H1 INTERRUPTED TIME SERIES MODEL
MONTANA 2010-2016 HOSP Data

The AUTOREG Procedure

Dependent Variable	TCC
	Trend-Cycle Component

H1 INTERRUPTED TIME SERIES MODEL
MONTANA 2010-2016 HOSP Data

The AUTOREG Procedure

Ordinary Least Squares Estimates			
SSE	886.675331	DFE	68
MSE	13.03934	Root MSE	3.61100
SBC	402.212332	AIC	393.105668
MAE	2.64972719	AICC	393.702683
MAPE	2.77668285	HQC	396.731058
Durbin-Watson	0.0725	Total R-Square	0.2619

Parameter Estimates

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|
Intercept	1	101.0321	1.0540	95.86	<.0001
PRESLOPE	1	-0.1134	0.0250	-4.53	<.0001
INTERVENTION	1	0.1537	2.7732	0.06	0.9560
POSTSLOPE	1	0.8319	0.4662	1.78	0.0788

<table>
<tr><th colspan="4">Estimates of Autocorrelations</th></tr>
<tr><th>Lag</th><th>Covariance</th><th>Correlation</th><th>-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1</th></tr>
<tr><td>0</td><td>12.3149</td><td>1.000000</td><td>| |********************|</td></tr>
<tr><td>1</td><td>11.6930</td><td>0.949494</td><td>| |******************* |</td></tr>
<tr><td>2</td><td>10.5946</td><td>0.860303</td><td>| |***************** |</td></tr>
</table>

Preliminary MSE	0.9999

Estimates of Autoregressive Parameters

Lag	Coefficient	Standard Error	t Value
1	-1.347154	0.111776	-12.05
2	0.418812	0.111776	3.75

Expected Autocorrelations

Lag	Autocorr
0	1.0000
1	0.9495
2	0.8603

Coefficients for First NLAG Observations

	1	2
1	0.2849393578	0
2	-0.862210067	0.9080730348

Algorithm converged.

H1 INTERRUPTED TIME SERIES MODEL
MONTANA 2010-2016 HOSP Data

The AUTOREG Procedure

Maximum Likelihood Estimates			
SSE	42.4632157	DFE	66
MSE	0.64338	Root MSE	0.80211
SBC	195.376221	AIC	181.716224
MAE	0.59208713	AICC	183.008532
MAPE	0.6129701	HQC	187.15431
Log Likelihood	-84.858112	Transformed Regression R-Square	0.0831
Durbin-Watson	1.8571	Total R-Square	0.9647
		Observations	72

Parameter Estimates

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|
Intercept	1	99.4572	3.2352	30.74	<.0001
PRESLOPE	1	-0.0867	0.0741	-1.17	0.2462
INTERVENTION	1	0.1125	0.7845	0.14	0.8864
POSTSLOPE	1	0.9712	0.4601	2.11	0.0386
AR1	1	-1.5076	0.1018	-14.81	<.0001
AR2	1	0.5645	0.1026	5.50	<.0001

