The SAS System

The MEANS Procedure

Variable	Label	N	Mean	Std Dev	Minimum	Maximum
ms	ms	1287	24.8689200	18.0581732	1.0000000	75.0000000
qual	qual	1287	22.7404040	26.2941703	-25.0000000	85.0000000
price	price	1287	103.8041181	6.1161622	85.0000000	125.0000000
plb	plb	1287	102.3325563	7.1473421	85.0000000	125.0000000
dc	dc	1287	2.0909091	0.7859396	1.0000000	3.0000000
pion	pion	1287	0.5190365	0.4998317	0	1.0000000
ef	ef	1287	0.3255633	0.4687671	0	1.0000000
phpf	phpf	1287	0.1569542	0.3638989	0	1.0000000
plpf	plpf	1287	0.0225330	0.1484669	0	1.0000000
psc	psc	1287	0.0015540	0.0394055	0	1.0000000
papc	papc	1287	0.0753691	0.2640886	0	1.0000000
ncomp	ncomp	1287	2.2859363	1.0592022	1.0000000	5.0000000
mktexp	mktexp	1287	7.1238539	5.5518633	1.0000000	25.0000000
tyrp	tyrp	1287	0.4902875	0.5001000	0	1.0000000
pnp	pnp	1287	5.9587413	11.4099244	0	70.0000000
custtyp	custtyp	1287	2.0629371	0.6346048	1.0000000	3.0000000
ncust	ncust	1287	5.6954157	1.4399874	1.0000000	8.0000000
custsize	custsize	1287	2.0652681	0.5905670	1.0000000	3.0000000
penew	penew	1287	51.1959596	14.2839086	20.0000000	88.0000000
cap	cap	1287	76.6761461	15.5671729	40.0000000	110.0000000
rbvi	rbvi	1287	1.9121989	0.6128982	1.0000000	3.0000000
emprody	emprody	1287	39.6421911	27.1203034	10.0000000	140.0000000
union	union	1287	49.1445221	32.6029309	0	100.0000000

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ms ms

Number of Observations Read	1287
Number of Observations Used	1287

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	12	166650	13888	70.01	<.0001
Error	1274	252711	198.36049		
Corrected Total	1286	419362			

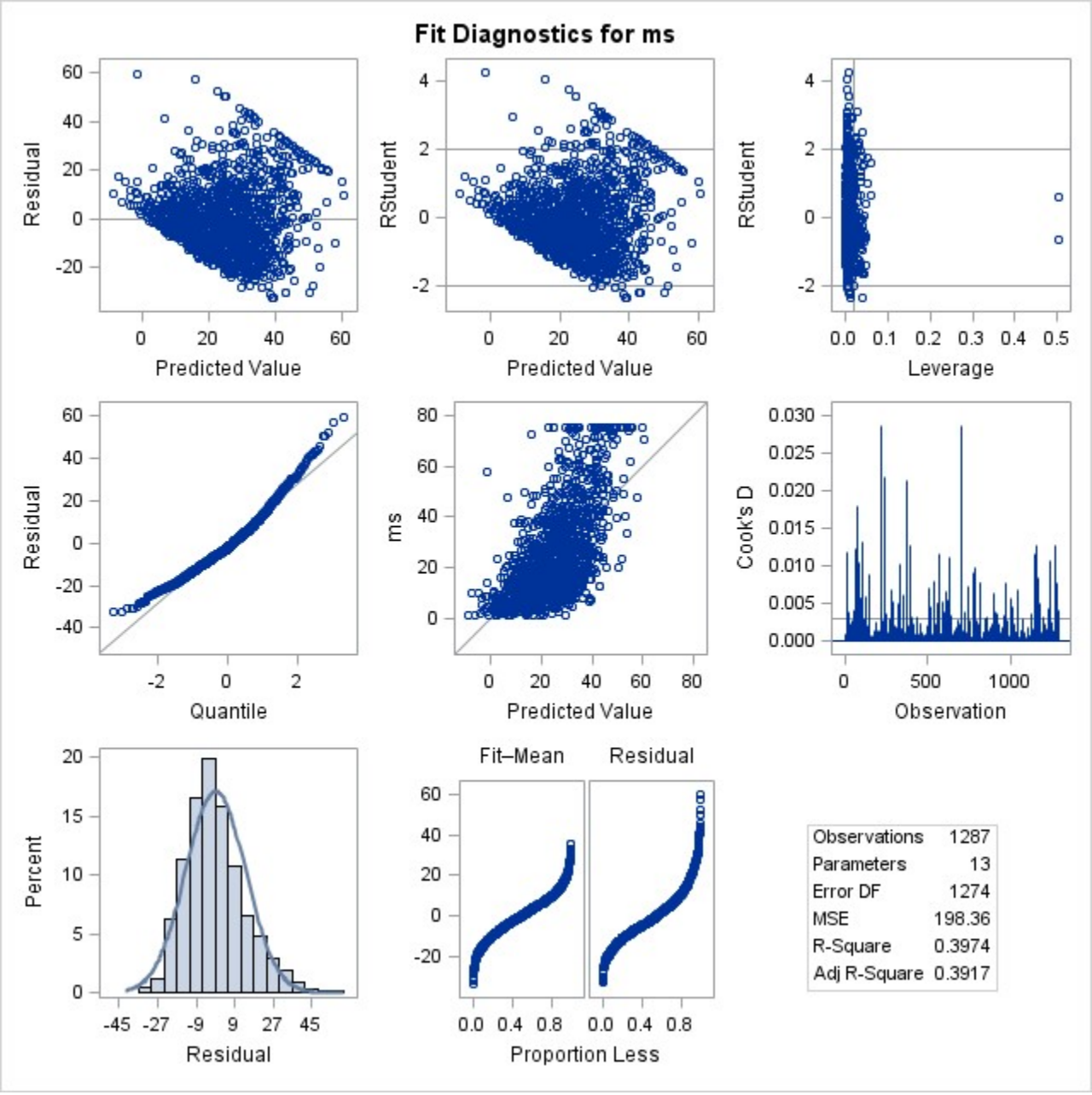
Root MSE	14.08405	R-Square	0.3974
Dependent Mean	24.86892	Adj R-Sq	0.3917
Coeff Var	56.63314		

