Input Data Set	
Name	WORK.PREPROCESSEDDATA
Time ID Variable	Date_of_death

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Estimation Span Summary									
Variable	**Type**	**First Obs**	**Last Obs**	**NObs**	**NMiss**	**Min**	**Max**	**Mean**	**Standard Deviation**
count	**Dependent**	JAN2000	OCT2019	238	0	1.00000	15.00000	5.49580	2.38446

Forecast Span Summary									
Variable	**Type**	**First Obs**	**Last Obs**	**NObs**	**NMiss**	**Min**	**Max**	**Mean**	**Standard Deviation**
count	**Dependent**	JAN2000	OCT2019	238	0	1.00000	15.00000	5.49580	2.38446

Preliminary Estimates of the Free Parameters		
Component	**Parameter**	**Estimate**
Irregular	**Error Variance**	4.52940
Level	**Error Variance**	1.69852
Season	**Error Variance**	5.74533

Likelihood Based Fit Statistics	
Statistic	**Value**
Full Log Likelihood	-539.6
Diffuse Part of Log Likelihood	-2.485
Non-Missing Observations Used	238
Estimated Parameters	3
Initialized Diffuse State Elements	12
Normalized Residual Sum of Squares	226
AIC (smaller is better)	1085.2
BIC (smaller is better)	1095.4
AICC (smaller is better)	1085.3
HQIC (smaller is better)	1089.3
CAIC (smaller is better)	1098.4

Likelihood Optimization Algorithm Converged in 5 Iterations.

Final Estimates of the Free Parameters					
Component	**Parameter**	**Estimate**	**Approx Std Error**	**t Value**	**Approx Pr > |t|**
Irregular	**Error Variance**	5.64830	0.57803	9.77	<.0001
Level	**Error Variance**	0.00212	0.0040256	0.53	0.5976
Season	**Error Variance**	0.01290	0.03396	0.38	0.7040

Fit Statistics Based on Residuals	
Mean Squared Error	6.80268
Root Mean Squared Error	2.60820
Number of non-missing residuals used for computing the fit statistics = 226	

| Fit Statistics Based on Residuals	
Mean Absolute Percentage Error	50.52309
Maximum Percent Error	71.44175
R-Square	-0.22614
Adjusted R-Square	-0.23713
Random Walk R-Square	0.41298
Amemiya's Adjusted R-Square	-0.25913
Number of non-missing residuals used for computing the fit statistics = 226	

Significance Analysis of Components (Based on the Final State)			
Component	DF	Chi-Square	Pr > ChiSq
Irregular	1	44.67	<.0001
Level	1	288.07	<.0001
Season	11	3.32	0.9857

Trend Information (Based on the Final State)		
Name	Estimate	Standard Error
Level	5.594445987	0.3296156

Summary of Seasons			
Name	Type	Season Length	Error Variance
Season	DUMMY	12	0.01290

Outlier Summary							
Obs	Date_of_death	Break Type	Estimate	Standard Error	Chi-Square	DF	Pr > ChiSq
85	JAN2007	Additive Outlier	9.45953	2.4565685	14.83	1	0.0001
194	FEB2016	Additive Outlier	6.23898	2.466715	6.40	1	0.0114
133	JAN2011	Additive Outlier	6.19025	2.4557097	6.35	1	0.0117

Forecasts for Variable count					
Obs	Date_of_death	Forecast	Standard Error	95% Confidence Limits	
239	NOV2019	5.703934	2.48847	0.826624	10.581244
240	DEC2019	5.546828	2.48848	0.669506	10.424150
241	JAN2020	6.059651	2.48723	1.184770	10.934532
242	FEB2020	5.085451	2.48749	0.210051	9.960851
243	MAR2020	5.736048	2.48775	0.860151	10.611945
244	APR2020	5.110121	2.48800	0.233738	9.986503
245	MAY2020	5.760916	2.48824	0.884053	10.637780
246	JUN2020	5.729105	2.48848	0.851765	10.606445
247	JUL2020	6.042143	2.48873	1.164330	10.919956
248	AUG2020	5.733254	2.48896	0.854976	10.611533
249	SEP2020	4.917099	2.48918	0.038395	9.795802
250	OCT2020	5.708802	2.48918	0.830103	10.587501