Expected Autocorrelations

Lag	Autocorr
0	1.0000
1	0.9637
2	0.8883

Coefficients for First NLAG Observations

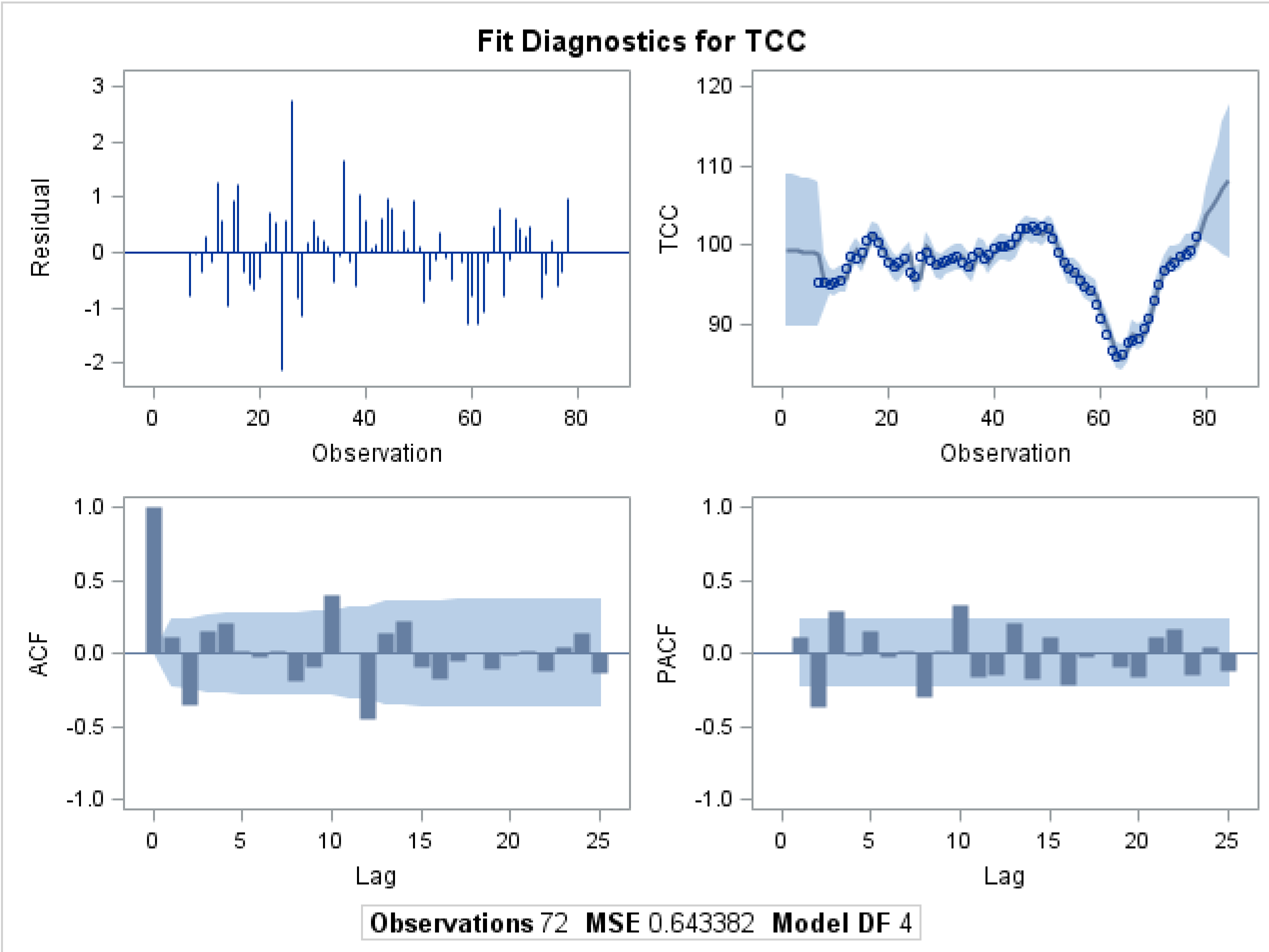
	1	2
1	0.2205281862	0
2	-0.795457605	0.8254607695

Autoregressive parameters assumed given

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|
Intercept	1	99.4572	3.2201	30.89	<.0001
PRESLOPE	1	-0.0867	0.0732	-1.18	0.2405
INTERVENTION	1	0.1125	0.7838	0.14	0.8863
POSTSLOPE	1	0.9712	0.4529	2.14	0.0357

H1 INTERRUPTED TIME SERIES MODEL
MONTANA 2010-2016 HOSP Data

The AUTOREG Procedure



H2 INTERRUPTED TIME SERIES MODEL
MONTANA 2010-2016 HOSP Data

The AUTOREG Procedure

Dependent Variable	TCC
	Trend-Cycle Component

H2 INTERRUPTED TIME SERIES MODEL
MONTANA 2010-2016 HOSP Data

The AUTOREG Procedure

Ordinary Least Squares Estimates			
SSE	102.118284	DFE	68
MSE	1.50174	Root MSE	1.22545
SBC	246.595342	AIC	237.488677
MAE	0.91941221	AICC	238.085692
MAPE	7.29860615	HQC	241.114067
Durbin-Watson	0.2704	Total R-Square	0.6789

Parameter Estimates

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|
Intercept	1	13.5278	0.3577	37.82	<.0001
PRESLOPE	1	-0.0330	0.008490	-3.89	0.0002
INTERVENTION	1	4.9899	0.9411	5.30	<.0001
POSTSLOPE	1	0.1917	0.1582	1.21	0.2299

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	1.4183	1.000000	| |********************|
1	1.2149	0.856555	| |***************** |

Preliminary MSE	0.3777

Estimates of Autoregressive Parameters

Lag	Coefficient	Standard Error	t Value
1	-0.856555	0.063046	-13.59

Expected Autocorrelations

Lag	Autocorr
0	1.0000
1	0.8566

Coefficients for First NLAG Observations

	1
1	0.5160561003

Algorithm converged.