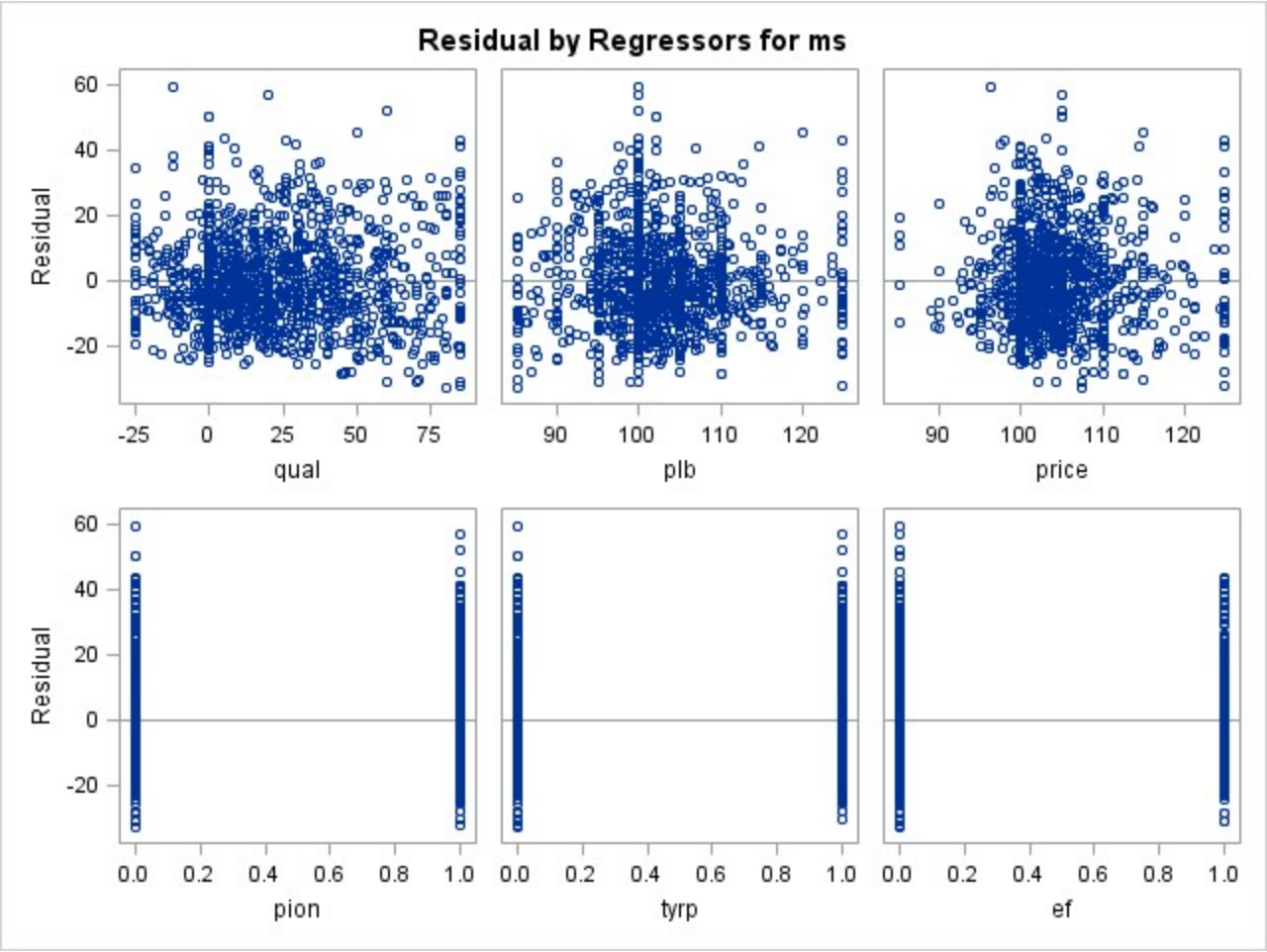
Parameter Estimates

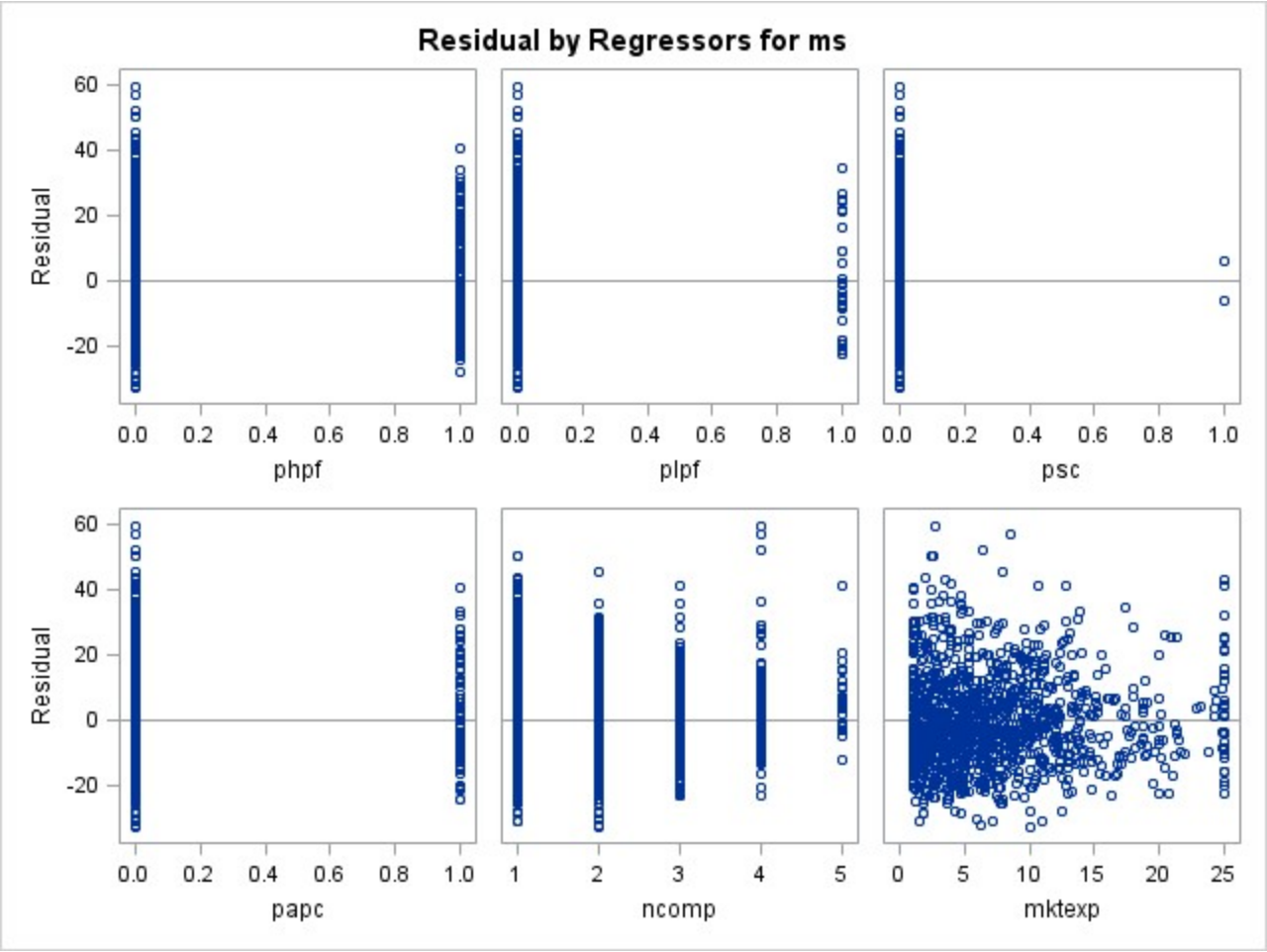
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	47.42575	7.94019	5.97	<.0001
qual	qual	1	0.16785	0.01669	10.06	<.0001
plb	plb	1	-0.48829	0.06033	-8.09	<.0001
price	price	1	0.33321	0.07842	4.25	<.0001
pion	pion	1	12.60256	2.58479	4.88	<.0001
tyrp	tyrp	1	-2.92100	2.40991	-1.21	0.2257
ef	ef	1	4.96526	1.21261	4.09	<.0001
phpf	phpf	1	1.61160	1.20764	1.33	0.1823
plpf	plpf	1	1.14544	2.71817	0.42	0.6735
psc	psc	1	-20.77004	9.99043	-2.08	0.0378
papc	papc	1	-1.20403	1.55664	-0.77	0.4394
ncomp	ncomp	1	-7.48754	0.37961	-19.72	<.0001
mktexp	mktexp	1	-0.10667	0.07495	-1.42	0.1550

