

H1 INTERRUPTED TIME SERIES MODEL
NM 2010-2016 ED Data

The AUTOREG Procedure

Dependent Variable	TCC
	Trend-Cycle Component

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The AUTOREG Procedure

Ordinary Least Squares Estimates			
SSE	20149.8655	DFE	68
MSE	296.32155	Root MSE	17.21399
SBC	627.102461	AIC	617.995796
MAE	13.5810182	AICC	618.592811
MAPE	3.08872352	HQC	621.621187
Durbin-Watson	0.0938	Total R-Square	0.5346

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	450.6662	5.0243	89.70	<.0001
PRESLOPE	1	-0.2857	0.1193	-2.40	0.0194
INTERVENTION	1	-20.9620	13.2199	-1.59	0.1175
POSTSLOPE	1	-4.2111	2.2223	-1.89	0.0624

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	279.9	1.000000													*****									
1	258.2	0.922626													*****									
2	224.3	0.801624													*****									
3	179.7	0.642032													*****									

Preliminary MSE	34.1776
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Estimates of Autoregressive Parameters			
Lag	Coefficient	Standard Error	t Value
1	-1.138203	0.119208	-9.55
2	-0.006364	0.184772	-0.03
3	0.276250	0.119208	2.32

Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.9226
2	0.8016
3	0.6420

Coefficients for First NLAG Observations			
	1	2	3
1	0.3494629639	0	0
2	-0.835952418	0.9060578397	0
3	0.3205384153	-1.182459568	0.9610856801

Algorithm converged.

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Maximum Likelihood Estimates			
SSE	286.424908	DFE	65
MSE	4.40654	Root MSE	2.09918
SBC	340.262568	AIC	324.325905
MAE	1.61604012	AICC	326.075905
MAPE	0.37693213	HQC	330.670338
Log Likelihood	-155.16295	Transformed Regression R-Square	0.0587
Durbin-Watson	2.6199	Total R-Square	0.9934
		Observations	72

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	445.0310	12.6496	35.18	<.0001
PRESLOPE	1	-0.2632	0.2949	-0.89	0.3754
INTERVENTION	1	0.5203	2.0447	0.25	0.7999
POSTSLOPE	1	-2.5793	2.4943	-1.03	0.3049
AR1	1	-1.9188	0.1278	-15.02	<.0001
AR2	1	1.0250	0.2449	4.19	<.0001
AR3	1	-0.0601	0.1294	-0.46	0.6438

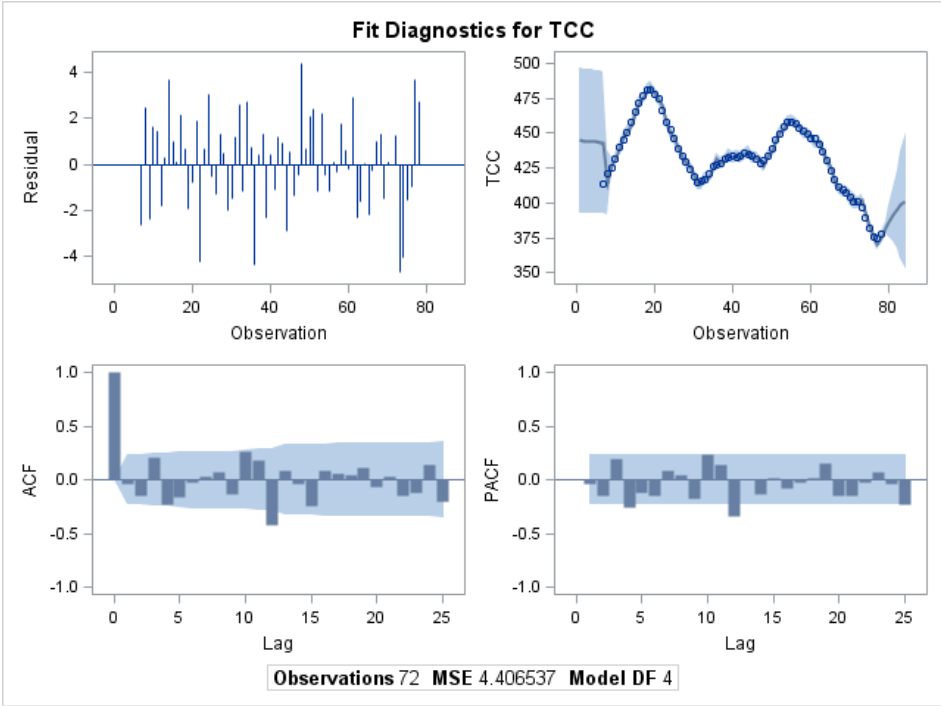
Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.9744
2	0.9033
3	0.7946