Forecasts for count
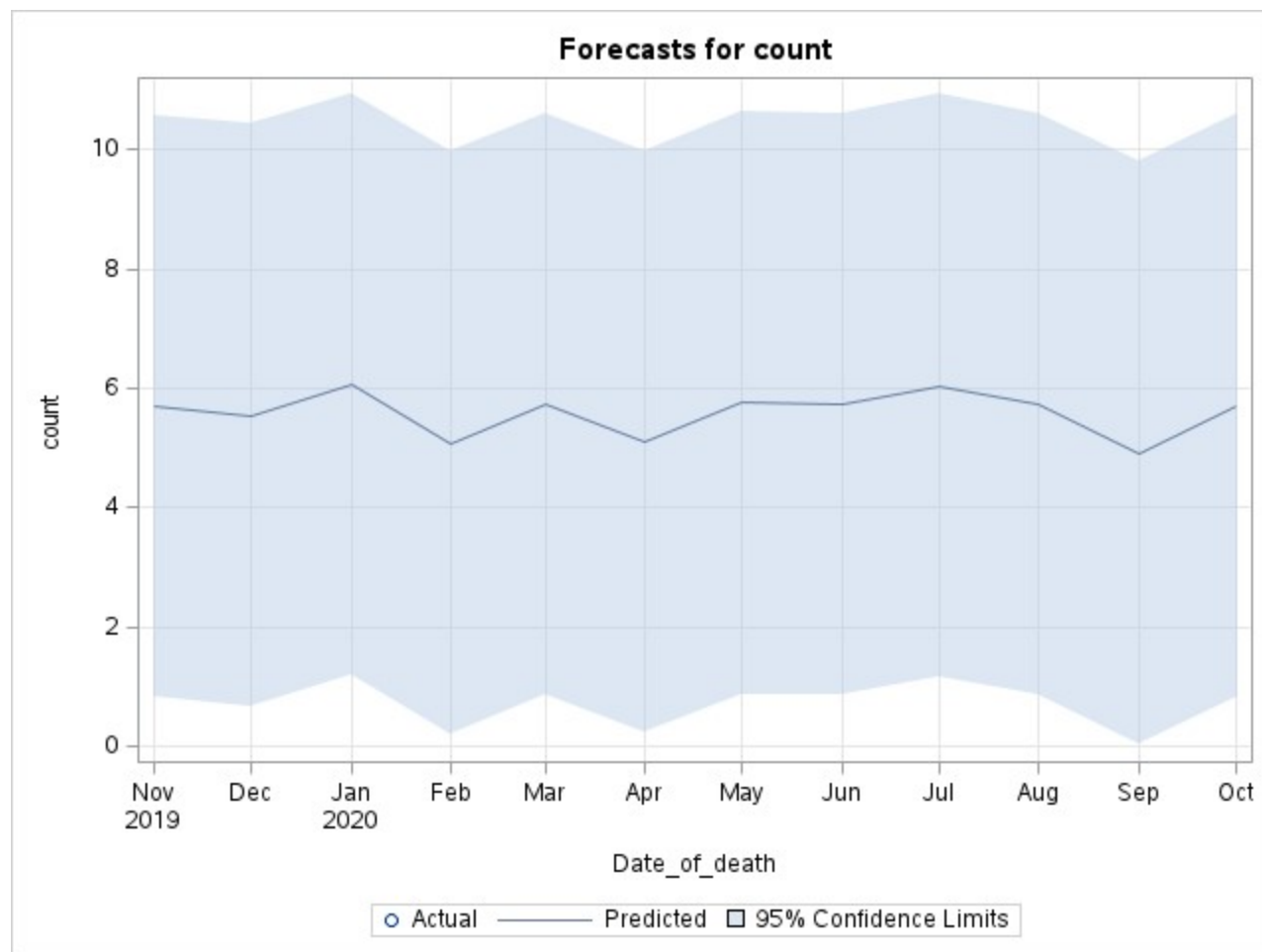
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Estimation Span Summary									
Variable	Type	First Obs	Last Obs	NObs	NMiss	Min	Max	Mean	Standard Deviation
count	Dependent	JAN2000	OCT2019	238	0	2.00000	46.00000	24.06723	7.01443

