

H1 FORECAST MODEL
NY 2010-2016 ED Data

The AUTOREG Procedure

Dependent Variable	TCC_PRE
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H1 FORECAST MODEL
NY 2010-2016 ED Data

The AUTOREG Procedure

Ordinary Least Squares Estimates			
SSE	99463.7827	DFE	61
MSE	1631	Root MSE	40.38012
SBC	651.030615	AIC	646.744346
MAE	34.104363	AICC	646.944346
MAPE	1.85977654	HQC	648.430157
Durbin-Watson	0.0598	Total R-Square	0.9160

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	1506	11.7858	127.76	<.0001
TIME	1	7.2151	0.2798	25.79	<.0001

Estimates of Autocorrelations																								
Lag	Covariance	Correlation	-1	9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	1	
0	1578.8	1.000000													*****									
1	1468.1	0.929866													*****									
2	1310.5	0.830048													*****									
3	1143.7	0.724419													*****									
4	969.7	0.614203													*****									
5	788.4	0.499342													*****									
6	583.9	0.369817													*****									
7	372.4	0.235871													*****									

Preliminary MSE	189.0
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Estimates of Autoregressive Parameters			
Lag	Coefficient	Standard Error	t Value
1	-1.097971	0.129294	-8.49
2	0.141131	0.138651	1.02
7	0.099704	0.054902	1.82

Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.9318
2	0.8342
3	0.7241
4	0.6051
5	0.4790
6	0.3476
7	0.2144

Coefficients for First NLAG Observations							
	1	2	3	4	5	6	7
1	0.3406109273	0	0	0	0	0	0
2	-0.874414915	0.9384120886	0	0	0	0	0
3	0.2511116635	-1.139166694	0.971429007	0	0	0	0
4	0.1055841556	0.1287750666	-1.118582455	0.9771501059	0	0	0
5	0.106546662	-0.015758224	0.1435797268	-1.113699697	0.9829417687	0	0
6	0.108535917	-0.015779912	1.08745E-15	0.1427123552	-1.108703671	0.9889158538	0
7	0.1100204863	-0.014141771	-1.06162E-15	1.579673E-15	0.1418372684	-1.103468973	0.9950171222

Algorithm converged.

H1 FORECAST MODEL NY 2010-2016 ED Data

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Maximum Likelihood Estimates			
SSE	2097.03179	DFE	58
MSE	36.15572	Root MSE	6.01296
SBC	425.538525	AIC	414.822852
MAE	4.07913849	AICC	415.875483
MAPE	0.22184399	HQC	419.037378
Log Likelihood	-202.41143	Transformed Regression R-Square	0.5343
Durbin-Watson	1.6660	Total R-Square	0.9982
		Observations	63

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	1488	53.6773	27.71	<.0001
TIME	1	8.1959	1.4767	5.55	<.0001
AR1	1	-1.8001	0.0880	-20.46	<.0001
AR2	1	0.8556	0.0958	8.93	<.0001
AR7	1	-0.0286	0.0312	-0.92	0.3635

Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.9791
2	0.9262
3	0.8514
4	0.7644
5	0.6741
6	0.5874
7	0.5092

