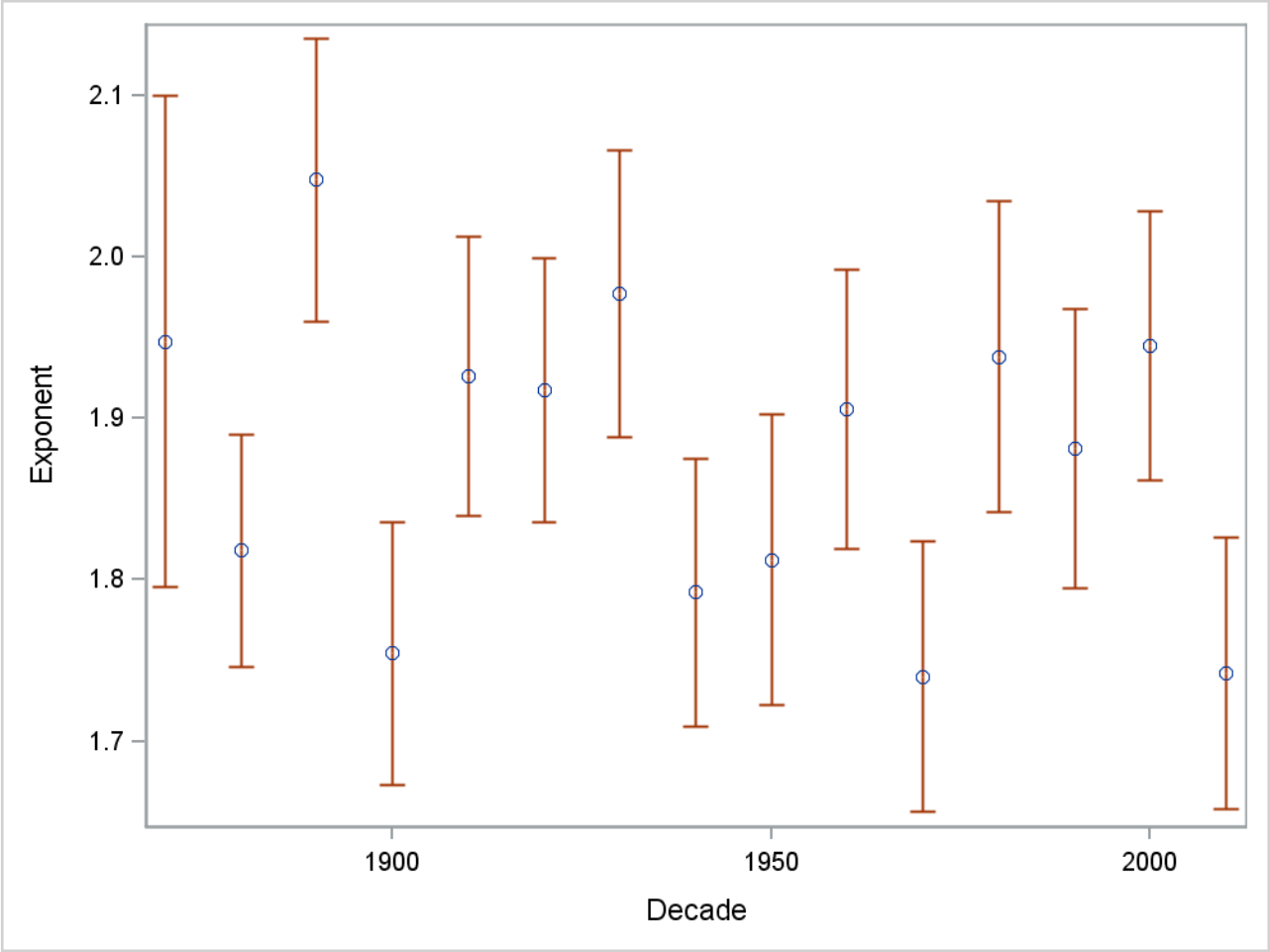
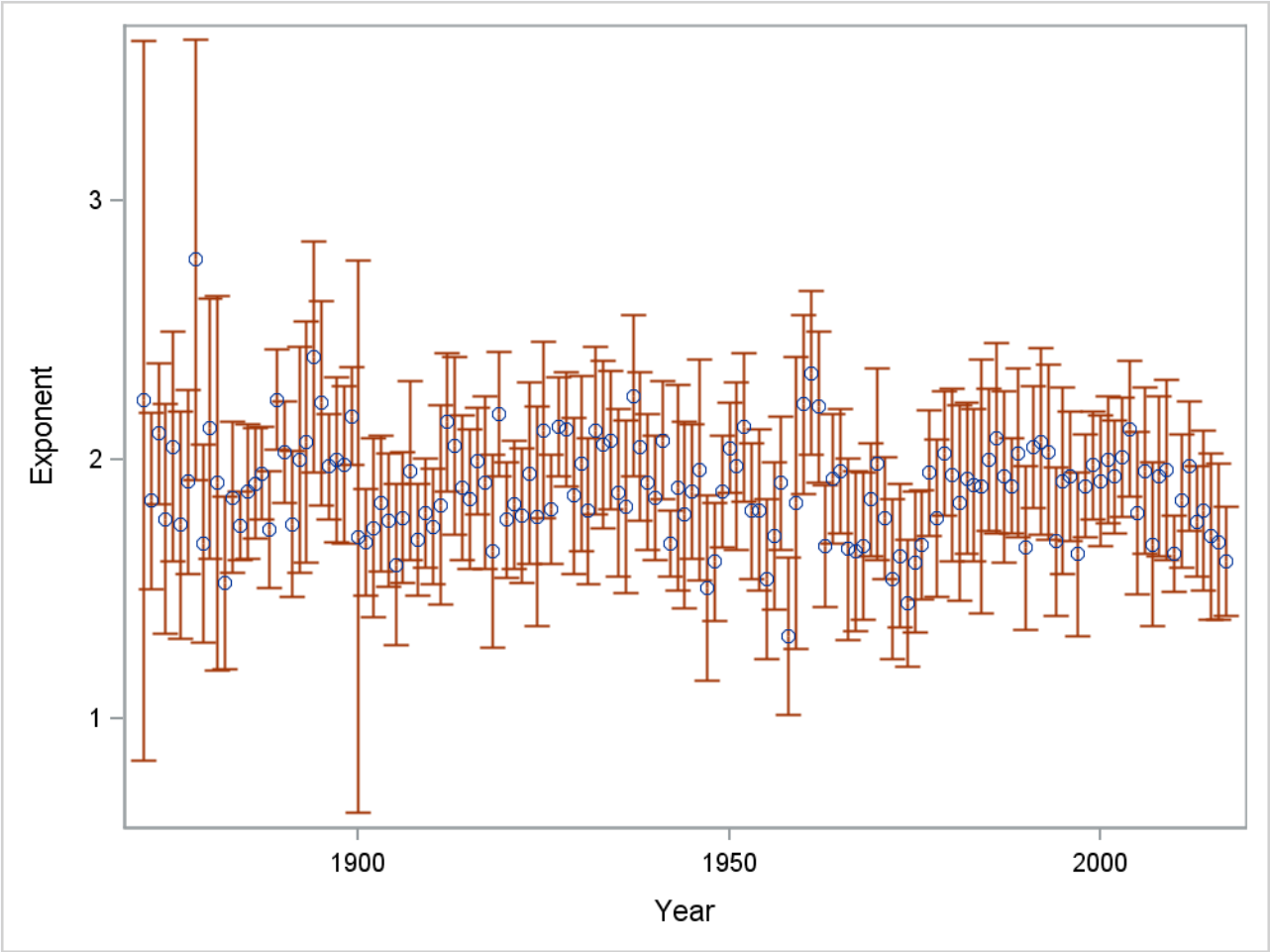
Estimates of Pythogorean Exponent by Decade

Obs	decade	Model	Dependent	Variable	DF	Estimate	StdErr	tValue	Probt	LowerCL	UpperCL
1	1870	MODEL1	log_wl	log_rra	1	1.94769	0.07626	25.54	<.0001	1.79578	2.09960
2	1880	MODEL1	log_wl	log_rra	1	1.81809	0.03650	49.81	<.0001	1.74600	1.89018
3	1890	MODEL1	log_wl	log_rra	1	2.04762	0.04431	46.21	<.0001	1.96000	2.13524
4	1900	MODEL1	log_wl	log_rra	1	1.75445	0.04108	42.71	<.0001	1.67329	1.83560
5	1910	MODEL1	log_wl	log_rra	1	1.92607	0.04399	43.79	<.0001	1.83925	2.01288
6	1920	MODEL1	log_wl	log_rra	1	1.91741	0.04154	46.15	<.0001	1.83536	1.99946
7	1930	MODEL1	log_wl	log_rra	1	1.97738	0.04498	43.96	<.0001	1.88854	2.06622
8	1940	MODEL1	log_wl	log_rra	1	1.79214	0.04186	42.81	<.0001	1.70946	1.87481
9	1950	MODEL1	log_wl	log_rra	1	1.81236	0.04572	39.64	<.0001	1.72206	1.90267
10	1960	MODEL1	log_wl	log_rra	1	1.90554	0.04396	43.34	<.0001	1.81884	1.99224
11	1970	MODEL1	log_wl	log_rra	1	1.73991	0.04245	40.99	<.0001	1.65630	1.82351
12	1980	MODEL1	log_wl	log_rra	1	1.93812	0.04885	39.68	<.0001	1.84193	2.03430
13	1990	MODEL1	log_wl	log_rra	1	1.88133	0.04398	42.78	<.0001	1.79475	1.96790
14	2000	MODEL1	log_wl	log_rra	1	1.94508	0.04248	45.79	<.0001	1.86148	2.02869
15	2010	MODEL1	log_wl	log_rra	1	1.74223	0.04283	40.68	<.0001	1.65785	1.82661



Error bars indicate the 95% CI for the exponent estimation. Notice no particular pattern throughout.

