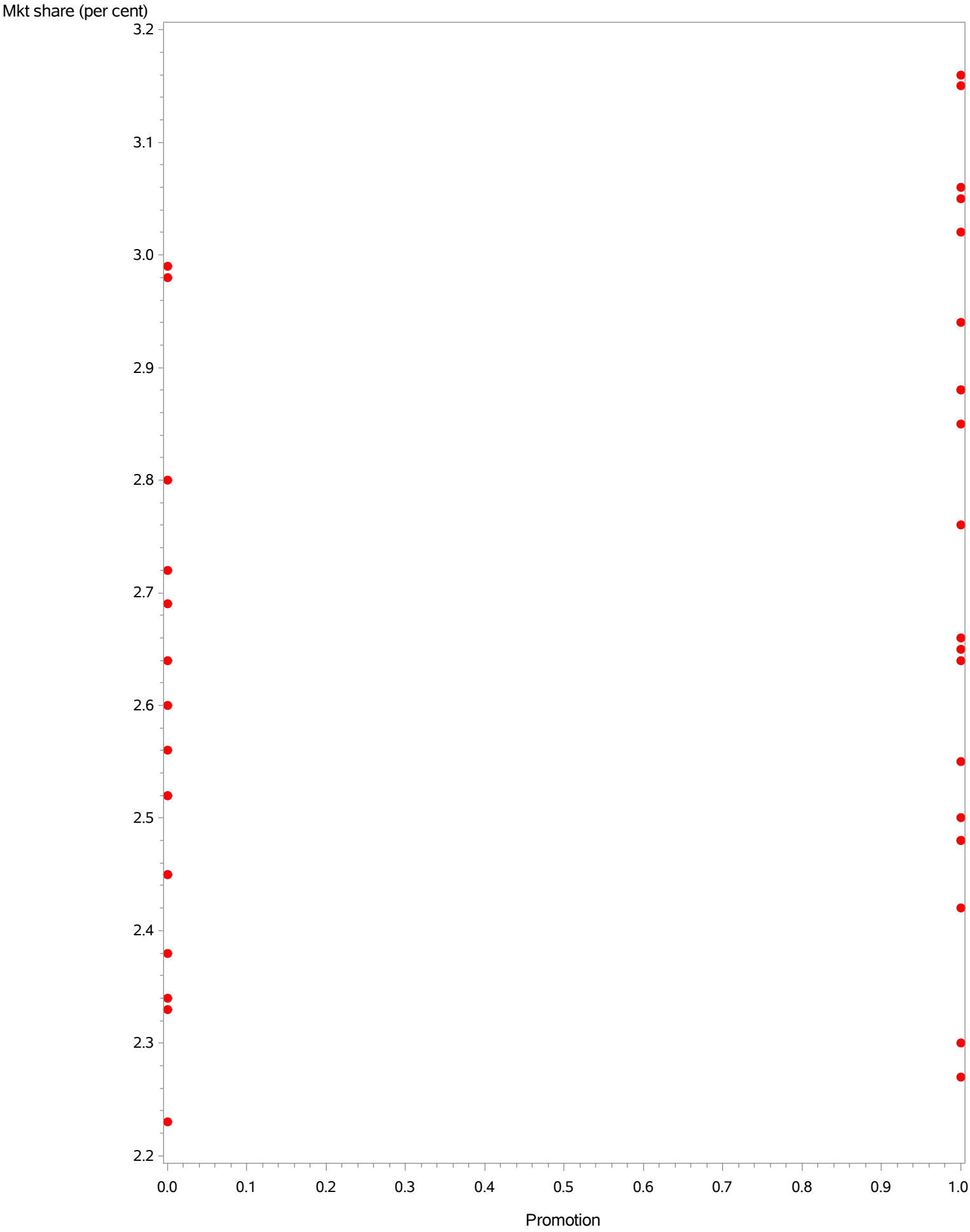

Mkt share (per cent)
3.2
3.1
3.0
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2.2
2.3
2.4
2.5
2.6
2.7
2.8
Avg monthly prices (per cent)


Mkt share (per cent)
3.2
3.1
3.0
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
0
100
200
300
400
500
600
700
800
900
GNRP index


Mkt share (per cent)
3.2
3.1
3.0
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Discount


Mkt share (per cent)
3.2
3.1
3.0
2.9
2.8
2.7
2.6
2.5
2.4
2.3
2.2
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Promotion

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: y Mkt share (per cent)

Number of Observations Read	36
Number of Observations Used	36

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	4	1.72862	0.43215	18.67	<.0001
Error	31	0.71764	0.02315		
Corrected Total	35	2.44626			

Root MSE	0.15215	**R-Square**	0.7066
Dependent Mean	2.66389	**Adj R-Sq**	0.6688
Coeff Var	5.71158		

Parameter Estimates						
Variable	**Label**	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	Intercept	1	3.15760	0.44054	7.17	<.0001
x1	Avg monthly prices (per cent)	1	-0.34393	0.17669	-1.95	0.0607
x2	GNRP index	1	0.00001993	0.00017136	0.12	0.9081
x3	Discount	1	0.39988	0.05246	7.62	<.0001
x4	Promotion	1	0.11650	0.05394	2.16	0.0386

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: y Mkt share (per cent)

Durbin-Watson D	1.839
Number of Observations	36
1st Order Autocorrelation	0.035

The SAS System

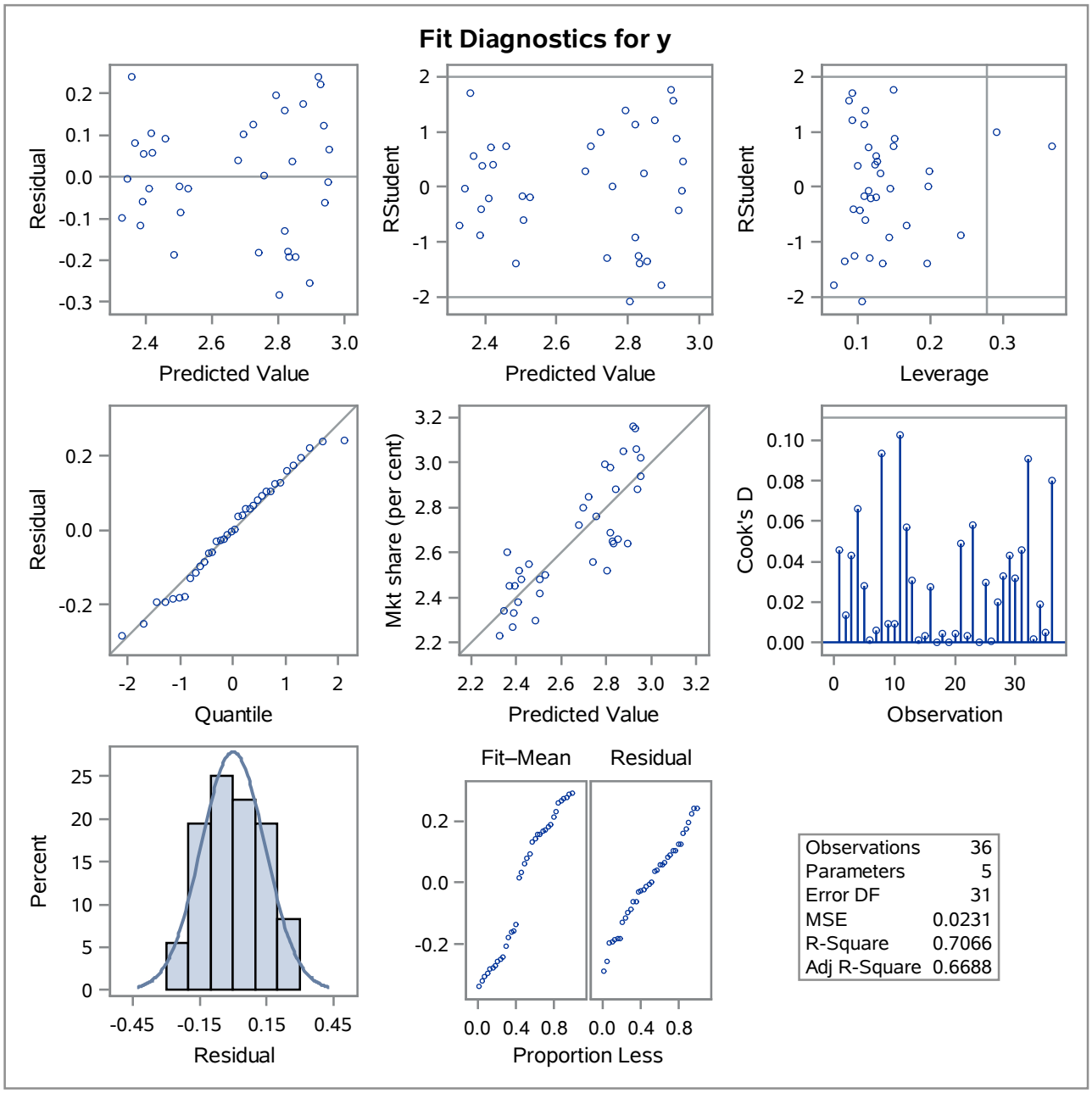
The REG Procedure
Model: MODEL1
Dependent Variable: y Mkt share (per cent)

Output Statistics			
Obs	Dependent Variable	Predicted Value	Residual
1	3.1500	2.9279	0.2221
2	2.5200	2.4159	0.1041
3	2.6400	2.8938	-0.2538
4	2.5500	2.4589	0.0911
5	2.6900	2.8193	-0.1293
6	2.3800	2.4092	-0.0292
7	3.0200	2.9541	0.0659
8	2.5200	2.8049	-0.2849
9	2.4500	2.3690	0.0810
10	2.4200	2.5069	-0.0869
11	3.1600	2.9203	0.2397
12	2.6000	2.3597	0.2403
13	2.9800	2.8194	0.1606
14	2.5000	2.5274	-0.0274
15	2.4500	2.3937	0.0563
16	3.0600	2.9365	0.1235
17	2.3400	2.3445	-0.004479
18	2.8800	2.9411	-0.0611
19	2.9400	2.9514	-0.0114
20	2.7200	2.6796	0.0404
21	2.2700	2.3858	-0.1158
22	2.3300	2.3898	-0.0598
23	2.6400	2.8334	-0.1934
24	2.7600	2.7575	0.002471
25	3.0500	2.8756	0.1744
26	2.4800	2.5036	-0.0236
27	2.2300	2.3278	-0.0978
28	2.6500	2.8304	-0.1804
29	2.5600	2.7421	-0.1821
30	2.6600	2.8531	-0.1931
31	2.9900	2.7947	0.1953
32	2.3000	2.4860	-0.1860
33	2.8800	2.8442	0.0358
34	2.8000	2.6968	0.1032

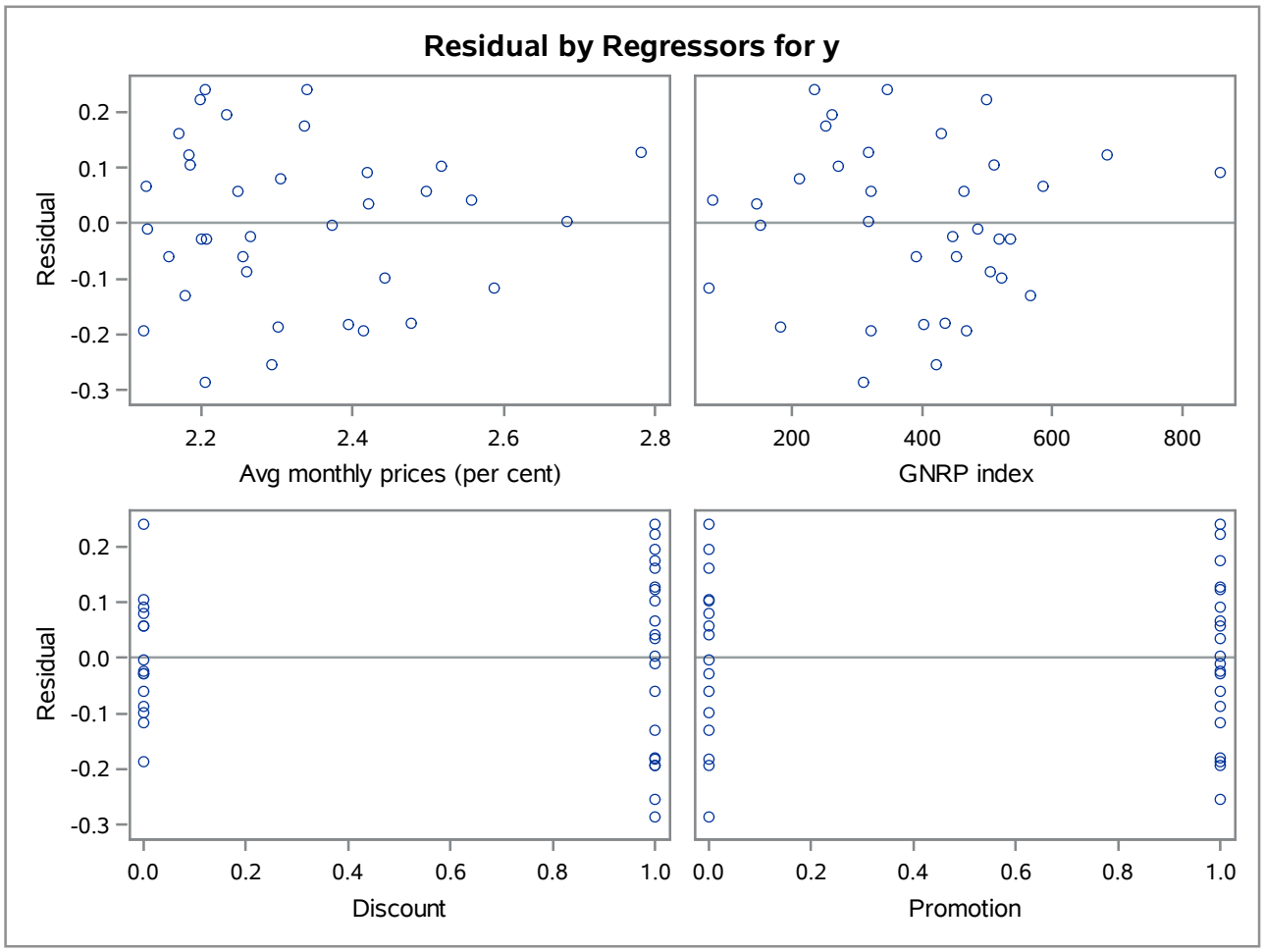
The REG Procedure
Model: MODEL1
Dependent Variable: y Mkt share (per cent)

Output Statistics			
Obs	Dependent Variable	Predicted Value	Residual
35	2.4800	2.4217	0.0583
36	2.8500	2.7238	0.1262

Sum of Residuals	0
Sum of Squared Residuals	0.71764
Predicted Residual SS (PRESS)	0.94312



The REG Procedure
Model: MODEL1



The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: y Mkt share (per cent)

Number of Observations Read	36
Number of Observations Used	36

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
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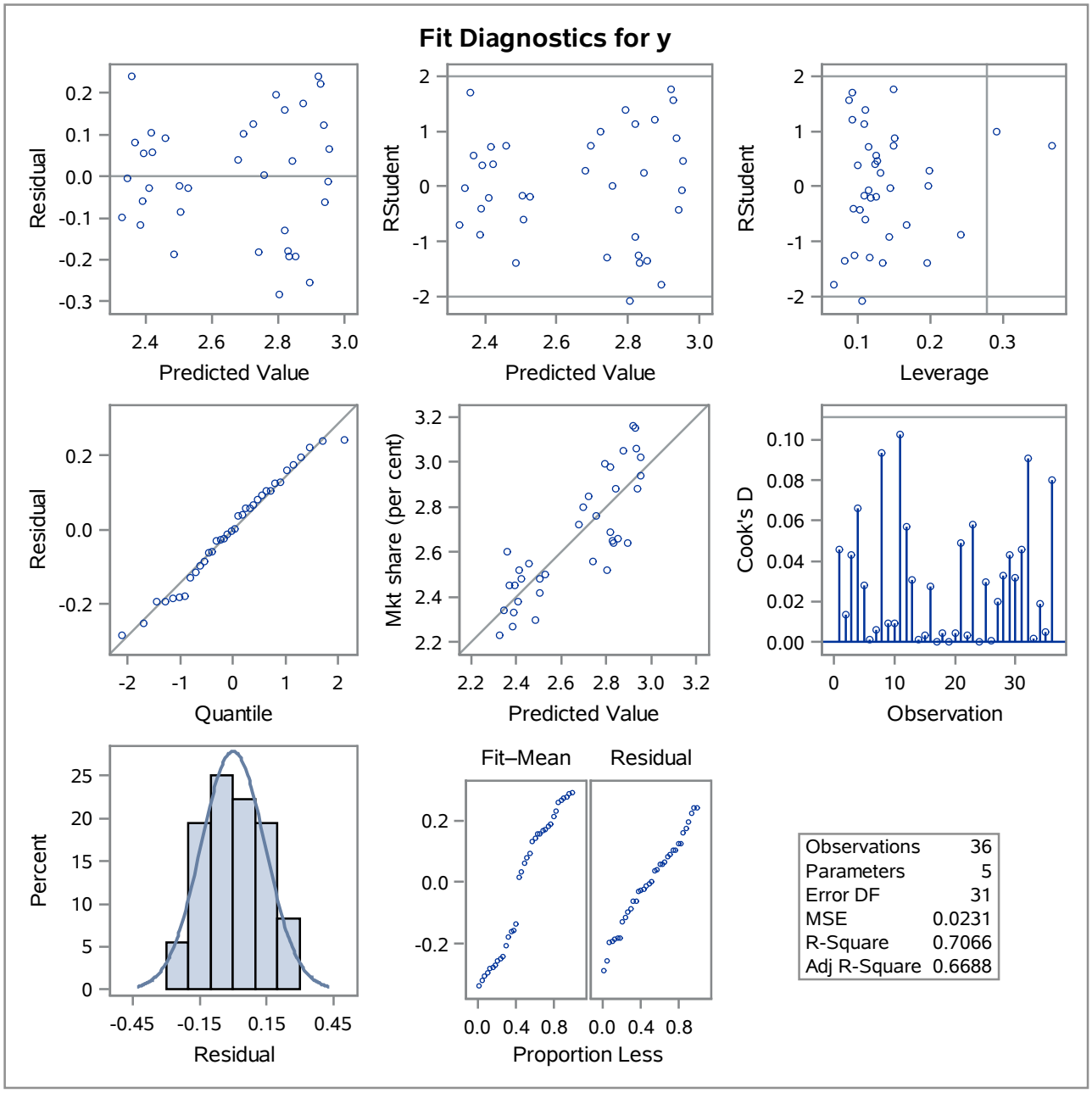
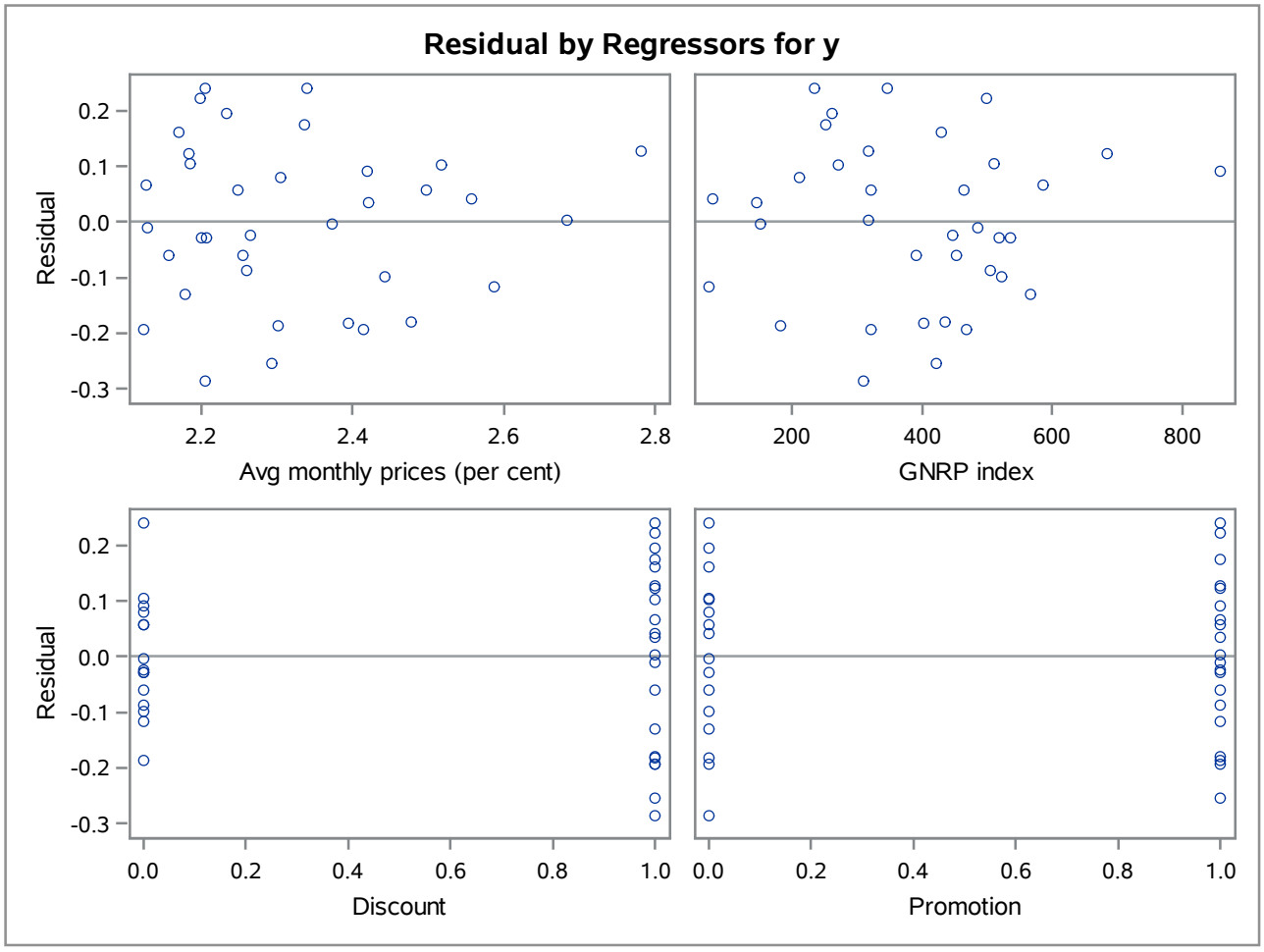
x3	Discount	1	0.39988	0.05246	7.62	<.0001
x4	Promotion	1	0.11650	0.05394	2.16	0.0386

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: y Mkt share (per cent)



The REG Procedure
Model: MODEL1
Dependent Variable: y Mkt share (per cent)



Obs	ysq_inv	r	yhat
1	0.20109	-0.09776	2.32776
2	0.18263	-0.00448	2.34448
3	0.14793	0.24028	2.35972
4	0.16660	0.08096	2.36904
5	0.19407	-0.11578	2.38578
6	0.18420	-0.05983	2.38983
7	0.16660	0.05629	2.39371
8	0.17654	-0.02923	2.40923
9	0.15747	0.10407	2.41593
10	0.16259	0.05828	2.42172
11	0.15379	0.09111	2.45889
12	0.18904	-0.18600	2.48600
13	0.16259	-0.02364	2.50364
14	0.17075	-0.08686	2.50686
15	0.16000	-0.02743	2.52743
16	0.13516	0.04040	2.67960
17	0.12755	0.10316	2.69684
18	0.12311	0.12618	2.72382
19	0.15259	-0.18212	2.74212
20	0.13127	0.00247	2.75753
21	0.11186	0.19530	2.79470
22	0.15747	-0.28495	2.80495
23	0.13820	-0.12933	2.81933
24	0.11261	0.16062	2.81938
25	0.14240	-0.18039	2.83039
26	0.14348	-0.19339	2.83339
27	0.12056	0.03579	2.84421
28	0.14133	-0.19306	2.85306
29	0.10750	0.17442	2.87558
30	0.14348	-0.25376	2.89376
31	0.10014	0.23973	2.92027
32	0.10078	0.22206	2.92794
33	0.10680	0.12353	2.93647
34	0.12056	-0.06115	2.94115
35	0.11569	-0.01142	2.95142
36	0.10964	0.06590	2.95410

Obs	ysq_inv	r	yhat	id	group
1	0.20109	-0.09776	2.32776	1	1
2	0.18263	-0.00448	2.34448	2	1
3	0.14793	0.24028	2.35972	3	1
4	0.16660	0.08096	2.36904	4	1
5	0.19407	-0.11578	2.38578	5	1
6	0.18420	-0.05983	2.38983	6	1
7	0.16660	0.05629	2.39371	7	1
8	0.17654	-0.02923	2.40923	8	1
9	0.15747	0.10407	2.41593	9	1
10	0.16259	0.05828	2.42172	10	1
11	0.15379	0.09111	2.45889	11	1
12	0.18904	-0.18600	2.48600	12	1
13	0.16259	-0.02364	2.50364	13	1
14	0.17075	-0.08686	2.50686	14	1
15	0.16000	-0.02743	2.52743	15	1
16	0.13516	0.04040	2.67960	16	1
17	0.12755	0.10316	2.69684	17	1
18	0.12311	0.12618	2.72382	18	1
19	0.15259	-0.18212	2.74212	19	2
20	0.13127	0.00247	2.75753	20	2
21	0.11186	0.19530	2.79470	21	2
22	0.15747	-0.28495	2.80495	22	2
23	0.13820	-0.12933	2.81933	23	2
24	0.11261	0.16062	2.81938	24	2
25	0.14240	-0.18039	2.83039	25	2
26	0.14348	-0.19339	2.83339	26	2
27	0.12056	0.03579	2.84421	27	2
28	0.14133	-0.19306	2.85306	28	2
29	0.10750	0.17442	2.87558	29	2
30	0.14348	-0.25376	2.89376	30	2
31	0.10014	0.23973	2.92027	31	2
32	0.10078	0.22206	2.92794	32	2
33	0.10680	0.12353	2.93647	33	2
34	0.12056	-0.06115	2.94115	34	2
35	0.11569	-0.01142	2.95142	35	2
36	0.10964	0.06590	2.95410	36	2

The SAS System

Obs	group	mr
1	1	0.017960
2	2	-0.004473

The SAS System

Obs	group	md
1	1	0.08510
2	2	0.15052

The SAS System

The TTEST Procedure

Variable: d

group	N	Mean	Std Dev	Std Err	Minimum	Maximum
1	18	0.0851	0.0568	0.0134	0.0224	0.2223
2	18	0.1505	0.0836	0.0197	0.00694	0.2805
Diff (1-2)		-0.0654	0.0714	0.0238		

group	Method	Mean	95% CL Mean		Std Dev	95% CL Std Dev	
1		0.0851	0.0569	0.1133	0.0568	0.0426	0.0851
2		0.1505	0.1090	0.1921	0.0836	0.0627	0.1253
Diff (1-2)	Pooled	-0.0654	-0.1138	-0.0170	0.0714	0.0578	0.0936
Diff (1-2)	Satterthwaite	-0.0654	-0.1141	-0.0168			

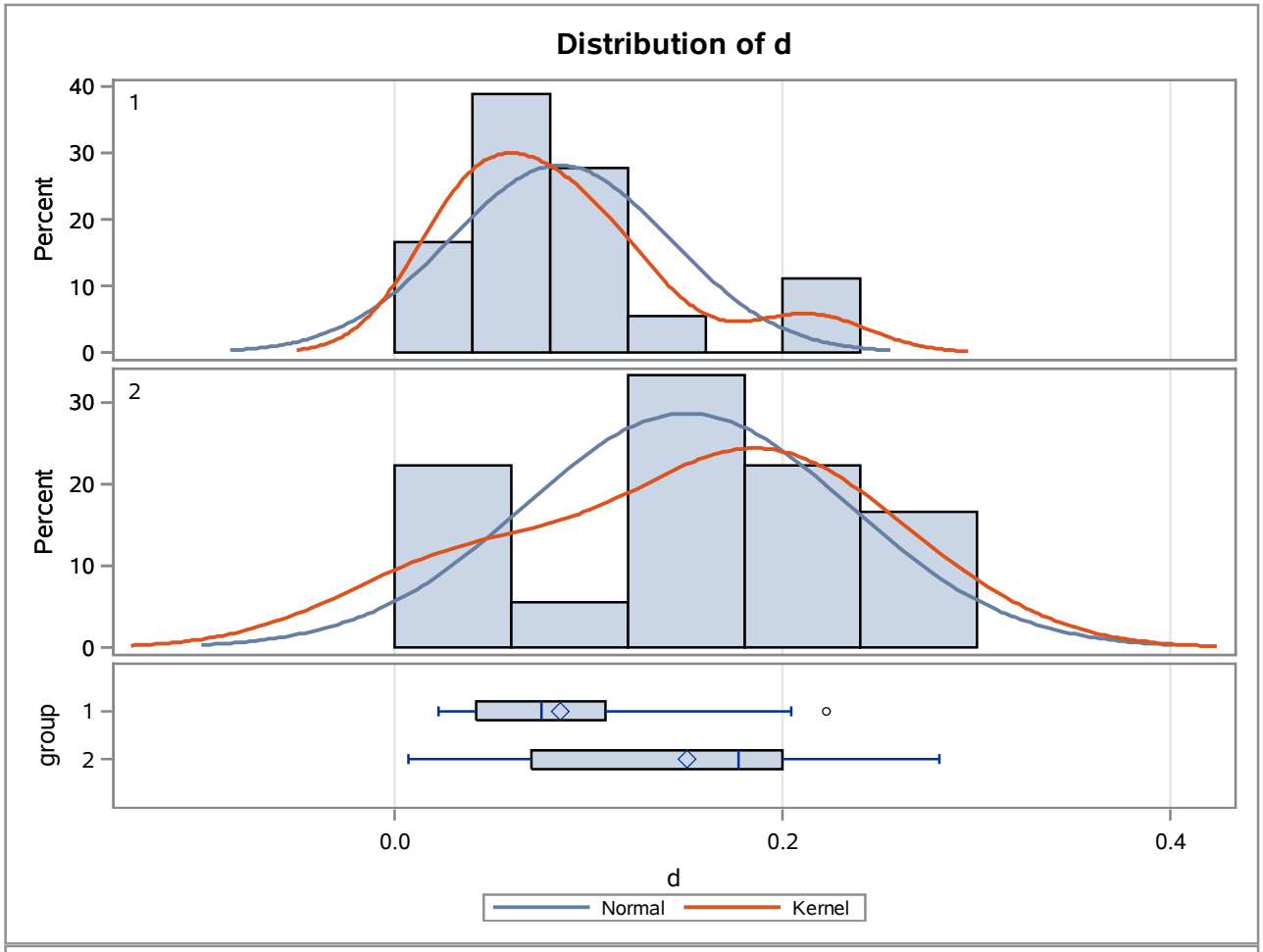
Method	Variances	DF	t Value	Pr > |t|
Pooled	Equal	34	-2.75	0.0095
Satterthwaite	Unequal	29.941	-2.75	0.0101