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: ms ms




Residual by Regressors for ms
Residual
60
40
20
0
-20
-25
0
25
50
75
qual
90
100
110
120
plb
90
100
110
120
price
Residual
60
40
20
0
-20
0.0
0.2
0.4
0.6
0.8
1.0
pion
0.0
0.2
0.4
0.6
0.8
1.0
tyrp
0.0
0.2
0.4
0.6
0.8
1.0
ef


Residual by Regressors for ms
Residual
60
40
20
0
-20
0.0 0.2 0.4 0.6 0.8 1.0
phpf
plpf
psc
papc
1 2 3 4 5
ncomp
0 5 10 15 20 25
mktexp

The SAS System

The SYSLIN Procedure
Two-Stage Least Squares Estimation

Model	ms
Dependent Variable	ms
Label	ms

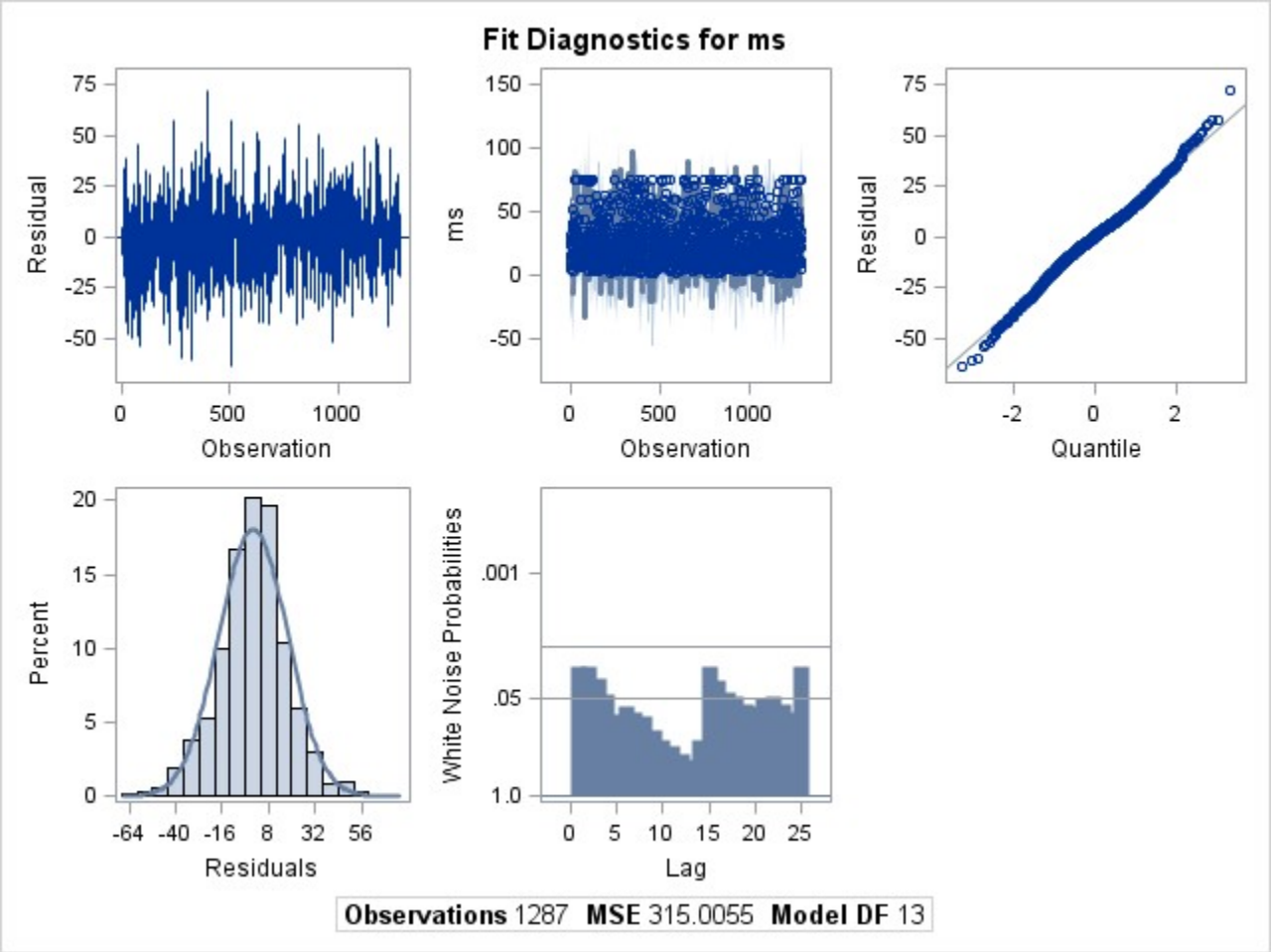
Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	12	158381.6	13198.47	41.90	<.0001
Error	1274	401317.0	315.0055		
Corrected Total	1286	419361.5			