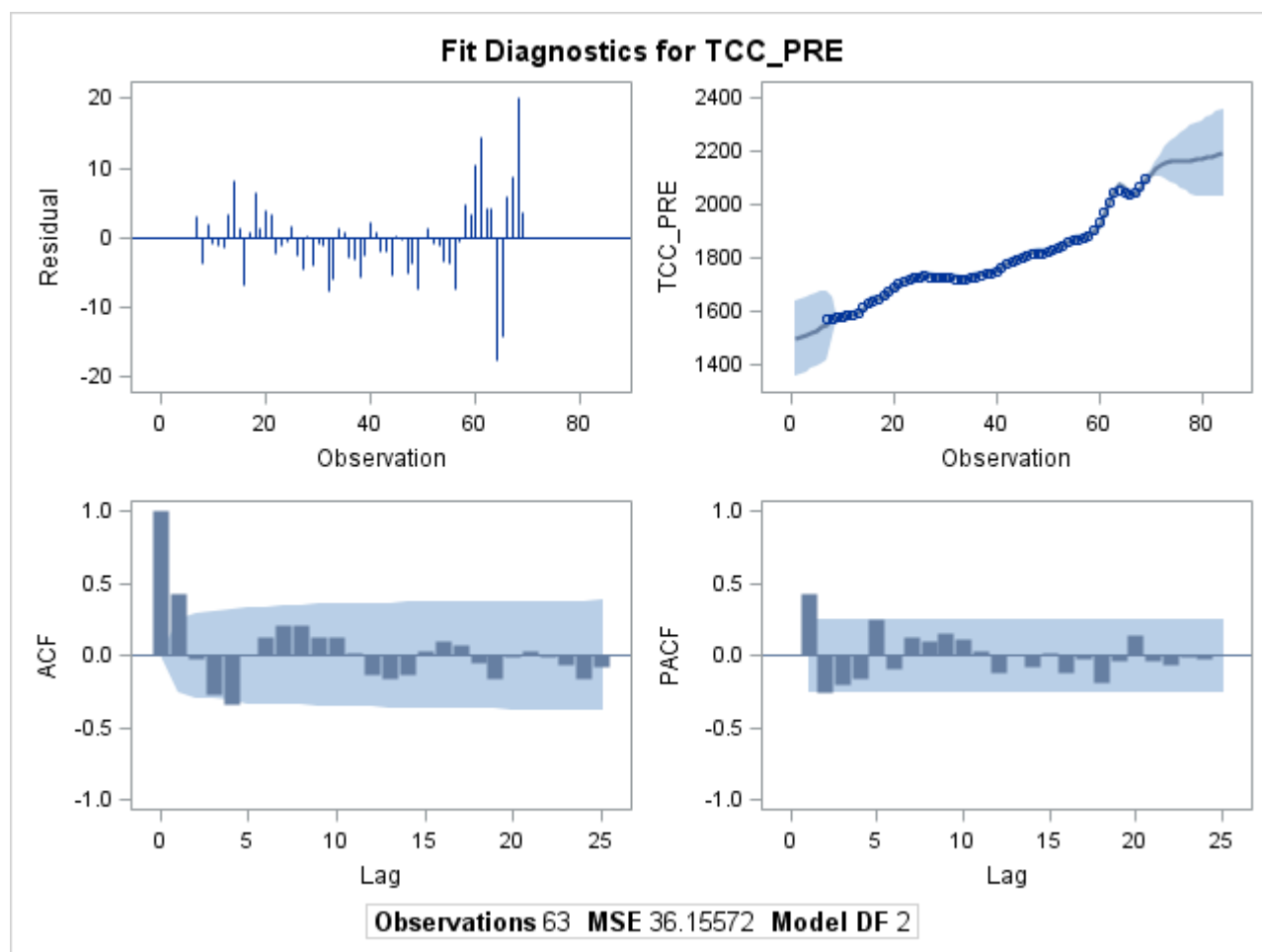
Coefficients for First NLAG Observations							
	1	2	3	4	5	6	7
1	0.1239711537	0	0	0	0	0	0
2	-0.597394283	0.6101219356	0	0	0	0	0
3	0.7784860803	-1.73069818	0.9890851093	0	0	0	0
4	-0.085255605	0.9305527396	-1.804218394	0.992752674	0	0	0
5	-0.079420311	0.05880966	0.859081456	-1.803162242	0.9959244236	0	0
6	-0.068337756	0.0441212643	4.518155E-15	0.8570661421	-1.8019526	0.9982662502	0
7	-0.051458394	0.0244581415	-5.43723E-15	-7.93854E-16	0.8559297202	-1.800822402	0.999591653

Autoregressive parameters assumed given					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t

Autoregressive parameters assumed given					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	1488	45.2620	32.86	<.0001
TIME	1	8.1959	1.0048	8.16	<.0001

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H2 FORECAST MODEL
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Dependent Variable	TCC_PRE
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H2 FORECAST MODEL
NY 2010-2016 ED Data