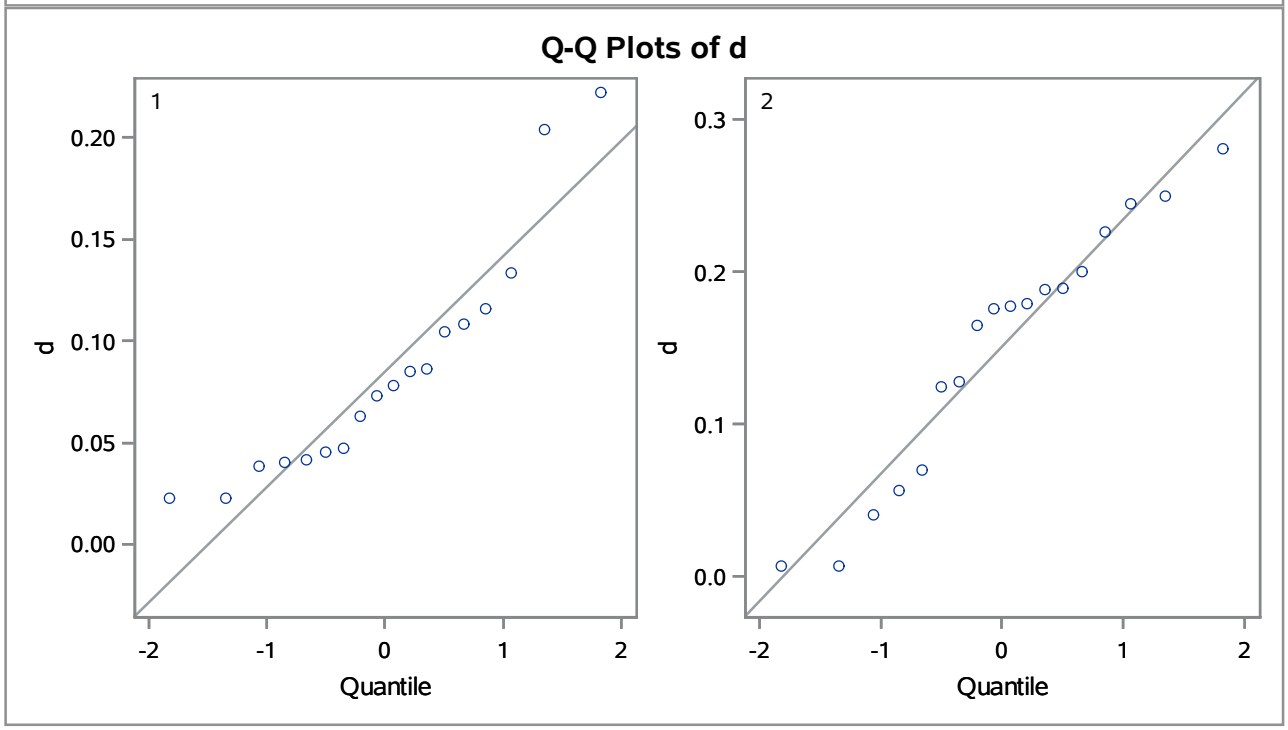
Equality of Variances				
Method	Num DF	Den DF	F Value	Pr > F
Folded F	17	17	2.17	0.1209

The SAS System

The TTEST Procedure

Variable: d





The SAS System

group=1

Obs	id	id	r	d	ddif
1	1	1	-0.09776	0.11572	0.000938
2	2	2	-0.00448	0.02244	0.003926
3	3	3	0.24028	0.22232	0.018832
4	4	4	0.08096	0.06300	0.000488
5	5	5	-0.11578	0.13374	0.002366
6	6	6	-0.05983	0.07779	0.000053
7	7	7	0.05629	0.03833	0.002187
8	8	8	-0.02923	0.04719	0.001437
9	9	9	0.10407	0.08611	0.000001
10	10	10	0.05828	0.04032	0.002005
11	11	11	0.09111	0.07315	0.000143
12	12	12	-0.18600	0.20396	0.014128
13	13	13	-0.02364	0.04160	0.001892
14	14	14	-0.08686	0.10482	0.000389
15	15	15	-0.02743	0.04539	0.001577
16	16	16	0.04040	0.02244	0.003926
17	17	17	0.10316	0.08520	0.000000
18	18	18	0.12618	0.10822	0.000535

group=2

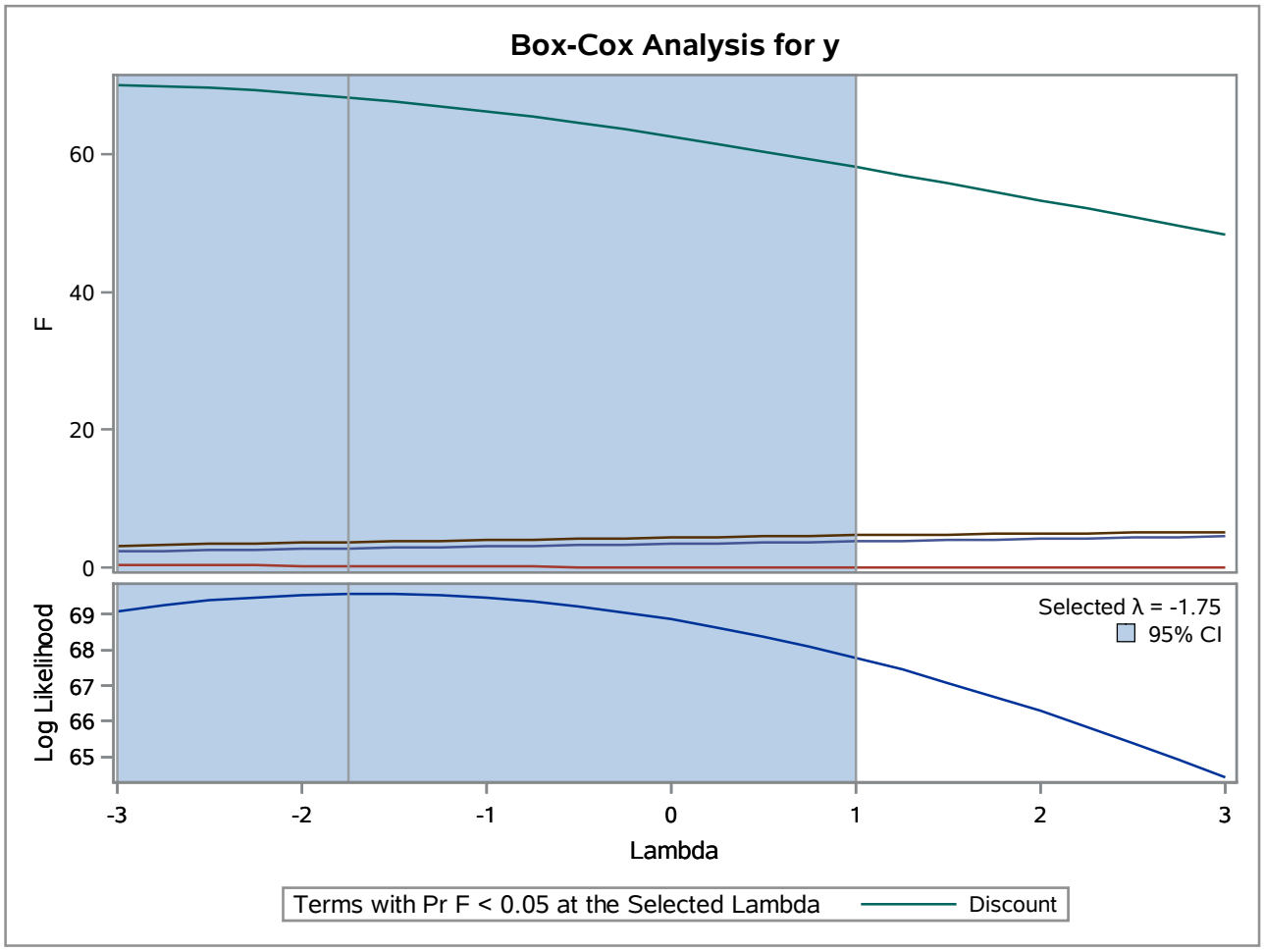
Obs	id	id	r	d	ddif
19	19	19	-0.18212	0.17765	0.000736
20	20	20	0.00247	0.00694	0.020614
21	21	21	0.19530	0.19977	0.002425
22	22	22	-0.28495	0.28047	0.016888
23	23	23	-0.12933	0.12486	0.000658
24	24	24	0.16062	0.16510	0.000212
25	25	25	-0.18039	0.17591	0.000645
26	26	26	-0.19339	0.18891	0.001474
27	27	27	0.03579	0.04026	0.012157
28	28	28	-0.19306	0.18858	0.001449
29	29	29	0.17442	0.17889	0.000805
30	30	30	-0.25376	0.24928	0.009754
31	31	31	0.23973	0.24420	0.008775
32	32	32	0.22206	0.22653	0.005777
33	33	33	0.12353	0.12801	0.000507
34	34	34	-0.06115	0.05668	0.008807

The SAS System

group=2

Obs	id	id	r	d	ddif
35	35	35	-0.01142	0.00694	0.020614
36	36	36	0.06590	0.07038	0.006423

The TRANSREG Procedure



Dependent Variable BoxCox(y)
Mkt share (per cent)

Number of Observations Read	36
Number of Observations Used	36

The SAS System

The TRANSREG Procedure

The TRANSREG Procedure Hypothesis Tests for BoxCox(y)
Mkt share (per cent)

Univariate ANOVA Table Based on the Usual Degrees of Freedom					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Liberal p**
Model	4	0.008203	0.002051	20.88	>= <.0001
Error	31	0.003045	0.000098		
Corrected Total	35	0.011248			
The above statistics are not adjusted for the fact that the dependent variable was transformed and so are generally liberal.					

Root MSE	0.00991	**R-Square**	0.7293
Dependent Mean	0.46620	**Adj R-Sq**	0.6944
Coeff Var	2.12584	**Lambda**	-1.7500

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Number of Observations Read	36
Number of Observations Used	36

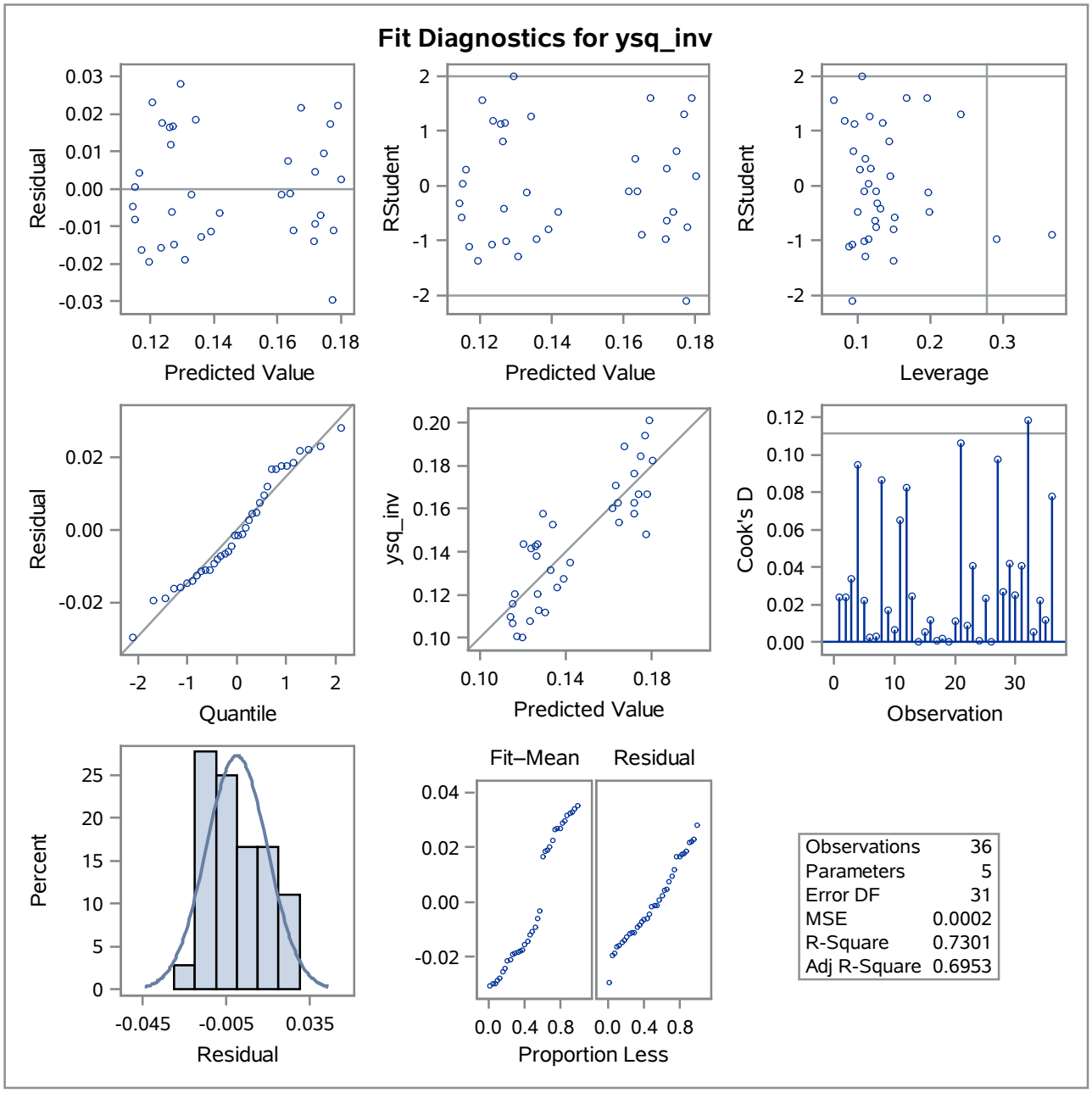
Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	4	0.02027	0.00507	20.97	<.0001
Error	31	0.00749	0.00024167		
Corrected Total	35	0.02776			

Root MSE	0.01555	**R-Square**	0.7301
Dependent Mean	0.14495	**Adj R-Sq**	0.6953
Coeff Var	10.72505		

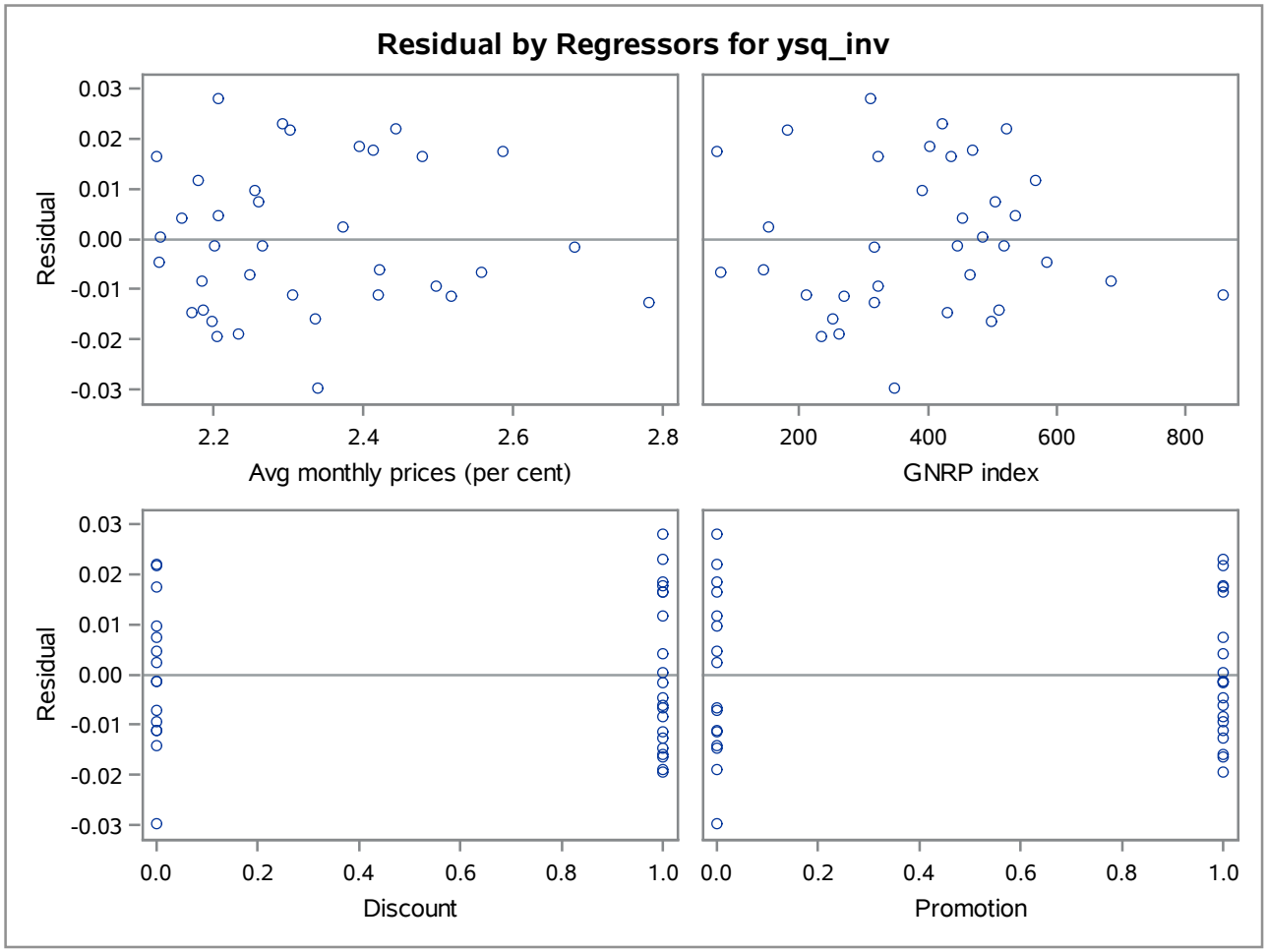
Parameter Estimates						
Variable	**Label**	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	Intercept	1	0.11171	0.04501	2.48	0.0187
x1	Avg monthly prices (per cent)	1	0.02941	0.01805	1.63	0.1134
x2	GNRP index	1	-0.00000871	0.00001751	-0.50	0.6224
x3	Discount	1	-0.04444	0.00536	-8.29	<.0001
x4	Promotion	1	-0.01047	0.00551	-1.90	0.0669

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv



The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv



Obs	ysq_inv	r	yhat
1	0.10964	-0.004612	0.11426
2	0.10680	-0.008274	0.11507
3	0.11569	0.000506	0.11519
4	0.12056	0.004275	0.11629
5	0.10078	-0.016321	0.11710
6	0.10014	-0.019463	0.11961
7	0.14348	0.022922	0.12056
8	0.10750	-0.015805	0.12330
9	0.14133	0.017615	0.12372
10	0.14240	0.016514	0.12589
11	0.13820	0.011778	0.12642
12	0.12056	-0.006171	0.12673
13	0.14348	0.016555	0.12693
14	0.11261	-0.014760	0.12737
15	0.15747	0.028029	0.12944
16	0.11186	-0.018798	0.13065
17	0.13127	-0.001667	0.13294
18	0.15259	0.018419	0.13417
19	0.12311	-0.012709	0.13582
20	0.12755	-0.011414	0.13897
21	0.13516	-0.006620	0.14178
22	0.16000	-0.001459	0.16146
23	0.17075	0.007437	0.16332
24	0.16259	-0.001407	0.16400
25	0.15379	-0.011152	0.16494
26	0.18904	0.021680	0.16736
27	0.15747	-0.014084	0.17155
28	0.16259	-0.009280	0.17187
29	0.17654	0.004595	0.17195
30	0.16660	-0.007173	0.17377
31	0.18420	0.009579	0.17462
32	0.19407	0.017370	0.17669
33	0.14793	-0.029574	0.17750
34	0.16660	-0.011061	0.17766
35	0.20109	0.022073	0.17902
36	0.18263	0.002457	0.18017

Obs	ysq_inv	r	yhat	id	group
1	0.10964	-0.004612	0.11426	1	1
2	0.10680	-0.008274	0.11507	2	1
3	0.11569	0.000506	0.11519	3	1
4	0.12056	0.004275	0.11629	4	1
5	0.10078	-0.016321	0.11710	5	1
6	0.10014	-0.019463	0.11961	6	1
7	0.14348	0.022922	0.12056	7	1
8	0.10750	-0.015805	0.12330	8	1
9	0.14133	0.017615	0.12372	9	1
10	0.14240	0.016514	0.12589	10	1
11	0.13820	0.011778	0.12642	11	1
12	0.12056	-0.006171	0.12673	12	1
13	0.14348	0.016555	0.12693	13	1
14	0.11261	-0.014760	0.12737	14	1
15	0.15747	0.028029	0.12944	15	1
16	0.11186	-0.018798	0.13065	16	1
17	0.13127	-0.001667	0.13294	17	1
18	0.15259	0.018419	0.13417	18	1
19	0.12311	-0.012709	0.13582	19	2
20	0.12755	-0.011414	0.13897	20	2
21	0.13516	-0.006620	0.14178	21	2
22	0.16000	-0.001459	0.16146	22	2
23	0.17075	0.007437	0.16332	23	2
24	0.16259	-0.001407	0.16400	24	2
25	0.15379	-0.011152	0.16494	25	2
26	0.18904	0.021680	0.16736	26	2
27	0.15747	-0.014084	0.17155	27	2
28	0.16259	-0.009280	0.17187	28	2
29	0.17654	0.004595	0.17195	29	2
30	0.16660	-0.007173	0.17377	30	2
31	0.18420	0.009579	0.17462	31	2
32	0.19407	0.017370	0.17669	32	2
33	0.14793	-0.029574	0.17750	33	2
34	0.16660	-0.011061	0.17766	34	2
35	0.20109	0.022073	0.17902	35	2
36	0.18263	0.002457	0.18017	36	2

The SAS System

Obs	group	mr
1	1	-.000580184
2	2	-.004039628

Obs	group	md
1	1	0.013471
2	2	0.010855

The SAS System

The TTEST Procedure

Variable: d

group	N	Mean	Std Dev	Std Err	Minimum	Maximum
1	18	0.0135	0.00781	0.00184	0.00109	0.0286
2	18	0.0109	0.00824	0.00194	0.00258	0.0261
Diff (1-2)		0.00262	0.00803	0.00268		

group	Method	Mean	95% CL Mean		Std Dev	95% CL Std Dev	
1		0.0135	0.00959	0.0174	0.00781	0.00586	0.0117
2		0.0109	0.00676	0.0150	0.00824	0.00618	0.0124
Diff (1-2)	Pooled	0.00262	-0.00282	0.00805	0.00803	0.00649	0.0105
Diff (1-2)	Satterthwaite	0.00262	-0.00282	0.00805			

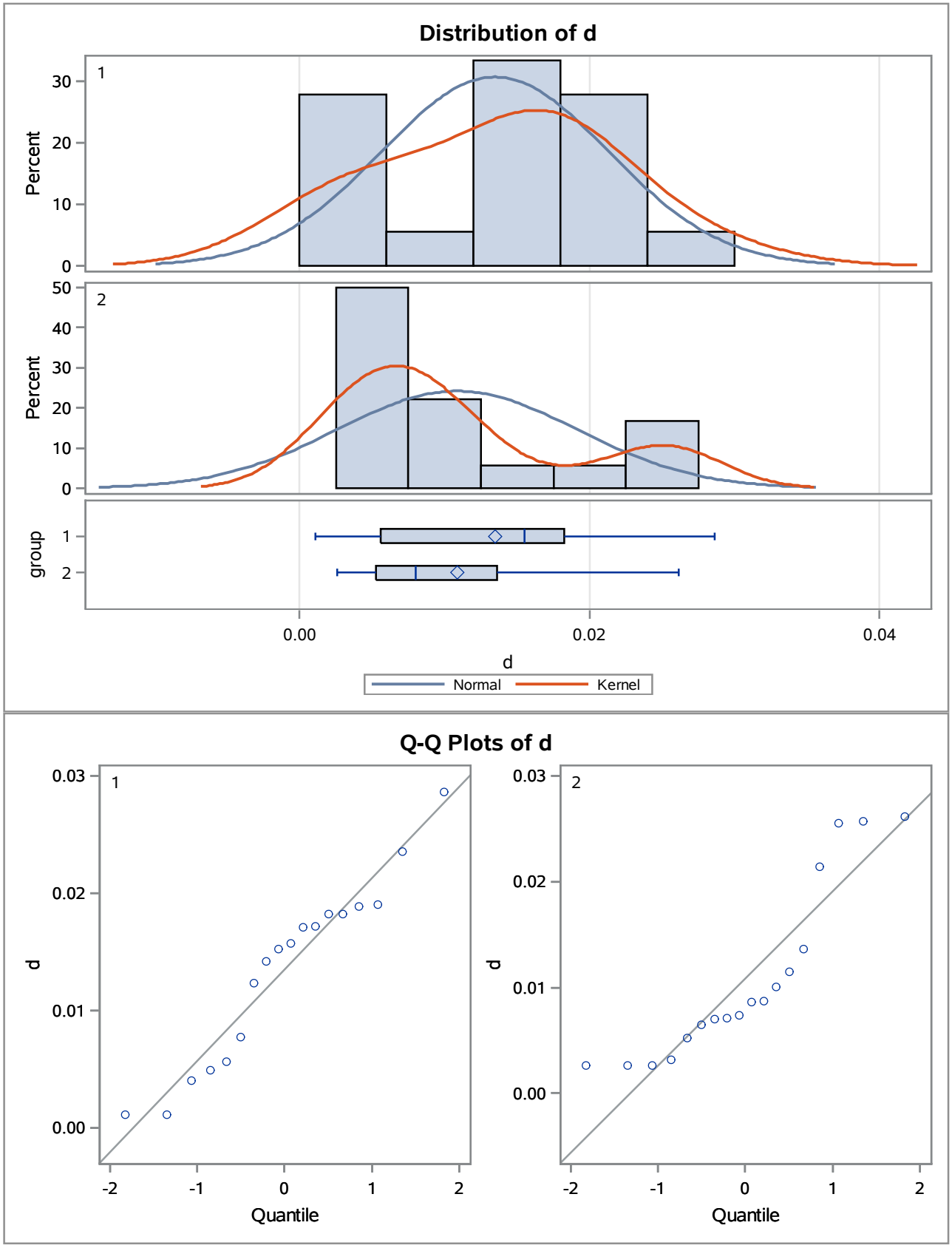
Method	Variances	DF	t Value	Pr > |t|
Pooled	Equal	34	0.98	0.3351
Satterthwaite	Unequal	33.902	0.98	0.3352

Equality of Variances				
Method	Num DF	Den DF	F Value	Pr > F
Folded F	17	17	1.11	0.8267