Root MSE	17.74839	**R-Square**	0.28298
Dependent Mean	24.86892	**Adj R-Sq**	0.27622
Coeff Var	71.36777		

Parameter Estimates						
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**	**Variable Label**
Intercept	1	42.00303	66.23322	0.63	0.5261	Intercept
qual	1	0.510213	0.123225	4.14	<.0001	qual
plb	1	-1.01115	0.413727	-2.44	0.0147	plb
price	1	0.852267	0.683350	1.25	0.2126	price
pion	1	7.543081	3.538605	2.13	0.0332	pion
tyrp	1	-0.37812	3.225028	-0.12	0.9067	tyrp
ef	1	5.787019	1.562470	3.70	0.0002	ef
phpf	1	0.584949	1.530377	0.38	0.7024	phpf
plpf	1	0.167317	3.955604	0.04	0.9663	plpf
psc	1	-30.8958	12.92588	-2.39	0.0170	psc
papc	1	-1.50612	2.252581	-0.67	0.5039	papc
ncomp	1	-7.54440	0.496102	-15.21	<.0001	ncomp
mktexp	1	-0.28543	0.172875	-1.65	0.0990	mktexp

The SAS System

The SYSLIN Procedure
Two-Stage Least Squares Estimation



The SAS System

The SYSLIN Procedure
Two-Stage Least Squares Estimation

Model	qual
Dependent Variable	qual
Label	qual

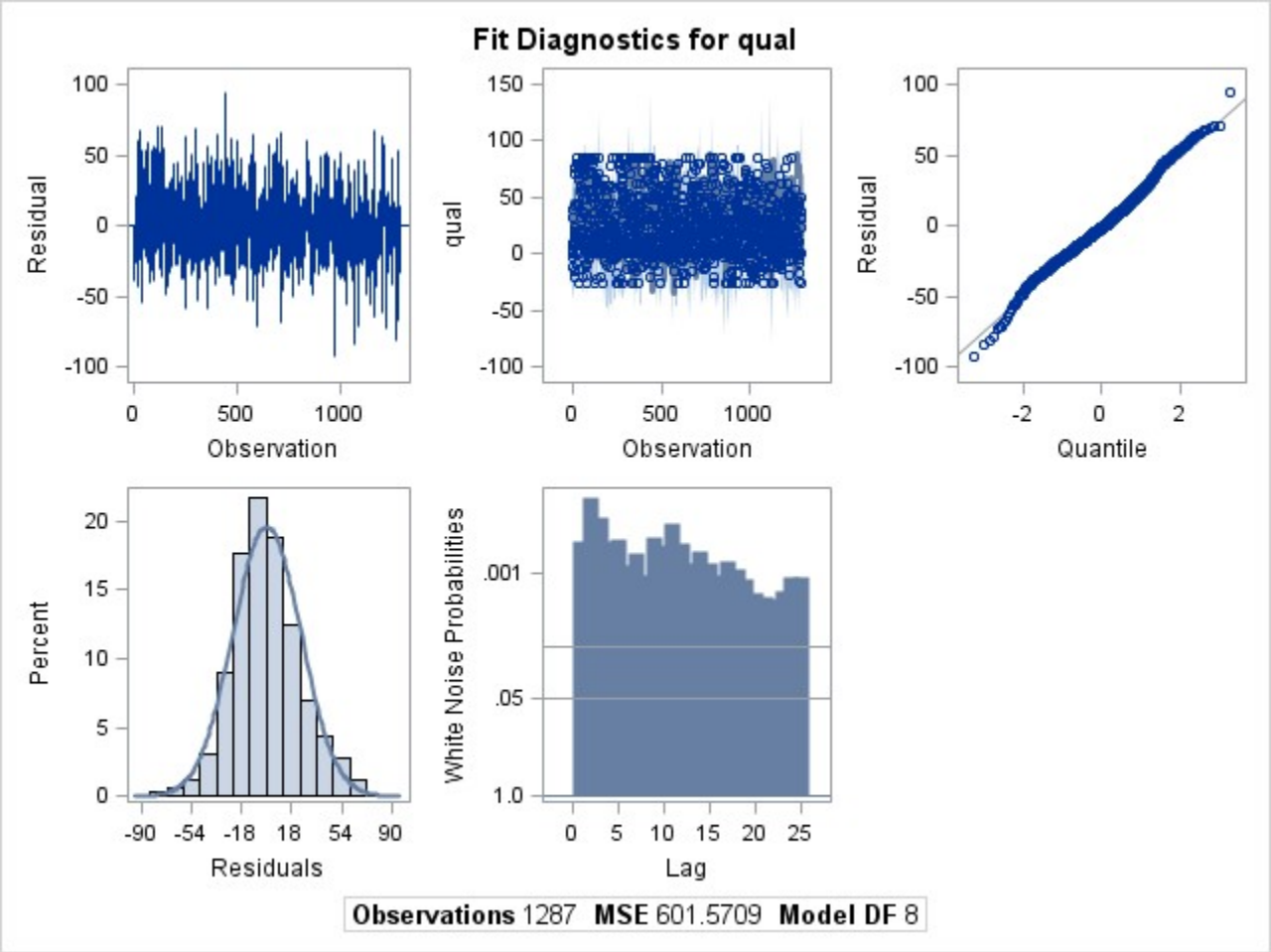
Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	7	81275.02	11610.72	19.30	<.0001
Error	1279	769409.2	601.5709		
Corrected Total	1286	889119.0			