The AUTOREG Procedure

Ordinary Least Squares Estimates			
SSE	3795.23125	DFE	61
MSE	62.21691	Root MSE	7.88777
SBC	445.269576	AIC	440.983307
MAE	5.62569325	AICC	441.183307
MAPE	3.77015268	HQC	442.669117
Durbin-Watson	0.0830	Total R-Square	0.7119

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	116.8563	2.3022	50.76	<.0001
TIME	1	0.6710	0.0546	12.28	<.0001

Estimates of Autocorrelations																								
Lag	Covariance	Correlation	-1	9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	1	
0	60.2418	1.000000													*****									
1	47.8643	0.794537													*****									
2	36.0958	0.599183													*****									

Preliminary MSE	22.0434
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Estimates of Autoregressive Parameters			
Lag	Coefficient	Standard Error	t Value
1	-0.863723	0.129694	-6.66
2	0.087077	0.129694	0.67

Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.7945
2	0.5992

Coefficients for First NLAG Observations		
	1	2
1	0.6049091528	0
2	-0.791519083	0.9962015566

Algorithm converged.

H2 FORECAST MODEL NY 2010-2016 ED Data

The AUTOREG Procedure

Maximum Likelihood Estimates			
SSE	80.2779721	DFE	59
MSE	1.36064	Root MSE	1.16647
SBC	218.16165	AIC	209.589111
MAE	0.96793065	AICC	210.278766
MAPE	0.67447754	HQC	212.960732
Log Likelihood	-100.79456	Transformed Regression R-Square	0.1299
Durbin-Watson	2.2935	Total R-Square	0.9939
		Observations	63

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	105.0525	28.0449	3.75	0.0004
TIME	1	1.2512	0.9753	1.28	0.2045
AR1	1	-1.8878	0.0730	-25.86	<.0001
AR2	1	0.9027	0.0793	11.38	<.0001

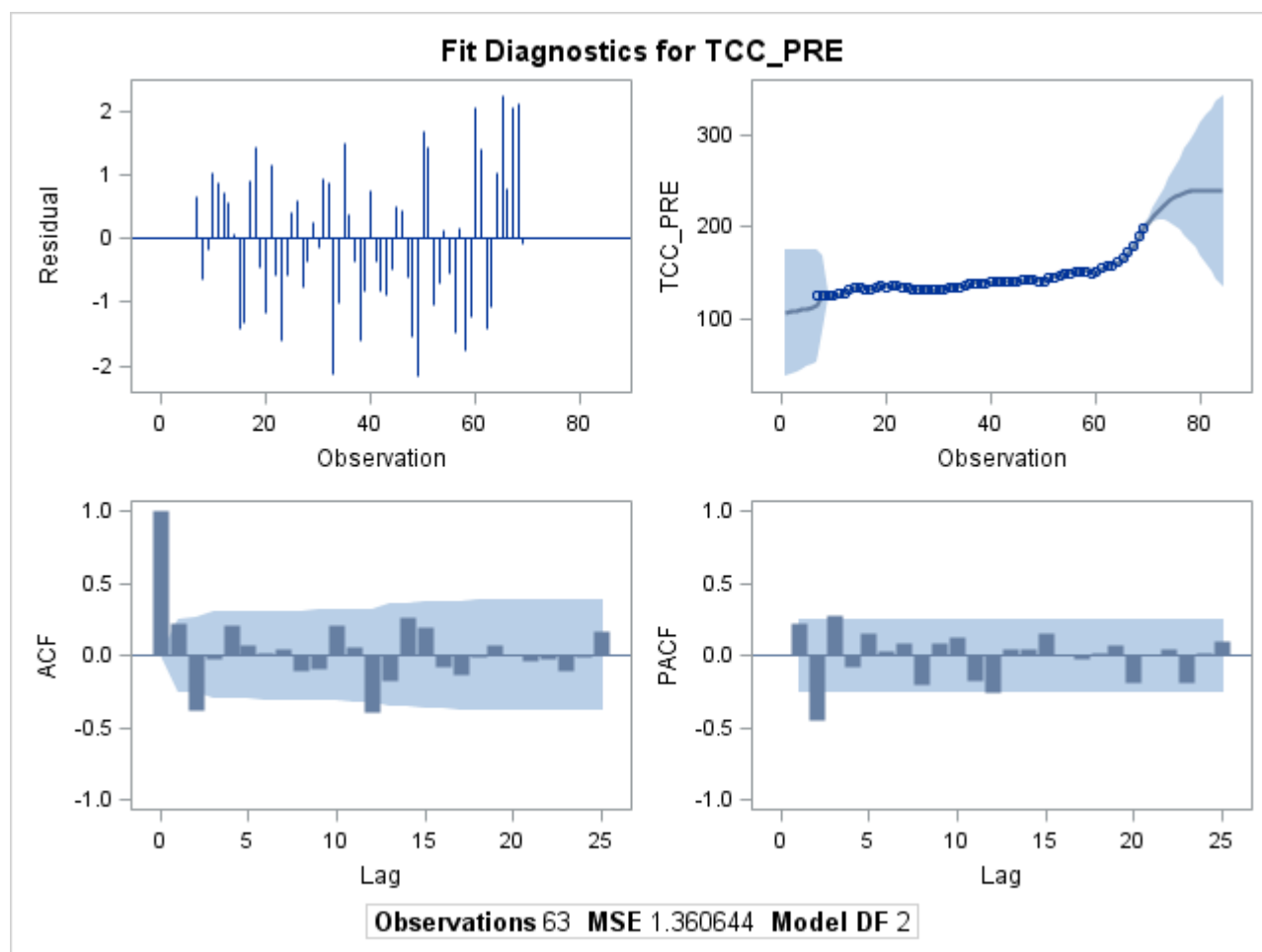
Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.9922
2	0.9703