Estimates of Pythagorean Exponent by Year



The REG Procedure
Model: MODEL1
Dependent Variable: Estimate Parameter Estimate

Number of Observations Read	147
Number of Observations Used	147

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	0.17392	0.17392	4.44	0.0368
Error	145	5.67803	0.03916		
Corrected Total	146	5.85195			

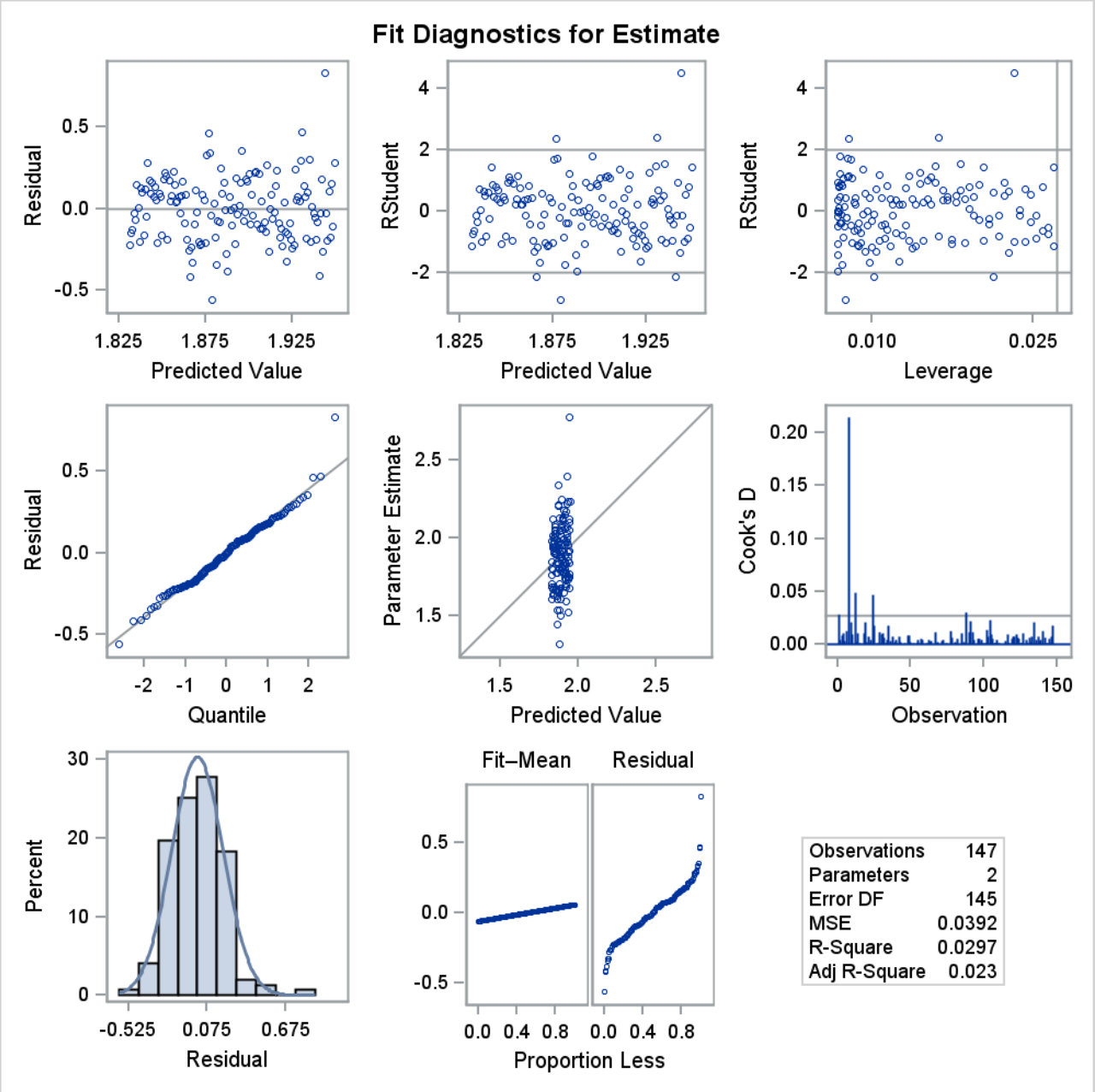
Root MSE	0.19789	R-Square	0.0297
Dependent Mean	1.89059	Adj R-Sq	0.0230
Coeff Var	10.46686		

Linear Regression of Pythagorean Exponent as a Function of Year

The REG Procedure
Model: MODEL1
Dependent Variable: Estimate Parameter Estimate

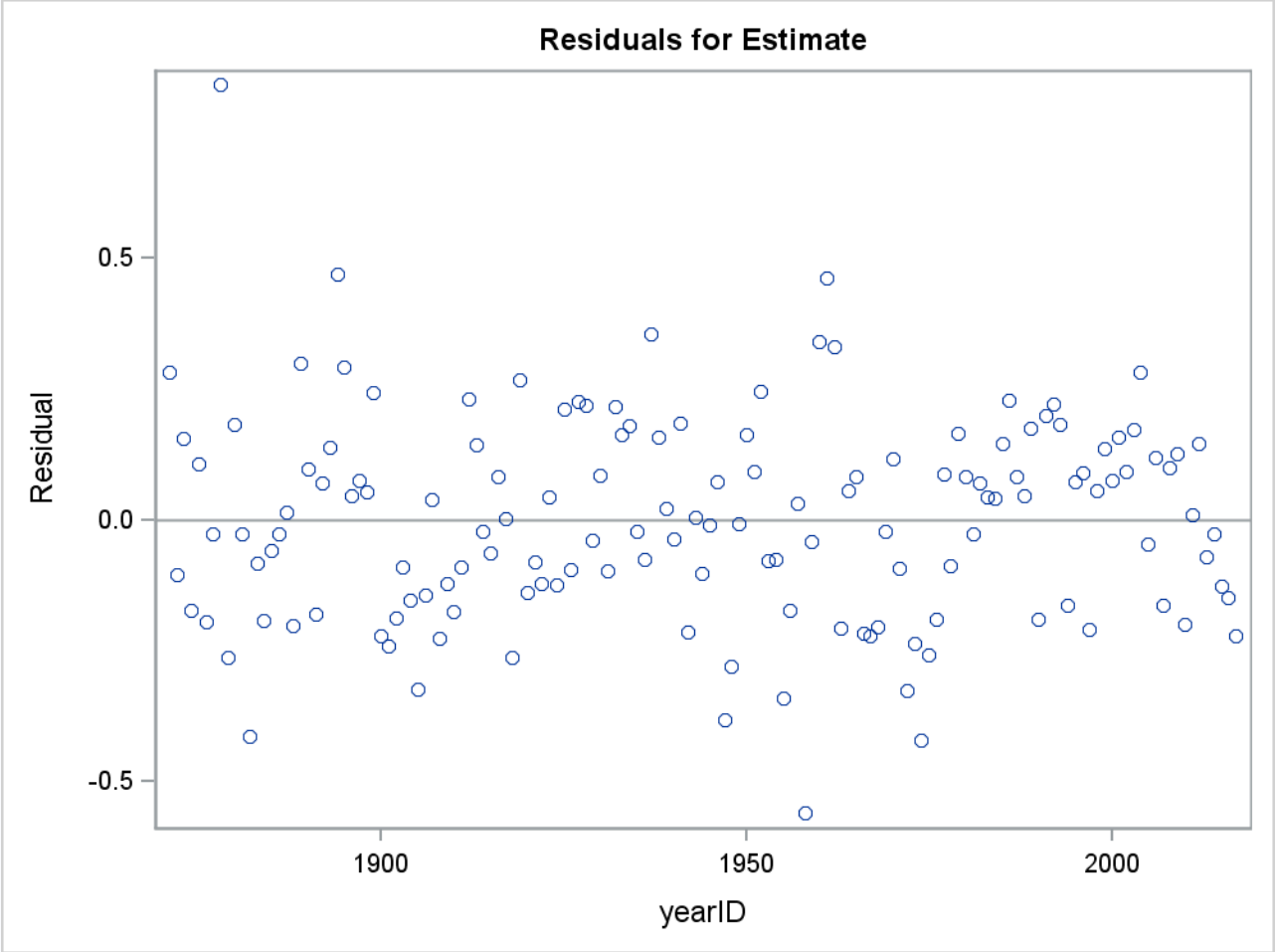
Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	95% Confidence Limits	
Intercept	Intercept	1	3.46639	0.74789	4.63	<.0001	1.98821	4.94457
yearID		1	-0.00081059	0.00038463	-2.11	0.0368	-0.00157	-0.00005039



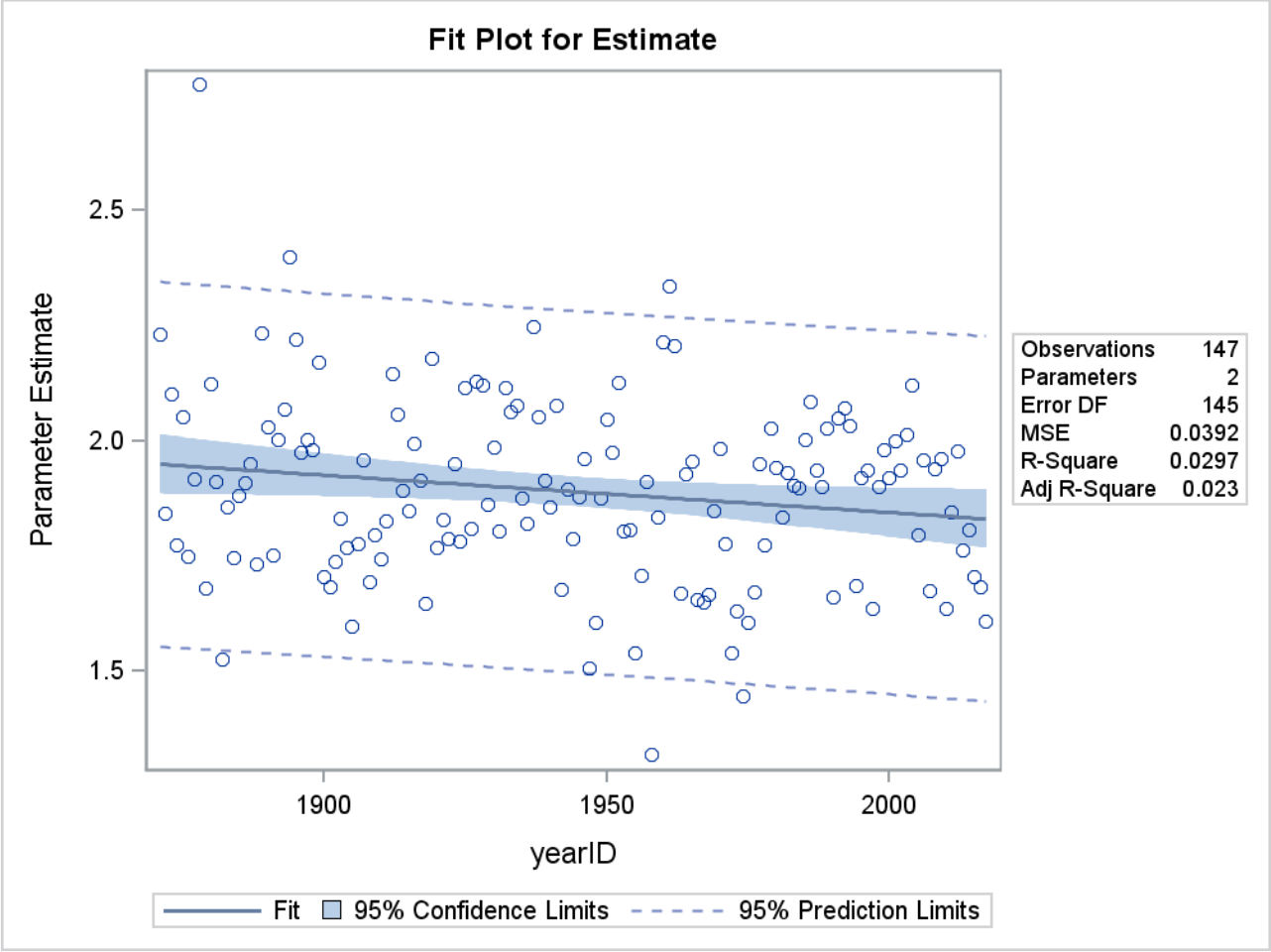
Linear Regression of Pythagorean Exponent as a Function of Year