Root MSE	24.52694	**R-Square**	0.09554
Dependent Mean	22.74040	**Adj R-Sq**	0.09059
Coeff Var	107.85623		

Parameter Estimates						
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**	**Variable Label**
Intercept	1	-265.494	63.56925	-4.18	<.0001	Intercept
price	1	2.595316	0.638913	4.06	<.0001	price
dc	1	10.47285	1.958009	5.35	<.0001	dc
pion	1	-0.39839	4.642522	-0.09	0.9316	pion
ef	1	-2.23599	2.142150	-1.04	0.2968	ef
tyrp	1	0.187802	4.337466	0.04	0.9655	tyrp
mktexp	1	-0.48914	0.205769	-2.38	0.0176	mktexp
pnp	1	0.211277	0.061838	3.42	0.0007	pnp

The SAS System

The SYSLIN Procedure
Two-Stage Least Squares Estimation



The SAS System

The SYSLIN Procedure
Two-Stage Least Squares Estimation

Model	plb
Dependent Variable	plb
Label	plb

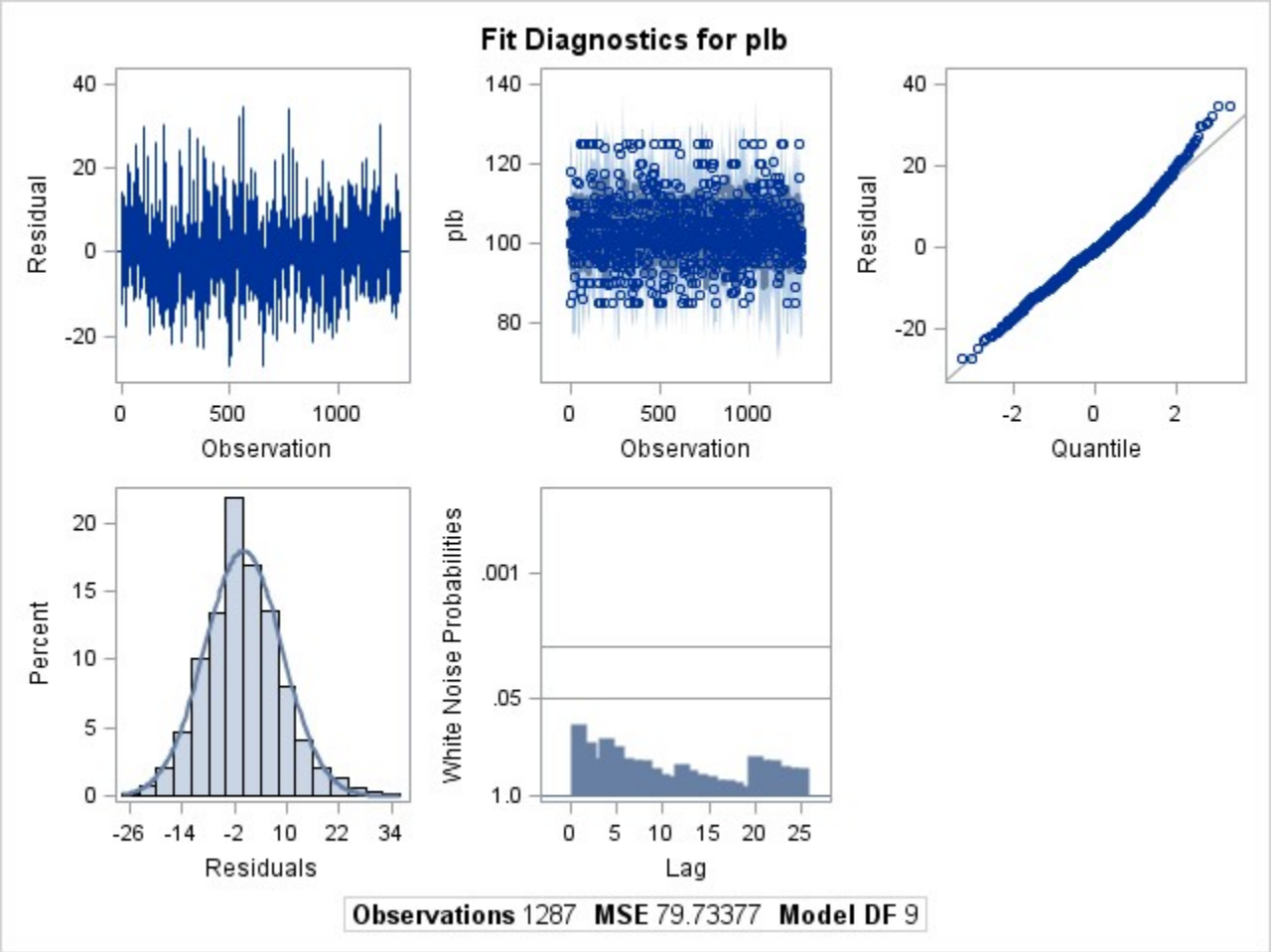
Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	8	2406.447	300.8059	3.77	0.0002
Error	1278	101899.8	79.73377		
Corrected Total	1286	65694.67			