Coefficients for First NLAG Observations			
	1	2	3
1	0.0915975117	0	0
2	-0.396932832	0.4073644278	0
3	0.9112856122	-1.860580598	0.9981919876

Autoregressive parameters assumed given					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	445.0310	12.5394	35.49	<.0001
PRESLOPE	1	-0.2632	0.2907	-0.91	0.3685
INTERVENTION	1	0.5203	1.9733	0.26	0.7929
POSTSLOPE	1	-2.5793	2.2148	-1.16	0.2485

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H2 INTERRUPTED TIME SERIES MODEL
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Dependent Variable	TCC
	Trend-Cycle Component

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The AUTOREG Procedure

Ordinary Least Squares Estimates			
SSE	442.44947	DFE	68
MSE	6.50661	Root MSE	2.55081
SBC	352.161344	AIC	343.054679
MAE	1.90161218	AICC	343.651694
MAPE	4.15844899	HQC	346.680069
Durbin-Watson	0.3564	Total R-Square	0.8225

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	43.7998	0.7445	58.83	<.0001
PRESLOPE	1	0.0121	0.0177	0.69	0.4944
INTERVENTION	1	11.4734	1.9589	5.86	<.0001
POSTSLOPE	1	0.8222	0.3293	2.50	0.0150

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	6.1451	1.000000													*****									
1	5.0209	0.817058													*****									
2	3.9172	0.637454													*****									

Preliminary MSE	2.0260
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Estimates of Autoregressive Parameters			
Lag	Coefficient	Standard Error	t Value
1	-0.891114	0.122585	-7.27
2	0.090638	0.122585	0.74

Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.8171
2	0.6375

Coefficients for First NLAG Observations		
	1	2
1	0.5741827081	0
2	-0.813694606	0.9958838758

Algorithm converged.

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Maximum Likelihood Estimates			
SSE	18.442981	DFE	66
MSE	0.27944	Root MSE	0.52862
SBC	136.729489	AIC	123.069492
MAE	0.4119693	AICC	124.3618
MAPE	0.88947938	HQC	128.507578
Log Likelihood	-55.534746	Transformed Regression R-Square	0.2624
Durbin-Watson	1.7633	Total R-Square	0.9926
		Observations	72

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	40.4569	3.1554	12.82	<.0001
PRESLOPE	1	0.1100	0.0783	1.41	0.1647
INTERVENTION	1	-0.7596	0.5568	-1.36	0.1771
POSTSLOPE	1	1.4582	0.6361	2.29	0.0251
AR1	1	-1.7319	0.0771	-22.45	<.0001
AR2	1	0.7801	0.0819	9.53	<.0001

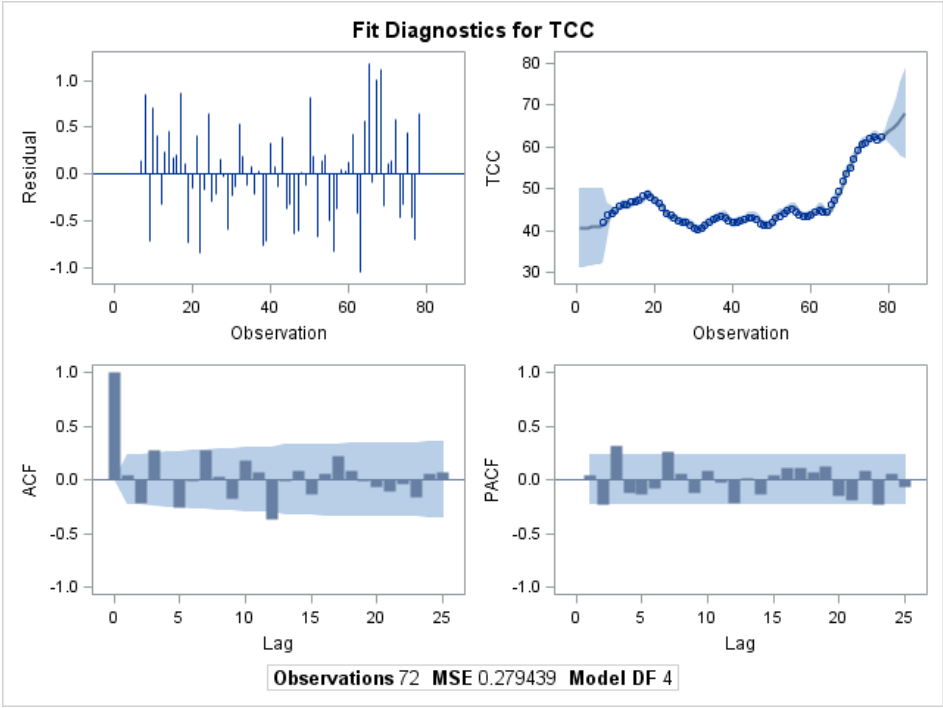
Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.9729
2	0.9049