The REG Procedure
Model: MODEL1
Dependent Variable: Estimate Parameter Estimate



Linear Regression of Pythagorean Exponent as a Function of Year

The REG Procedure
Model: MODEL1
Dependent Variable: Estimate Parameter Estimate



The REG Procedure
Model: MODEL1
Dependent Variable: Estimate Parameter Estimate

Number of Observations Read	146
Number of Observations Used	146

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	0.09331	0.09331	2.70	0.1024
Error	144	4.97273	0.03453		
Corrected Total	145	5.06604			

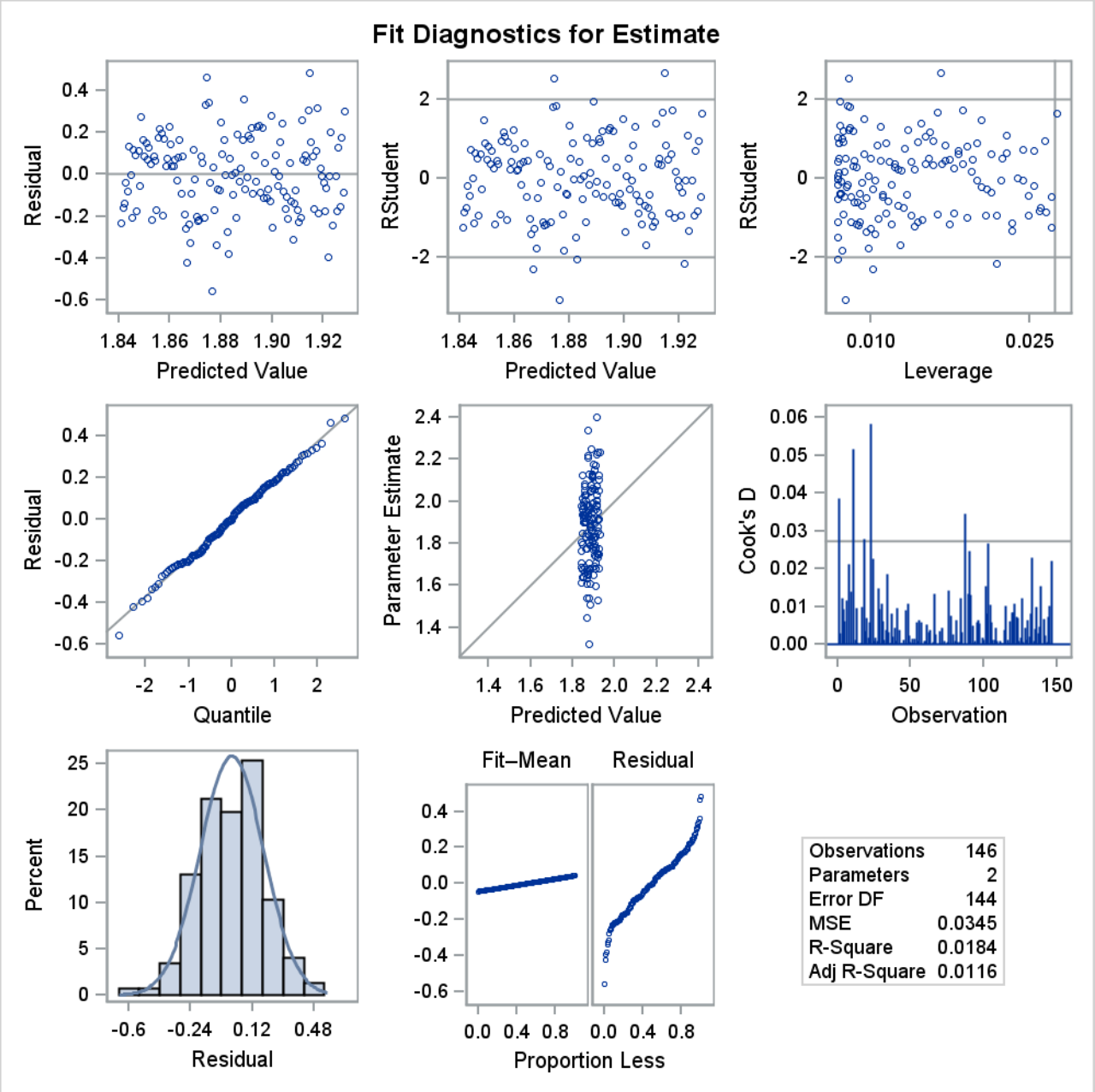
Root MSE	0.18583	**R-Square**	0.0184
Dependent Mean	1.88454	**Adj R-Sq**	0.0116
Coeff Var	9.86075		

Linear Regression of Pythagorean Exponent as a Function of Year (without 1878 outlier)

The REG Procedure
Model: MODEL1
Dependent Variable: Estimate Parameter Estimate

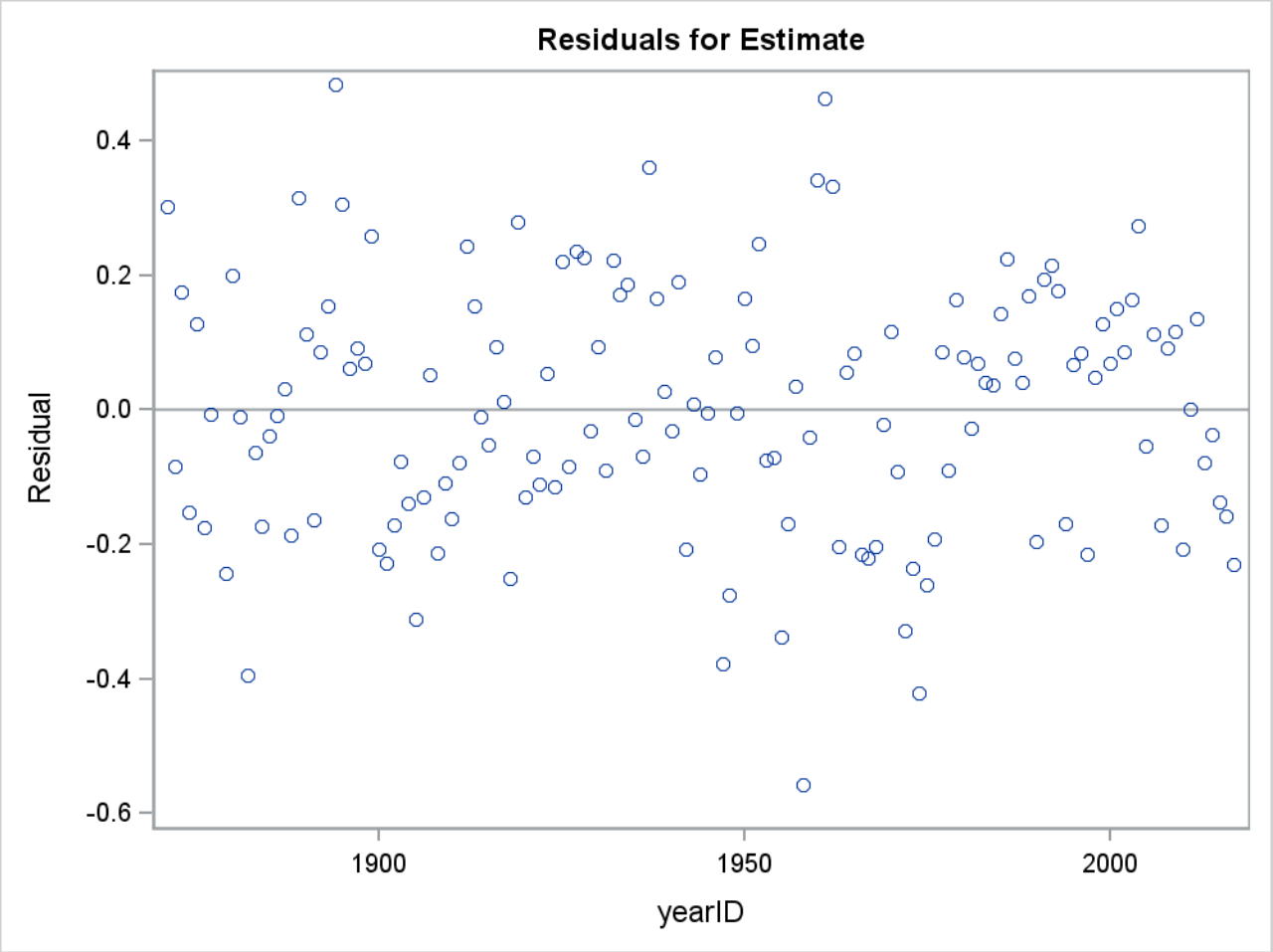
Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	95% Confidence Limits	
Intercept	Intercept	1	3.04871	0.70838	4.30	<.0001	1.64854	4.44889
yearID		1	-0.00059871	0.00036422	-1.64	0.1024	-0.00132	0.00012120