H2 INTERRUPTED TIME SERIES MODEL
MONTANA 2010-2016 HOSP Data

The AUTOREG Procedure

Maximum Likelihood Estimates			
SSE	8.57135672	DFE	67
MSE	0.12793	Root MSE	0.35767
SBC	75.5362848	AIC	64.1529542
MAE	0.26612124	AICC	65.0620451
MAPE	2.10610248	HQC	68.6846918
Log Likelihood	-27.076477	Transformed Regression R-Square	0.1731
Durbin-Watson	0.9266	Total R-Square	0.9730
		Observations	72

Parameter Estimates

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|
Intercept	1	11.3638	1.8666	6.09	<.0001
PRESLOPE	1	0.0446	0.0403	1.11	0.2722
INTERVENTION	1	0.6588	0.3837	1.72	0.0906
POSTSLOPE	1	0.2371	0.1297	1.83	0.0719
AR1	1	-0.9763	0.0271	-35.99	<.0001

Expected Autocorrelations

Lag	Autocorr
0	1.0000
1	0.9763

Coefficients for First NLAG Observations

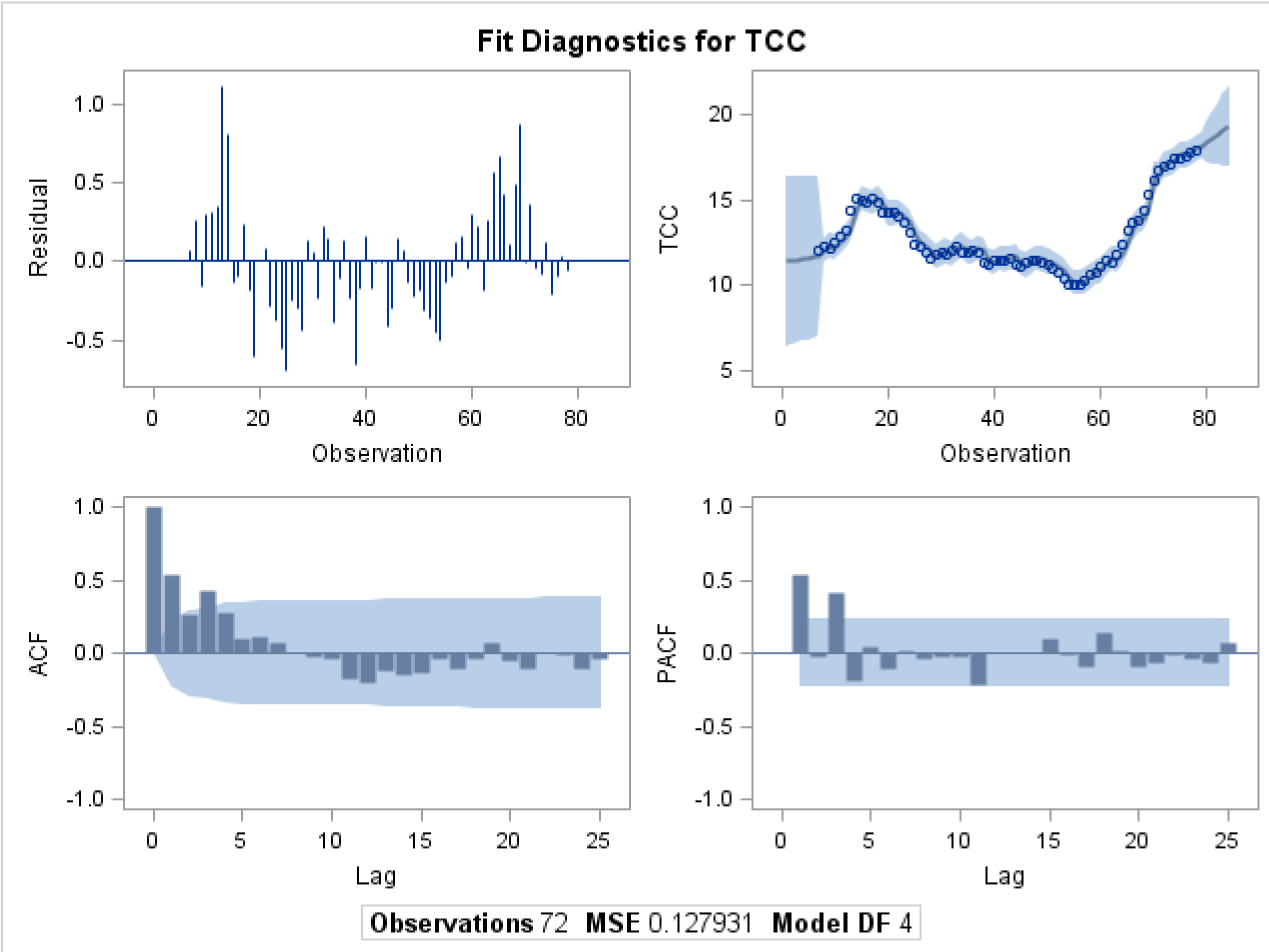
	1
1	0.2166340182

Autoregressive parameters assumed given

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|
Intercept	1	11.3638	1.7729	6.41	<.0001
PRESLOPE	1	0.0446	0.0331	1.35	0.1820
INTERVENTION	1	0.6588	0.3837	1.72	0.0906
POSTSLOPE	1	0.2371	0.1219	1.95	0.0559

H2 INTERRUPTED TIME SERIES MODEL
MONTANA 2010-2016 HOSP Data

The AUTOREG Procedure



H3 INTERRUPTED TIME SERIES MODEL
MONTANA 2010-2016 HOSP Data

The AUTOREG Procedure

Dependent Variable	TCC
	Trend-Cycle Component

H3 INTERRUPTED TIME SERIES MODEL
MONTANA 2010-2016 HOSP Data

The AUTOREG Procedure

Ordinary Least Squares Estimates			
SSE	0.56226983	DFE	68
MSE	0.00827	Root MSE	0.09093
SBC	-127.94183	AIC	-137.0485
MAE	0.0711355	AICC	-136.45148