Coefficients for First NLAG Observations		
	1	2
1	0.0537271045	0
2	-0.426949702	0.4303169183

Autoregressive parameters assumed given					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	105.0525	18.4312	5.70	<.0001
TIME	1	1.2512	0.4217	2.97	0.0043

H2 FORECAST MODEL NY 2010-2016 ED Data

The AUTOREG Procedure



H3 FORECAST MODEL
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Dependent Variable	TCC_PRE
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H3 FORECAST MODEL
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The AUTOREG Procedure

Ordinary Least Squares Estimates			
SSE	37836.5023	DFE	61
MSE	620.27053	Root MSE	24.90523
SBC	590.139901	AIC	585.853631
MAE	20.5869699	AICC	586.053631
MAPE	19.000462	HQC	587.539442
Durbin-Watson	0.0428	Total R-Square	0.9253

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	-26.8744	7.2691	-3.70	0.0005
TIME	1	4.7418	0.1726	27.48	<.0001

Estimates of Autocorrelations																							
Lag	Covariance	Correlation	-1	9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	1
0	600.6	1.000000													*****								
1	518.2	0.862846													*****								

Preliminary MSE	153.4
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Estimates of Autoregressive Parameters			
Lag	Coefficient	Standard Error	t Value
1	-0.862846	0.065255	-13.22

Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.8628

Coefficients for First NLAG Observations	
	1
1	0.5054662145

ERROR: The estimation did not converge in the maximum iterations. Continuing assuming convergence.

H3 FORECAST MODEL NY 2010-2016 ED Data

The AUTOREG Procedure

Maximum Likelihood Estimates			
SSE	1602.47083	DFE	60
MSE	26.70785	Root MSE	5.16796
SBC	399.048925	AIC	392.619521
MAE	3.71628889	AICC	393.026301
MAPE	3.1699871	HQC	395.148237
Log Likelihood	-193.30976	Transformed Regression R-Square	0.5927
Durbin-Watson	0.3733	Total R-Square	0.9968
		Observations	63

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	-1.0332	50.1510	-0.02	0.9836
TIME	1	5.3401	1.4197	3.76	0.0004
AR1	1	-0.9904	0.0292	-33.94	<.0001

Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.9904

Coefficients for First NLAG Observations	
	1
1	0.1384336544

Autoregressive parameters assumed given					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	-1.0332	39.2985	-0.03	0.9791
TIME	1	5.3401	0.5719	9.34	<.0001

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