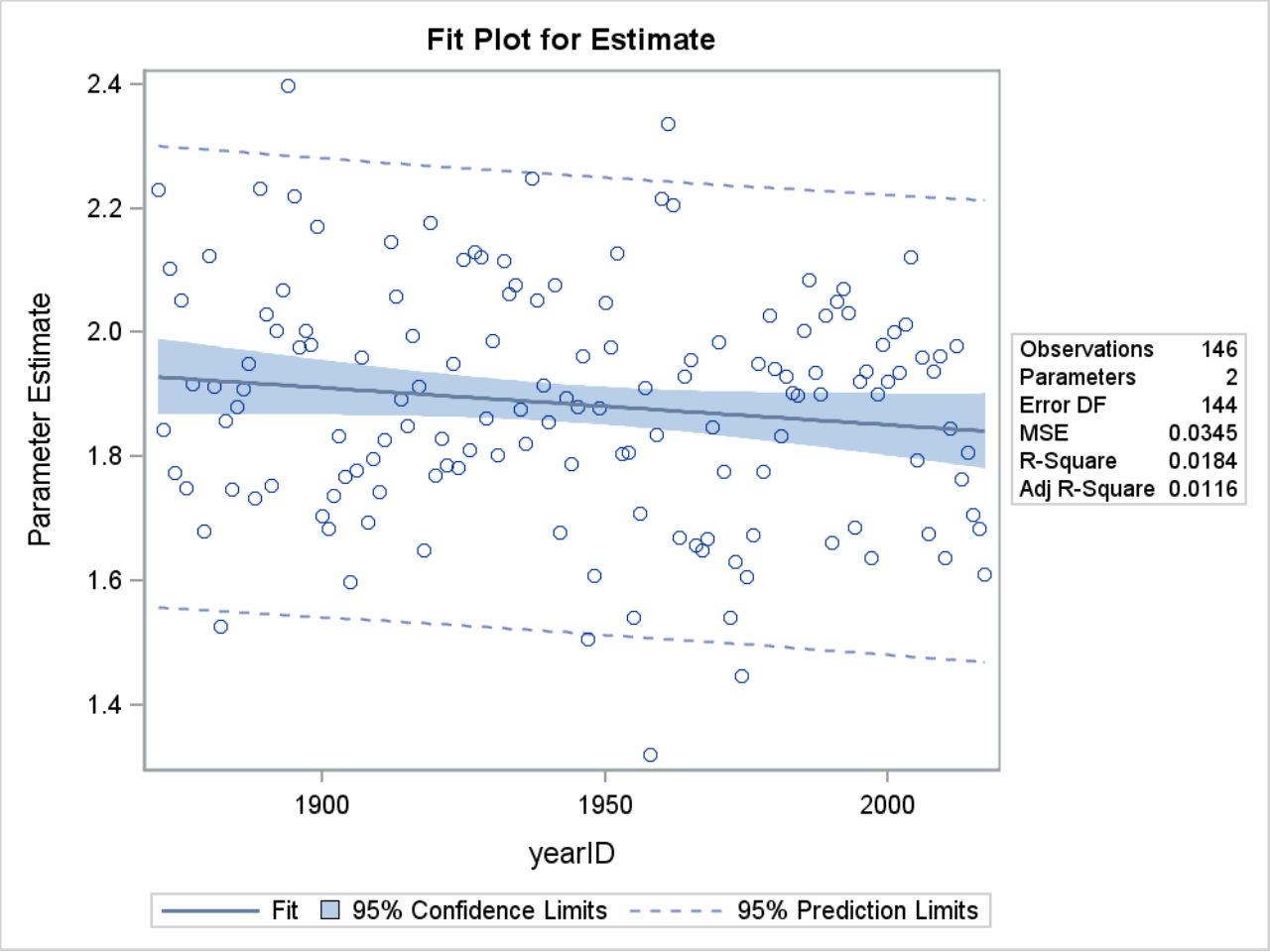
Linear Regression of Pythagorean Exponent as a Function of Year (without 1878 outlier)

The REG Procedure
Model: MODEL1
Dependent Variable: Estimate Parameter Estimate



Linear Regression of Pythagorean Exponent as a Function of Year (without 1878 outlier)

The REG Procedure
Model: MODEL1
Dependent Variable: Estimate Parameter Estimate



When the 1878 outlier is removed, the slope is no longer significant. Safe to assume variation in exponent is due to error alone.

The REG Procedure
Model: MODEL1
Dependent Variable: log_wl

Number of Observations Read	2865
Number of Observations Used	2863
Number of Observations with Missing Values	2

Note: No intercept in model. R-Square is redefined.

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	79.01866	79.01866	27702.6	<.0001
Error	2862	8.16355	0.00285		
Uncorrected Total	2863	87.18221			

Root MSE	0.05341	**R-Square**	0.9064
Dependent Mean	-0.00363	**Adj R-Sq**	0.9063
Coeff Var	-1470.81390		

Linear Regression to get Overall Exponent

The REG Procedure
Model: MODEL1
Dependent Variable: log_wl

Parameter Estimates							
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	95% Confidence Limits	
log_rra	1	1.87752	0.01128	166.44	<.0001	1.85540	1.89964

Make note of the differences in the overall exponent estimation from the linear regression method and the following nonlinear method, which iteratively determines the exponent as it belongs in the formula.

The REG Procedure
Model: MODEL1
Dependent Variable: win_perc

Number of Observations Read	30
Number of Observations Used	30

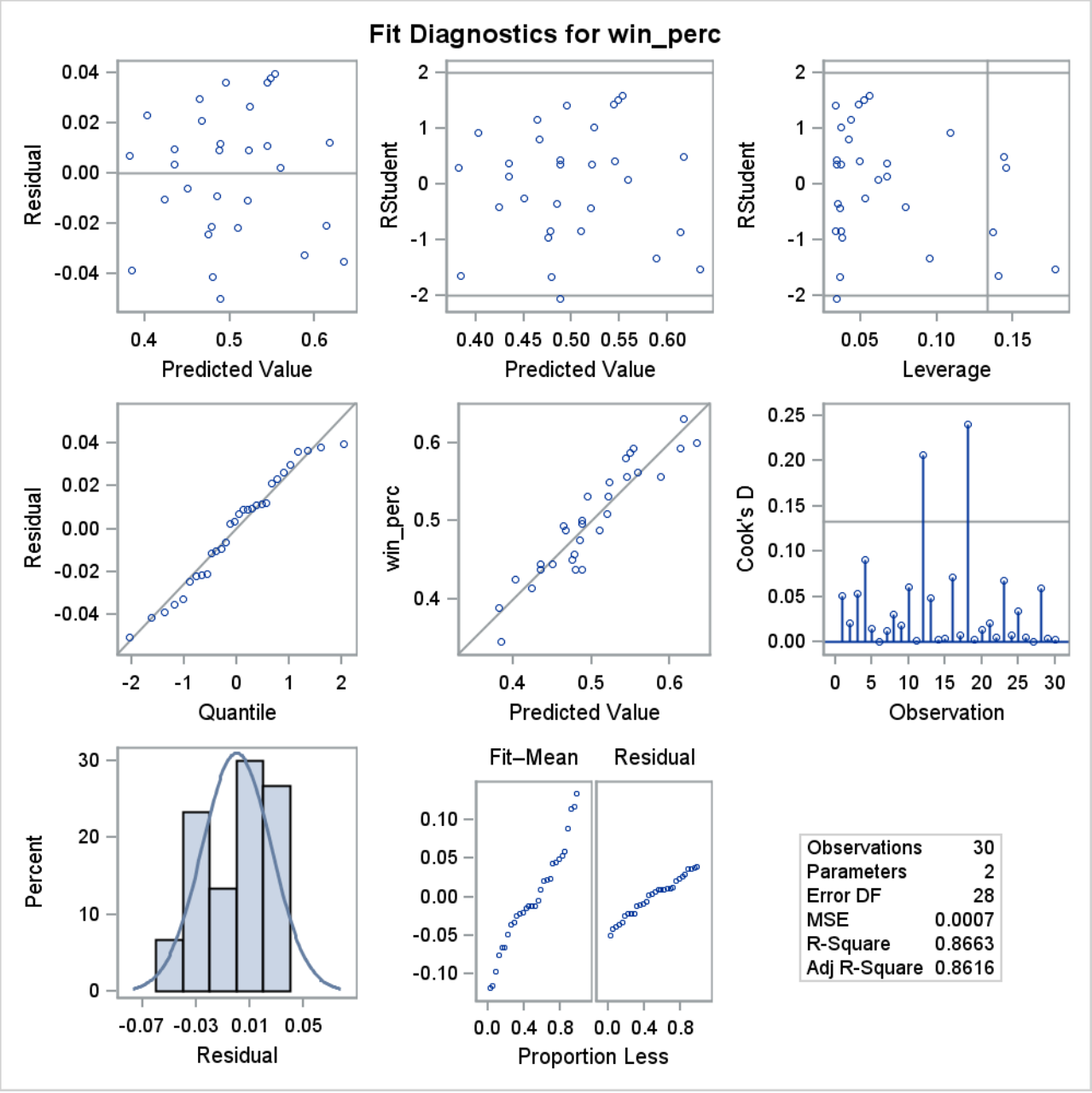
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	0.12477	0.12477	181.50	<.0001
Error	28	0.01925	0.00068744		
Corrected Total	29	0.14402			

Root MSE	0.02622	R-Square	0.8663
Dependent Mean	0.50000	Adj R-Sq	0.8616
Coeff Var	5.24379		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	0.50000	0.00479	104.45	<.0001
run_diff	1	0.00063902	0.00004743	13.47	<.0001