MAPE	24.8480565	HQC	-133.42311
Durbin-Watson	0.5261	Total R-Square	0.8217

Parameter Estimates

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|
Intercept	1	0.0379	0.0265	1.43	0.1575
PRESLOPE	1	0.007460	0.000630	11.84	<.0001
INTERVENTION	1	0.4137	0.0698	5.92	<.0001
POSTSLOPE	1	-0.0479	0.0117	-4.08	0.0001

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	0.00781	1.000000	| |********************|
1	0.00575	0.735851	| |*************** |
2	0.00291	0.372735	| |******* |

Preliminary MSE	0.00310

Estimates of Autoregressive Parameters

Lag	Coefficient	Standard Error	t Value
1	-1.006653	0.114453	-8.80
2	0.368012	0.114453	3.22

Expected Autocorrelations

Lag	Autocorr
0	1.0000
1	0.7359
2	0.3727

Coefficients for First NLAG Observations

	1	2
1	0.6296221673	0
2	-0.684209864	0.9298210644

Algorithm converged.

H3 INTERRUPTED TIME SERIES MODEL
MONTANA 2010-2016 HOSP Data

The AUTOREG Procedure

Maximum Likelihood Estimates			
SSE	0.11078377	DFE	66
MSE	0.00168	Root MSE	0.04097
SBC	-233.63148	AIC	-247.29148
MAE	0.03048109	AICC	-245.99917
MAPE	10.322601	HQC	-241.85339
Log Likelihood	129.645738	Transformed Regression R-Square	0.5678
Durbin-Watson	1.7202	Total R-Square	0.9649
		Observations	72

Parameter Estimates

Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|
Intercept	1	0.0255	0.0480	0.53	0.5977
PRESLOPE	1	0.007972	0.001127	7.07	<.0001
INTERVENTION	1	0.0235	0.0403	0.58	0.5626
POSTSLOPE	1	0.0172	0.0143	1.20	0.2329
AR1	1	-1.4627	0.0944	-15.50	<.0001
AR2	1	0.7082	0.1016	6.97	<.0001