The SAS System

The TTEST Procedure

Variable: d



The SAS System

group=1

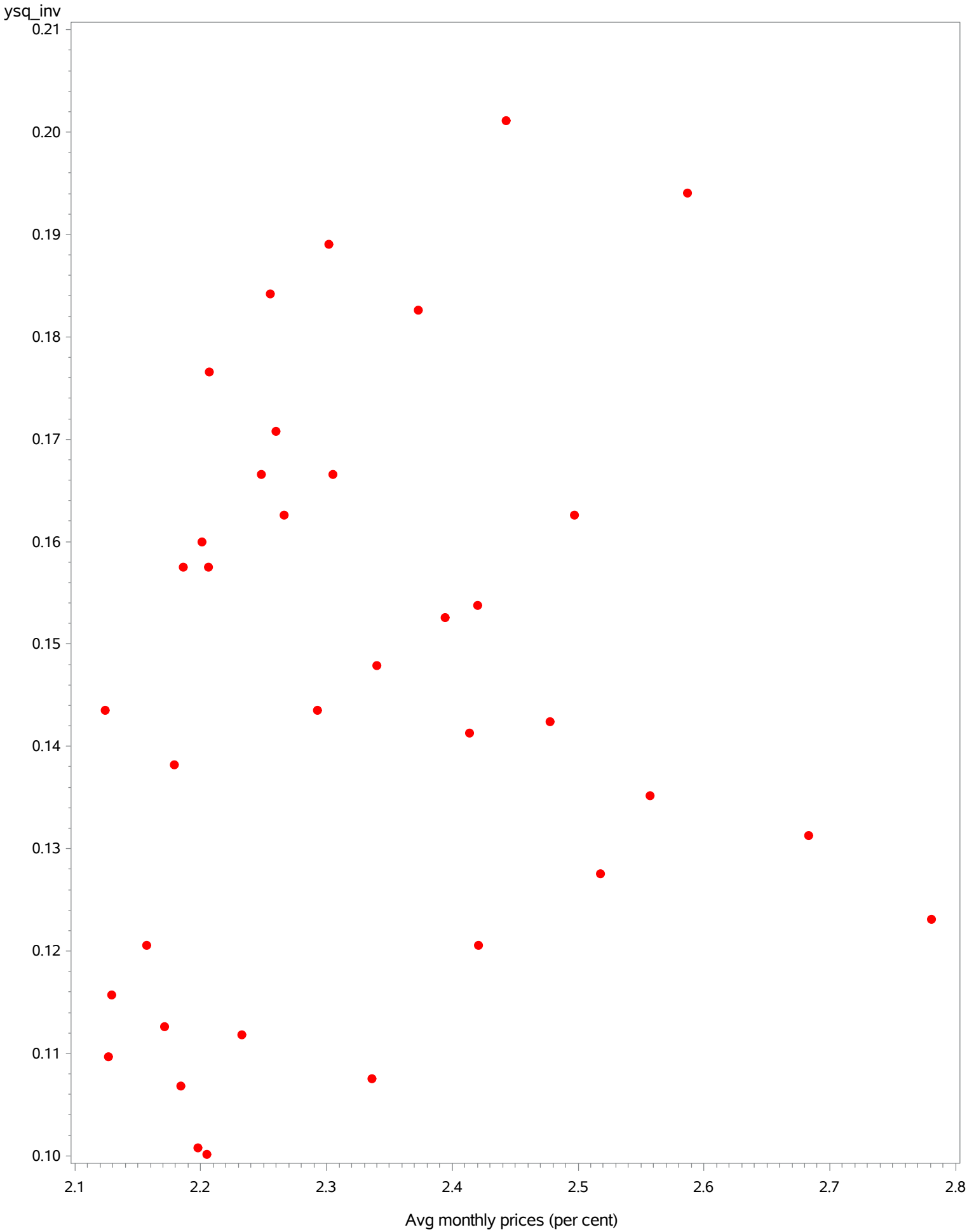
Obs	id	id	r	d	ddif
1	1	1	-0.004612	0.004032	.000089100
2	2	2	-0.008274	0.007694	.000033376
3	3	3	0.000506	0.001087	.000153381
4	4	4	0.004275	0.004855	.000074237
5	5	5	-0.016321	0.015741	.000005151
6	6	6	-0.019463	0.018882	.000029281
7	7	7	0.022922	0.023503	.000100627
8	8	8	-0.015805	0.015225	.000003074
9	9	9	0.017615	0.018195	.000022315
10	10	10	0.016514	0.017094	.000013126
11	11	11	0.011778	0.012358	.000001239
12	12	12	-0.006171	0.005591	.000062103
13	13	13	0.016555	0.017135	.000013423
14	14	14	-0.014760	0.014179	.000000501
15	15	15	0.028029	0.028609	.000229155
16	16	16	-0.018798	0.018218	.000022528
17	17	17	-0.001667	0.001087	.000153381
18	18	18	0.018419	0.018999	.000030554

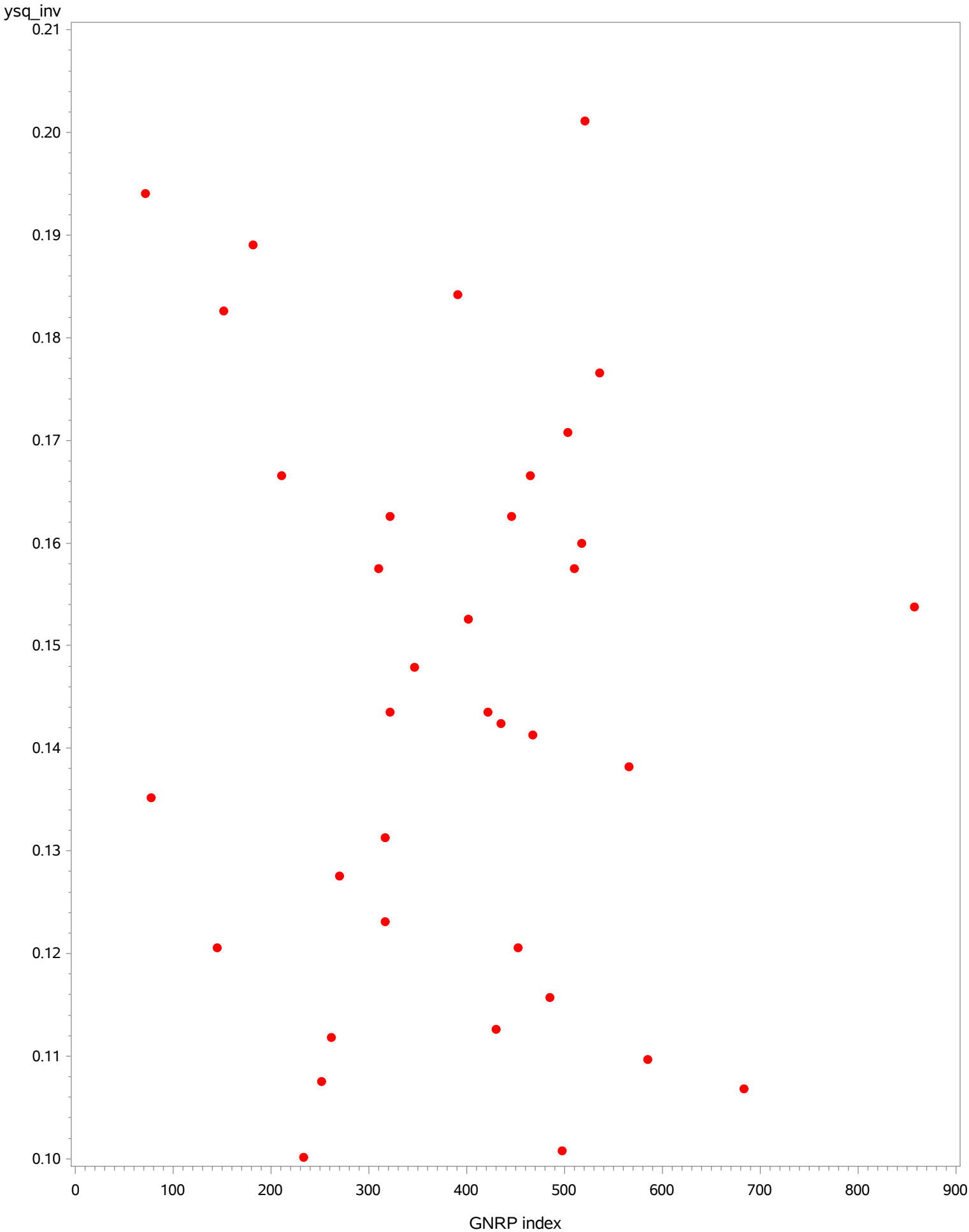
group=2

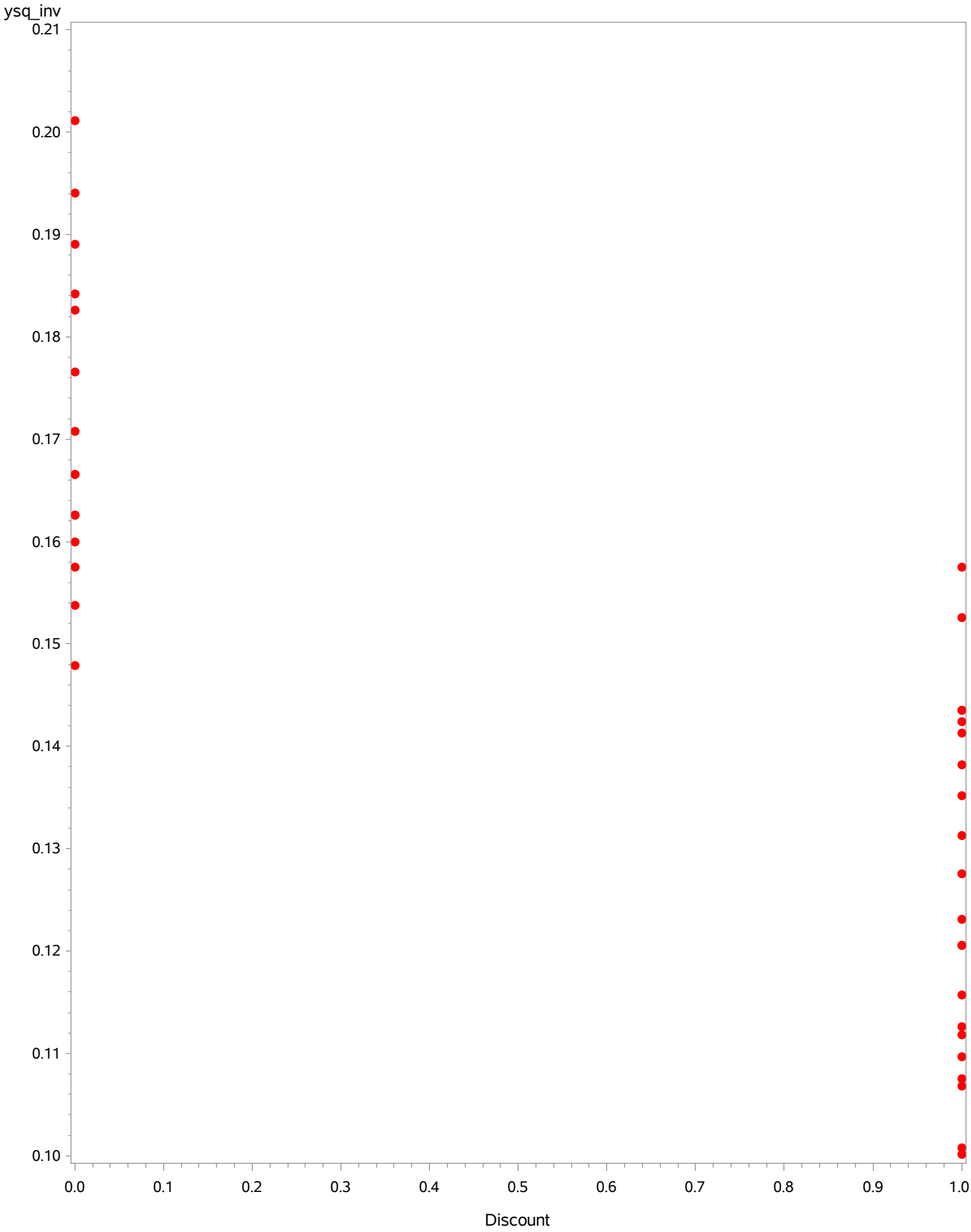
Obs	id	id	r	d	ddif
19	19	19	-0.012709	0.008669	.000004778
20	20	20	-0.011414	0.007375	.000012114
21	21	21	-0.006620	0.002580	.000068475
22	22	22	-0.001459	0.002580	.000068475
23	23	23	0.007437	0.011477	.000000386
24	24	24	-0.001407	0.002633	.000067609
25	25	25	-0.011152	0.007113	.000014005
26	26	26	0.021680	0.025720	.000220963
27	27	27	-0.014084	0.010045	.000000657
28	28	28	-0.009280	0.005241	.000031524
29	29	29	0.004595	0.008635	.000004930
30	30	30	-0.007173	0.003133	.000059629
31	31	31	0.009579	0.013619	.000007637
32	32	32	0.017370	0.021410	.000111407
33	33	33	-0.029574	0.025535	.000215485
34	34	34	-0.011061	0.007021	.000014699

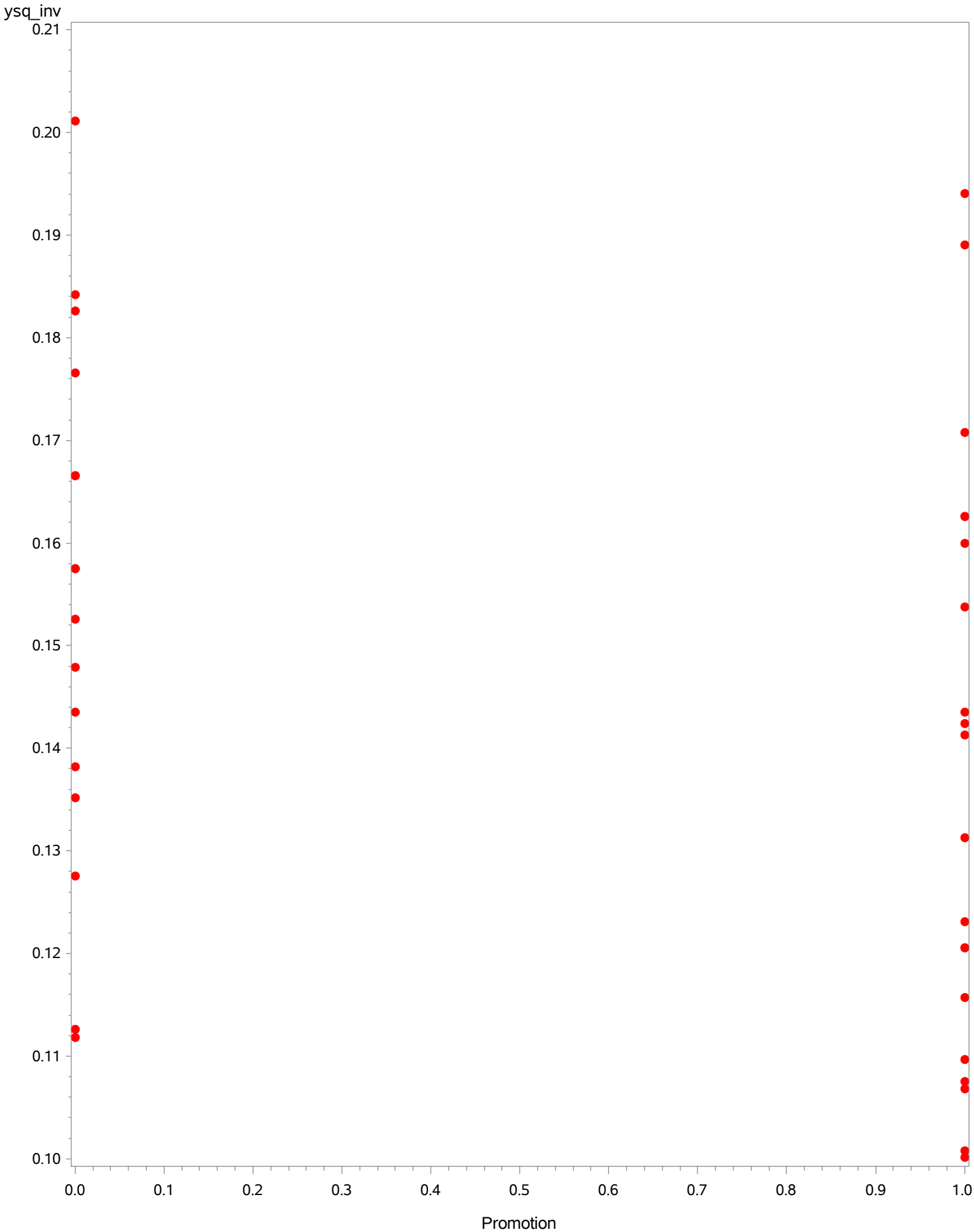
group=2

Obs	id	id	r	d	ddif
35	35	35	0.022073	0.026112	.000232780
36	36	36	0.002457	0.006496	.000019000


ysq_inv
0.21
0.20
0.19
0.18
0.17
0.16
0.15
0.14
0.13
0.12
0.11
0.10
2.1
2.2
2.3
2.4
2.5
2.6
2.7
2.8
Avg monthly prices (per cent)


ysq_inv
0.21
0.20
0.19
0.18
0.17
0.16
0.15
0.14
0.13
0.12
0.11
0.10
0
100
200
300
400
500
600
700
800
900
GNRP index


ysq_inv
0.21
0.20
0.19
0.18
0.17
0.16
0.15
0.14
0.13
0.12
0.11
0.10
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Discount


ysq_inv
0.21
0.20
0.19
0.18
0.17
0.16
0.15
0.14
0.13
0.12
0.11
0.10
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Promotion

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Number of Observations Read	36
Number of Observations Used	36

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	4	0.02027	0.00507	20.97	<.0001
Error	31	0.00749	0.00024167		
Corrected Total	35	0.02776			

Root MSE	0.01555	**R-Square**	0.7301
Dependent Mean	0.14495	**Adj R-Sq**	0.6953
Coeff Var	10.72505		

Parameter Estimates						
Variable	**Label**	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	Intercept	1	0.11171	0.04501	2.48	0.0187
x1	Avg monthly prices (per cent)	1	0.02941	0.01805	1.63	0.1134
x2	GNRP index	1	-0.00000871	0.00001751	-0.50	0.6224
x3	Discount	1	-0.04444	0.00536	-8.29	<.0001
x4	Promotion	1	-0.01047	0.00551	-1.90	0.0669

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Durbin-Watson D	1.784
Number of Observations	36
1st Order Autocorrelation	0.079

The SAS System

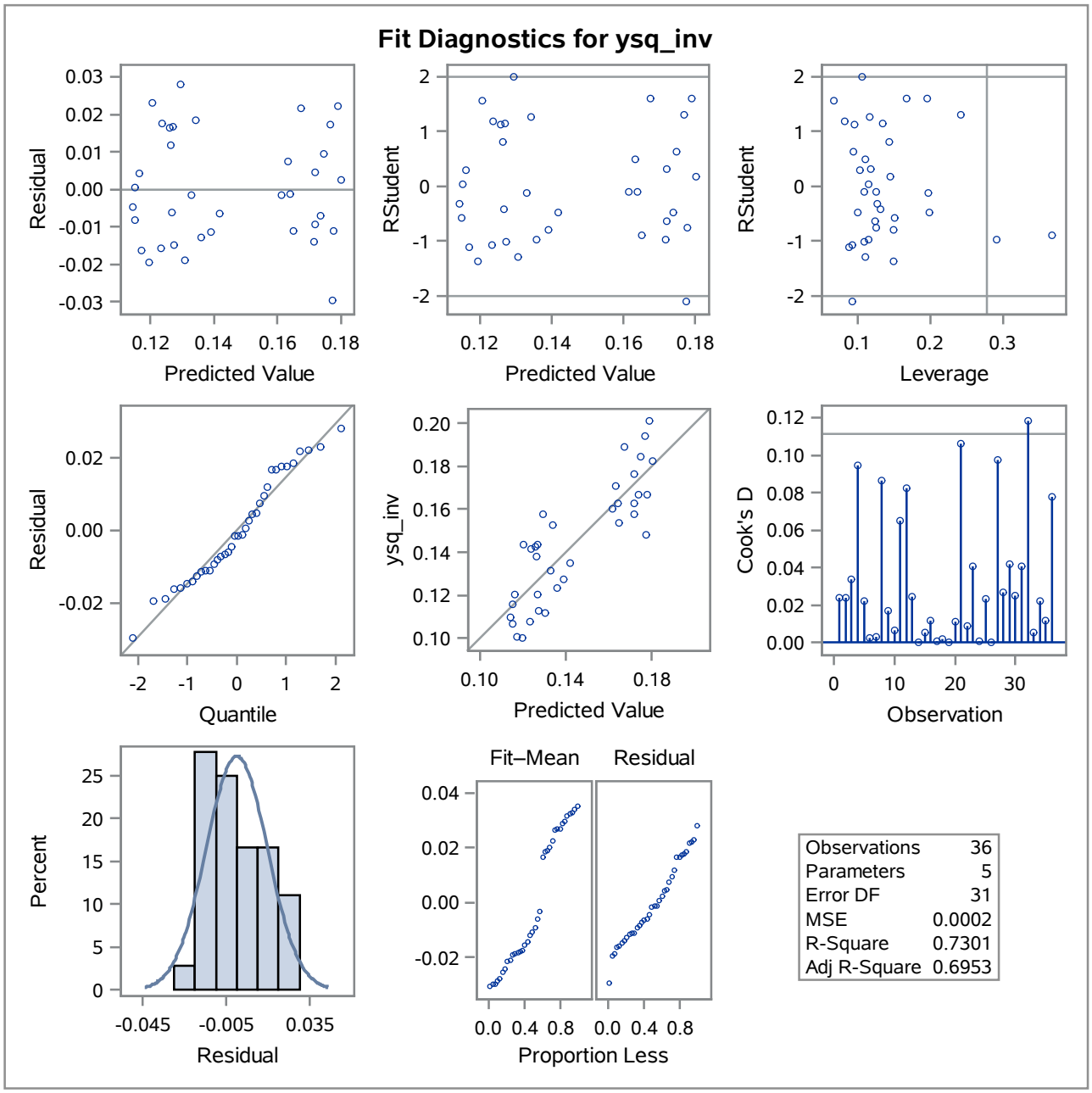
The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Output Statistics			
Obs	Dependent Variable	Predicted Value	Residual
1	0.1008	0.1171	-0.0163
2	0.1575	0.1716	-0.0141
3	0.1435	0.1206	0.0229
4	0.1538	0.1649	-0.0112
5	0.1382	0.1264	0.0118
6	0.1765	0.1719	0.004595
7	0.1096	0.1143	-0.004612
8	0.1575	0.1294	0.0280
9	0.1666	0.1777	-0.0111
10	0.1708	0.1633	0.007437
11	0.1001	0.1196	-0.0195
12	0.1479	0.1775	-0.0296
13	0.1126	0.1274	-0.0148
14	0.1600	0.1615	-0.001459
15	0.1666	0.1738	-0.007173
16	0.1068	0.1151	-0.008274
17	0.1826	0.1802	0.002457
18	0.1206	0.1163	0.004275
19	0.1157	0.1152	0.000506
20	0.1352	0.1418	-0.006620
21	0.1941	0.1767	0.0174
22	0.1842	0.1746	0.009579
23	0.1435	0.1269	0.0166
24	0.1313	0.1329	-0.001667
25	0.1075	0.1233	-0.0158
26	0.1626	0.1640	-0.001407
27	0.2011	0.1790	0.0221
28	0.1424	0.1259	0.0165
29	0.1526	0.1342	0.0184
30	0.1413	0.1237	0.0176
31	0.1119	0.1307	-0.0188
32	0.1890	0.1674	0.0217
33	0.1206	0.1267	-0.006171
34	0.1276	0.1390	-0.0114

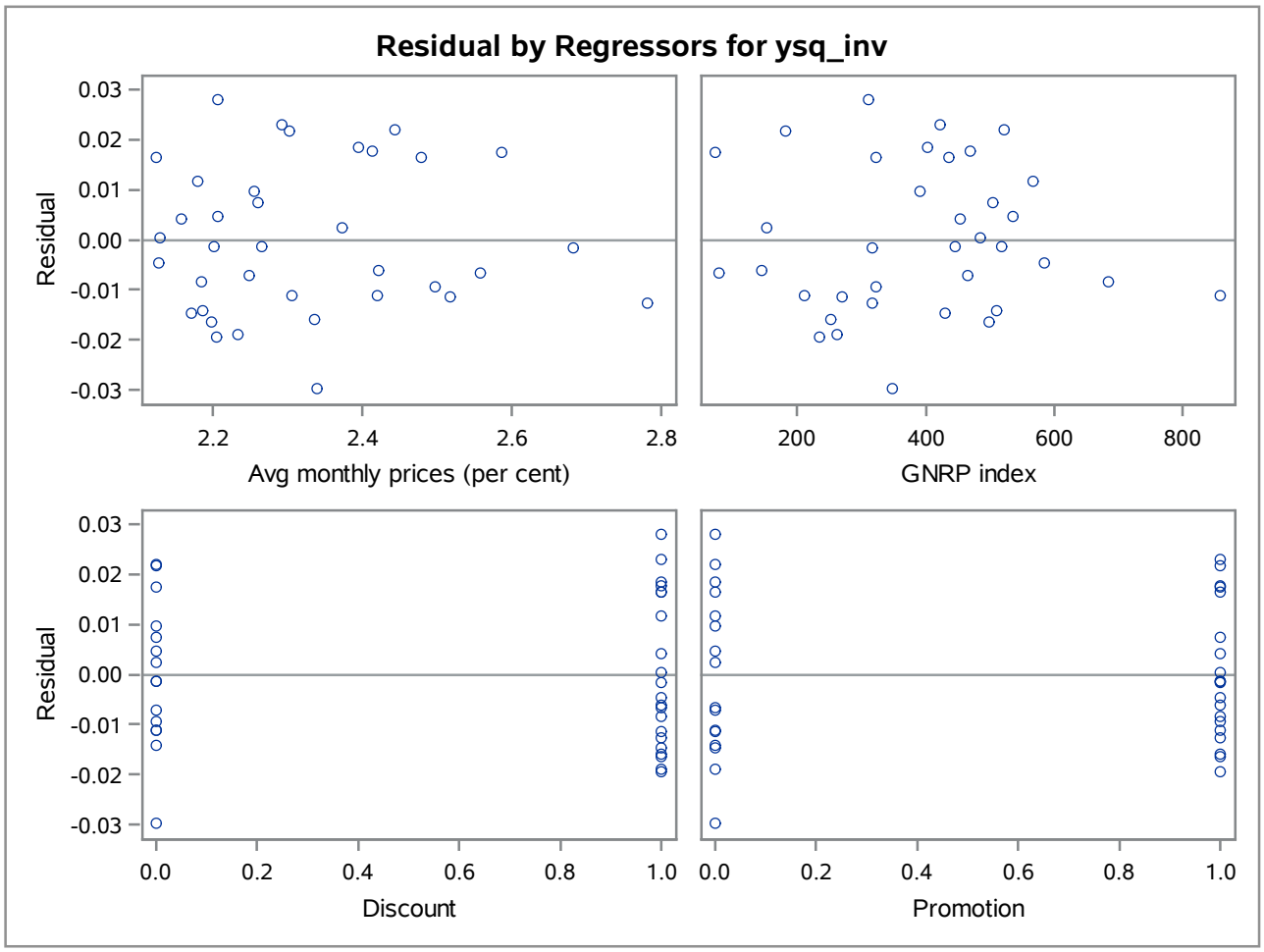
The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Output Statistics			
Obs	Dependent Variable	Predicted Value	Residual
35	0.1626	0.1719	-0.009280
36	0.1231	0.1358	-0.0127

Sum of Residuals	0
Sum of Squared Residuals	0.00749
Predicted Residual SS (PRESS)	0.01006



The REG Procedure
Model: MODEL1



The SAS System

The REG Procedure

Number of Observations Read	36
Number of Observations Used	36

Descriptive Statistics						
Variable	**Sum**	**Mean**	**Uncorrected SS**	**Variance**	**Standard Deviation**	**Label**
Intercept	36.00000	1.00000	36.00000	0	0	Intercept
x1	83.67800	2.32439	195.42993	0.02656	0.16298	Avg monthly prices (per cent)
x2	13970	388.05556	6414776	28390	168.49247	GNRP index
x3	21.00000	0.58333	21.00000	0.25000	0.50000	Discount
x4	20.00000	0.55556	20.00000	0.25397	0.50395	Promotion
ysq_inv	5.21807	0.14495	0.78410	0.00079309	0.02816	

Correlation						
Variable	**Label**	**x1**	**x2**	**x3**	**x4**	**ysq_inv**
x1	Avg monthly prices (per cent)	1.0000	-0.3878	-0.0085	0.1570	0.1677
x2	GNRP index	-0.3878	1.0000	-0.0726	0.1467	-0.0883
x3	Discount	-0.0085	-0.0726	1.0000	0.1512	-0.8150
x4	Promotion	0.1570	0.1467	0.1512	1.0000	-0.2875
ysq_inv		0.1677	-0.0883	-0.8150	-0.2875	1.0000

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Number of Observations Read	36
Number of Observations Used	36

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	4	0.02027	0.00507	20.97	<.0001
Error	31	0.00749	0.00024167		
Corrected Total	35	0.02776			

Root MSE	0.01555	**R-Square**	0.7301
Dependent Mean	0.14495	**Adj R-Sq**	0.6953
Coeff Var	10.72505		

Parameter Estimates											
Variable	**Label**	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**	**Type I SS**	**Type II SS**	**Standardized Estimate**	**Tolerance**	**Variance Inflation**
Intercept	Intercept	1	0.11171	0.04501	2.48	0.0187	0.75634	0.00149	0	.	0
x1	Avg monthly prices (per cent)	1	0.02941	0.01805	1.63	0.1134	0.00078056	0.00064131	0.17020	0.79754	1.25385
x2	GNRP index	1	-0.00000871	0.00001751	-0.50	0.6224	0.00001763	0.00005978	-0.05210	0.79344	1.26034
x3	Discount	1	-0.04444	0.00536	-8.29	<.0001	0.01860	0.01662	-0.78906	0.96150	1.04004
x4	Promotion	1	-0.01047	0.00551	-1.90	0.0669	0.00087178	0.00087178	-0.18730	0.89521	1.11706

Covariance of Estimates						
Variable	**Label**	**Intercept**	**x1**	**x2**	**x3**	**x4**
Intercept	Intercept	0.0020259585	-0.0008009	-4.254656E-7	-0.000036647	0.0000519125
x1	Avg monthly prices (per cent)	-0.0008009	0.0003259199	1.3462833E-7	7.9030521E-6	-0.000024332
x2	GNRP index	-4.254656E-7	1.3462833E-7	3.06529E-10	1.1468513E-8	-2.358576E-8
x3	Discount	-0.000036647	7.9030521E-6	1.1468513E-8	0.0000287248	-5.272287E-6
x4	Promotion	0.0000519125	-0.000024332	-2.358576E-8	-5.272287E-6	0.0000303699