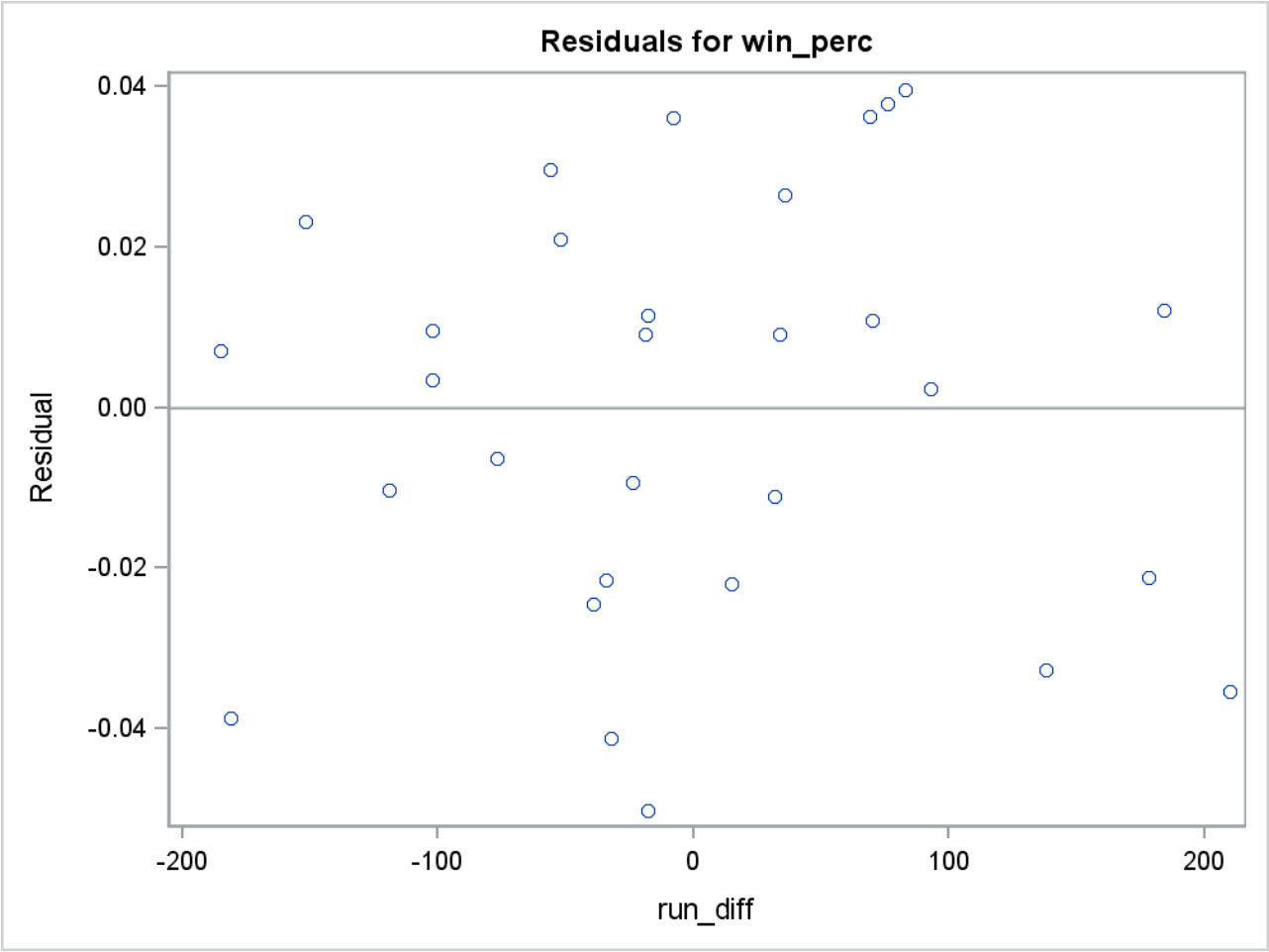
Run differential vs Winning Percent for 2011 (like in paper)

The REG Procedure
Model: MODEL1
Dependent Variable: win_perc



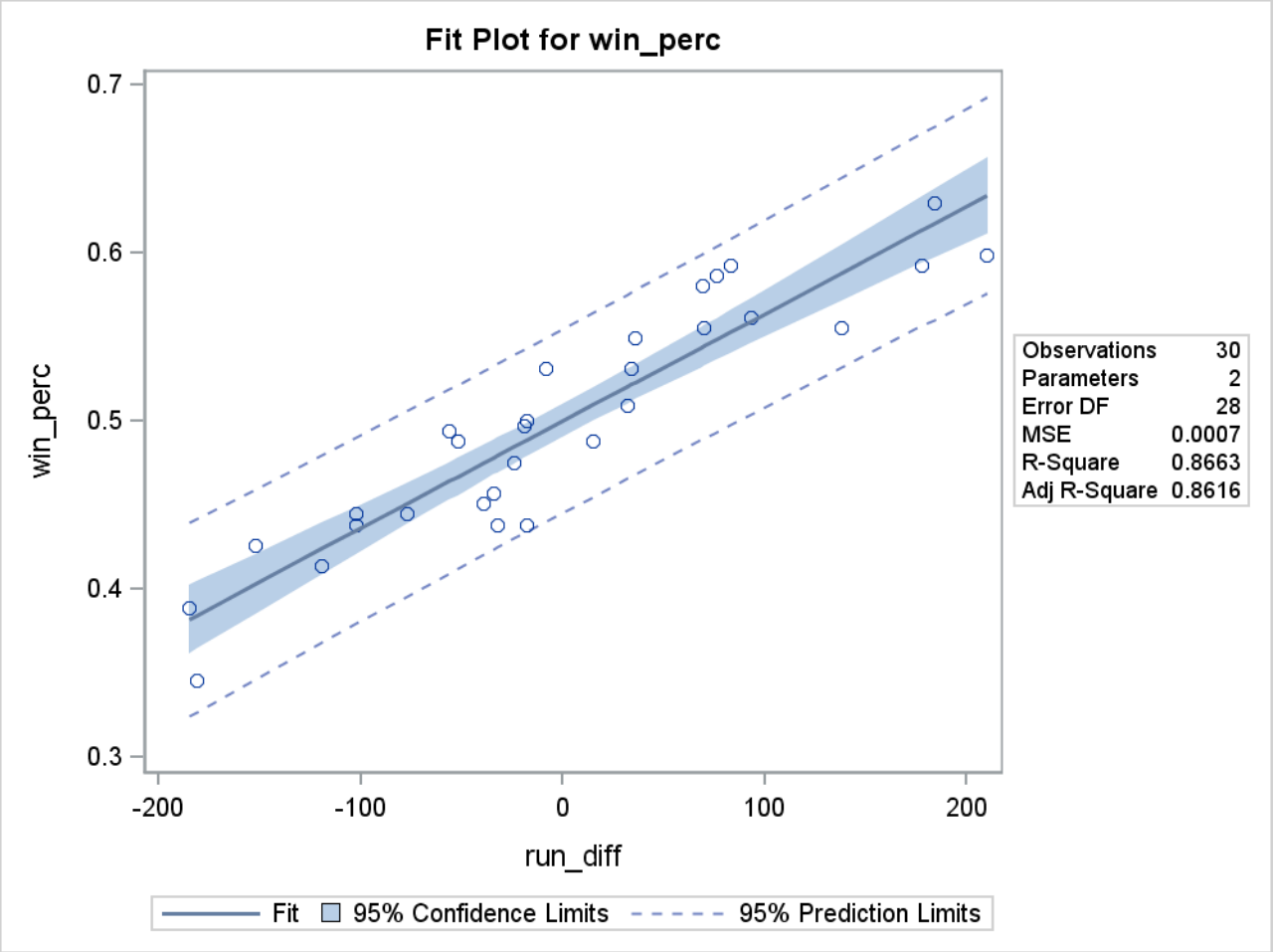
Run differential vs Winning Percent for 2011 (like in paper)

The REG Procedure
Model: MODEL1
Dependent Variable: win_perc



Run differential vs Winning Percent for 2011 (like in paper)

The REG Procedure
Model: MODEL1
Dependent Variable: win_perc



The REG Procedure
Model: MODEL1
Dependent Variable: win_perc

Number of Observations Read	2865
Number of Observations Used	2865

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	21.84497	21.84497	15849.9	<.0001
Error	2863	3.94589	0.00138		
Corrected Total	2864	25.79086			

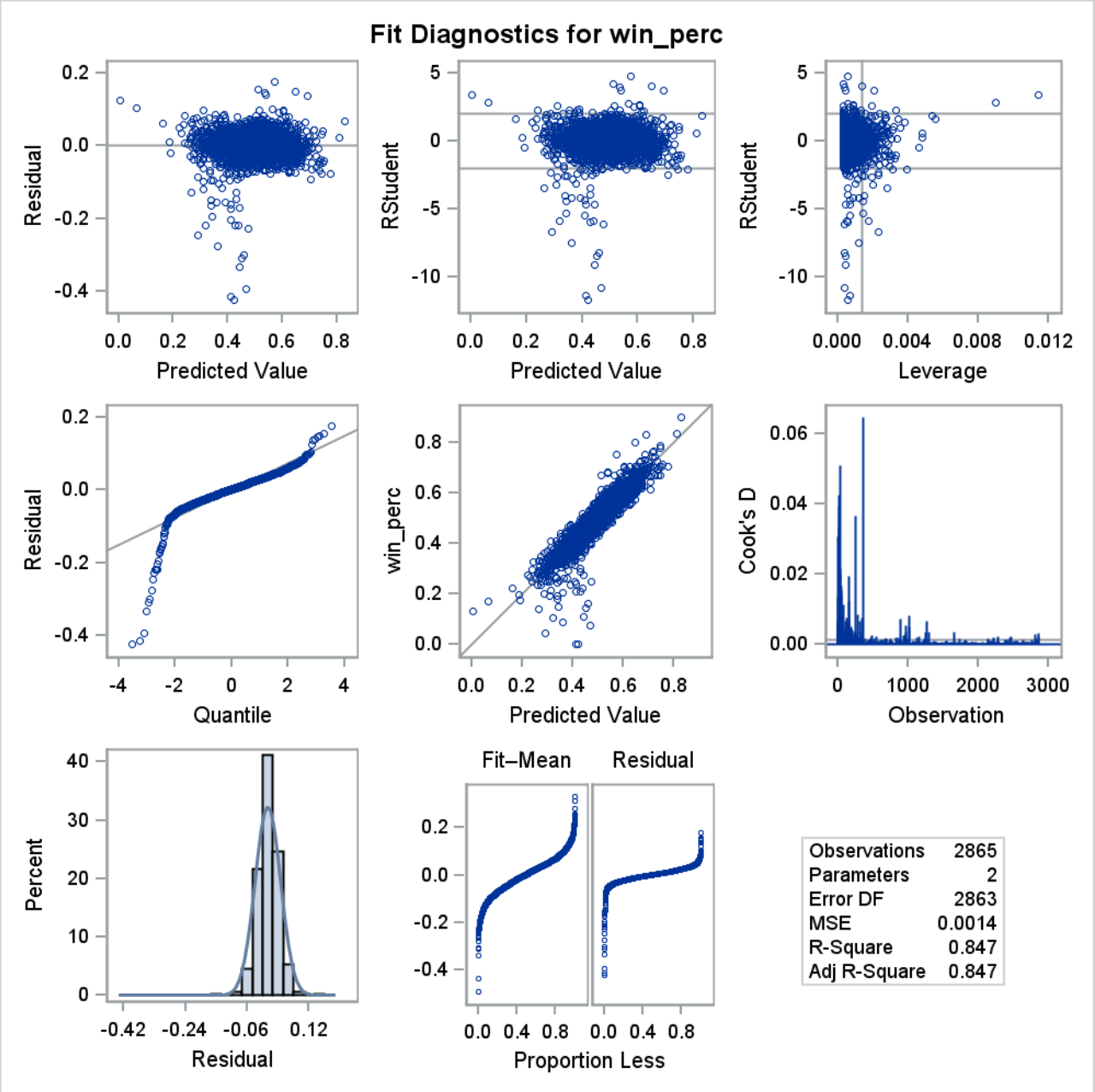
Root MSE	0.03712	R-Square	0.8470
Dependent Mean	0.49831	Adj R-Sq	0.8470
Coeff Var	7.45006		