Expected Autocorrelations

Lag	Autocorr
0	1.0000
1	0.8563
2	0.5442

Coefficients for First NLAG Observations

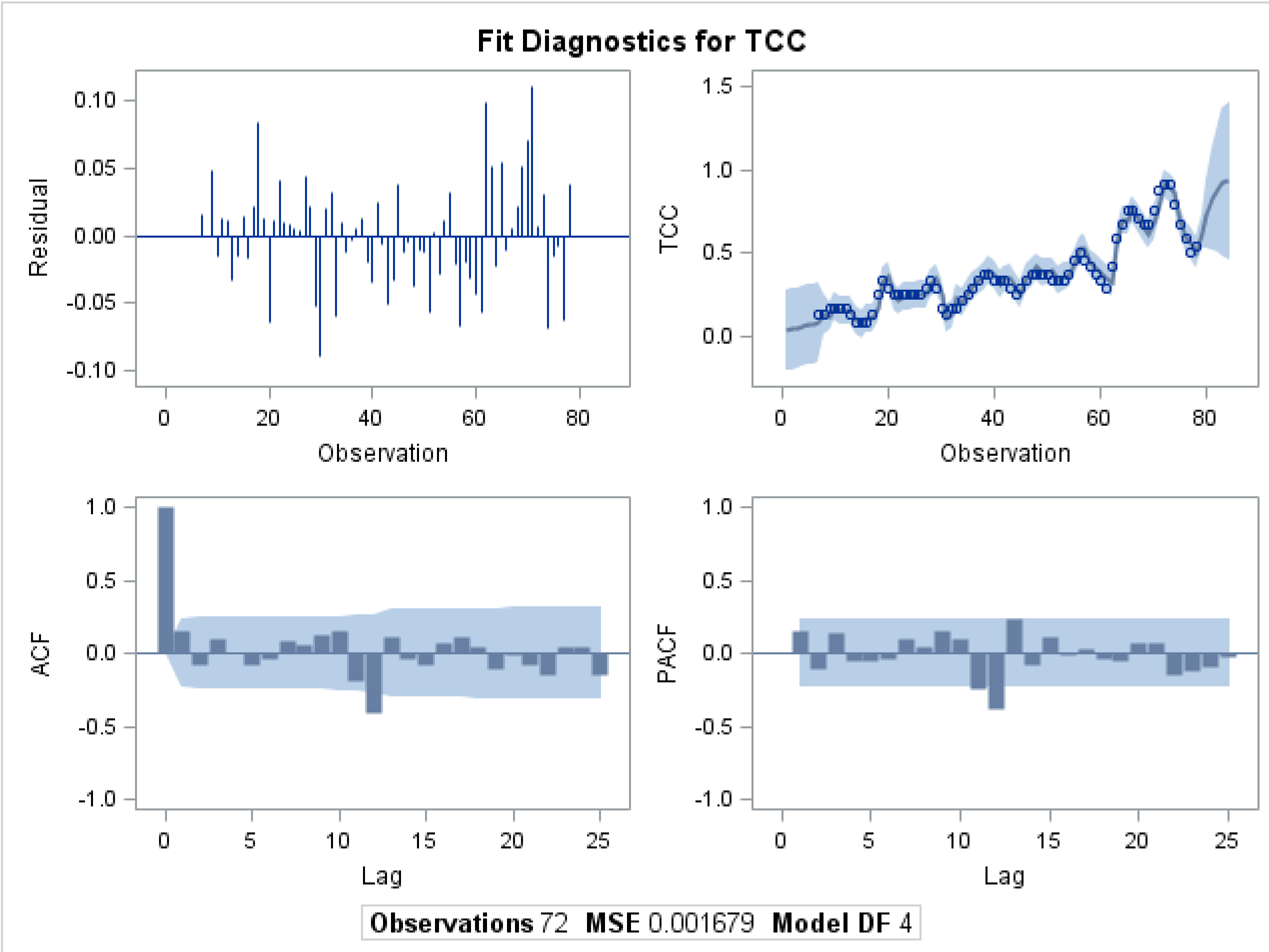
	1	2
1	0.3646619813	0
2	-0.604495755	0.7059698852