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Correlation of Estimates						
Variable	**Label**	**Intercept**	**x1**	**x2**	**x3**	**x4**
Intercept	Intercept	1.0000	-0.9856	-0.5399	-0.1519	0.2093
x1	Avg monthly prices (per cent)	-0.9856	1.0000	0.4259	0.0817	-0.2446
x2	GNRP index	-0.5399	0.4259	1.0000	0.1222	-0.2445
x3	Discount	-0.1519	0.0817	0.1222	1.0000	-0.1785
x4	Promotion	0.2093	-0.2446	-0.2445	-0.1785	1.0000

Sequential Parameter Estimates				
Intercept	**x1**	**x2**	**x3**	**x4**
0.144946	0	0	0	0
0.077597	0.028975	0	0	0
0.083629	0.027143	-0.000004570	0	0
0.129599	0.021023	-0.000016836	-0.046260	0
0.111707	0.029409	-0.000008708	-0.044443	-0.010467

Collinearity Diagnostics							
			Proportion of Variation				
Number	**Eigenvalue**	**Condition Index**	**Intercept**	**x1**	**x2**	**x3**	**x4**
1	4.17216	1.00000	0.00018095	0.00020628	0.00614	0.01613	0.01611
2	0.37097	3.35358	0.00000352	0.00000689	0.01278	0.71925	0.31569
3	0.34692	3.46788	0.00089679	0.00087671	0.05196	0.16517	0.61498
4	0.10817	6.21061	0.00445	0.00803	0.68492	0.08487	0.00100
5	0.00177	48.48501	0.99447	0.99088	0.24420	0.01458	0.05222

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Durbin-Watson D	1.784
Number of Observations	36
1st Order Autocorrelation	0.079

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Output Statistics											
Obs	Dependent Variable	Predicted Value	Std Error Mean Predict	Residual	Std Error Residual	Student Residual	-2-1 0 1 2	Cook's D	RStudent	Hat Diag H	Cov Ratio
1	0.1008	0.1171	0.004644	-0.0163	0.0148	-1.100	| **| |	0.024	-1.1040	0.0892	1.0600
2	0.1575	0.1716	0.005272	-0.0141	0.0146	-0.963	| *| |	0.024	-0.9619	0.1150	1.1437
3	0.1435	0.1206	0.004027	0.0229	0.0150	1.527	| |*** |	0.034	1.5617	0.0671	0.8544
4	0.1538	0.1649	0.009429	-0.0112	0.0124	-0.902	| *| |	0.095	-0.8995	0.3679	1.6316
5	0.1382	0.1264	0.005884	0.0118	0.0144	0.819	| |* |	0.022	0.8141	0.1433	1.2328
6	0.1765	0.1719	0.005364	0.004595	0.0146	0.315	| | |	0.003	0.3103	0.1191	1.3161
7	0.1096	0.1143	0.005531	-0.004612	0.0145	-0.317	| | |	0.003	-0.3128	0.1266	1.3271
8	0.1575	0.1294	0.005066	0.0280	0.0147	1.907	| |*** |	0.086	1.9969	0.1062	0.7063
9	0.1666	0.1777	0.005521	-0.0111	0.0145	-0.761	| *| |	0.017	-0.7559	0.1261	1.2269
10	0.1708	0.1633	0.005166	0.007437	0.0147	0.507	| |* |	0.006	0.5011	0.1104	1.2704
11	0.1001	0.1196	0.006014	-0.0195	0.0143	-1.358	| **| |	0.065	-1.3772	0.1497	1.0198
12	0.1479	0.1775	0.004756	-0.0296	0.0148	-1.998	| ***| |	0.082	-2.1060	0.0936	0.6523
13	0.1126	0.1274	0.005132	-0.0148	0.0147	-1.006	| **| |	0.025	-1.0060	0.1090	1.1201
14	0.1600	0.1615	0.005512	-0.001459	0.0145	-0.100	| | |	0.000	-0.0988	0.1257	1.3454
15	0.1666	0.1738	0.004920	-0.007173	0.0147	-0.486	| | |	0.005	-0.4803	0.1002	1.2601
16	0.1068	0.1151	0.006047	-0.008274	0.0143	-0.578	| *| |	0.012	-0.5715	0.1513	1.3150
17	0.1826	0.1802	0.005920	0.002457	0.0144	0.171	| | |	0.001	0.1682	0.1450	1.3715
18	0.1206	0.1163	0.005002	0.004275	0.0147	0.290	| | |	0.002	0.2861	0.1035	1.2964
19	0.1157	0.1152	0.005273	0.000506	0.0146	0.0346	| | |	0.000	0.0341	0.1150	1.3311
20	0.1352	0.1418	0.006923	-0.006620	0.0139	-0.476	| | |	0.011	-0.4696	0.1983	1.4168
21	0.1941	0.1767	0.007663	0.0174	0.0135	1.284	| |** |	0.106	1.2984	0.2430	1.1841
22	0.1842	0.1746	0.004771	0.009579	0.0148	0.647	| |* |	0.009	0.6413	0.0942	1.2151
23	0.1435	0.1269	0.005692	0.0166	0.0145	1.144	| |** |	0.041	1.1504	0.1341	1.0965
24	0.1313	0.1329	0.006911	-0.001667	0.0139	-0.120	| | |	0.001	-0.1178	0.1976	1.4650
25	0.1075	0.1233	0.004735	-0.0158	0.0148	-1.067	| **| |	0.023	-1.0699	0.0928	1.0769
26	0.1626	0.1640	0.005125	-0.001407	0.0147	-0.0959	| | |	0.000	-0.0943	0.1087	1.3198
27	0.2011	0.1790	0.006365	0.0221	0.0142	1.556	| |*** |	0.098	1.5945	0.1676	0.9424
28	0.1424	0.1259	0.004817	0.0165	0.0148	1.117	| |** |	0.027	1.1220	0.0960	1.0612
29	0.1526	0.1342	0.005315	0.0184	0.0146	1.261	| |** |	0.042	1.2734	0.1169	1.0254
30	0.1413	0.1237	0.004471	0.0176	0.0149	1.183	| |** |	0.025	1.1911	0.0827	1.0195
31	0.1119	0.1307	0.005160	-0.0188	0.0147	-1.282	| **| |	0.041	-1.2959	0.1102	1.0084
32	0.1890	0.1674	0.006885	0.0217	0.0139	1.556	| |*** |	0.118	1.5937	0.1962	0.9763
33	0.1206	0.1267	0.005647	-0.006171	0.0145	-0.426	| | |	0.006	-0.4204	0.1320	1.3180

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Output Statistics						
		DFBETAS				
Obs	DFFITS	Intercept	x1	x2	x3	x4
1	-0.3455	-0.1140	0.1398	-0.0467	-0.1373	-0.1591
2	-0.3468	-0.0851	0.0721	-0.0945	0.1660	0.1588
3	0.4189	0.0583	-0.0759	0.0028	0.1895	0.2126
4	-0.6862	0.3644	-0.3185	-0.5809	0.1759	-0.0418
5	0.3329	0.0042	-0.0207	0.1708	0.1667	-0.2025
6	0.1141	0.0143	-0.0111	0.0437	-0.0518	-0.0557
7	-0.1191	-0.0425	0.0541	-0.0345	-0.0415	-0.0448
8	0.6884	0.2736	-0.2430	-0.1706	0.3313	-0.3537
9	-0.2872	-0.1041	0.0612	0.1499	0.1554	0.0863
10	0.1765	0.0405	-0.0394	0.0189	-0.1165	0.0955
11	-0.5778	-0.3750	0.3575	0.3786	-0.1240	-0.3110
12	-0.6768	-0.0133	-0.0667	0.0331	0.3763	0.3411
13	-0.3518	-0.1030	0.1046	-0.0395	-0.1812	0.2031
14	-0.0375	-0.0143	0.0144	-0.0023	0.0236	-0.0204
15	-0.1602	-0.0200	0.0102	-0.0367	0.0823	0.0813
16	-0.2413	-0.0009	0.0297	-0.1507	-0.0887	-0.0560
17	0.0693	0.0158	-0.0046	-0.0397	-0.0353	-0.0200
18	0.0972	0.0522	-0.0574	-0.0093	0.0328	0.0488
19	0.0123	0.0067	-0.0075	-0.0003	0.0040	0.0058
20	-0.2336	0.0688	-0.0951	0.0883	-0.0830	0.1066
21	0.7356	-0.0527	0.1468	-0.4315	-0.3698	0.3072
22	0.2068	0.0516	-0.0320	-0.0050	-0.1160	-0.0958
23	0.4527	0.2671	-0.2528	-0.1333	0.1863	-0.1823
24	-0.0585	0.0456	-0.0468	-0.0100	-0.0184	-0.0065
25	-0.3421	-0.1013	0.0883	0.1892	-0.1100	-0.1865
26	-0.0329	-0.0105	0.0095	0.0027	0.0227	-0.0194
27	0.7156	-0.3804	0.4077	0.4054	-0.2384	-0.4043
28	0.3657	-0.2167	0.2055	0.1273	0.1611	0.0889
29	0.4633	-0.1919	0.1998	0.1570	0.2538	-0.3336
30	0.3577	-0.1622	0.1438	0.1410	0.1679	0.1050
31	-0.4560	-0.1756	0.1466	0.1669	-0.2099	0.2224
32	0.7873	0.3982	-0.3196	-0.5444	-0.4617	0.4560
33	-0.1639	-0.0261	0.0141	0.1114	-0.0412	-0.0773

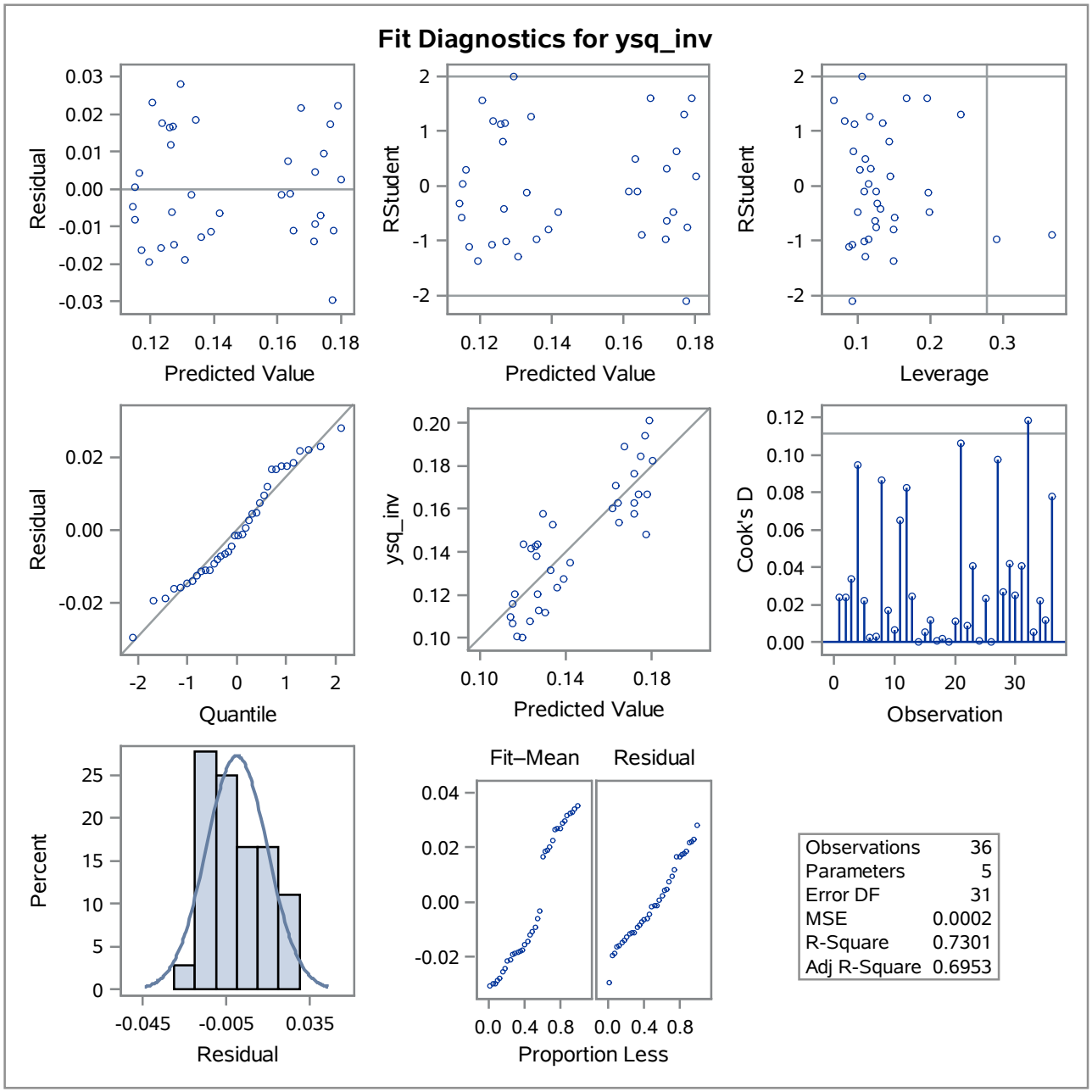
The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Output Statistics											
Obs	Dependent Variable	Predicted Value	Std Error Mean Predict	Residual	Std Error Residual	Student Residual	-2-1 0 1 2	Cook's D	RStudent	Hat Diag H	Cov Ratio
34	0.1276	0.1390	0.006011	-0.0114	0.0143	-0.796	| *| |	0.022	-0.7914	0.1495	1.2493
35	0.1626	0.1719	0.005490	-0.009280	0.0145	-0.638	| *| |	0.012	-0.6319	0.1247	1.2599
36	0.1231	0.1358	0.008394	-0.0127	0.0131	-0.971	| *| |	0.078	-0.9704	0.2915	1.4249

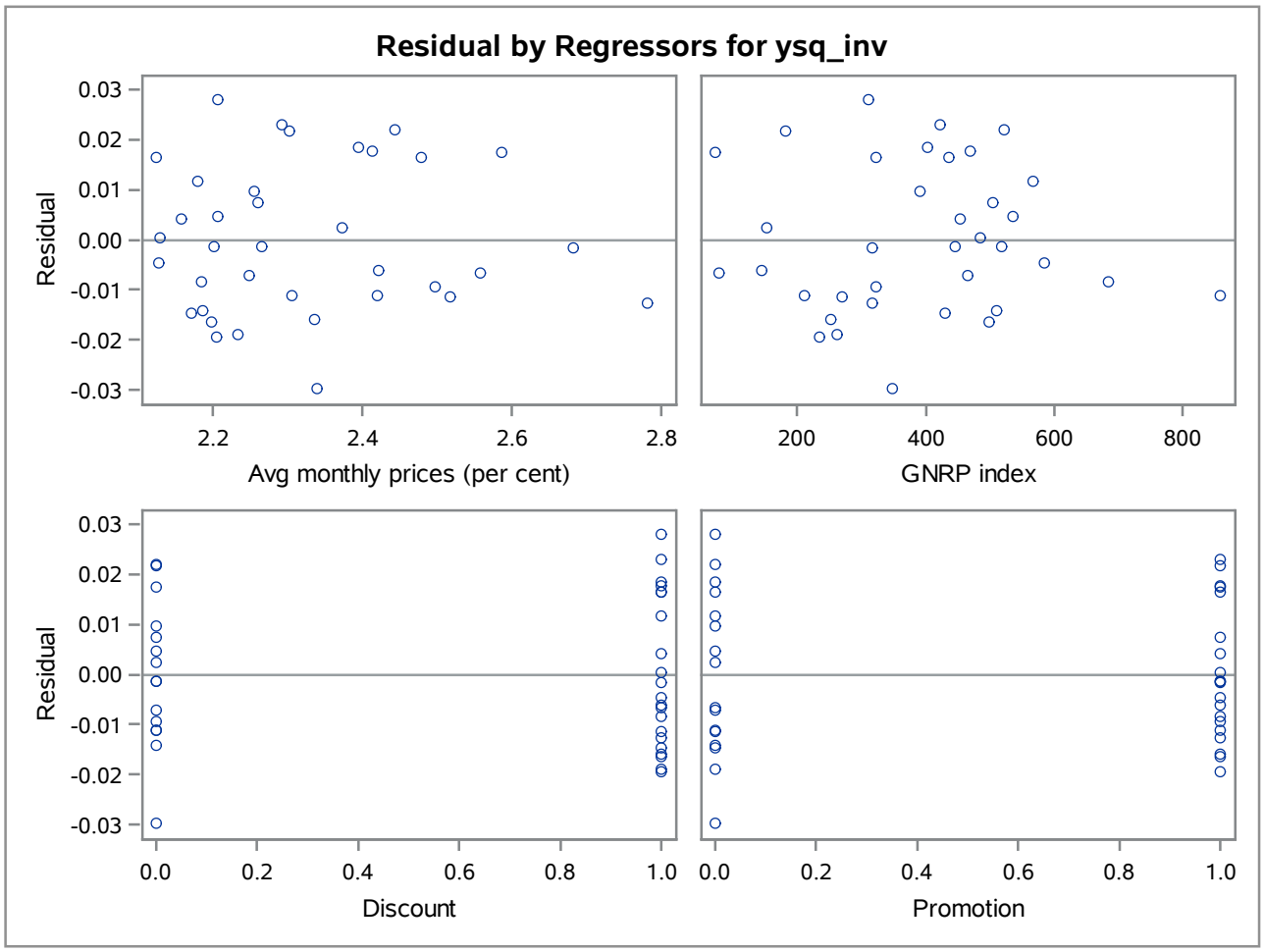
The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Output Statistics						
		DFBETAS				
Obs	DFFITS	Intercept	x1	x2	x3	x4
34	-0.3318	0.1744	-0.1957	-0.0245	-0.1553	0.2103
35	-0.2385	0.0569	-0.0769	0.0352	0.1499	-0.1098
36	-0.6225	0.5288	-0.5411	-0.1440	-0.1718	-0.0251

Sum of Residuals	0
Sum of Squared Residuals	0.00749
Predicted Residual SS (PRESS)	0.01006

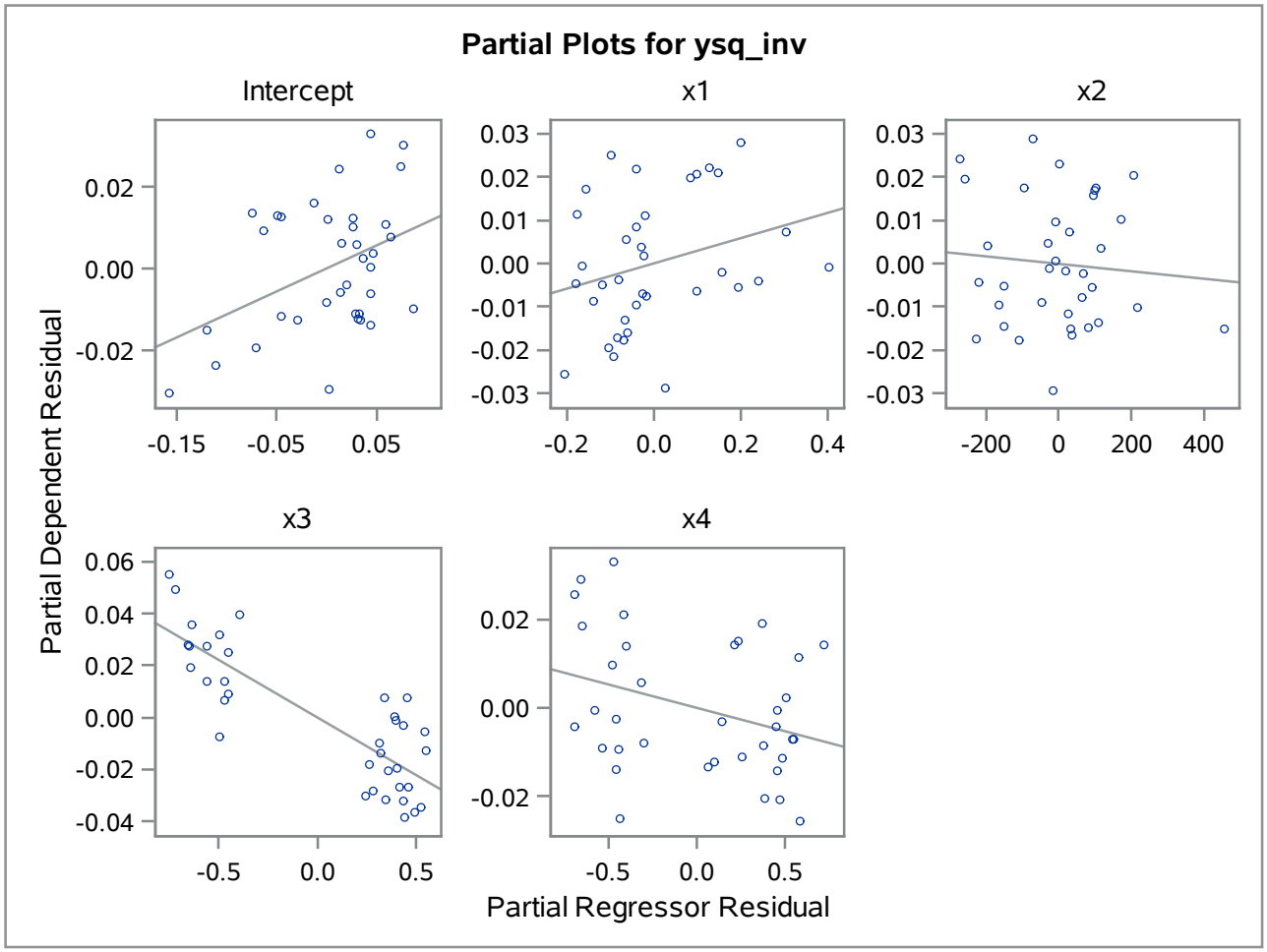


The REG Procedure
Model: MODEL1

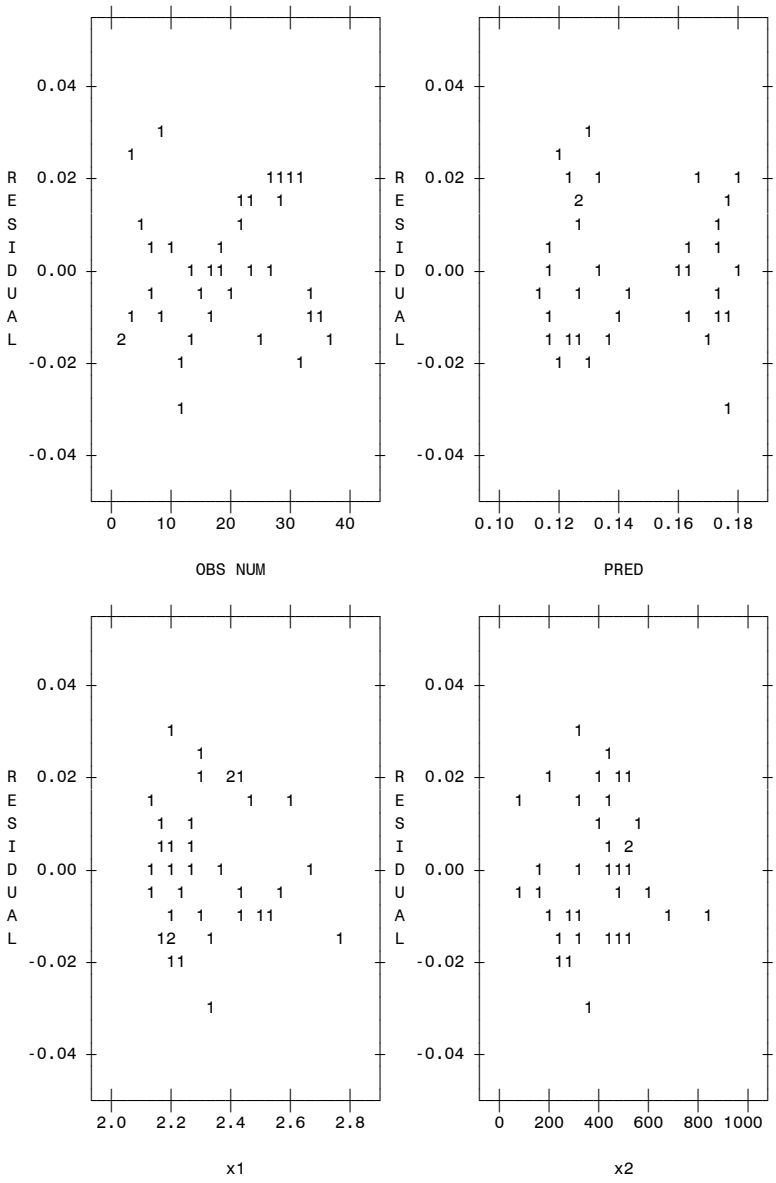


The SAS System

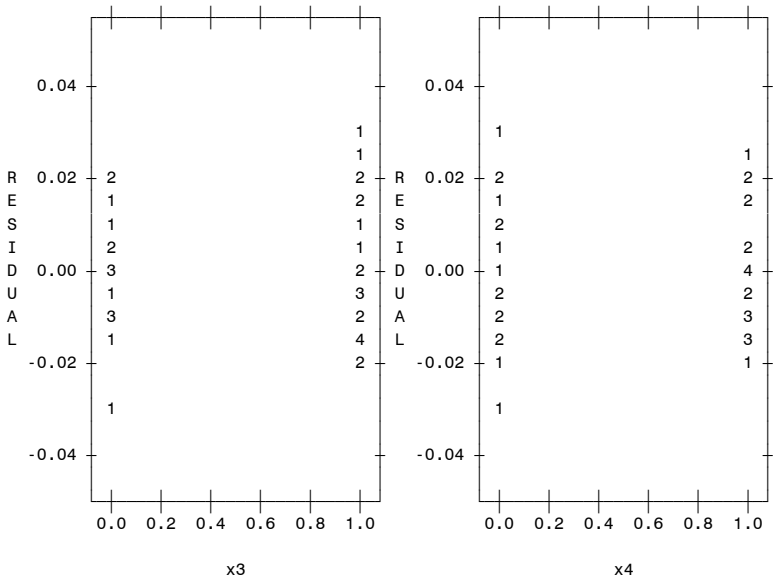
The REG Procedure
Model: MODEL1
Partial Regression Residual Plot



The REG Procedure
Model: MODEL1



The REG Procedure
Model: MODEL1



Obs	y	x1	x2	x3	x4	ysq_inv	yhat	stdp	resid	stdr	student	cookd
1	3.15	2.198	498	1	1	0.10078	0.11710	.004643612	-0.016321	0.014836	-1.10011	0.02371
2	2.52	2.186	510	0	0	0.15747	0.17155	.005272419	-0.014084	0.014624	-0.96309	0.02411
3	2.64	2.293	422	1	1	0.14348	0.12056	.004027221	0.022922	0.015015	1.52665	0.03353
4	2.55	2.420	858	0	1	0.15379	0.16494	.009428904	-0.011152	0.012360	-0.90233	0.09477
5	2.69	2.179	566	1	0	0.13820	0.12642	.005883811	0.011778	0.014389	0.81852	0.02240
6	2.38	2.207	536	0	0	0.17654	0.17195	.005364145	0.004595	0.014591	0.31494	0.00268
7	3.02	2.127	585	1	1	0.10964	0.11426	.005530764	-0.004612	0.014528	-0.31746	0.00292
8	2.52	2.206	310	1	0	0.15747	0.12944	.005066170	0.028029	0.014697	1.90714	0.08644
9	2.45	2.305	211	0	0	0.16660	0.17766	.005521165	-0.011061	0.014532	-0.76113	0.01672
10	2.42	2.260	504	0	1	0.17075	0.16332	.005165858	0.007437	0.014662	0.50722	0.00639
11	3.16	2.205	234	1	1	0.10014	0.11961	.006014340	-0.019463	0.014335	-1.35770	0.06490
12	2.60	2.340	347	0	0	0.14793	0.17750	.004755900	-0.029574	0.014800	-1.99823	0.08246
13	2.98	2.171	430	1	0	0.11261	0.12737	.005131507	-0.014760	0.014674	-1.00582	0.02474
14	2.50	2.201	518	0	1	0.16000	0.16146	.005512198	-0.001459	0.014536	-0.10040	0.00029
15	2.45	2.248	465	0	0	0.16660	0.17377	.004919715	-0.007173	0.014747	-0.48641	0.00527
16	3.06	2.184	684	1	1	0.10680	0.11507	.006046920	-0.008274	0.014321	-0.57776	0.01190
17	2.34	2.373	152	0	0	0.18263	0.18017	.005919690	0.002457	0.014374	0.17091	0.00099
18	2.88	2.157	453	1	1	0.12056	0.11629	.005002095	0.004275	0.014719	0.29045	0.00195

Obs	leverage	press	rstudent	dffits	covratio
1	0.08923	-0.017920	-1.10399	-0.34555	1.06003
2	0.11503	-0.015915	-0.96193	-0.34680	1.14369
3	0.06711	0.024571	1.56167	0.41886	0.85438
4	0.36788	-0.017643	-0.89954	-0.68624	1.63158
5	0.14325	0.013747	0.81406	0.33287	1.23283
6	0.11907	0.005216	0.31031	0.11408	1.31613
7	0.12658	-0.005281	-0.31281	-0.11908	1.32711
8	0.10621	0.031360	1.99693	0.68836	0.70625
9	0.12614	-0.012657	-0.75585	-0.28717	1.22686
10	0.11043	0.008360	0.50105	0.17653	1.27035
11	0.14968	-0.022889	-1.37720	-0.57781	1.01976
12	0.09359	-0.032628	-2.10604	-0.67675	0.65232
13	0.10896	-0.016565	-1.00601	-0.35180	1.12011
14	0.12573	-0.001669	-0.09879	-0.03746	1.34540
15	0.10015	-0.007971	-0.48033	-0.16025	1.26008
16	0.15131	-0.009749	-0.57145	-0.24128	1.31505
17	0.14501	0.002873	0.16821	0.06927	1.37149
18	0.10354	0.004769	0.28611	0.09723	1.29644