Overall Linear Regression for Run Differential vs Winnning Percent

The REG Procedure
Model: MODEL1
Dependent Variable: win_perc

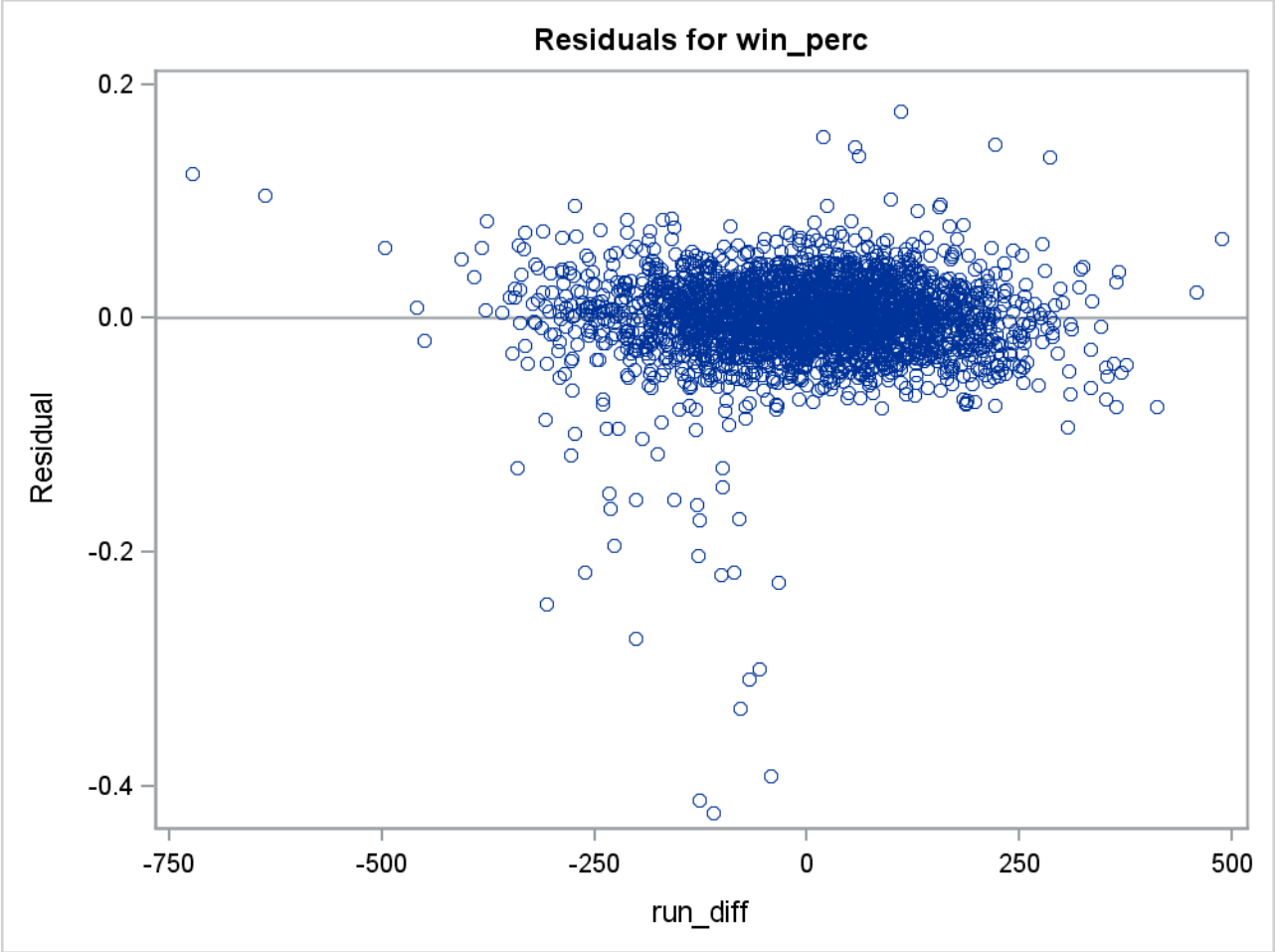
Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	0.49831	0.00069358	718.46	<.0001
run_diff	1	0.00068040	0.00000540	125.90	<.0001



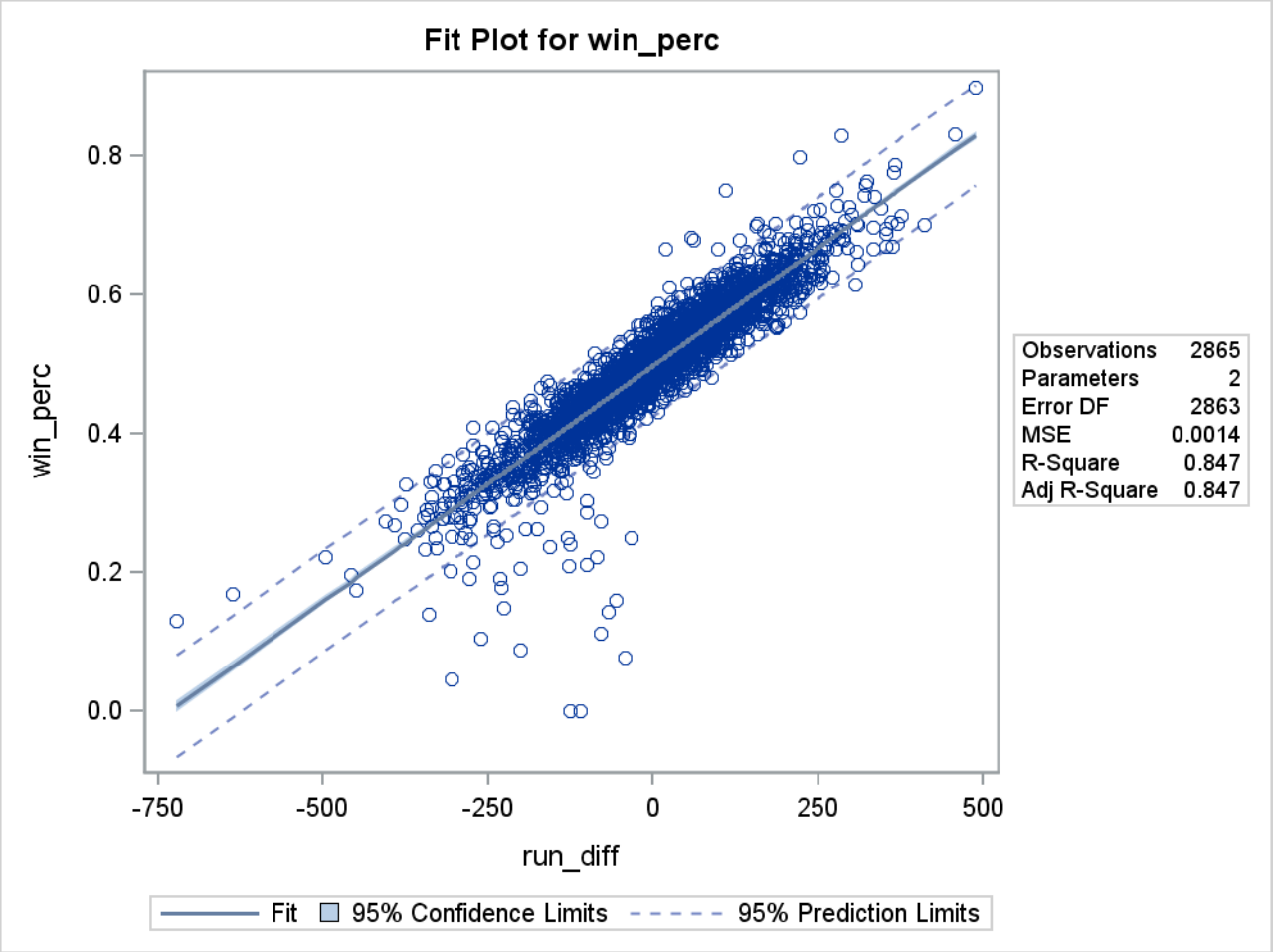
Overall Linear Regression for Run Differential vs Winnning Percent

The REG Procedure
Model: MODEL1
Dependent Variable: win_perc



Overall Linear Regression for Run Differential vs Winnning Percent

The REG Procedure
Model: MODEL1
Dependent Variable: win_perc



The GLMSELECT Procedure

Data Set	WORK.TEAMS2
Dependent Variable	win_perc
Selection Method	Backward
Select Criterion	SBC
Stop Criterion	SBC
Effect Hierarchy Enforced	None

Number of Observations Read	1324
Number of Observations Used	1324

Dimensions	
Number of Effects	28
Number of Parameters	28

Allvars Model Winning Percent: Backward Selection

The GLMSELECT Procedure

Backward Selection Summary			
Step	Effect Removed	Number Effects In	SBC
0		28	-10245.792
	ops	27	-10245.792
1	E	26	-10252.972
2	slg	25	-10260.147
3	DP	24	-10266.857
4	_3B	23	-10273.204
5	SO	22	-10279.516
6	_2B	21	-10285.584
7	HA	20	-10289.007
8	ER	19	-10292.461
9	HRA	18	-10295.044
10	BBA	17	-10298.257
11	SOA	16	-10300.811*
* Optimal Value of Criterion			

Note: Effects dropped at step 0 are redundant.

Selection stopped at a local minimum of the SBC criterion.

Stop Details				
Candidate For	Effect	Candidate SBC		Compare SBC
Removal	H	-10295.696	>	-10300.811

The GLMSELECT Procedure
Selected Model

The selected model is the model at the last step (Step 11).