Coefficients for First NLAG Observations		
	1	2
1	0.1446311407	0
2	-0.608703179	0.6256498441

Autoregressive parameters assumed given					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	40.4569	2.7684	14.61	<.0001
PRESLOPE	1	0.1100	0.0639	1.72	0.0896
INTERVENTION	1	-0.7596	0.4973	-1.53	0.1314
POSTSLOPE	1	1.4582	0.4328	3.37	0.0013

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Dependent Variable	TCC
	Trend-Cycle Component

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NM 2010-2016 ED Data

The AUTOREG Procedure

Ordinary Least Squares Estimates			
SSE	187.946525	DFE	68
MSE	2.76392	Root MSE	1.66250
SBC	290.517191	AIC	281.410527
MAE	1.33571013	AICC	282.007542
MAPE	3.36027311	HQC	285.035917
Durbin-Watson	0.2414	Total R-Square	0.9335

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	30.2054	0.4852	62.25	<.0001
PRESLOPE	1	0.2581	0.0115	22.41	<.0001
INTERVENTION	1	5.3305	1.2768	4.18	<.0001
POSTSLOPE	1	-0.1479	0.2146	-0.69	0.4931

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	2.6104	1.000000													*****									
1	2.2378	0.857268													*****									
2	1.7899	0.685686													*****									
3	1.4201	0.544022													*****									
4	1.0609	0.406431													*****									
5	0.7229	0.276930													*****									
6	0.4649	0.178104													****									
7	0.2436	0.093310													**									
8	0.0372	0.014269																						
9	-0.0447	-0.017119																						
10	-0.2536	-0.097139										**												
11	-0.4962	-0.190095										****												
12	-0.6159	-0.235961										*****												
13	-0.5239	-0.200700										****												

Preliminary MSE	0.6258
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Estimates of Autoregressive Parameters			
Lag	Coefficient	Standard Error	t Value
1	-0.975392	0.121830	-8.01
2	0.133050	0.121588	1.09
12	0.252883	0.121588	2.08
13	-0.220951	0.121830	-1.81

Expected Autocorrelations	
Lag	Autocorr

0	1.0000
1	0.8534
2	0.6867
3	0.5413
4	0.4194
5	0.3167
6	0.2287
7	0.1514
8	0.0812
9	0.0148
10	-0.0504
11	-0.1152
12	-0.1700
13	-0.1454

Coefficients for First NLAG Observations													
	1	2	3	4	5	6	7	8	9	10	11	12	13
1	0.4980607073	0	0	0	0	0	0	0	0	0	0	0	0
2	-0.815497202	0.9555627426	0	0	0	0	0	0	0	0	0	0	0
3	0.1483267667	-0.951848446	0.9670061969	0	0	0	0	0	0	0	0	0	0
4	0.0133260123	0.1352237222	-0.949894778	0.9670980134	0	0	0	0	0	0	0	0	0
5	0.0165434194	-0.002921175	0.1375566763	-0.949805791	0.9672395009	0	0	0	0	0	0	0	0
6	0.0205450797	-0.00362762	4.920745E-16	0.1375256555	-0.949668634	0.9674576748	0	0	0	0	0	0	0
7	0.0255282598	-0.00450663	-1.7325E-17	4.013514E-16	0.1374778029	-0.949457068	0.9677944227	0	0	0	0	0	0
8	0.03174212	-0.005598697	3.914679E-18	-1.10257E-16	3.668829E-16	0.1374039176	-0.949130327	0.9683148283	0	0	0	0	0
9	0.0394880103	-0.006937161	-1.48955E-16	3.780705E-17	-4.06664E-17	2.829068E-16	0.1372898072	-0.948624762	0.969119657	0	0	0	0
10	0.0490315927	-0.008456157	3.080296E-17	3.416841E-17	-1.51811E-17	-8.22929E-17	5.283079E-16	0.1371144302	-0.947840252	0.9703592153	0	0	0
11	0.0599583831	-0.009441834	-1.43845E-17	-6.64139E-17	5.372411E-17	-5.70687E-17	-1.75016E-16	5.327148E-16	0.1368534266	-0.946618294	0.9722098613	0	0
12	0.0672352149	-0.005363783	-1.16709E-17	4.497783E-17	-8.0793E-18	2.164976E-18	-6.10979E-17	-8.77895E-18	3.812044E-16	0.1365273311	-0.944732744	0.9745319844	0
13	0.0383162582	0.0301425398	-4.9099E-17	-6.51514E-18	-1.70784E-17	2.241013E-17	3.39852E-17	-1.47104E-17	-8.12312E-17	4.789653E-16	0.1364219263	-0.942819153	0.9752849451

Algorithm converged.