Obs	y	x1	x2	x3	x4	ysq_inv	yhat	stdp	resid	stdr	student	cookd
19	2.94	2.129	485	1	1	0.11569	0.11519	.005272810	0.000506	0.014624	0.03463	0.00003
20	2.72	2.557	78	1	0	0.13516	0.14178	.006923119	-0.006620	0.013919	-0.47560	0.01119
21	2.27	2.587	72	0	1	0.19407	0.17669	.007663036	0.017370	0.013526	1.28426	0.10588
22	2.33	2.255	391	0	0	0.18420	0.17462	.004770956	0.009579	0.014795	0.64744	0.00872
23	2.64	2.124	322	1	0	0.14348	0.12693	.005692416	0.016555	0.014466	1.14441	0.04056
24	2.76	2.683	317	1	1	0.13127	0.13294	.006911074	-0.001667	0.013925	-0.11970	0.00071
25	3.05	2.336	252	1	1	0.10750	0.12330	.004734596	-0.015805	0.014807	-1.06738	0.02330
26	2.48	2.266	446	0	1	0.16259	0.16400	.005124506	-0.001407	0.014677	-0.09586	0.00022
27	2.23	2.443	521	0	0	0.20109	0.17902	.006364789	0.022073	0.014183	1.55629	0.09755
28	2.65	2.478	435	1	1	0.14240	0.12589	.004817432	0.016514	0.014780	1.11730	0.02652
29	2.56	2.394	402	1	0	0.15259	0.13417	.005315408	0.018419	0.014609	1.26081	0.04209
30	2.66	2.414	468	1	1	0.14133	0.12372	.004471171	0.017615	0.014889	1.18311	0.02525
31	2.99	2.233	262	1	0	0.11186	0.13065	.005160236	-0.018798	0.014664	-1.28189	0.04070
32	2.30	2.302	182	0	1	0.18904	0.16736	.006885360	0.021680	0.013938	1.55553	0.11810
33	2.88	2.421	145	1	1	0.12056	0.12673	.005647440	-0.006171	0.014483	-0.42607	0.00552
34	2.80	2.518	270	1	0	0.12755	0.13897	.006011363	-0.011414	0.014336	-0.79619	0.02229
35	2.48	2.497	322	0	1	0.16259	0.17187	.005490181	-0.009280	0.014544	-0.63808	0.01160
36	2.85	2.781	317	1	1	0.12311	0.13582	.008393579	-0.012709	0.013085	-0.97128	0.07764

Obs	leverage	press	rstudent	dffits	covratio
19	0.11505	0.000572	0.03407	0.01228	1.33106
20	0.19833	-0.008258	-0.46958	-0.23357	1.41679
21	0.24299	0.022946	1.29839	0.73561	1.18408
22	0.09419	0.010575	0.64126	0.20678	1.21507
23	0.13408	0.019118	1.15036	0.45268	1.09646
24	0.19764	-0.002077	-0.11778	-0.05845	1.46497
25	0.09276	-0.017421	-1.06987	-0.34209	1.07689
26	0.10867	-0.001578	-0.09432	-0.03293	1.31983
27	0.16763	0.026518	1.59454	0.71557	0.94240
28	0.09603	0.018268	1.12196	0.36569	1.06119
29	0.11691	0.020857	1.27339	0.46333	1.02540
30	0.08272	0.019204	1.19107	0.35769	1.01946
31	0.11019	-0.021126	-1.29586	-0.45601	1.00840
32	0.19617	0.026971	1.59370	0.78731	0.97626
33	0.13197	-0.007109	-0.42037	-0.16391	1.31800
34	0.14953	-0.013421	-0.79137	-0.33183	1.24934
35	0.12473	-0.010603	-0.63187	-0.23853	1.25994
36	0.29153	-0.017939	-0.97036	-0.62246	1.42486

The SAS System

The UNIVARIATE Procedure
Variable: resid (Residual)

Moments			
N	36	**Sum Weights**	36
Mean	0	**Sum Observations**	0
Std Deviation	0.01463032	**Variance**	0.00021405
Skewness	0.20561859	**Kurtosis**	-0.9206825
Uncorrected SS	0.00749162	**Corrected SS**	0.00749162
Coeff Variation	.	**Std Error Mean**	0.00243839

Basic Statistical Measures			
Location		**Variability**	
Mean	0.00000	**Std Deviation**	0.01463
Median	-0.00156	**Variance**	0.0002140
Mode	.	**Range**	0.05760
		Interquartile Range	0.02543

Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	-2	**Pr >= |M|**	0.6177
Signed Rank	**S**	1	**Pr >= |S|**	0.9877

Tests for Normality				
Test	**Statistic**		**p Value**	
Shapiro-Wilk	**W**	0.960107	**Pr < W**	0.2166
Kolmogorov-Smirnov	**D**	0.1205	**Pr > D**	>0.1500
Cramer-von Mises	**W-Sq**	0.09102	**Pr > W-Sq**	0.1451
Anderson-Darling	**A-Sq**	0.568952	**Pr > A-Sq**	0.1351

Quantiles (Definition 5)	
Level	**Quantile**
100% Max	0.0280290
99%	0.0280290
95%	0.0229224
90%	0.0216804
75% Q3	0.0141460
50% Median	-0.0015631
25% Q1	-0.0112834

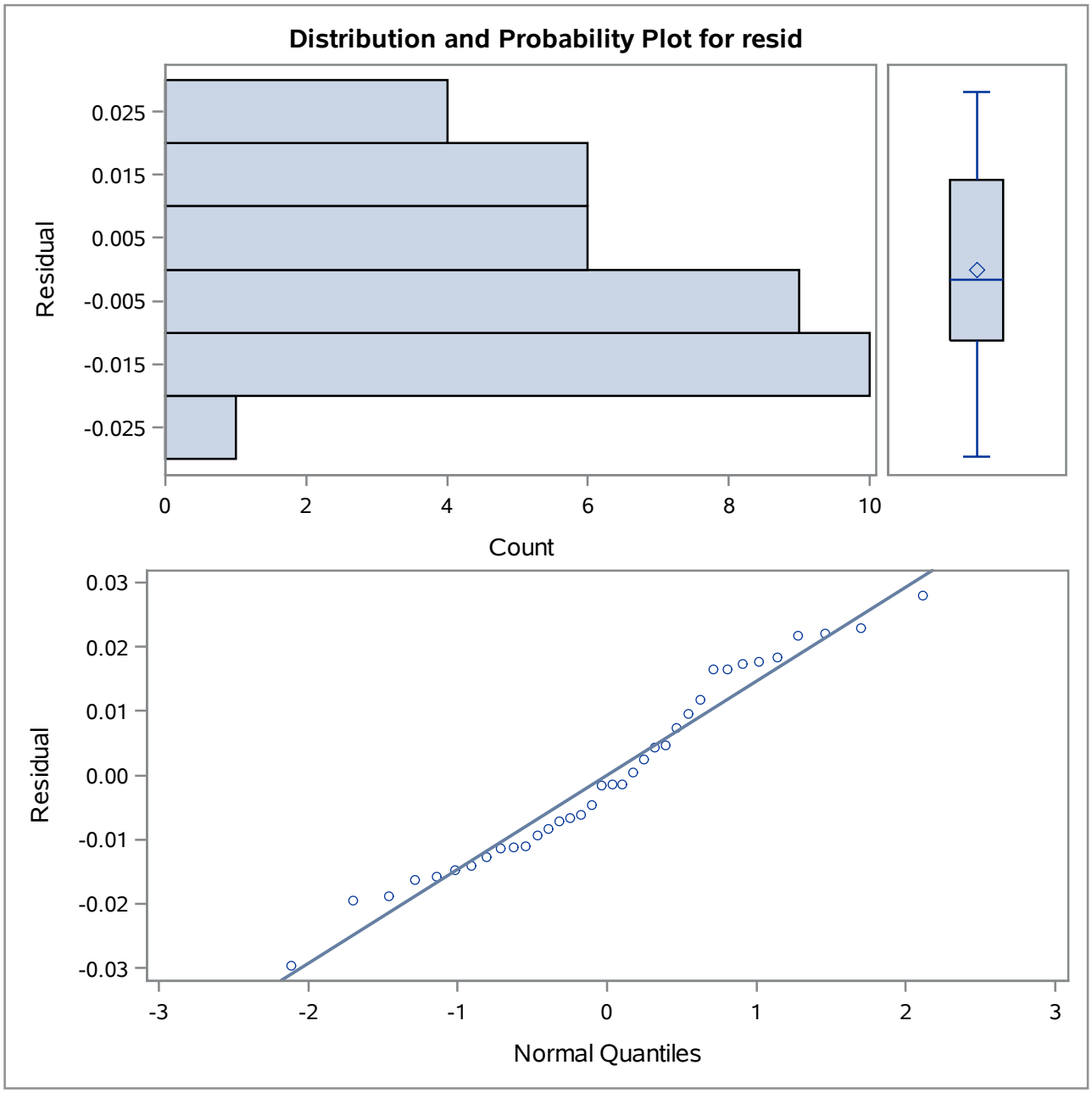
The SAS System

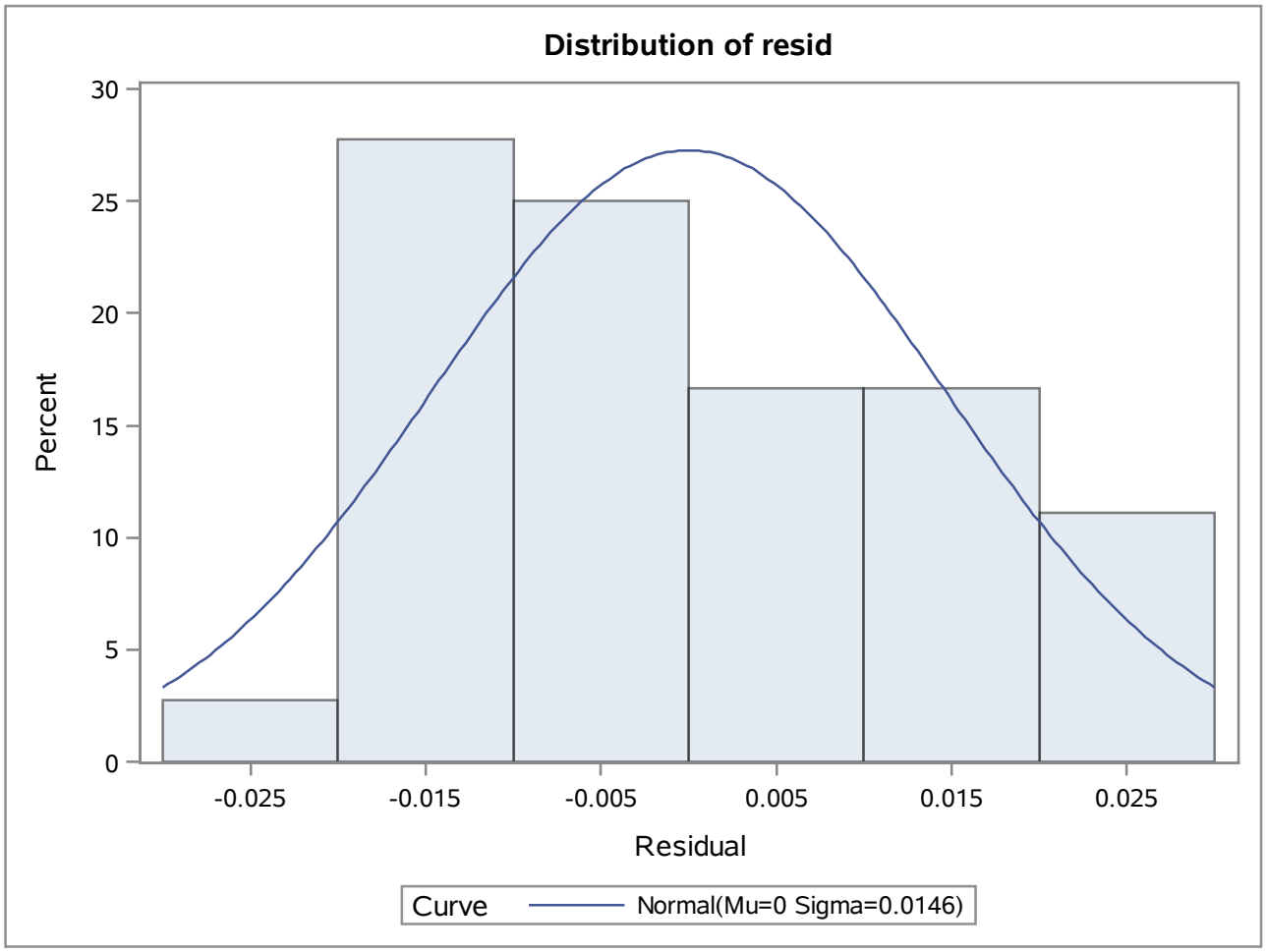
The UNIVARIATE Procedure
Variable: resid (Residual)

Quantiles (Definition 5)	
Level	**Quantile**
10%	-0.0163211
5%	-0.0194627
1%	-0.0295742
0% Min	-0.0295742

Extreme Observations			
Lowest		**Highest**	
Value	**Obs**	**Value**	**Obs**
-0.0295742	12	0.0184187	29
-0.0194627	11	0.0216804	32
-0.0187978	31	0.0220727	27
-0.0163211	1	0.0229224	3
-0.0158047	25	0.0280290	8

The UNIVARIATE Procedure




Distribution of resid
Percent
30
25
20
15
10
5
0
-0.025
-0.015
-0.005
0.005
0.015
0.025
Residual
Curve
Normal(Mu=0 Sigma=0.0146)

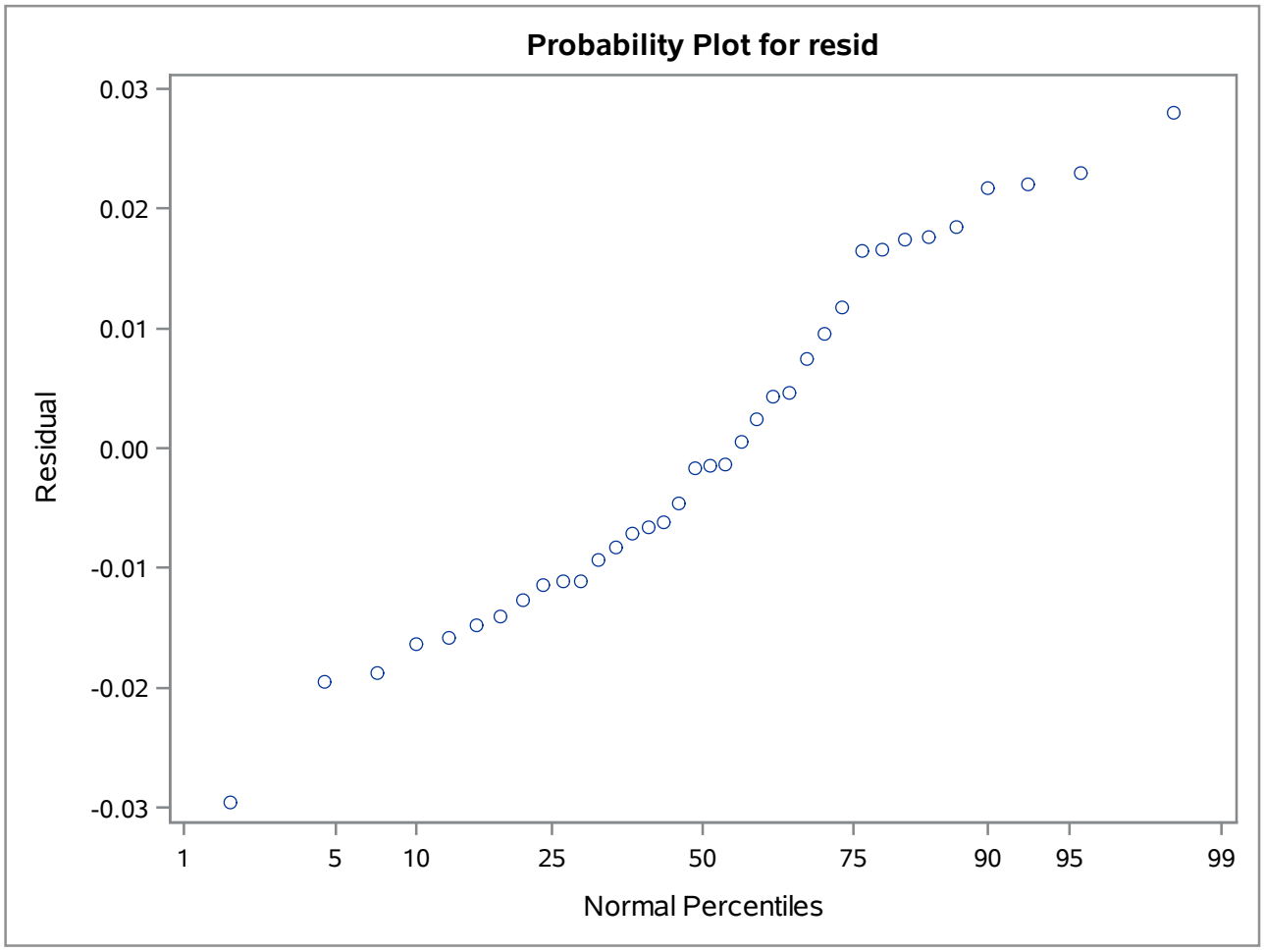
The SAS System

The UNIVARIATE Procedure
Fitted Normal Distribution for resid (Residual)

Parameters for Normal Distribution		
Parameter	**Symbol**	**Estimate**
Mean	Mu	0
Std Dev	Sigma	0.01463

Goodness-of-Fit Tests for Normal Distribution				
Test	**Statistic**		**p Value**	
Kolmogorov-Smirnov	**D**	0.12050026	**Pr > D**	>0.150
Cramer-von Mises	**W-Sq**	0.09102047	**Pr > W-Sq**	0.145
Anderson-Darling	**A-Sq**	0.56895241	**Pr > A-Sq**	0.135

Quantiles for Normal Distribution		
	Quantile	
Percent	**Observed**	**Estimated**
1.0	-0.02957	-0.03404
5.0	-0.01946	-0.02406
10.0	-0.01632	-0.01875
25.0	-0.01128	-0.00987
50.0	-0.00156	0.00000
75.0	0.01415	0.00987
90.0	0.02168	0.01875
95.0	0.02292	0.02406
99.0	0.02803	0.03404


Probability Plot for resid
Residual
0.03
0.02
0.01
0.00
-0.01
-0.02
-0.03
1
5
10
25
50
75
90
95
99
Normal Percentiles

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

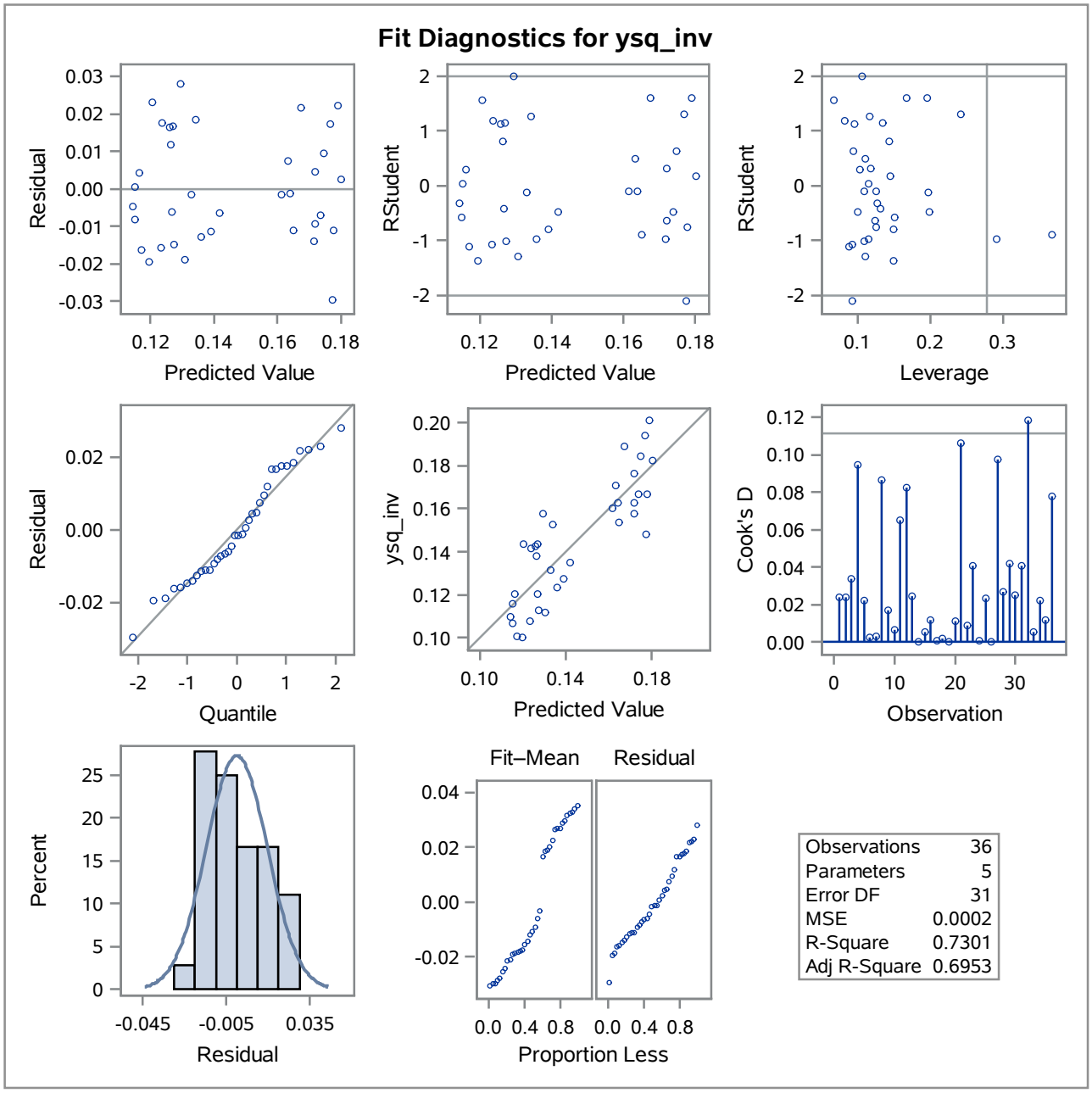
R-Square Selection Method

Number of Observations Read	36
Number of Observations Used	36

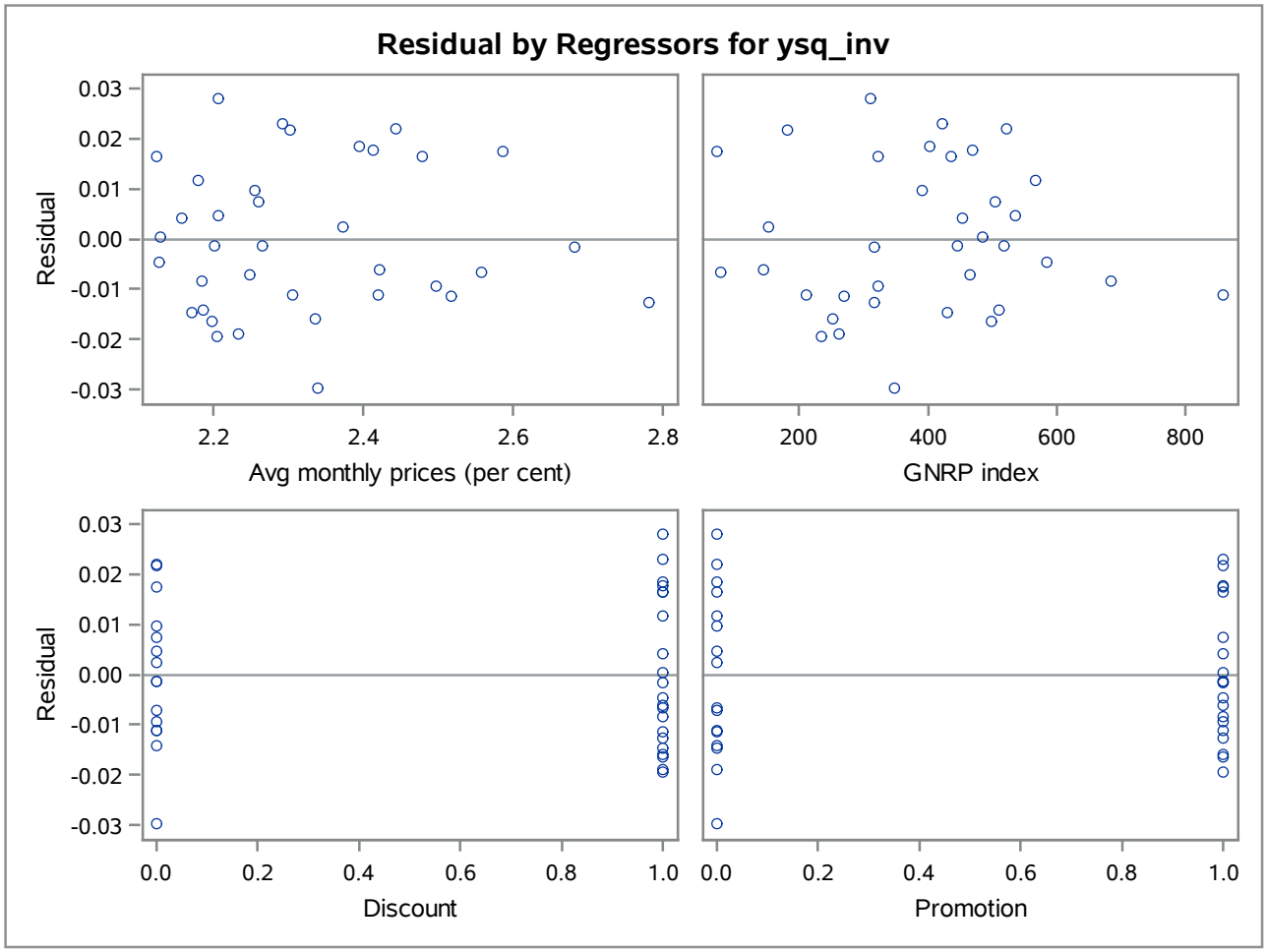
Number in Model	R-Square	Adjusted R-Square	C(p)	AIC	BIC	MSE	Parameter Estimates				
							Intercept	x1	x2	x3	x4
1	0.6643	0.6544	6.5605	-293.3329	-291.6074	0.00027408	0.17173	.	.	-0.04591	.
1	0.0827	0.0557	73.3670	-257.1450	-258.6451	0.00074893	0.15387	.	.	.	-0.01607
1	0.0281	-.0005	79.6328	-255.0654	-256.6935	0.00079346	0.07760	0.02898	.	.	.
1	0.0078	-.0214	81.9680	-254.3201	-255.9926	0.00081006	0.15067	.	-0.00001475	.	.
2	0.6919	0.6732	5.3872	-294.4245	-292.3212	0.00025915	0.17611	.	.	-0.04447	-0.00940
2	0.6901	0.6714	5.5909	-294.2179	-292.1492	0.00026064	0.10710	0.02778	.	-0.04583	.
2	0.6861	0.6671	6.0498	-293.7567	-291.7650	0.00026400	0.18169	.	-0.00002478	-0.04651	.
2	0.1291	0.0763	70.0332	-257.0151	-259.6753	0.00073256	0.06730	0.03770	.	.	-0.01798
2	0.0848	0.0294	75.1176	-255.2303	-258.0401	0.00076980	0.15671	.	-0.00000787	.	-0.01568
2	0.0288	-.0301	81.5599	-253.0889	-256.0702	0.00081697	0.08363	0.02714	-0.00000457	.	.
3	0.7280	0.7025	3.2474	-296.9035	-293.7330	0.00023598	0.09962	0.03323	.	-0.04412	-0.01114
3	0.7070	0.6795	5.6537	-294.2327	-291.6847	0.00025415	0.18398	.	-0.00002086	-0.04516	-0.00827
3	0.6987	0.6705	6.6074	-293.2267	-290.9080	0.00026136	0.12960	0.02102	-0.00001684	-0.04626	.
3	0.1315	0.0500	71.7627	-255.1125	-259.0427	0.00075341	0.05501	0.04164	0.00000904	.	-0.01862
4	0.7301	0.6953	5.0000	-295.1896	-291.6287	0.00024167	0.11171	0.02941	-0.00000871	-0.04444	-0.01047

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv



The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv



The SAS System

The REG Procedure
Model: MODEL2
Dependent Variable: ysq_inv

Number of Observations Read	36
Number of Observations Used	36

Stepwise Selection: Step 1

Statistics for Entry DF = 1,34				
Variable	Tolerance	Model R-Square	F Value	Pr > F
x1	1.000000	0.0281	0.98	0.3283
x2	1.000000	0.0078	0.27	0.6088
x3	1.000000	0.6643	67.28	<.0001
x4	1.000000	0.0827	3.06	0.0891

Variable x3 Entered: R-Square = 0.6643 and C(p) = 6.5605

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	0.01844	0.01844	67.28	<.0001
Error	34	0.00932	0.00027408		
Corrected Total	35	0.02776			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	0.17173	0.00427	0.44234	1613.92	<.0001
x3	-0.04591	0.00560	0.01844	67.28	<.0001