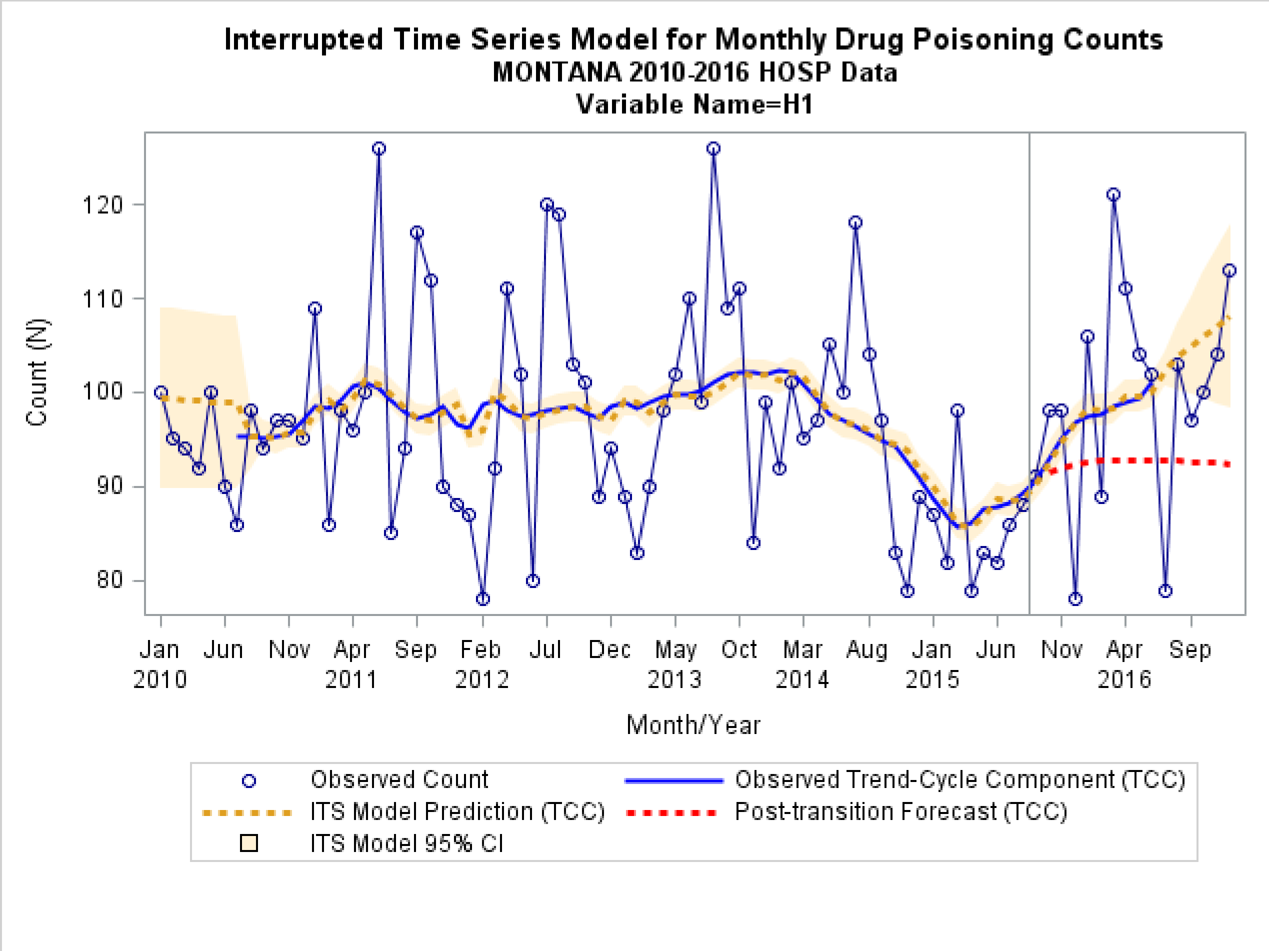
Autoregressive parameters assumed given

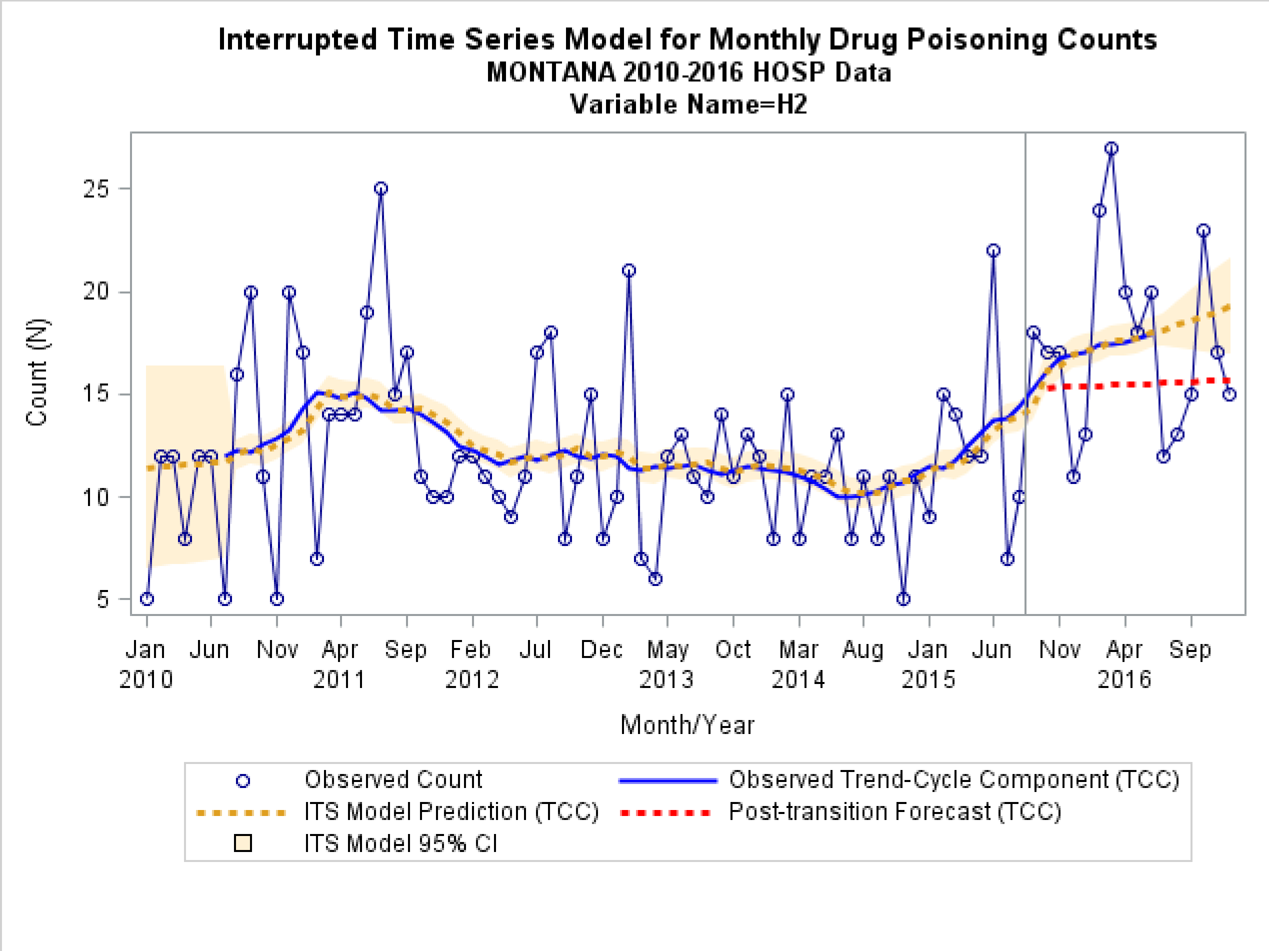
Variable	DF	Estimate	Standard Error	t Value	Approx Pr > |t|
Intercept	1	0.0255	0.0478	0.53	0.5962
PRESLOPE	1	0.007972	0.001116	7.14	<.0001
INTERVENTION	1	0.0235	0.0401	0.59	0.5602
POSTSLOPE	1	0.0172	0.0132	1.30	0.1971