Effects:	Intercept R AB H HR BB SB CS RA ERA CG SHO SV IPouts FP obp

Allvars Model Winning Percent: Backward Selection

The GLMSELECT Procedure
Selected Model

Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Value
Model	15	5.82949	0.38863	1001.90
Error	1308	0.50736	0.00038789	
Corrected Total	1323	6.33685		

Root MSE	0.01970
Dependent Mean	0.49998
R-Square	0.9199
Adj R-Sq	0.9190
AIC	-9057.82546
AICC	-9057.35685
SBC	-10301

Parameter Estimates				
Parameter	DF	Estimate	Standard Error	t Value
Intercept	1	-1.747632	0.293094	-5.96
R	1	0.000476	0.000023266	20.47
AB	1	-0.000137	0.000034768	-3.94
H	1	-0.000303	0.000086852	-3.49
HR	1	0.000130	0.000028670	4.55
BB	1	-0.000403	0.000057466	-7.01
SB	1	0.000081636	0.000020084	4.06
CS	1	-0.000420	0.000055434	-7.58
RA	1	-0.000227	0.000048811	-4.65
ERA	1	-0.030360	0.007838	-3.87
CG	1	0.000779	0.000059755	13.03
SHO	1	0.000989	0.000188	5.26
SV	1	0.001876	0.000092201	20.35
IPouts	1	0.000263	0.000023666	11.11
FP	1	1.260102	0.264804	4.76
obp	1	3.436033	0.501687	6.85

The GLMSELECT Procedure

Data Set	WORK.TEAMS2
Dependent Variable	win_perc
Selection Method	Forward
Select Criterion	SBC
Stop Criterion	SBC
Effect Hierarchy Enforced	None

Allvars Model Winning Percent: Forward Selection

The GLMSELECT Procedure

Number of Observations Read	1324
Number of Observations Used	1324

Dimensions	
Number of Effects	28
Number of Parameters	28

The GLMSELECT Procedure

Forward Selection Summary

Step	Effect Entered	Number Effects In	SBC
0	Intercept	1	-7065.661
1	ERA	2	-7466.297
2	ops	3	-9334.459
3	SV	4	-9531.879
4	CG	5	-9618.729
5	E	6	-9750.781
6	slg	7	-9792.360
7	H	8	-9821.920
8	R	9	-10013.499
9	BB	10	-10140.557
10	IPouts	11	-10214.499
11	CS	12	-10249.595
12	SHO	13	-10272.195
13	RA	14	-10283.027
14	AB	15	-10288.053
15	SB	16	-10293.389
16	HR	17	-10294.952*

* Optimal Value of Criterion

Selection stopped at a local minimum of the SBC criterion.

Stop Details

Candidate For	Effect	Candidate SBC		Compare SBC
Entry	SOA	-10291.187	>	-10294.952

The GLMSELECT Procedure
Selected Model

The selected model is the model at the last step (Step 16).

Effects:	Intercept R AB H HR BB SB CS RA ERA CG SHO SV IPouts E slg ops

Allvars Model Winning Percent: Forward Selection

The GLMSELECT Procedure
Selected Model

Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Value
Model	16	5.82999	0.36437	939.59
Error	1307	0.50686	0.00038780	
Corrected Total	1323	6.33685		

Root MSE	0.01969
Dependent Mean	0.49998
R-Square	0.9200
Adj R-Sq	0.9190
AIC	-9057.15533
AICC	-9056.63119
SBC	-10295

Parameter Estimates				
Parameter	DF	Estimate	Standard Error	t Value
Intercept	1	-0.552393	0.163705	-3.37
R	1	0.000482	0.000024422	19.75
AB	1	-0.000130	0.000034970	-3.71
H	1	-0.000326	0.000087697	-3.72
HR	1	0.000168	0.000057008	2.94
BB	1	-0.000431	0.000062032	-6.95
SB	1	0.000080444	0.000020118	4.00
CS	1	-0.000417	0.000055648	-7.49
RA	1	-0.000222	0.000049411	-4.49
ERA	1	-0.031144	0.007937	-3.92
CG	1	0.000778	0.000061981	12.55
SHO	1	0.000986	0.000188	5.24
SV	1	0.001873	0.000092326	20.28
IPouts	1	0.000268	0.000023414	11.44
E	1	-0.000205	0.000042120	-4.86
slg	1	-3.756729	0.580617	-6.47
ops	1	3.671036	0.535446	6.86

The GLMSELECT Procedure

Data Set	WORK.TEAMS2
Dependent Variable	win_perc
Selection Method	Stepwise
Select Criterion	SBC
Stop Criterion	SBC
Effect Hierarchy Enforced	None

Allvars Model Winning Percent: Stepwise Selection

The GLMSELECT Procedure

Number of Observations Read	1324
Number of Observations Used	1324

Dimensions	
Number of Effects	28
Number of Parameters	28

The GLMSELECT Procedure

Stepwise Selection Summary

Step	Effect Entered	Effect Removed	Number Effects In	SBC
0	Intercept		1	-7065.661
1	ERA		2	-7466.297
2	ops		3	-9334.459
3	SV		4	-9531.879
4	CG		5	-9618.729
5	E		6	-9750.781
6	slg		7	-9792.360
7	H		8	-9821.920
8	R		9	-10013.499
9	BB		10	-10140.557
10	IPouts		11	-10214.499
11	CS		12	-10249.595
12	SHO		13	-10272.195
13	RA		14	-10283.027
14	AB		15	-10288.053
15	SB		16	-10293.389
16	HR		17	-10294.952*

* Optimal Value of Criterion

Selection stopped at a local minimum of the SBC criterion.

Stop Details

Candidate For	Effect	Candidate SBC		Compare SBC
Entry	SOA	-10291.187	>	-10294.952
Removal	HR	-10293.389	>	-10294.952

The GLMSELECT Procedure
Selected Model

The selected model is the model at the last step (Step 16).

Effects:	Intercept R AB H HR BB SB CS RA ERA CG SHO SV IPouts E slg ops

Allvars Model Winning Percent: Stepwise Selection

The GLMSELECT Procedure
Selected Model

Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Value
Model	16	5.82999	0.36437	939.59
Error	1307	0.50686	0.00038780	
Corrected Total	1323	6.33685		

Root MSE	0.01969
Dependent Mean	0.49998
R-Square	0.9200
Adj R-Sq	0.9190
AIC	-9057.15533
AICC	-9056.63119
SBC	-10295

Parameter Estimates				
Parameter	DF	Estimate	Standard Error	t Value
Intercept	1	-0.552393	0.163705	-3.37
R	1	0.000482	0.000024422	19.75
AB	1	-0.000130	0.000034970	-3.71
H	1	-0.000326	0.000087697	-3.72
HR	1	0.000168	0.000057008	2.94
BB	1	-0.000431	0.000062032	-6.95
SB	1	0.000080444	0.000020118	4.00
CS	1	-0.000417	0.000055648	-7.49
RA	1	-0.000222	0.000049411	-4.49
ERA	1	-0.031144	0.007937	-3.92
CG	1	0.000778	0.000061981	12.55
SHO	1	0.000986	0.000188	5.24
SV	1	0.001873	0.000092326	20.28
IPouts	1	0.000268	0.000023414	11.44
E	1	-0.000205	0.000042120	-4.86
slg	1	-3.756729	0.580617	-6.47
ops	1	3.671036	0.535446	6.86

The GLMSELECT Procedure

Data Set	WORK.TRAIN
Validation Data Set	WORK.VALID
Dependent Variable	win_perc
Selection Method	None

Least Squares Regression

The GLMSELECT Procedure

Observation Profile for Analysis Data	
Number of Observations Read	885
Number of Observations Used	885
Number of Observations Used for Training	885

Observation Profile for Validation Data	
Number of Observations Read	439
Number of Observations Used	439

Dimensions	
Number of Effects	28
Number of Parameters	28

The GLMSELECT Procedure

Least Squares Summary

Step	Effect Entered	Number Effects In	Adjusted R-Square	AIC	BIC	SBC	ASE	Validation ASE	Pr > F
0	Intercept	1	0.0000	-3811.8994	-4700.4492	-4694.1138	0.0049	0.0045	1.0000
1	R	2	0.2260	-4037.6669	-4927.8898	-4915.0957	0.0038	0.0038	<.0001
2	AB	3	0.2939	-4117.8555	-5009.7863	-4990.4988	0.0035	0.0034	<.0001
3	H	4	0.2951	-4118.4480	-5012.1565	-4986.3057	0.0035	0.0035	0.1083
4	_2B	5	0.3130	-4140.2236	-5035.6724	-5003.2957	0.0034	0.0034	<.0001
5	_3B	6	0.3128	-4138.9127	-5036.1349	-4997.1992	0.0034	0.0034	0.4082
6	HR	7	0.3210	-4148.5200	-5047.4907	-5002.0209	0.0033	0.0033	0.0007
7	BB	8	0.3273	-4155.7452	-5056.4641	-5004.4605	0.0033	0.0034	0.0025
8	SO	9	0.3280	-4155.6877	-5058.1704	-4999.6174	0.0033	0.0033	0.1657
9	SB	10	0.3406	-4171.4636	-5075.6598	-5010.6077	0.0032	0.0034	<.0001
10	CS	11	0.3577	-4193.7560	-5099.6324	-5028.1145	0.0031	0.0033	<.0001
11	RA	12	0.8675	-5589.7874	-6485.0001	-6419.3603	0.0006	0.0006	<.0001
12	ER	13	0.8674	-5588.1767	-6484.2052	-6412.9641	0.0006	0.0006	0.5358
13	ERA	14	0.8740	-5632.6002	-6528.5129	-6452.6019	0.0006	0.0006	<.0001
14	CG	15	0.8741	-5631.6800	-6528.3278	-6446.8962	0.0006	0.0006	0.3030
15	SHO	16	0.8755	-5641.2105	-6538.3427	-6451.6411	0.0006	0.0006	0.0008
16	SV	17	0.9113	-5940.2863	-6829.2393	-6745.9313	0.0004	0.0005	<.0001
17	IPouts	18	0.9191	-6020.0596	-6906.1362	-6820.9190*	0.0004	0.0004	<.0001
18	HA	19	0.9190	-6018.3224	-6904.4477	-6814.3962	0.0004	0.0004	0.6122
19	HRA	20	0.9190	-6016.9712	-6903.1272	-6808.2595	0.0004	0.0004	0.4260
20	BBA	21	0.9196	-6022.7318	-6908.5853	-6809.2344	0.0004	0.0004	0.0059
21	SOA	22	0.9198	-6024.0238	-6909.7571	-6805.7409	0.0004	0.0004	0.0733
22	E	23	0.9206	-6032.2095	-6917.4520	-6809.1410	0.0004	0.0004	0.0016
23	DP	24	0.9206	-6030.9128	-6916.1279	-6803.0587	0.0004	0.0004	0.4083
24	FP	25	0.9208	-6032.5156	-6917.5365	-6799.8759	0.0004	0.0004	0.0614
25	obp	26	0.9231	-6057.2225*	-6940.6536*	-6819.7972	0.0004	0.0004*	<.0001

* Optimal Value of Criterion

Least Squares Regression

The GLMSELECT Procedure

Least Squares Summary

Step	Effect Entered	Number Effects In	Adjusted R-Square	AIC	BIC	SBC	ASE	Validation ASE	Pr > F
26	slg	27	0.9231*	-6056.3057	-6939.6084	-6814.0949	0.0004	0.0004	0.3056
27	ops	28	0.9231	-6056.3057	-6939.6084	-6814.0949	0.0004	0.0004	.