Bounds on condition number: 1, 1

Stepwise Selection: Step 2

Statistics for Entry DF = 1,33				
Variable	Tolerance	Model R-Square	F Value	Pr > F
x1	0.999928	0.6901	2.75	0.1065
x2	0.994724	0.6861	2.30	0.1390
x4	0.977143	0.6919	2.96	0.0948

The SAS System

The REG Procedure
Model: MODEL2
Dependent Variable: ysq_inv

Stepwise Selection: Step 2

Variable x4 Entered: R-Square = 0.6919 and C(p) = 5.3872

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	2	0.01921	0.00960	37.06	<.0001
Error	33	0.00855	0.00025915		
Corrected Total	35	0.02776			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	0.17611	0.00488	0.33807	1304.56	<.0001
x3	-0.04447	0.00551	0.01691	65.26	<.0001
x4	-0.00940	0.00546	0.00076687	2.96	0.0948

Bounds on condition number: 1.0234, 4.0936

Stepwise Selection: Step 3

Statistics for Removal DF = 1,33				
Variable	**Partial R-Square**	**Model R-Square**	**F Value**	**Pr > F**
x3	0.6092	0.0827	65.26	<.0001
x4	0.0276	0.6643	2.96	0.0948

Statistics for Entry DF = 1,32				
Variable	**Tolerance**	**Model R-Square**	**F Value**	**Pr > F**
x1	0.974302	0.7280	4.24	0.0477
x2	0.969290	0.7070	1.65	0.2084

Variable x1 Entered: R-Square = 0.7280 and C(p) = 3.2474

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	3	0.02021	0.00674	28.54	<.0001
Error	32	0.00755	0.00023598		
Corrected Total	35	0.02776			

The SAS System

The REG Procedure
Model: MODEL2
Dependent Variable: ysq_inv

Stepwise Selection: Step 3

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	0.09962	0.03744	0.00167	7.08	0.0121
x1	0.03323	0.01614	0.00100	4.24	0.0477
x3	-0.04412	0.00526	0.01662	70.44	<.0001
x4	-0.01114	0.00528	0.00105	4.45	0.0429

Bounds on condition number: 1.0503, 9.3036

Stepwise Selection: Step 4

Statistics for Removal DF = 1,32				
Variable	**Partial R-Square**	**Model R-Square**	**F Value**	**Pr > F**
x1	0.0360	0.6919	4.24	0.0477
x3	0.5989	0.1291	70.44	<.0001
x4	0.0378	0.6901	4.45	0.0429

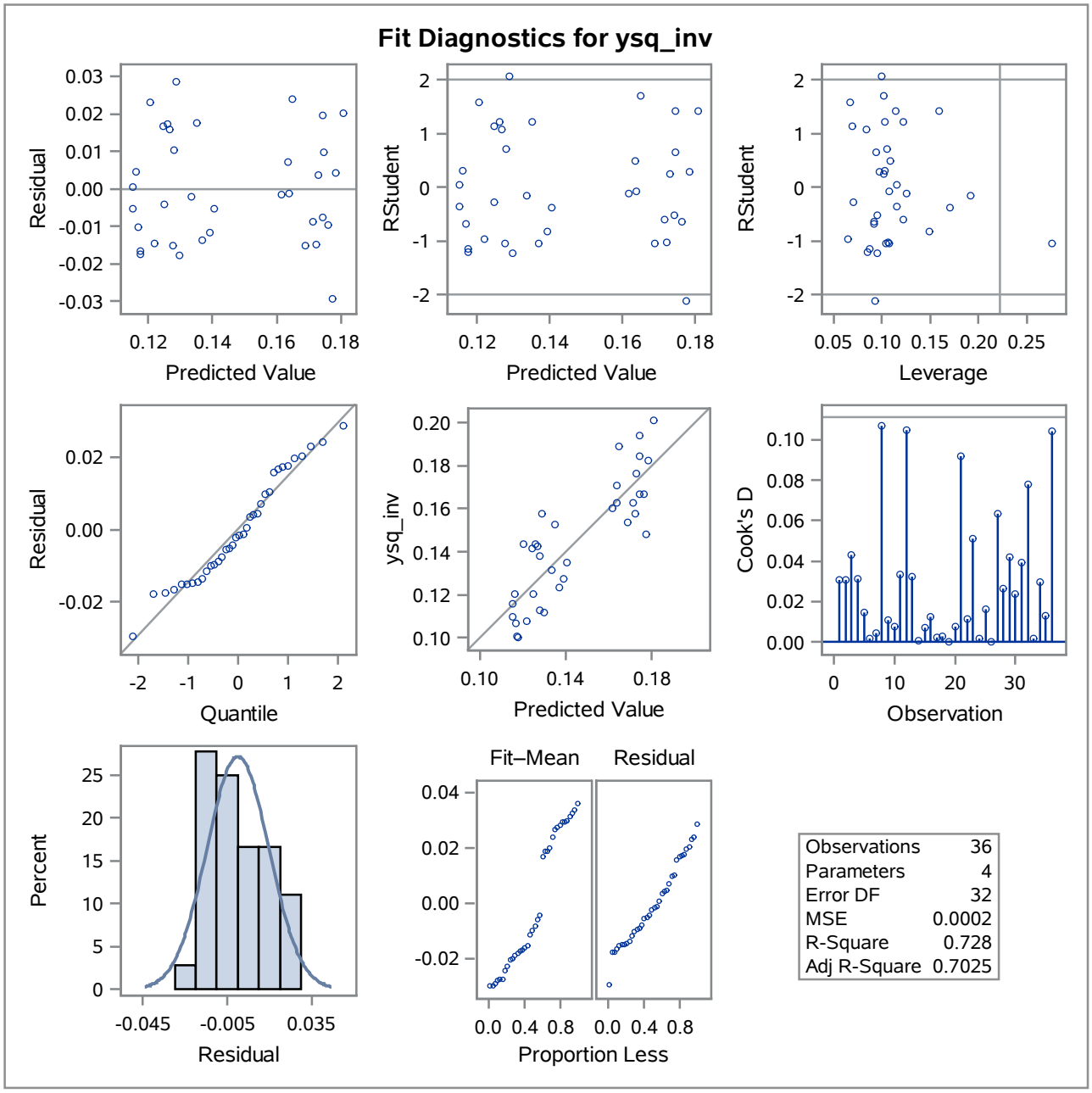
Statistics for Entry DF = 1,31				
Variable	**Tolerance**	**Model R-Square**	**F Value**	**Pr > F**
x2	0.793439	0.7301	0.25	0.6224

All variables left in the model are significant at the 0.1500 level.

No other variable met the 0.2500 significance level for entry into the model.

Summary of Stepwise Selection									
Step	**Variable Entered**	**Variable Removed**	**Label**	**Number Vars In**	**Partial R-Square**	**Model R-Square**	**C(p)**	**F Value**	**Pr > F**
1	x3		Discount	1	0.6643	0.6643	6.5605	67.28	<.0001
2	x4		Promotion	2	0.0276	0.6919	5.3872	2.96	0.0948
3	x1		Avg monthly prices (per cent)	3	0.0360	0.7280	3.2474	4.24	0.0477

The REG Procedure
Model: MODEL2
Dependent Variable: ysq_inv



The REG Procedure
Model: MODEL2
Dependent Variable: ysq_inv

The SAS System

The REG Procedure
Model: MODEL3
Dependent Variable: ysq_inv

Number of Observations Read	36
Number of Observations Used	36

Backward Elimination: Step 0

All Variables Entered: R-Square = 0.7301 and C(p) = 5.0000

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	0.02027	0.00507	20.97	<.0001
Error	31	0.00749	0.00024167		
Corrected Total	35	0.02776			

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	0.11171	0.04501	0.00149	6.16	0.0187
x1	0.02941	0.01805	0.00064131	2.65	0.1134
x2	-0.00000871	0.00001751	0.00005978	0.25	0.6224
x3	-0.04444	0.00536	0.01662	68.76	<.0001
x4	-0.01047	0.00551	0.00087178	3.61	0.0669

Bounds on condition number: 1.2603, 18.685

Backward Elimination: Step 1

Statistics for Removal DF = 1,31				
Variable	Partial R-Square	Model R-Square	F Value	Pr > F
x1	0.0231	0.7070	2.65	0.1134
x2	0.0022	0.7280	0.25	0.6224
x3	0.5987	0.1315	68.76	<.0001
x4	0.0314	0.6987	3.61	0.0669

Variable x2 Removed: R-Square = 0.7280 and C(p) = 3.2474

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	0.02021	0.00674	28.54	<.0001
Error	32	0.00755	0.00023598		
Corrected Total	35	0.02776			

The SAS System

The REG Procedure
Model: MODEL3
Dependent Variable: ysq_inv

Backward Elimination: Step 1

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	0.09962	0.03744	0.00167	7.08	0.0121
x1	0.03323	0.01614	0.00100	4.24	0.0477
x3	-0.04412	0.00526	0.01662	70.44	<.0001
x4	-0.01114	0.00528	0.00105	4.45	0.0429

Bounds on condition number: 1.0503, 9.3036

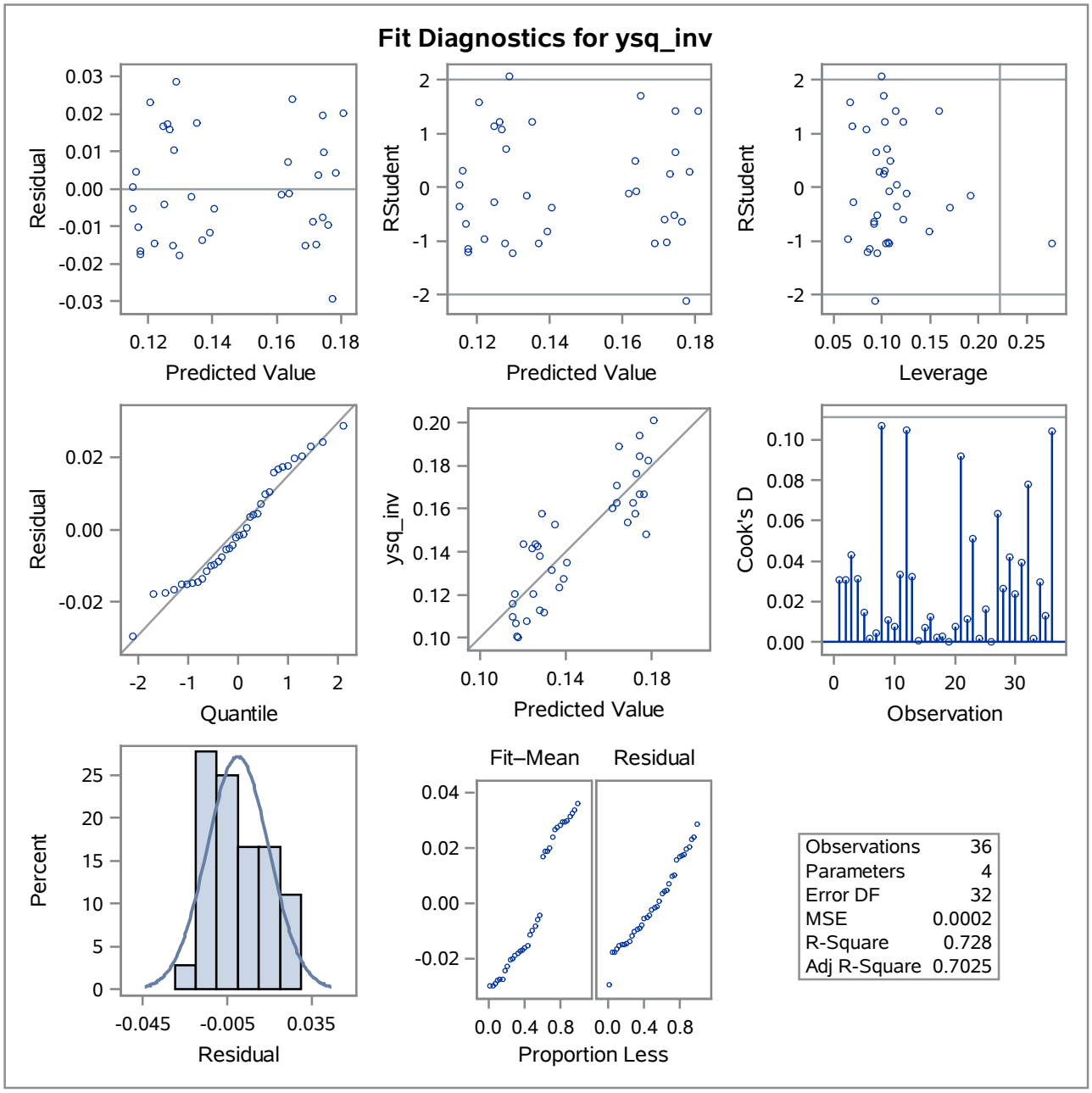
Backward Elimination: Step 2

Statistics for Removal DF = 1,32				
Variable	**Partial R-Square**	**Model R-Square**	**F Value**	**Pr > F**
x1	0.0360	0.6919	4.24	0.0477
x3	0.5989	0.1291	70.44	<.0001
x4	0.0378	0.6901	4.45	0.0429

All variables left in the model are significant at the 0.0500 level.

Summary of Backward Elimination								
Step	**Variable Removed**	**Label**	**Number Vars In**	**Partial R-Square**	**Model R-Square**	**C(p)**	**F Value**	**Pr > F**
1	x2	GNRP index	3	0.0022	0.7280	3.2474	0.25	0.6224

The REG Procedure
Model: MODEL3
Dependent Variable: ysq_inv



The REG Procedure
Model: MODEL3
Dependent Variable: ysq_inv

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Number of Observations Read	36
Number of Observations Used	36

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	3	0.02021	0.00674	28.54	<.0001
Error	32	0.00755	0.00023598		
Corrected Total	35	0.02776			

Root MSE	0.01536	**R-Square**	0.7280
Dependent Mean	0.14495	**Adj R-Sq**	0.7025
Coeff Var	10.59817		

Parameter Estimates						
Variable	**Label**	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	Intercept	1	0.09962	0.03744	2.66	0.0121
x1	Avg monthly prices (per cent)	1	0.03323	0.01614	2.06	0.0477
x3	Discount	1	-0.04412	0.00526	-8.39	<.0001
x4	Promotion	1	-0.01114	0.00528	-2.11	0.0429

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Durbin-Watson D	1.828
Number of Observations	36
1st Order Autocorrelation	0.055

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

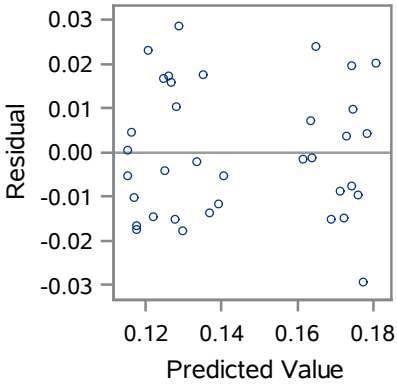
Output Statistics			
Obs	Dependent Variable	Predicted Value	Residual
1	0.1008	0.1174	-0.0166
2	0.1575	0.1723	-0.0148
3	0.1435	0.1206	0.0229
4	0.1538	0.1689	-0.0151
5	0.1382	0.1279	0.0103
6	0.1765	0.1730	0.003574
7	0.1096	0.1151	-0.005410
8	0.1575	0.1288	0.0287
9	0.1666	0.1762	-0.009627
10	0.1708	0.1636	0.007161
11	0.1001	0.1176	-0.0175
12	0.1479	0.1774	-0.0295
13	0.1126	0.1277	-0.0150
14	0.1600	0.1616	-0.001631
15	0.1666	0.1743	-0.007733
16	0.1068	0.1169	-0.0102
17	0.1826	0.1785	0.004144
18	0.1206	0.1161	0.004512
19	0.1157	0.1151	0.000572
20	0.1352	0.1405	-0.005318
21	0.1941	0.1745	0.0196
22	0.1842	0.1746	0.009637
23	0.1435	0.1261	0.0174
24	0.1313	0.1335	-0.002257
25	0.1075	0.1220	-0.0145
26	0.1626	0.1638	-0.001200
27	0.2011	0.1808	0.0203
28	0.1424	0.1267	0.0157
29	0.1526	0.1351	0.0175
30	0.1413	0.1246	0.0167
31	0.1119	0.1297	-0.0179
32	0.1890	0.1650	0.0240
33	0.1206	0.1248	-0.004262
34	0.1276	0.1392	-0.0116

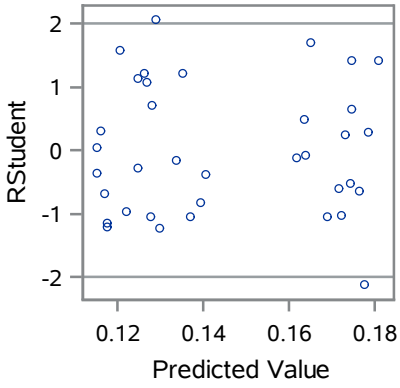
The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

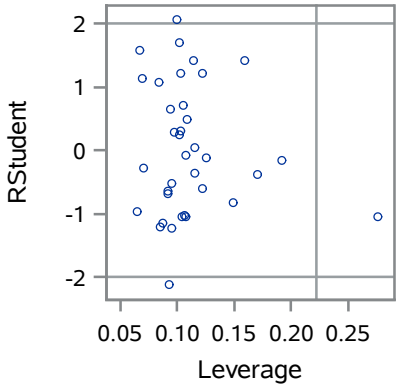
Output Statistics			
Obs	Dependent Variable	Predicted Value	Residual
35	0.1626	0.1715	-0.008877
36	0.1231	0.1368	-0.0137

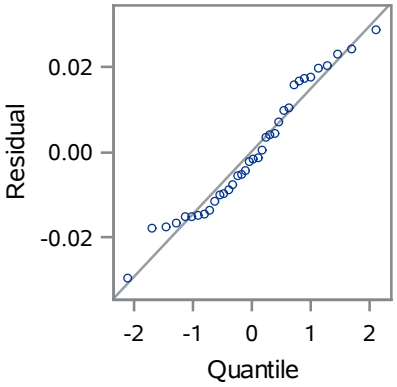
Sum of Residuals	0
Sum of Squared Residuals	0.00755
Predicted Residual SS (PRESS)	0.00946

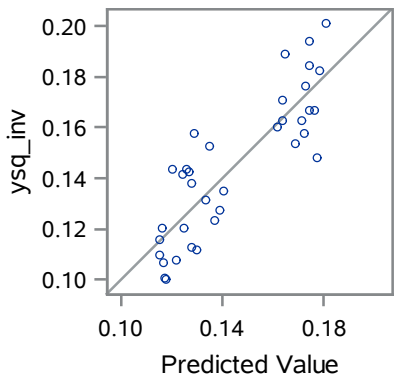
Fit Diagnostics for ysq_inv

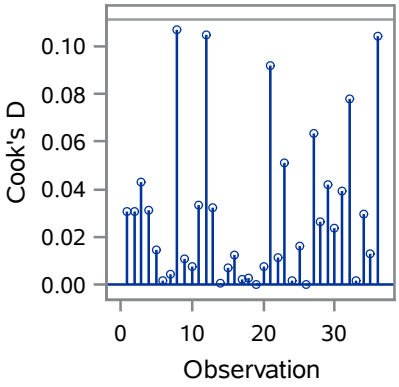


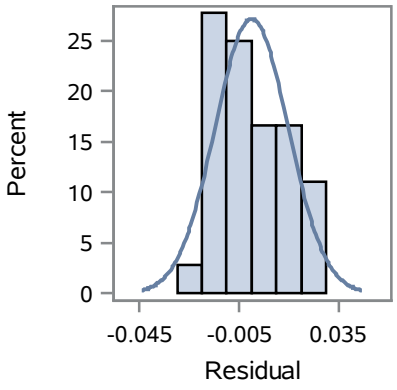


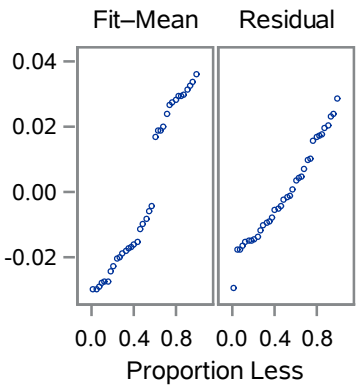






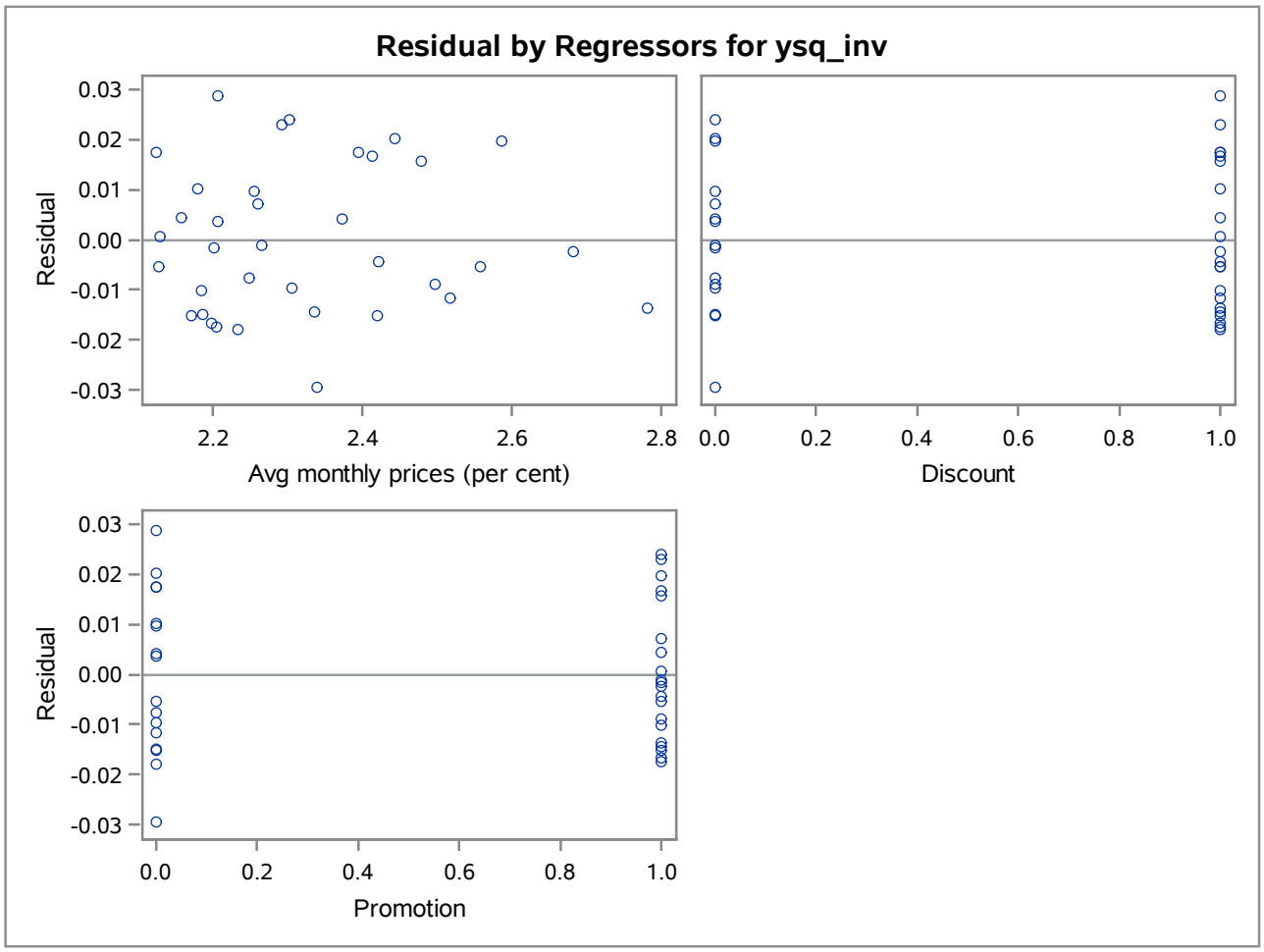






Observations	36
Parameters	4
Error DF	32
MSE	0.0002
R-Square	0.728
Adj R-Square	0.7025

The REG Procedure
Model: MODEL1



The SAS System

The REG Procedure

Number of Observations Read	36
Number of Observations Used	36

Descriptive Statistics						
Variable	**Sum**	**Mean**	**Uncorrected SS**	**Variance**	**Standard Deviation**	**Label**
Intercept	36.00000	1.00000	36.00000	0	0	Intercept
x1	83.67800	2.32439	195.42993	0.02656	0.16298	Avg monthly prices (per cent)
x3	21.00000	0.58333	21.00000	0.25000	0.50000	Discount
x4	20.00000	0.55556	20.00000	0.25397	0.50395	Promotion
ysq_inv	5.21807	0.14495	0.78410	0.00079309	0.02816	

Correlation					
Variable	**Label**	**x1**	**x3**	**x4**	**ysq_inv**
x1	Avg monthly prices (per cent)	1.0000	-0.0085	0.1570	0.1677
x3	Discount	-0.0085	1.0000	0.1512	-0.8150
x4	Promotion	0.1570	0.1512	1.0000	-0.2875
ysq_inv		0.1677	-0.8150	-0.2875	1.0000

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Number of Observations Read	36
Number of Observations Used	36

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	3	0.02021	0.00674	28.54	<.0001
Error	32	0.00755	0.00023598		
Corrected Total	35	0.02776			

Root MSE	0.01536	**R-Square**	0.7280
Dependent Mean	0.14495	**Adj R-Sq**	0.7025
Coeff Var	10.59817		

Parameter Estimates											
Variable	**Label**	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**	**Type I SS**	**Type II SS**	**Standardized Estimate**	**Tolerance**	**Variance Inflation**
Intercept	Intercept	1	0.09962	0.03744	2.66	0.0121	0.75634	0.00167	0	.	0
x1	Avg monthly prices (per cent)	1	0.03323	0.01614	2.06	0.0477	0.00078056	0.00100	0.19233	0.97430	1.02638
x3	Discount	1	-0.04412	0.00526	-8.39	<.0001	0.01838	0.01662	-0.78328	0.97608	1.02451
x4	Promotion	1	-0.01114	0.00528	-2.11	0.0429	0.00105	0.00105	-0.19929	0.95210	1.05031

Covariance of Estimates					
Variable	**Label**	**Intercept**	**x1**	**x3**	**x4**
Intercept	Intercept	0.0014016467	-0.000599593	-0.000020241	0.0000187242
x1	Avg monthly prices (per cent)	-0.000599593	0.0002605159	2.7986417E-6	-0.000013644
x3	Discount	-0.000020241	2.7986417E-6	0.0000276302	-4.286597E-6
x4	Promotion	0.0000187242	-0.000013644	-4.286597E-6	0.0000278835

Correlation of Estimates					
Variable	**Label**	**Intercept**	**x1**	**x3**	**x4**
Intercept	Intercept	1.0000	-0.9922	-0.1029	0.0947
x1	Avg monthly prices (per cent)	-0.9922	1.0000	0.0330	-0.1601
x3	Discount	-0.1029	0.0330	1.0000	-0.1544
x4	Promotion	0.0947	-0.1601	-0.1544	1.0000

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Sequential Parameter Estimates			
Intercept	x1	x3	x4
0.144946	0	0	0
0.077597	0.028975	0	0
0.107100	0.027784	-0.045829	0
0.099621	0.033234	-0.044117	-0.011137

Collinearity Diagnostics						
			Proportion of Variation			
Number	Eigenvalue	Condition Index	Intercept	x1	x3	x4
1	3.33764	1.00000	0.00039178	0.00038896	0.02712	0.02760
2	0.36696	3.01586	0.00005862	0.00003481	0.43868	0.68823
3	0.29306	3.37472	0.00348	0.00340	0.52952	0.26764
4	0.00234	37.79392	0.99607	0.99618	0.00468	0.01653

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Durbin-Watson D	1.828
Number of Observations	36
1st Order Autocorrelation	0.055