Root MSE	8.92938	**R-Square**	0.02307
Dependent Mean	102.33256	**Adj R-Sq**	0.01696
Coeff Var	8.72584		

Parameter Estimates						
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**	**Variable Label**
Intercept	1	109.0706	1.650573	66.08	<.0001	Intercept
dc	1	-8.73302	2.565446	-3.40	0.0007	dc
pion	1	1.715145	1.698292	1.01	0.3127	pion
tyrp	1	-0.29136	1.523126	-0.19	0.8483	tyrp
ef	1	-0.12958	0.772197	-0.17	0.8668	ef
pnp	1	0.054686	0.021919	2.49	0.0127	pnp
custtyp	1	3.940911	1.368804	2.88	0.0041	custtyp
ncust	1	0.225838	0.210697	1.07	0.2840	ncust
custsize	1	0.520397	0.638869	0.81	0.4155	custsize

The SAS System

The SYSLIN Procedure
Two-Stage Least Squares Estimation



The SAS System

The SYSLIN Procedure
Two-Stage Least Squares Estimation

Model	price
Dependent Variable	price
Label	price

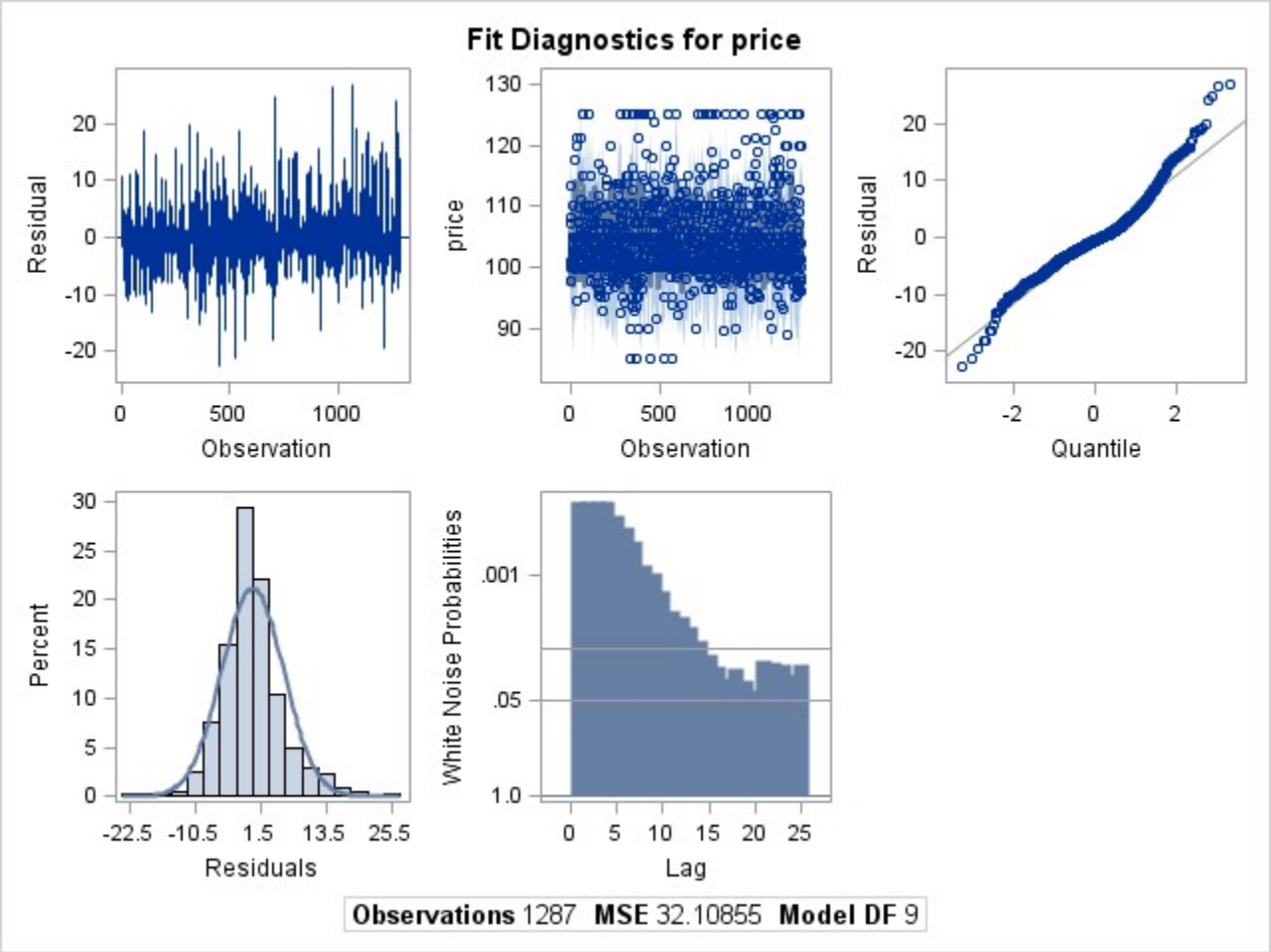
Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	8	4203.558	525.4447	16.36	<.0001
Error	1278	41034.72	32.10855		
Corrected Total	1286	48105.97			

Root MSE	5.66644	**R-Square**	0.09292
Dependent Mean	103.80412	**Adj R-Sq**	0.08724
Coeff Var	5.45878		

Parameter Estimates						
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**	**Variable Label**
Intercept	1	100.3140	0.916136	109.50	<.0001	Intercept
ms	1	-0.01764	0.019380	-0.91	0.3628	ms
qual	1	0.141663	0.035232	4.02	<.0001	qual