H3 INTERRUPTED TIME SERIES MODEL
NM 2010-2016 ED Data

The AUTOREG Procedure

Maximum Likelihood Estimates			
SSE	13.2842099	DFE	64
MSE	0.20757	Root MSE	0.45559
SBC	124.676202	AIC	106.462873
MAE	0.35442855	AICC	108.748588
MAPE	0.86440712	HQC	113.713654
Log Likelihood	-45.231437	Transformed Regression R-Square	0.7862
Durbin-Watson	1.4329	Total R-Square	0.9953
		Observations	72

Parameter Estimates					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	30.1226	1.0387	29.00	<.0001
PRESLOPE	1	0.2646	0.0248	10.66	<.0001
INTERVENTION	1	0.3941	0.4709	0.84	0.4057
POSTSLOPE	1	0.6823	0.2241	3.04	0.0034
AR1	1	-1.3959	0.0879	-15.88	<.0001
AR2	1	0.4857	0.0937	5.18	<.0001
AR12	1	0.4516	0.1031	4.38	<.0001
AR13	1	-0.4357	0.1005	-4.34	<.0001

Expected Autocorrelations	
Lag	Autocorr
0	1.0000
1	0.9433
2	0.8087
3	0.6268
4	0.4218
5	0.2109
6	0.0052
7	-0.1882
8	-0.3638
9	-0.5158
10	-0.6354
11	-0.7101
12	-0.7233
13	-0.6551

Coefficients for First NLAG Observations													
	1	2	3	4	5	6	7	8	9	10	11	12	13
1	0.1863165983	0	0	0	0	0	0	0	0	0	0	0	0
2	-0.52965301	0.5614678849	0	0	0	0	0	0	0	0	0	0	0
3	0.6126680554	-1.361891277	0.8310284784	0	0	0	0	0	0	0	0	0	0
4	0.0498670986	0.5320477955	-1.327576951	0.8325233086	0	0	0	0	0	0	0	0	0
5	0.0735525623	-0.067228693	0.5811260842	-1.328342399	0.8357661388	0	0	0	0	0	0	0	0
6	0.0973407921	-0.080660872	5.784488E-15	0.5772242447	-1.328754954	0.8414156337	0	0	0	0	0	0	0
7	0.1187438477	-0.089213738	-4.39068E-15	7.866371E-15	0.5715607163	-1.32818432	0.8497531229	0	0	0	0	0	0
8	0.1342820929	-0.08966877	-2.01019E-15	-1.96801E-15	6.438121E-15	0.5645551889	-1.325901193	0.8602976522	0	0	0	0	0
9	0.138398649	-0.077293067	-1.70641E-15	-8.05929E-16	-1.75194E-15	5.6859E-15	0.5573886195	-1.321346477	0.8713588448	0	0	0	0
10	0.1220100941	-0.045269805	2.844825E-16	1.270181E-15	-1.18106E-15	-2.59492E-15	7.023663E-15	0.5520034917	-1.314858046	0.8798594771	0	0	0
11	0.0724011565	0.0142265106	-1.91573E-15	5.806667E-16	5.76032E-16	-9.95969E-16	-3.26876E-15	7.649079E-15	0.5501440717	-1.30926224	0.8828332951	0	0
12	-0.022837361	0.1062937125	3.395334E-16	-5.11629E-16	8.133762E-16	3.256064E-16	-2.13984E-16	-3.7797E-15	7.582698E-15	0.5499600949	-1.311573116	0.8831286271	0
13	-0.173967194	0.235090077	1.105548E-16	-2.07631E-15	-2.63261E-16	1.145316E-15	-3.8167E-17	-6.52043E-16	-3.16154E-15	7.894225E-15	0.5395903564	-1.33227994	0.9001004148

Autoregressive parameters assumed given					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
Intercept	1	30.1226	1.0061	29.94	<.0001

Autoregressive parameters assumed given					
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > t
PRESLOPE	1	0.2646	0.0230	11.52	<.0001
INTERVENTION	1	0.3941	0.4605	0.86	0.3952
POSTSLOPE	1	0.6823	0.2063	3.31	0.0015

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The AUTOREG Procedure