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Output Statistics											
Obs	Dependent Variable	Predicted Value	Std Error Mean Predict	Residual	Std Error Residual	Student Residual	-2-1 0 1 2	Cook's D	RStudent	Hat Diag H	Cov Ratio
1	0.1008	0.1174	0.004547	-0.0166	0.0147	-1.134	| **| |	0.031	-1.1388	0.0876	1.0563
2	0.1575	0.1723	0.005013	-0.0148	0.0145	-1.019	| **| |	0.031	-1.0198	0.1065	1.1136
3	0.1435	0.1206	0.003979	0.0229	0.0148	1.544	| |*** |	0.043	1.5797	0.0671	0.8930
4	0.1538	0.1689	0.004960	-0.0151	0.0145	-1.040	| **| |	0.031	-1.0415	0.1042	1.1046
5	0.1382	0.1279	0.004991	0.0103	0.0145	0.707	| |* |	0.015	0.7017	0.1055	1.1918
6	0.1765	0.1730	0.004897	0.003574	0.0146	0.245	| | |	0.002	0.2418	0.1016	1.2543
7	0.1096	0.1151	0.005230	-0.005410	0.0144	-0.375	| | |	0.005	-0.3695	0.1159	1.2619
8	0.1575	0.1288	0.004850	0.0287	0.0146	1.966	| |*** |	0.107	2.0634	0.0997	0.7537
9	0.1666	0.1762	0.004653	-0.009627	0.0146	-0.658	| *| |	0.011	-0.6517	0.0918	1.1839
10	0.1708	0.1636	0.005075	0.007161	0.0145	0.494	| | |	0.007	0.4880	0.1092	1.2361
11	0.1001	0.1176	0.004489	-0.0175	0.0147	-1.191	| **| |	0.033	-1.1995	0.0854	1.0354
12	0.1479	0.1774	0.004694	-0.0295	0.0146	-2.014	| ****| |	0.104	-2.1213	0.0934	0.7282
13	0.1126	0.1277	0.005039	-0.0150	0.0145	-1.037	| **| |	0.032	-1.0381	0.1076	1.1098
14	0.1600	0.1616	0.005436	-0.001631	0.0144	-0.114	| | |	0.000	-0.1118	0.1252	1.2959
15	0.1666	0.1743	0.004732	-0.007733	0.0146	-0.529	| *| |	0.007	-0.5231	0.0949	1.2111
16	0.1068	0.1169	0.004667	-0.0102	0.0146	-0.694	| *| |	0.012	-0.6879	0.0923	1.1773
17	0.1826	0.1785	0.004794	0.004144	0.0146	0.284	| | |	0.002	0.2798	0.0974	1.2453
18	0.1206	0.1161	0.004920	0.004512	0.0146	0.310	| | |	0.003	0.3056	0.1026	1.2501
19	0.1157	0.1151	0.005209	0.000572	0.0145	0.0395	| | |	0.000	0.0389	0.1150	1.2827
20	0.1352	0.1405	0.006333	-0.005318	0.0140	-0.380	| | |	0.007	-0.3748	0.1700	1.3434
21	0.1941	0.1745	0.006133	0.0196	0.0141	1.392	| |** |	0.092	1.4136	0.1594	1.0521
22	0.1842	0.1746	0.004713	0.009637	0.0146	0.659	| |* |	0.011	0.6532	0.0941	1.1867
23	0.1435	0.1261	0.005376	0.0174	0.0144	1.208	| |** |	0.051	1.2174	0.1225	1.0734
24	0.1313	0.1335	0.006728	-0.002257	0.0138	-0.163	| | |	0.002	-0.1610	0.1918	1.4002
25	0.1075	0.1220	0.003898	-0.0145	0.0149	-0.976	| *| |	0.016	-0.9753	0.0644	1.0754
26	0.1626	0.1638	0.005047	-0.001200	0.0145	-0.0827	| | |	0.000	-0.0814	0.1080	1.2717
27	0.2011	0.1808	0.005183	0.0203	0.0145	1.402	| |** |	0.063	1.4247	0.1138	0.9942
28	0.1424	0.1267	0.004463	0.0157	0.0147	1.067	| |** |	0.026	1.0691	0.0844	1.0729
29	0.1526	0.1351	0.004942	0.0175	0.0145	1.205	| |** |	0.042	1.2136	0.1035	1.0519
30	0.1413	0.1246	0.004060	0.0167	0.0148	1.130	| |** |	0.024	1.1349	0.0699	1.0373
31	0.1119	0.1297	0.004745	-0.0179	0.0146	-1.222	| **| |	0.039	-1.2322	0.0954	1.0367
32	0.1890	0.1650	0.004916	0.0240	0.0146	1.652	| |*** |	0.078	1.7005	0.1024	0.8854
33	0.1206	0.1248	0.004094	-0.004262	0.0148	-0.288	| | |	0.002	-0.2837	0.0710	1.2096

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Output Statistics					
		DFBETAS			
Obs	DFFITS	Intercept	x1	x3	x4
1	-0.3529	-0.1705	0.1819	-0.1366	-0.1812
2	-0.3521	-0.1706	0.1310	0.1887	0.1477
3	0.4237	0.0718	-0.0862	0.1928	0.2225
4	-0.3553	0.0586	-0.0764	0.2420	-0.1843
5	0.2410	0.0966	-0.0872	0.1239	-0.1399
6	0.0813	0.0348	-0.0253	-0.0444	-0.0358
7	-0.1338	-0.0853	0.0893	-0.0441	-0.0644
8	0.6866	0.2220	-0.1938	0.3653	-0.4199
9	-0.2071	-0.0233	-0.0025	0.1168	0.1073
10	0.1708	0.0587	-0.0510	-0.1166	0.1005
11	-0.3666	-0.1702	0.1821	-0.1440	-0.1892
12	-0.6808	0.0054	-0.0900	0.3778	0.3626
13	-0.3604	-0.1523	0.1383	-0.1832	0.2057
14	-0.0423	-0.0209	0.0192	0.0272	-0.0244
15	-0.1694	-0.0514	0.0309	0.0950	0.0810
16	-0.2194	-0.1138	0.1208	-0.0824	-0.1115
17	0.0919	-0.0109	0.0221	-0.0496	-0.0496
18	0.1033	0.0599	-0.0631	0.0365	0.0513
19	0.0140	0.0089	-0.0093	0.0046	0.0068
20	-0.1696	0.1086	-0.1151	-0.0741	0.1037
21	0.6155	-0.3506	0.3776	-0.3301	0.2150
22	0.2106	0.0591	-0.0336	-0.1184	-0.1019
23	0.4548	0.2438	-0.2278	0.2146	-0.2330
24	-0.0784	0.0649	-0.0639	-0.0235	-0.0126
25	-0.2558	0.0009	0.0076	-0.1204	-0.1299
26	-0.0283	-0.0092	0.0080	0.0194	-0.0167
27	0.5106	-0.1662	0.2249	-0.2512	-0.2726
28	0.3246	-0.1664	0.1583	0.1389	0.1172
29	0.4123	-0.1204	0.1390	0.2236	-0.2880
30	0.3110	-0.0968	0.0875	0.1437	0.1361
31	-0.4002	-0.0958	0.0787	-0.2188	0.2560
32	0.5743	0.1252	-0.0979	-0.4020	0.3363
33	-0.0784	0.0263	-0.0241	-0.0360	-0.0337

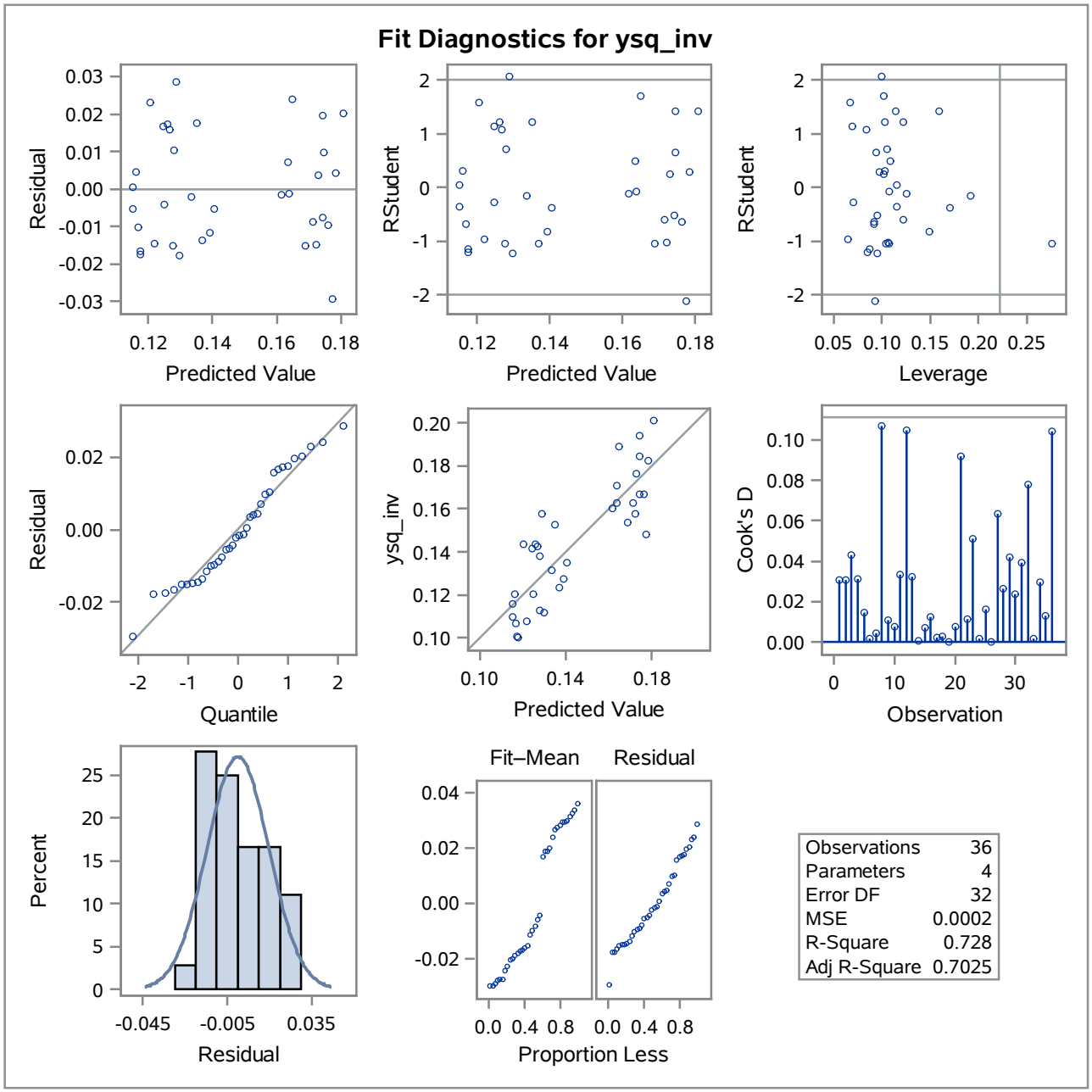
The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Output Statistics											
Obs	Dependent Variable	Predicted Value	Std Error Mean Predict	Residual	Std Error Residual	Student Residual	-2-1 0 1 2	Cook's D	RStudent	Hat Diag H	Cov Ratio
34	0.1276	0.1392	0.005924	-0.0116	0.0142	-0.821	| *| |	0.029	-0.8166	0.1487	1.2249
35	0.1626	0.1715	0.005366	-0.008877	0.0144	-0.617	| *| |	0.013	-0.6107	0.1220	1.2328
36	0.1231	0.1368	0.008069	-0.0137	0.0131	-1.046	| **| |	0.104	-1.0477	0.2759	1.3643

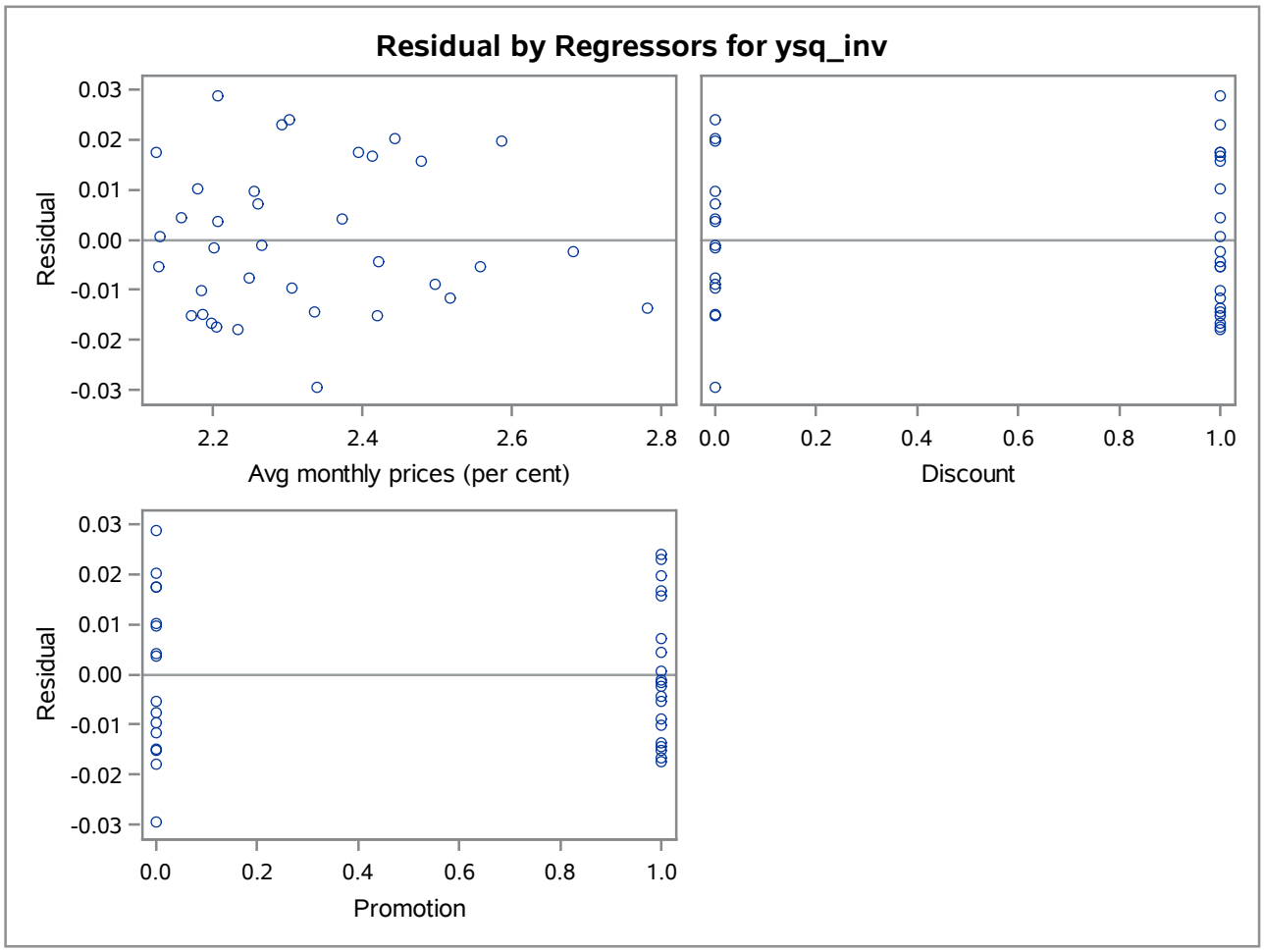
The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Output Statistics					
		DFBETAS			
Obs	DFFITS	Intercept	x1	x3	x4
34	-0.3413	0.1975	-0.2113	-0.1582	0.2173
35	-0.2276	0.0870	-0.0980	0.1416	-0.1007
36	-0.6468	0.5723	-0.5664	-0.1660	-0.0664

Sum of Residuals	0
Sum of Squared Residuals	0.00755
Predicted Residual SS (PRESS)	0.00946

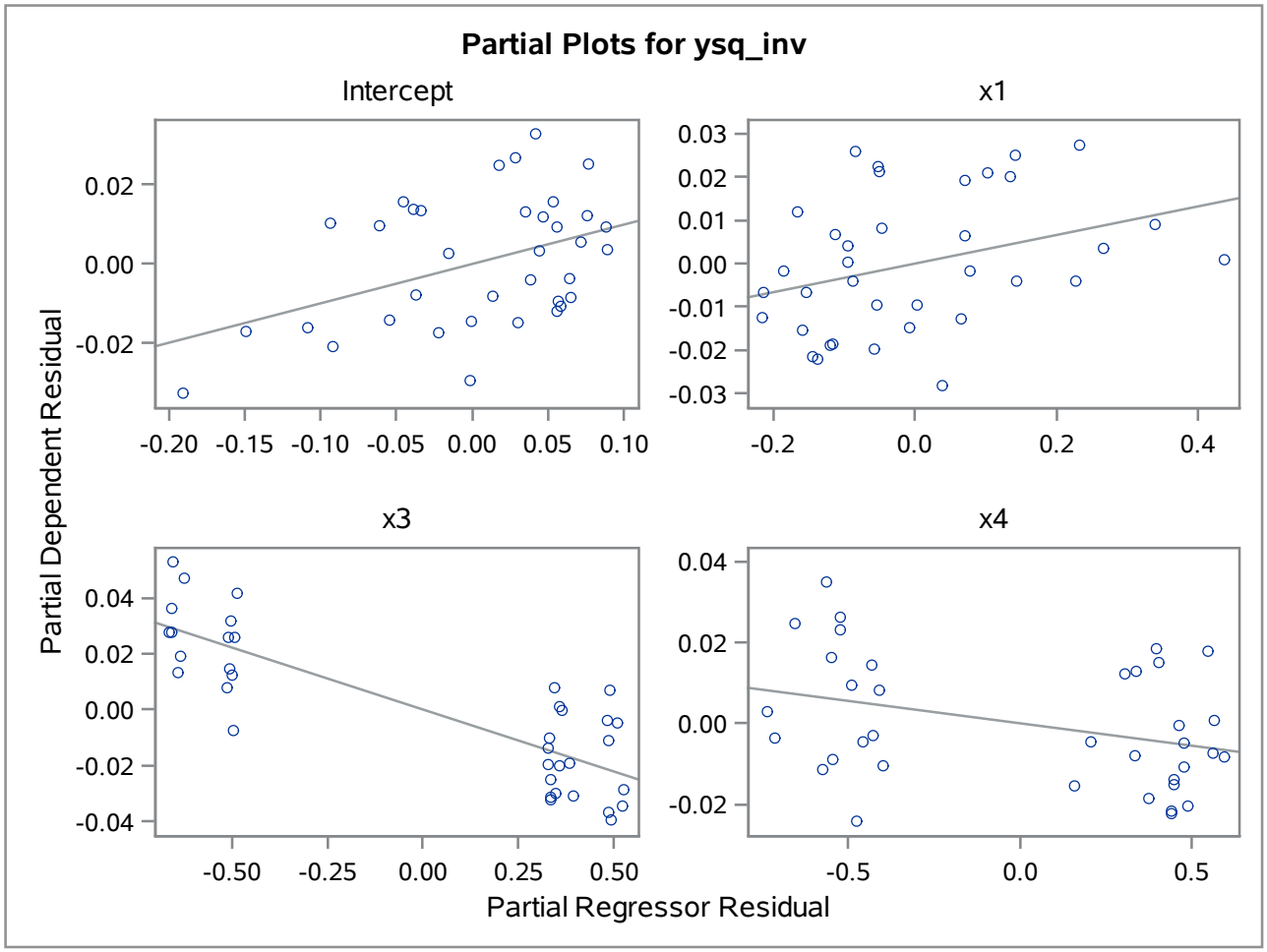


The REG Procedure
Model: MODEL1

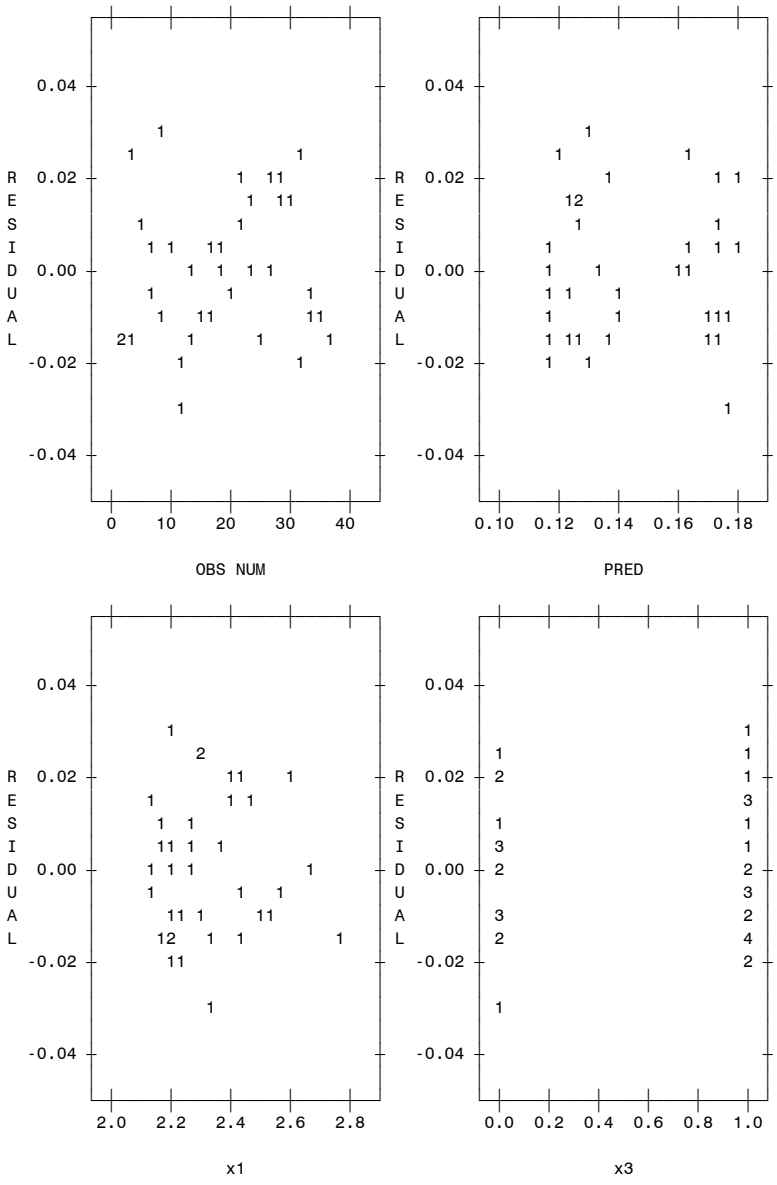


The SAS System

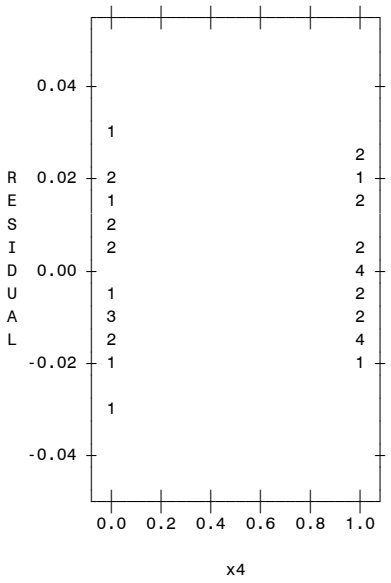
The REG Procedure
Model: MODEL1
Partial Regression Residual Plot



The REG Procedure
Model: MODEL1



The REG Procedure
Model: MODEL1



Obs	y	x1	x2	x3	x4	ysq_inv	yhat	stdp	resid	stdr	student	cookd
1	3.15	2.198	498	1	1	0.10078	0.11741	.004546624	-0.016633	0.014673	-1.13355	0.03084
2	2.52	2.186	510	0	0	0.15747	0.17227	.005012759	-0.014799	0.014521	-1.01918	0.03095
3	2.64	2.293	422	1	1	0.14348	0.12057	.003979489	0.022909	0.014837	1.54401	0.04287
4	2.55	2.420	858	0	1	0.15379	0.16891	.004959561	-0.015122	0.014539	-1.04012	0.03147
5	2.69	2.179	566	1	0	0.13820	0.12792	.004990597	0.010276	0.014528	0.70733	0.01476
6	2.38	2.207	536	0	0	0.17654	0.17297	.004896757	0.003574	0.014560	0.24544	0.00170
7	3.02	2.127	585	1	1	0.10964	0.11505	.005230307	-0.005410	0.014444	-0.37457	0.00460
8	2.52	2.206	310	1	0	0.15747	0.12882	.004850047	0.028653	0.014576	1.96581	0.10696
9	2.45	2.305	211	0	0	0.16660	0.17622	.004653165	-0.009627	0.014640	-0.65759	0.01092
10	2.42	2.260	504	0	1	0.17075	0.16359	.005075308	0.007161	0.014499	0.49392	0.00747
11	3.16	2.205	234	1	1	0.10014	0.11765	.004489434	-0.017503	0.014691	-1.19138	0.03314
12	2.60	2.340	347	0	0	0.14793	0.17739	.004694021	-0.029459	0.014627	-2.01400	0.10443
13	2.98	2.171	430	1	0	0.11261	0.12765	.005038730	-0.015046	0.014512	-1.03682	0.03240
14	2.50	2.201	518	0	1	0.16000	0.16163	.005436283	-0.001631	0.014368	-0.11353	0.00046
15	2.45	2.248	465	0	0	0.16660	0.17433	.004732459	-0.007733	0.014615	-0.52912	0.00734
16	3.06	2.184	684	1	1	0.10680	0.11695	.004667112	-0.010152	0.014636	-0.69368	0.01223
17	2.34	2.373	152	0	0	0.18263	0.17848	.004793589	0.004144	0.014595	0.28395	0.00217
18	2.88	2.157	453	1	1	0.12056	0.11605	.004920499	0.004512	0.014552	0.31003	0.00275

Obs	leverage	press	rstudent	dffits	covratio
1	0.08760	-0.018230	-1.13880	-0.35286	1.05627
2	0.10648	-0.016563	-1.01981	-0.35205	1.11359
3	0.06711	0.024557	1.57968	0.42368	0.89295
4	0.10423	-0.016882	-1.04150	-0.35528	1.10462
5	0.10554	0.011489	0.70170	0.24104	1.19184
6	0.10161	0.003978	0.24180	0.08132	1.25434
7	0.11592	-0.006120	-0.36948	-0.13379	1.26192
8	0.09968	0.031826	2.06345	0.68660	0.75367
9	0.09175	-0.010600	-0.65166	-0.20712	1.18390
10	0.10916	0.008039	0.48800	0.17082	1.23611
11	0.08541	-0.019137	-1.19952	-0.36656	1.03541
12	0.09337	-0.032492	-2.12127	-0.68075	0.72823
13	0.10759	-0.016860	-1.03808	-0.36044	1.10975
14	0.12524	-0.001865	-0.11177	-0.04229	1.29587
15	0.09491	-0.008544	-0.52308	-0.16938	1.21114
16	0.09230	-0.011185	-0.68794	-0.21938	1.17731
17	0.09737	0.004591	0.27983	0.09191	1.24527
18	0.10260	0.005028	0.30561	0.10333	1.25009

Obs	y	x1	x2	x3	x4	ysq_inv	yhat	stdp	resid	stdr	student	cookd
19	2.94	2.129	485	1	1	0.11569	0.11512	.005208826	0.000572	0.014452	0.03955	0.00005
20	2.72	2.557	78	1	0	0.13516	0.14048	.006333041	-0.005318	0.013995	-0.37995	0.00739
21	2.27	2.587	72	0	1	0.19407	0.17446	.006132816	0.019606	0.014084	1.39204	0.09185
22	2.33	2.255	391	0	0	0.18420	0.17456	.004713129	0.009637	0.014621	0.65910	0.01129
23	2.64	2.124	322	1	0	0.14348	0.12609	.005375723	0.017389	0.014390	1.20834	0.05094
24	2.76	2.683	317	1	1	0.13127	0.13353	.006727708	-0.002257	0.013810	-0.16347	0.00159
25	3.05	2.336	252	1	1	0.10750	0.12200	.003897890	-0.014502	0.014859	-0.97600	0.01639
26	2.48	2.266	446	0	1	0.16259	0.16379	.005047224	-0.001200	0.014509	-0.08273	0.00021
27	2.23	2.443	521	0	0	0.20109	0.18081	.005182725	0.020279	0.014461	1.40234	0.06315
28	2.65	2.478	435	1	1	0.14240	0.12672	.004462580	0.015680	0.014699	1.06672	0.02622
29	2.56	2.394	402	1	0	0.15259	0.13506	.004941918	0.017523	0.014545	1.20474	0.04189
30	2.66	2.414	468	1	1	0.14133	0.12459	.004060335	0.016738	0.014815	1.12979	0.02397
31	2.99	2.233	262	1	0	0.11186	0.12971	.004745492	-0.017859	0.014610	-1.22233	0.03941
32	2.30	2.302	182	0	1	0.18904	0.16499	.004915560	0.024048	0.014554	1.65234	0.07786
33	2.88	2.421	145	1	1	0.12056	0.12483	.004093573	-0.004262	0.014806	-0.28785	0.00158
34	2.80	2.518	270	1	0	0.12755	0.13919	.005924081	-0.011635	0.014173	-0.82089	0.02943
35	2.48	2.497	322	0	1	0.16259	0.17147	.005365857	-0.008877	0.014394	-0.61674	0.01321
36	2.85	2.781	317	1	1	0.12311	0.13679	.008069395	-0.013675	0.013072	-1.04613	0.10426

Obs	leverage	press	rstudent	dffits	covratio
19	0.11497	0.000646	0.03893	0.01403	1.28266
20	0.16996	-0.006406	-0.37481	-0.16960	1.34338
21	0.15938	0.023323	1.41359	0.61552	1.05206
22	0.09413	0.010638	0.65317	0.21056	1.18671
23	0.12246	0.019815	1.21741	0.45478	1.07339
24	0.19180	-0.002793	-0.16096	-0.07841	1.40018
25	0.06438	-0.015500	-0.97526	-0.25584	1.07537
26	0.10795	-0.001346	-0.08144	-0.02833	1.27172
27	0.11383	0.022884	1.42473	0.51061	0.99416
28	0.08439	0.017125	1.06910	0.32457	1.07287
29	0.10349	0.019546	1.21361	0.41234	1.05188
30	0.06986	0.017995	1.13486	0.31102	1.03727
31	0.09543	-0.019743	-1.23219	-0.40022	1.03669
32	0.10239	0.026791	1.70047	0.57433	0.88541
33	0.07101	-0.004588	-0.28368	-0.07843	1.20959
34	0.14872	-0.013667	-0.81660	-0.34132	1.22492
35	0.12201	-0.010111	-0.61066	-0.22764	1.23280
36	0.27593	-0.018886	-1.04772	-0.64678	1.36435

The SAS System

The UNIVARIATE Procedure
Variable: resid (Residual)

Moments			
N	36	**Sum Weights**	36
Mean	0	**Sum Observations**	0
Std Deviation	0.01468858	**Variance**	0.00021575
Skewness	0.23917072	**Kurtosis**	-0.9043239
Uncorrected SS	0.0075514	**Corrected SS**	0.0075514
Coeff Variation	.	**Std Error Mean**	0.0024481

Basic Statistical Measures			
Location		**Variability**	
Mean	0.00000	**Std Deviation**	0.01469
Median	-0.00194	**Variance**	0.0002158
Mode	.	**Range**	0.05811
		Interquartile Range	0.02563

Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	0	**Pr > |t|**	1.0000
Sign	**M**	-2	**Pr >= |M|**	0.6177
Signed Rank	**S**	1	**Pr >= |S|**	0.9877

Tests for Normality				
Test	**Statistic**		**p Value**	
Shapiro-Wilk	**W**	0.958001	**Pr < W**	0.1864
Kolmogorov-Smirnov	**D**	0.107124	**Pr > D**	>0.1500
Cramer-von Mises	**W-Sq**	0.089349	**Pr > W-Sq**	0.1524
Anderson-Darling	**A-Sq**	0.581066	**Pr > A-Sq**	0.1263

Quantiles (Definition 5)	
Level	**Quantile**
100% Max	0.02865349
99%	0.02865349
95%	0.02404810
90%	0.02027924
75% Q3	0.01297814
50% Median	-0.00194435
25% Q1	-0.01265465

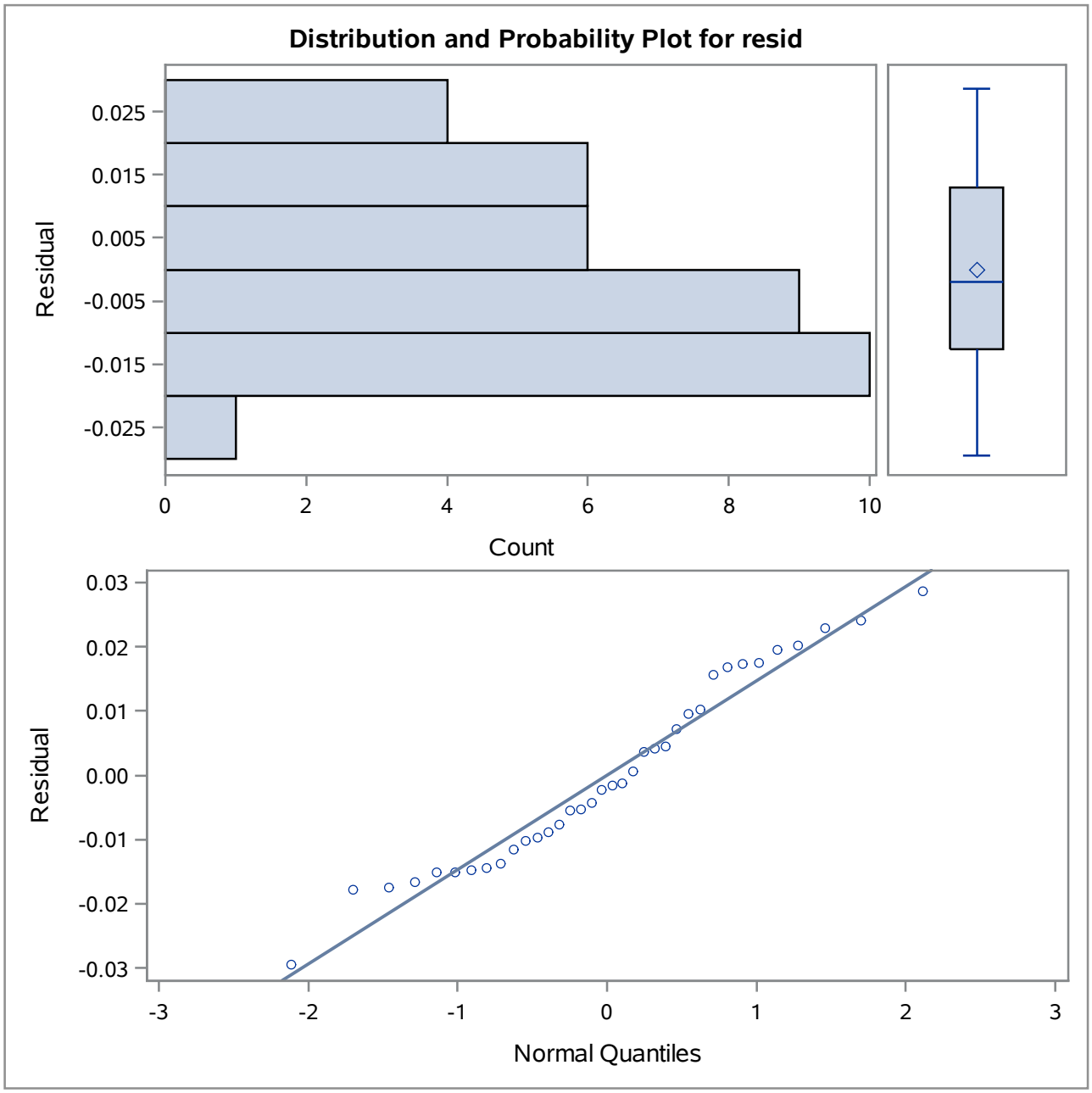
The SAS System

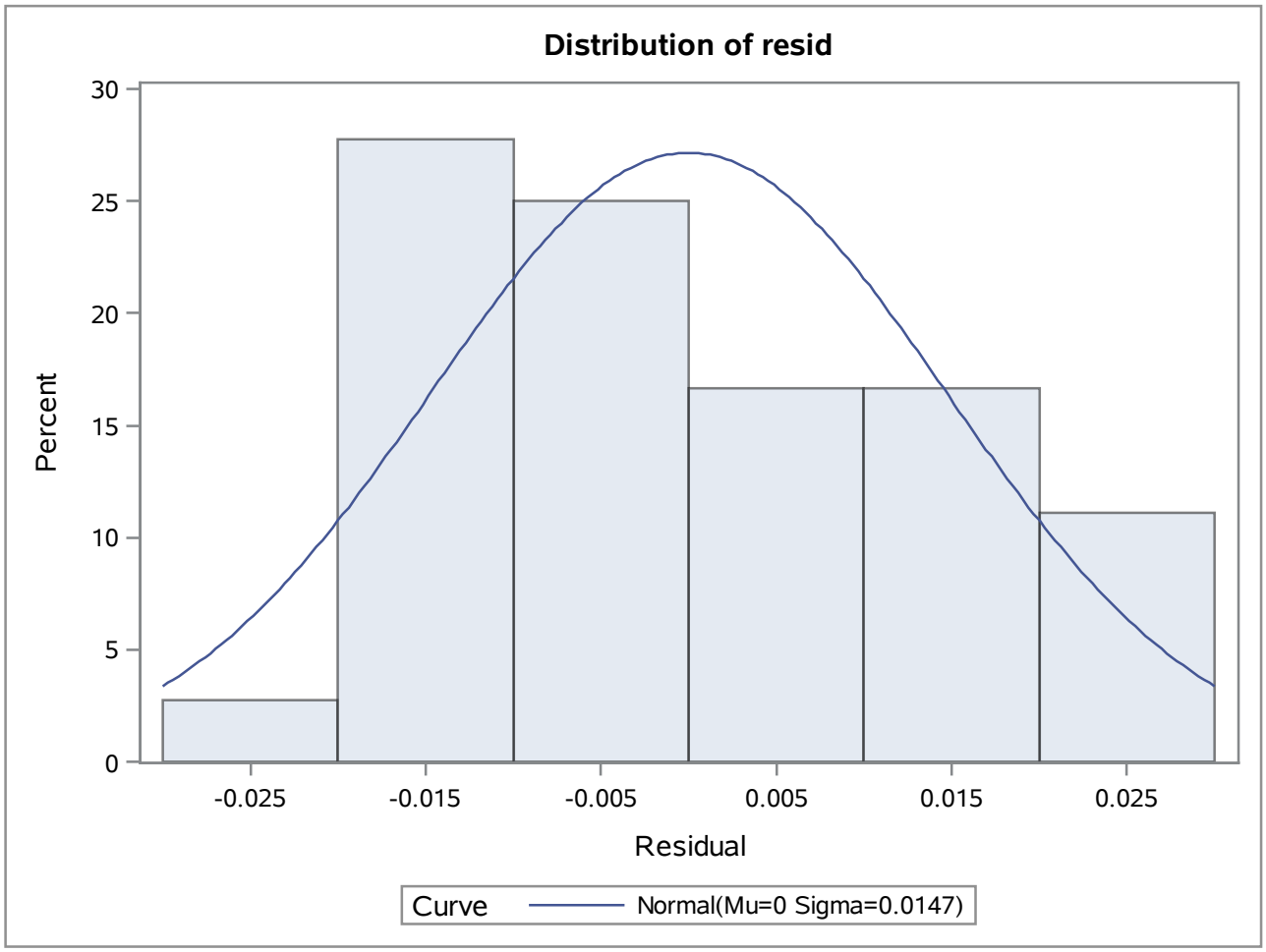
The UNIVARIATE Procedure
Variable: resid (Residual)

Quantiles (Definition 5)	
Level	**Quantile**
10%	-0.01663308
5%	-0.01785865
1%	-0.02945861
0% Min	-0.02945861

Extreme Observations			
Lowest		**Highest**	
Value	**Obs**	**Value**	**Obs**
-0.0294586	12	0.0196061	21
-0.0178586	31	0.0202792	27
-0.0175026	11	0.0229089	3
-0.0166331	1	0.0240481	32
-0.0151224	4	0.0286535	8

The UNIVARIATE Procedure




Distribution of resid
Percent
30
25
20
15
10
5
0
-0.025
-0.015
-0.005
0.005
0.015
0.025
Residual
Curve
Normal(Mu=0 Sigma=0.0147)

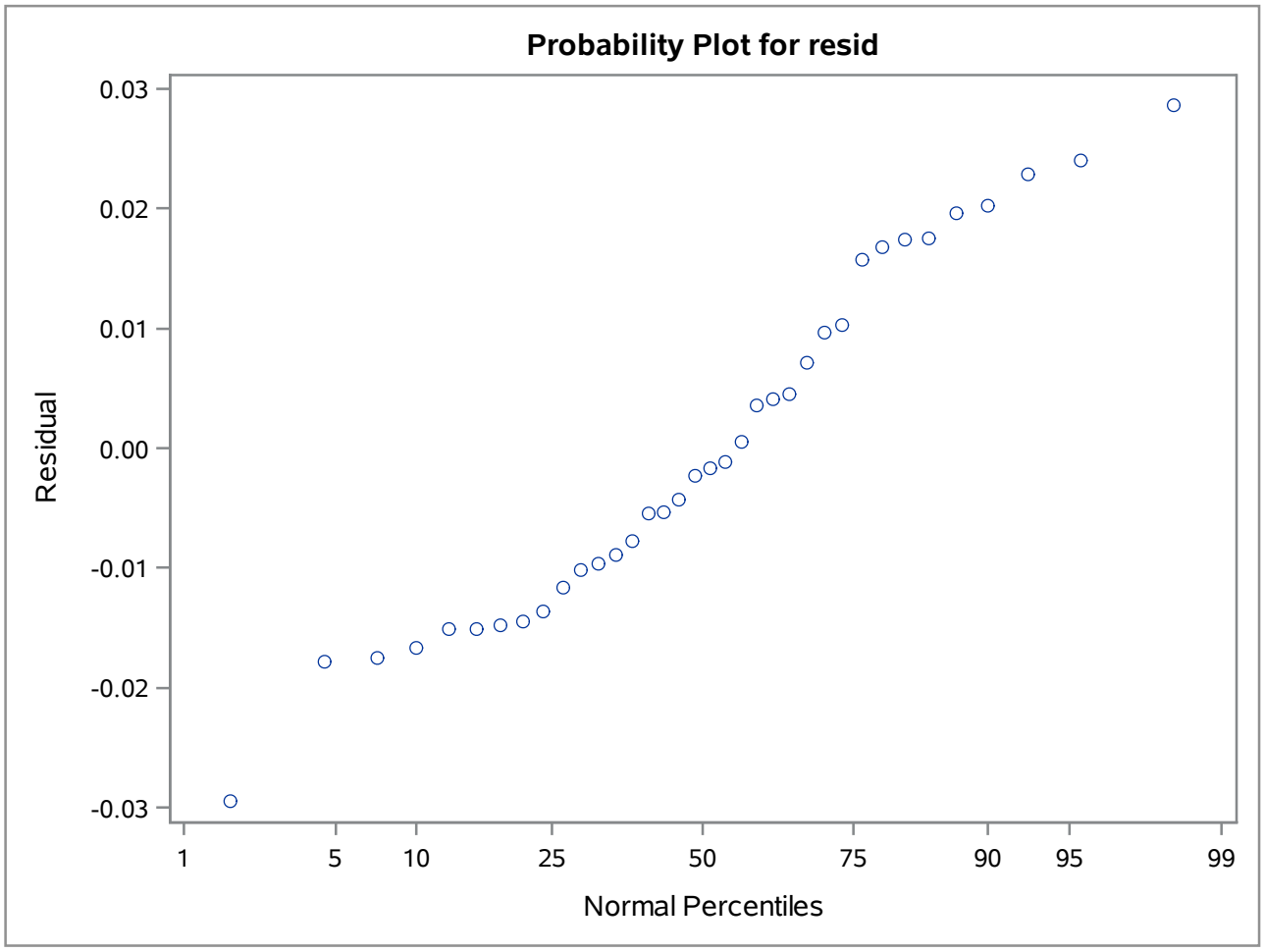
The SAS System

The UNIVARIATE Procedure
Fitted Normal Distribution for resid (Residual)

Parameters for Normal Distribution		
Parameter	**Symbol**	**Estimate**
Mean	Mu	0
Std Dev	Sigma	0.014689

Goodness-of-Fit Tests for Normal Distribution				
Test	**Statistic**		**p Value**	
Kolmogorov-Smirnov	**D**	0.10712443	**Pr > D**	>0.150
Cramer-von Mises	**W-Sq**	0.08934911	**Pr > W-Sq**	0.152
Anderson-Darling	**A-Sq**	0.58106635	**Pr > A-Sq**	0.126

Quantiles for Normal Distribution		
	Quantile	
Percent	**Observed**	**Estimated**
1.0	-0.02946	-0.03417
5.0	-0.01786	-0.02416
10.0	-0.01663	-0.01882
25.0	-0.01265	-0.00991
50.0	-0.00194	0.00000
75.0	0.01298	0.00991
90.0	0.02028	0.01882
95.0	0.02405	0.02416
99.0	0.02865	0.03417


Probability Plot for resid
Residual
0.03
0.02
0.01
0.00
-0.01
-0.02
-0.03
1
5
10
25
50
75
90
95
99
Normal Percentiles

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

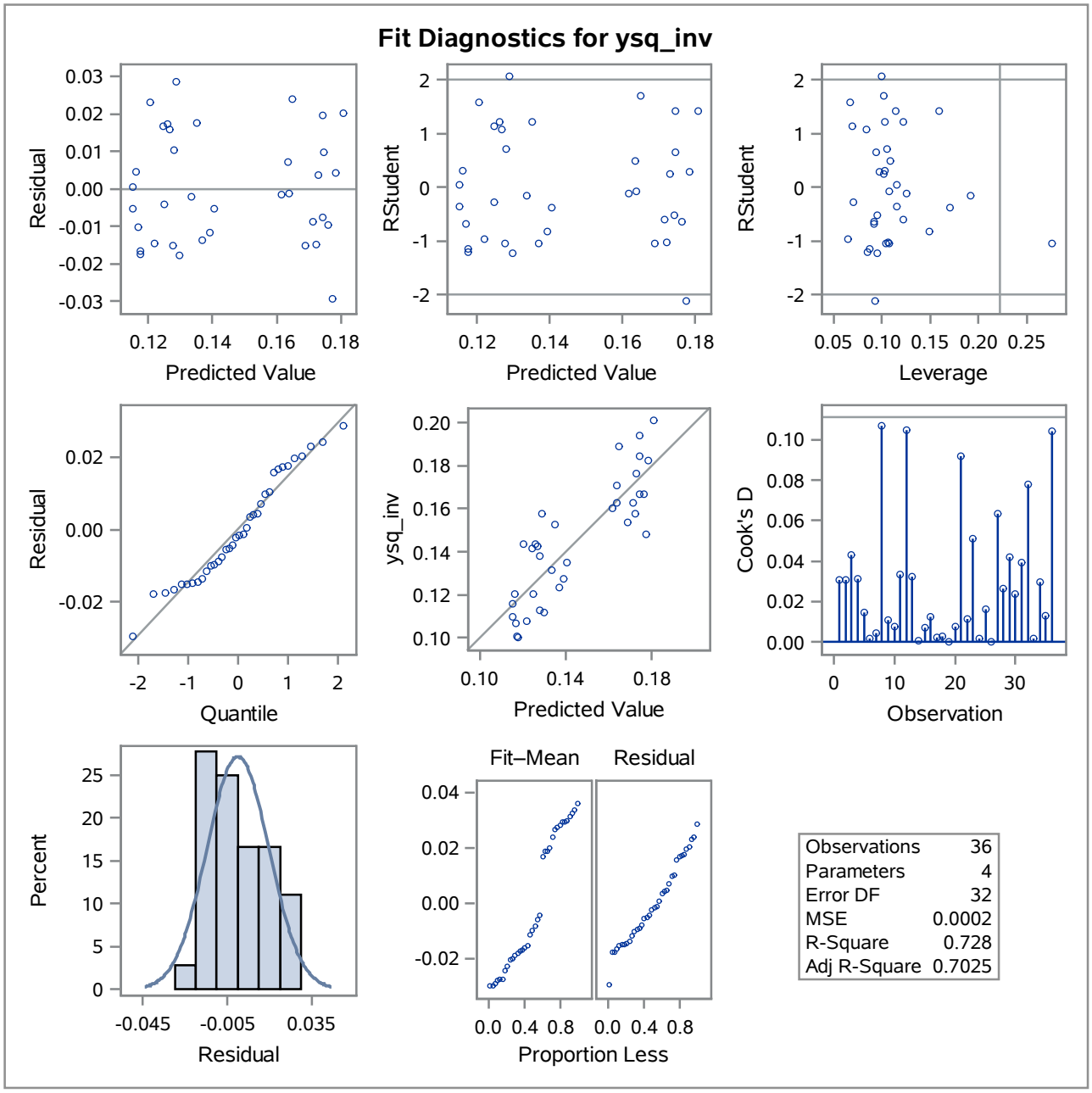
Number of Observations Read	36
Number of Observations Used	36

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	3	0.02021	0.00674	28.54	<.0001
Error	32	0.00755	0.00023598		
Corrected Total	35	0.02776			

Root MSE	0.01536	**R-Square**	0.7280
Dependent Mean	0.14495	**Adj R-Sq**	0.7025
Coeff Var	10.59817		

Parameter Estimates						
Variable	**Label**	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	Intercept	1	0.09962	0.03744	2.66	0.0121
x1	Avg monthly prices (per cent)	1	0.03323	0.01614	2.06	0.0477
x3	Discount	1	-0.04412	0.00526	-8.39	<.0001
x4	Promotion	1	-0.01114	0.00528	-2.11	0.0429

The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv



The REG Procedure
Model: MODEL1
Dependent Variable: ysq_inv

Obs	x2	ysq_inv	r	yhat
1	585	0.10964	-0.005410	0.11505
2	485	0.11569	0.000572	0.11512
3	453	0.12056	0.004512	0.11605
4	684	0.10680	-0.010152	0.11695
5	498	0.10078	-0.016633	0.11741
6	234	0.10014	-0.017503	0.11765
7	422	0.14348	0.022909	0.12057
8	252	0.10750	-0.014502	0.12200
9	468	0.14133	0.016738	0.12459
10	145	0.12056	-0.004262	0.12483
11	322	0.14348	0.017389	0.12609
12	435	0.14240	0.015680	0.12672
13	430	0.11261	-0.015046	0.12765
14	566	0.13820	0.010276	0.12792
15	310	0.15747	0.028653	0.12882
16	262	0.11186	-0.017859	0.12971
17	317	0.13127	-0.002257	0.13353
18	402	0.15259	0.017523	0.13506
19	317	0.12311	-0.013675	0.13679
20	270	0.12755	-0.011635	0.13919
21	78	0.13516	-0.005318	0.14048
22	518	0.16000	-0.001631	0.16163
23	504	0.17075	0.007161	0.16359
24	446	0.16259	-0.001200	0.16379
25	182	0.18904	0.024048	0.16499
26	858	0.15379	-0.015122	0.16891
27	322	0.16259	-0.008877	0.17147
28	510	0.15747	-0.014799	0.17227
29	536	0.17654	0.003574	0.17297
30	465	0.16660	-0.007733	0.17433
31	72	0.19407	0.019606	0.17446
32	391	0.18420	0.009637	0.17456
33	211	0.16660	-0.009627	0.17622
34	347	0.14793	-0.029459	0.17739
35	152	0.18263	0.004144	0.17848
36	521	0.20109	0.020279	0.18081

Obs	x2	ysq_inv	r	yhat	id	group
1	585	0.10964	-0.005410	0.11505	1	1
2	485	0.11569	0.000572	0.11512	2	1
3	453	0.12056	0.004512	0.11605	3	1
4	684	0.10680	-0.010152	0.11695	4	1
5	498	0.10078	-0.016633	0.11741	5	1
6	234	0.10014	-0.017503	0.11765	6	1
7	422	0.14348	0.022909	0.12057	7	1
8	252	0.10750	-0.014502	0.12200	8	1
9	468	0.14133	0.016738	0.12459	9	1
10	145	0.12056	-0.004262	0.12483	10	1
11	322	0.14348	0.017389	0.12609	11	1
12	435	0.14240	0.015680	0.12672	12	1
13	430	0.11261	-0.015046	0.12765	13	1
14	566	0.13820	0.010276	0.12792	14	1
15	310	0.15747	0.028653	0.12882	15	1
16	262	0.11186	-0.017859	0.12971	16	1
17	317	0.13127	-0.002257	0.13353	17	1
18	402	0.15259	0.017523	0.13506	18	1
19	317	0.12311	-0.013675	0.13679	19	2
20	270	0.12755	-0.011635	0.13919	20	2
21	78	0.13516	-0.005318	0.14048	21	2
22	518	0.16000	-0.001631	0.16163	22	2
23	504	0.17075	0.007161	0.16359	23	2
24	446	0.16259	-0.001200	0.16379	24	2
25	182	0.18904	0.024048	0.16499	25	2
26	858	0.15379	-0.015122	0.16891	26	2
27	322	0.16259	-0.008877	0.17147	27	2
28	510	0.15747	-0.014799	0.17227	28	2
29	536	0.17654	0.003574	0.17297	29	2
30	465	0.16660	-0.007733	0.17433	30	2
31	72	0.19407	0.019606	0.17446	31	2
32	391	0.18420	0.009637	0.17456	32	2
33	211	0.16660	-0.009627	0.17622	33	2
34	347	0.14793	-0.029459	0.17739	34	2
35	152	0.18263	0.004144	0.17848	35	2
36	521	0.20109	0.020279	0.18081	36	2

The SAS System

Obs	group	mr
1	1	-.000842981
2	2	-.003474384

Obs	group	md
1	1	0.013215
2	2	0.011215

The SAS System

The TTEST Procedure

Variable: d

group	N	Mean	Std Dev	Std Err	Minimum	Maximum
1	18	0.0132	0.00776	0.00183	0.00141	0.0295
2	18	0.0112	0.00837	0.00197	0.00184	0.0275
Diff (1-2)		0.00200	0.00807	0.00269		

group	Method	Mean	95% CL Mean		Std Dev	95% CL Std Dev	
1		0.0132	0.00936	0.0171	0.00776	0.00582	0.0116
2		0.0112	0.00705	0.0154	0.00837	0.00628	0.0125
Diff (1-2)	Pooled	0.00200	-0.00346	0.00747	0.00807	0.00653	0.0106
Diff (1-2)	Satterthwaite	0.00200	-0.00347	0.00747			

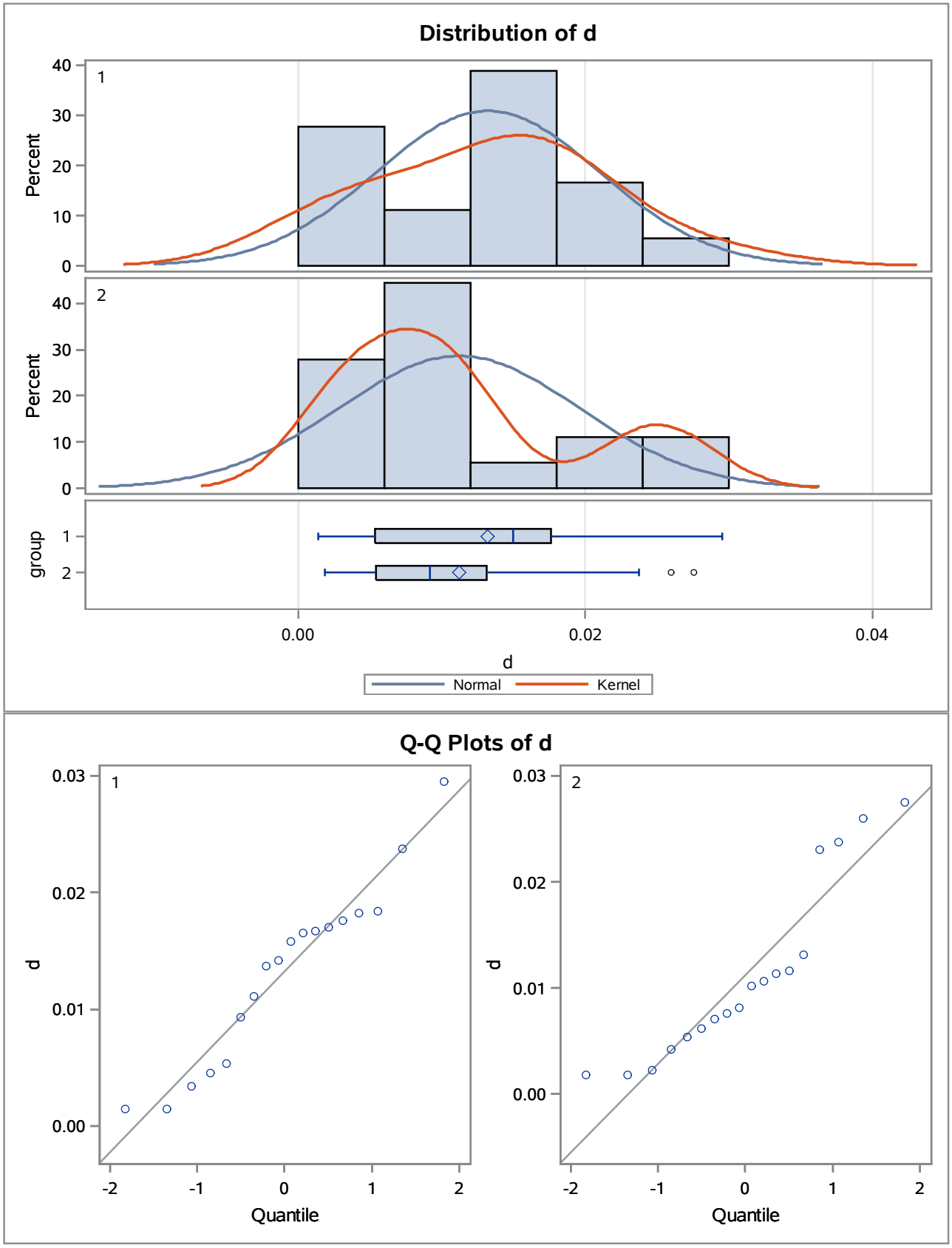
Method	Variances	DF	t Value	Pr > |t|
Pooled	Equal	34	0.74	0.4620
Satterthwaite	Unequal	33.806	0.74	0.4620

Equality of Variances				
Method	Num DF	Den DF	F Value	Pr > F
Folded F	17	17	1.16	0.7579

The SAS System

The TTEST Procedure

Variable: d



The SAS System

group=1

Obs	id	id	r	d	ddif
1	1	1	-0.005410	0.004567	.000074790
2	2	2	0.000572	0.001415	.000139260
3	3	3	0.004512	0.005355	.000061790
4	4	4	-0.010152	0.009309	.000015257
5	5	5	-0.016633	0.015790	.000006629
6	6	6	-0.017503	0.016660	.000011863
7	7	7	0.022909	0.023752	.000111019
8	8	8	-0.014502	0.013659	.000000197
9	9	9	0.016738	0.017581	.000019060
10	10	10	-0.004262	0.003419	.000095969
11	11	11	0.017389	0.018231	.000025161
12	12	12	0.015680	0.016523	.000010940
13	13	13	-0.015046	0.014203	.000000976
14	14	14	0.010276	0.011119	.000004393
15	15	15	0.028653	0.029496	.000265074
16	16	16	-0.017859	0.017016	.000014442
17	17	17	-0.002257	0.001415	.000139260
18	18	18	0.017523	0.018366	.000026529

group=2

Obs	id	id	r	d	ddif
19	19	19	-0.013675	0.010200	.000001029
20	20	20	-0.011635	0.008160	.000009328
21	21	21	-0.005318	0.001843	.000087823
22	22	22	-0.001631	0.001843	.000087823
23	23	23	0.007161	0.010636	.000000335
24	24	24	-0.001200	0.002274	.000079933
25	25	25	0.024048	0.027522	.000265949
26	26	26	-0.015122	0.011648	.000000188
27	27	27	-0.008877	0.005403	.000033775
28	28	28	-0.014799	0.011325	.000000012
29	29	29	0.003574	0.007048	.000017360
30	30	30	-0.007733	0.004258	.000048387
31	31	31	0.019606	0.023080	.000140800
32	32	32	0.009637	0.013111	.000003597
33	33	33	-0.009627	0.006153	.000025621
34	34	34	-0.029459	0.025984	.000218143

group=2

Obs	id	id	r	d	ddif
35	35	35	0.004144	0.007618	.000012932
36	36	36	0.020279	0.023754	.000157228