dc	1	-0.45759	0.619927	-0.74	0.4606	dc
pion	1	1.661022	1.073669	1.55	0.1221	pion
ef	1	0.070665	0.517670	0.14	0.8914	ef
tyrp	1	-1.42106	0.979397	-1.45	0.1470	tyrp
mktexp	1	0.224952	0.030689	7.33	<.0001	mktexp
pnp	1	-0.02127	0.016541	-1.29	0.1988	pnp

The SAS System

The SYSLIN Procedure
Two-Stage Least Squares Estimation



The SAS System

The SYSLIN Procedure
Two-Stage Least Squares Estimation

Model	dc
Dependent Variable	dc
Label	dc

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	10	147.9904	14.79904	13.21	<.0001
Error	1276	1429.556	1.120342		
Corrected Total	1286	794.3636			

Root MSE	1.05846	**R-Square**	0.09381
Dependent Mean	2.09091	**Adj R-Sq**	0.08671
Coeff Var	50.62209		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	Variable Label
Intercept	1	1.140754	0.221469	5.15	<.0001	Intercept
ms	1	0.004963	0.003573	1.39	0.1651	ms
qual	1	0.035383	0.005223	6.77	<.0001	qual
pion	1	-0.07697	0.201686	-0.38	0.7028	pion
ef	1	0.140887	0.095990	1.47	0.1424	ef
tyrp	1	0.221522	0.182612	1.21	0.2253	tyrp
penew	1	-0.00340	0.002123	-1.60	0.1098	penew
cap	1	0.000041	0.001952	0.02	0.9832	cap
rbvi	1	-0.04885	0.055304	-0.88	0.3773	rbvi
emprody	1	0.002523	0.001193	2.12	0.0346	emprody
union	1	0.001460	0.000949	1.54	0.1242	union

The SAS System

The SYSLIN Procedure
Two-Stage Least Squares Estimation