* Optimal Value of Criterion

The GLMSELECT Procedure
Least Squares Model (No Selection)

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	26	4.03999	0.15538	409.00	<.0001
Error	858	0.32596	0.00037991		
Corrected Total	884	4.36595			

Root MSE	0.01949
Dependent Mean	0.49869
R-Square	0.9253
Adj R-Sq	0.9231
AIC	-6056.30572
AICC	-6054.40853
BIC	-6939.60840
C(p)	27.00000
SBC	-6814.09486
ASE (Train)	0.00036832
ASE (Validate)	0.00040862

Least Squares Regression

The GLMSELECT Procedure
Least Squares Model (No Selection)

Parameter Estimates

Parameter	DF	Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-2.007275	1.642284	-1.22	0.2220
R	1	0.000464	0.000030581	15.18	<.0001
AB	1	-0.000185	0.000042344	-4.36	<.0001
H	1	-0.000178	0.000110	-1.62	0.1064
_2B	1	-0.000140	0.000108	-1.29	0.1968
_3B	1	-0.000253	0.000220	-1.15	0.2503
HR	1	-0.000180	0.000313	-0.57	0.5660
BB	1	-0.000266	0.000113	-2.35	0.0190
SO	1	0.000004397	0.000007591	0.58	0.5626
SB	1	0.000091956	0.000024896	3.69	0.0002
CS	1	-0.000446	0.000069526	-6.41	<.0001
RA	1	-0.000223	0.000071713	-3.10	0.0020
ER	1	0.000281	0.000141	2.00	0.0463
ERA	1	-0.061834	0.019544	-3.16	0.0016
CG	1	0.000871	0.000093142	9.36	<.0001
SHO	1	0.000708	0.000229	3.09	0.0021
SV	1	0.002042	0.000116	17.58	<.0001
IPouts	1	0.000254	0.000034763	7.30	<.0001
HA	1	-0.000025903	0.000021174	-1.22	0.2215
HRA	1	-0.000099197	0.000044854	-2.21	0.0273
BBA	1	-0.000035600	0.000016972	-2.10	0.0362
SOA	1	0.000008279	0.000007768	1.07	0.2868
E	1	0.000100	0.000270	0.37	0.7107
DP	1	-0.000050580	0.000045434	-1.11	0.2659
FP	1	1.814134	1.693432	1.07	0.2843
obp	1	2.280149	1.003384	2.27	0.0233
slg	1	0.582312	0.568059	1.03	0.3056
ops	0	0	.	.	.

The GLMSELECT Procedure

Data Set	WORK.TRAIN
Validation Data Set	WORK.VALID
Dependent Variable	win_perc
Selection Method	ELASTICNET
Stop Criterion	SBC
Choose Criterion	Validation ASE
Effect Hierarchy Enforced	None

Elastic Net

The GLMSELECT Procedure

Observation Profile for Analysis Data	
Number of Observations Read	885
Number of Observations Used	885
Number of Observations Used for Training	885

Observation Profile for Validation Data	
Number of Observations Read	439
Number of Observations Used	439

Dimensions	
Number of Effects	28
Number of Parameters	28

The GLMSELECT Procedure

Elastic Net Selection Summary

Step	Effect Entered	Effect Removed	Number Effects In	Adjusted R-Square	AIC	BIC	SBC	ASE	Validation ASE	Pr > F
0	Intercept		1	0.0000	-3811.8994	-4700.3430	-4694.1138	0.0049	0.0045	1.0000
1	obp		2	0.0407	-3847.6983	-4737.9185	-4725.1271	0.0047	0.0043	<.0001
2	ERA		3	0.0668	-3871.0866	-4763.0790	-4743.7299	0.0046	0.0042	<.0001
3	SV		4	0.2880	-4109.5635	-5002.9800	-4977.4212	0.0035	0.0033	<.0001
4	RA		5	0.3729	-4220.9380	-5115.8367	-5084.0100	0.0031	0.0029	<.0001
5	ops		6	0.5629	-4539.3827	-5434.9533	-5397.6691	0.0021	0.0021	<.0001
6	R		7	0.8143	-5295.8747	-6188.0663	-6149.3756	0.0009	0.0009	<.0001
7	SHO		8	0.8692	-5604.9630	-6494.2911	-6453.6783	0.0006	0.0007	<.0001
8	BBA		9	0.8735	-5633.7005	-6523.0569	-6477.6302	0.0006	0.0006	<.0001
9	CG		10	0.8776	-5662.1235	-6551.3933	-6501.2676	0.0006	0.0006	<.0001
10	ER		11	0.8871	-5732.5488	-6620.7057	-6566.9073	0.0006	0.0006	<.0001
11	HR		12	0.8912	-5764.4171	-6652.0371	-6593.9900	0.0005	0.0005	<.0001
12	FP		13	0.8930	-5778.0553	-6665.4719	-6602.8426	0.0005	0.0005	<.0001
13	HA		14	0.8956	-5798.6851	-6685.6205	-6618.6869	0.0005	0.0005	<.0001
14	slg		15	0.8975	-5814.2111	-6700.7208	-6629.4273	0.0005	0.0005	<.0001
15	SB		16	0.9016	-5848.9779	-6734.2938	-6659.4085	0.0005	0.0005	<.0001
16	E		17	0.9041*	-5870.6534*	-6755.0767*	-6676.2985*	0.0005	0.0005*	<.0001

* Optimal Value of Criterion

Selection stopped at a local minimum of the SBC criterion.

Stop Details

Candidate For	Effect	Candidate SBC		Compare SBC
Entry	AB	-6672.5367	>	-6676.2985

Elastic Net

The GLMSELECT Procedure
Selected Model

The selected model, based on Validation ASE, is the model at Step 16.

Effects:	Intercept R HR SB RA ER ERA CG SHO SV HA BBA E FP obp slg ops

Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Value
Model	16	3.95472	0.24717	521.71
Error	868	0.41123	0.00047377	
Corrected Total	884	4.36595		

Root MSE	0.02177
Dependent Mean	0.49869
R-Square	0.9058
Adj R-Sq	0.9041
AIC	-5870.65345
AICC	-5869.86361
BIC	-6755.07669
C(p)	19.22327
SBC	-6676.29846
ASE (Train)	0.00046467
ASE (Validate)	0.00048053

Parameter Estimates		
Parameter	DF	Estimate
Intercept	1	-0.444864
R	1	0.000289
HR	1	0.000096619
SB	1	0.000031000
RA	1	-0.000249
ER	1	-0.000092961
ERA	1	-0.016379
CG	1	0.000628
SHO	1	0.000880
SV	1	0.001983
HA	1	-0.000033363
BBA	1	-0.000034488
E	1	-0.000042020
FP	1	0.593814
obp	1	0.755513
slg	1	0.048693
ops	1	0.211825

Lasso

The GLMSELECT Procedure

Data Set	WORK.TRAIN
Validation Data Set	WORK.VALID
Dependent Variable	win_perc
Selection Method	LASSO
Stop Criterion	SBC
Choose Criterion	Validation ASE
Effect Hierarchy Enforced	None

Observation Profile for Analysis Data	
Number of Observations Read	885
Number of Observations Used	885
Number of Observations Used for Training	885

Observation Profile for Validation Data	
Number of Observations Read	439
Number of Observations Used	439

Dimensions	
Number of Effects	28
Number of Parameters	28

The GLMSELECT Procedure

LASSO Selection Summary

Step	Effect Entered	Effect Removed	Number Effects In	Adjusted R-Square	AIC	BIC	SBC	ASE	Validation ASE	Pr > F
0	Intercept		1	0.0000	-3811.8994	-4700.4492	-4694.1138	0.0049	0.0045	1.0000
1	obp		2	0.0412	-3848.1395	-4738.5091	-4725.5683	0.0047	0.0043	<.0001
2	ERA		3	0.0690	-3873.2178	-4765.4025	-4745.8610	0.0046	0.0042	<.0001
3	SV		4	0.3234	-4154.6037	-5048.2594	-5022.4614	0.0033	0.0031	<.0001
4	RA		5	0.3903	-4245.8341	-5141.0899	-5108.9061	0.0030	0.0028	<.0001
5	ops		6	0.6134	-4647.9325	-5543.8077	-5506.2190	0.0019	0.0018	<.0001
6	R		7	0.8291	-5369.6677	-6262.9110	-6223.1686	0.0008	0.0008	<.0001
7	SHO		8	0.8763	-5654.4996	-6545.7367	-6503.2149	0.0006	0.0006	<.0001
8	CG		9	0.8924	-5776.8501	-6667.0050	-6620.7798	0.0005	0.0005	<.0001
9	BBA		10	0.8967	-5811.8379	-6701.8996	-6650.9821	0.0005	0.0005	<.0001
10	HR		11	0.9017*	-5855.2413*	-6744.8888*	-6689.5998*	0.0005	0.0005*	<.0001

* Optimal Value of Criterion

Selection stopped at a local minimum of the SBC criterion.

Lasso

The GLMSELECT Procedure

Stop Details				
Candidate For	Effect	Candidate SBC		Compare SBC
Entry	SB	-6688.8469	>	-6689.5998

The GLMSELECT Procedure
Selected Model

The selected model, based on Validation ASE, is the model at Step 10.

Effects:	Intercept R HR RA ERA CG SHO SV BBA obp ops

Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Value
Model	10	3.94179	0.39418	812.20
Error	874	0.42417	0.00048532	
Corrected Total	884	4.36595		

Root MSE	0.02203
Dependent Mean	0.49869
R-Square	0.9028
Adj R-Sq	0.9017
AIC	-5855.24128
AICC	-5854.88348
BIC	-6744.88883
C(p)	253.49965
SBC	-6689.59982
ASE (Train)	0.00047929
ASE (Validate)	0.00048722

Lasso

The GLMSELECT Procedure
Selected Model

Parameter Estimates		
Parameter	DF	Estimate
Intercept	1	0.172278
R	1	0.000352
HR	1	0.000045269
RA	1	-0.000465
ERA	1	-0.003952
CG	1	0.000486
SHO	1	0.000832
SV	1	0.001863
BBA	1	-0.000008321
obp	1	0.527666
ops	1	0.223889