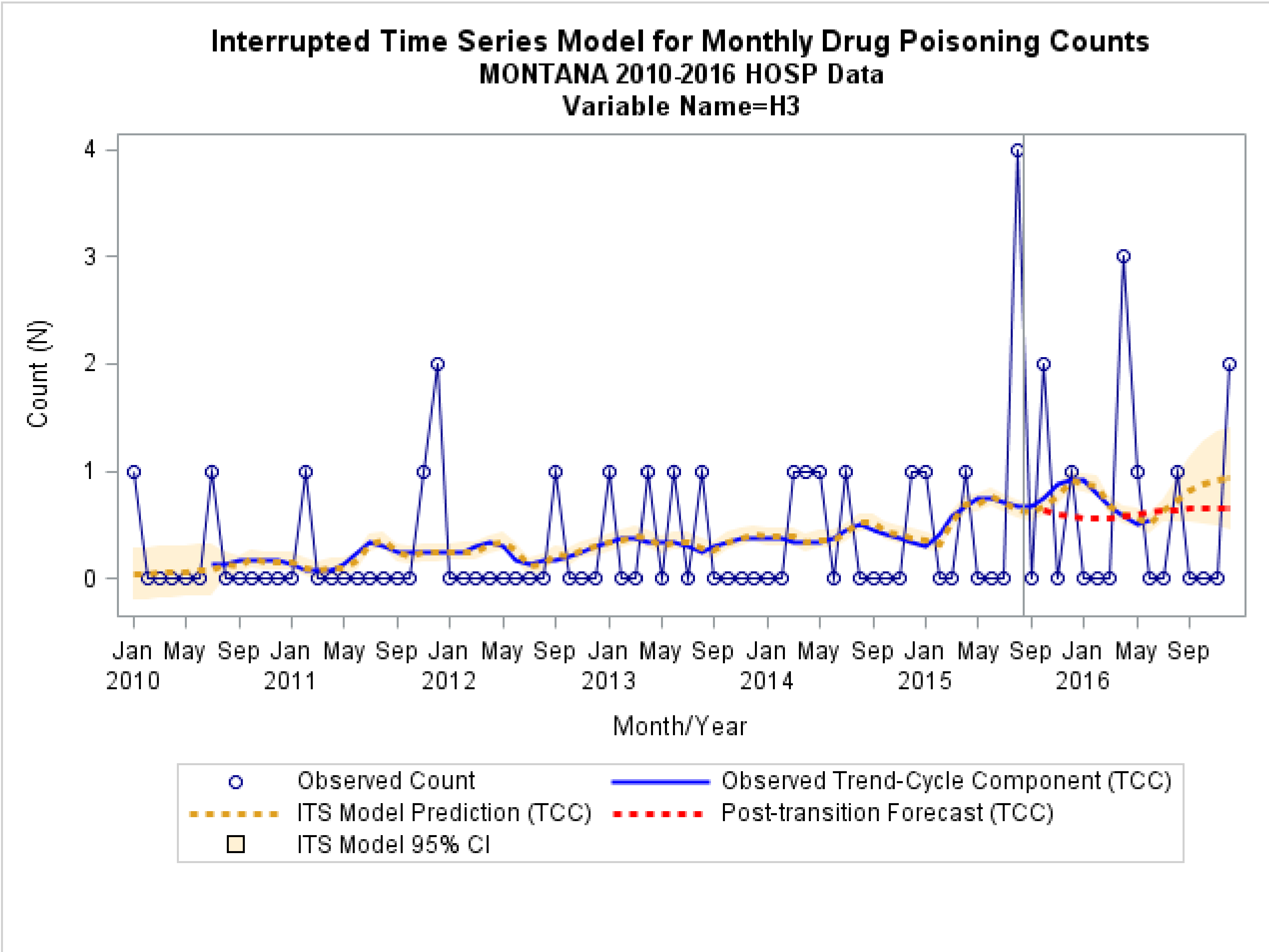
H3 INTERRUPTED TIME SERIES MODEL
MONTANA 2010-2016 HOSP Data

The AUTOREG Procedure




Interrupted Time Series Model for Monthly Drug Poisoning Counts
MONTANA 2010-2016 HOSP Data
Variable Name=H1
Count (N)
120
110
100
90
80
Jan 2010
Jun
Nov
Apr 2011
Sep
Feb 2012
Jul
Dec
May 2013
Oct
Mar 2014
Aug
Jan 2015
Jun
Nov
Apr 2016
Sep
Month/Year
Observed Count
Observed Trend-Cycle Component (TCC)
ITS Model Prediction (TCC)
Post-transition Forecast (TCC)
ITS Model 95% CI


Interrupted Time Series Model for Monthly Drug Poisoning Counts
MONTANA 2010-2016 HOSP Data
Variable Name=H2
Count (N)
25
20
15
10
5
Jan 2010
Jun
Nov
Apr 2011
Sep
Feb 2012
Jul
Dec
May 2013
Oct
Mar 2014
Aug
Jan 2015
Jun
Nov
Apr 2016
Sep
Month/Year
Observed Count
Observed Trend-Cycle Component (TCC)
ITS Model Prediction (TCC)
Post-transition Forecast (TCC)
ITS Model 95% CI


Interrupted Time Series Model for Monthly Drug Poisoning Counts
MONTANA 2010-2016 HOSP Data
Variable Name=H3
Count (N)
0
1
2
3
4
Jan 2010
May
Sep
Jan 2011
May
Sep
Jan 2012
May
Sep
Jan 2013
May
Sep
Jan 2014
May
Sep
Jan 2015
May
Sep
Jan 2016
May
Sep
Month/Year
Observed Count
Observed Trend-Cycle Component (TCC)
ITS Model Prediction (TCC)
Post-transition Forecast (TCC)
ITS Model 95% CI