Forecast Span Summary									
Variable	Type	First Obs	Last Obs	NObs	NMiss	Min	Max	Mean	Standard Deviation
count	Dependent	JAN2000	OCT2019	238	0	2.00000	46.00000	24.06723	7.01443

Preliminary Estimates of the Free Parameters		
Component	Parameter	Estimate
Irregular	Error Variance	39.19638
Level	Error Variance	14.69864
Season	Error Variance	29.12950

Likelihood Based Fit Statistics	
Statistic	Value
Full Log Likelihood	-736.7
Diffuse Part of Log Likelihood	-2.485
Non-Missing Observations Used	238
Estimated Parameters	3

Likelihood Based Fit Statistics

Statistic	Value
Initialized Diffuse State Elements	12
Normalized Residual Sum of Squares	226
AIC (smaller is better)	1479.4
BIC (smaller is better)	1489.7
AICC (smaller is better)	1479.6
HQIC (smaller is better)	1483.6
CAIC (smaller is better)	1492.7

Likelihood Optimization Algorithm Converged in 5 Iterations.

Final Estimates of the Free Parameters

Component	Parameter	Estimate	Approx Std Error	t Value	Approx Pr > |t|
Irregular	Error Variance	29.66766	3.17458	9.35	<.0001
Level	Error Variance	0.29400	0.17643	1.67	0.0956
Season	Error Variance	0.11693	0.19845	0.59	0.5557

Fit Statistics Based on Residuals

|	
Mean Squared Error	37.98303
Root Mean Squared Error	6.16304
Mean Absolute Percentage Error	26.21603
Maximum Percent Error	47.53753
R-Square	0.17489
Adjusted R-Square	0.16749
Random Walk R-Square	0.43739
Amemiya's Adjusted R-Square	0.15269
Number of non-missing residuals used for computing the fit statistics = 226	

Significance Analysis of Components (Based on the Final State)

Component	DF	Chi-Square	Pr > ChiSq
Irregular	1	107.49	<.0001
Level	1	281.65	<.0001
Season	11	12.17	0.3511

Trend Information (Based on the Final State)

Name	Estimate	Standard Error
Level	28.23604711	1.6824686

Summary of Seasons

Name	Type	Season Length	Error Variance
Season	DUMMY	12	0.11693

Outlier Summary

Obs	Date_of_death	Break Type	Estimate	Standard Error	Chi-Square	DF	Pr > ChiSq
238	OCT2019	Additive Outlier	-28.11753	5.9806425	22.10	1	<.0001
151	JUL2012	Additive Outlier	19.47385	5.7685834	11.40	1	0.0007
82	OCT2006	Additive Outlier	16.75243	5.7728483	8.42	1	0.0037

Forecasts for Variable count

Obs	Date_of_death	Forecast	Standard Error	95% Confidence Limits	
239	NOV2019	29.170912	5.98064	17.449069	40.892755
240	DEC2019	27.694712	5.99585	15.943066	39.446357
241	JAN2020	29.934695	6.01601	18.143523	41.725868
242	FEB2020	26.414203	6.03886	14.578257	38.250150
243	MAR2020	31.001481	6.06147	19.121212	42.881750
244	APR2020	28.163329	6.08381	16.239286	40.087373
245	MAY2020	27.950138	6.10588	15.982840	39.917436
246	JUN2020	28.138591	6.12768	16.128550	40.148633
247	JUL2020	29.510457	6.14923	17.458192	41.562722
248	AUG2020	29.654364	6.17045	17.560504	41.748224
249	SEP2020	25.877738	6.19083	13.743934	38.011542
250	OCT2020	25.321945	6.20399	13.162344	37.481547

Forecasts for count
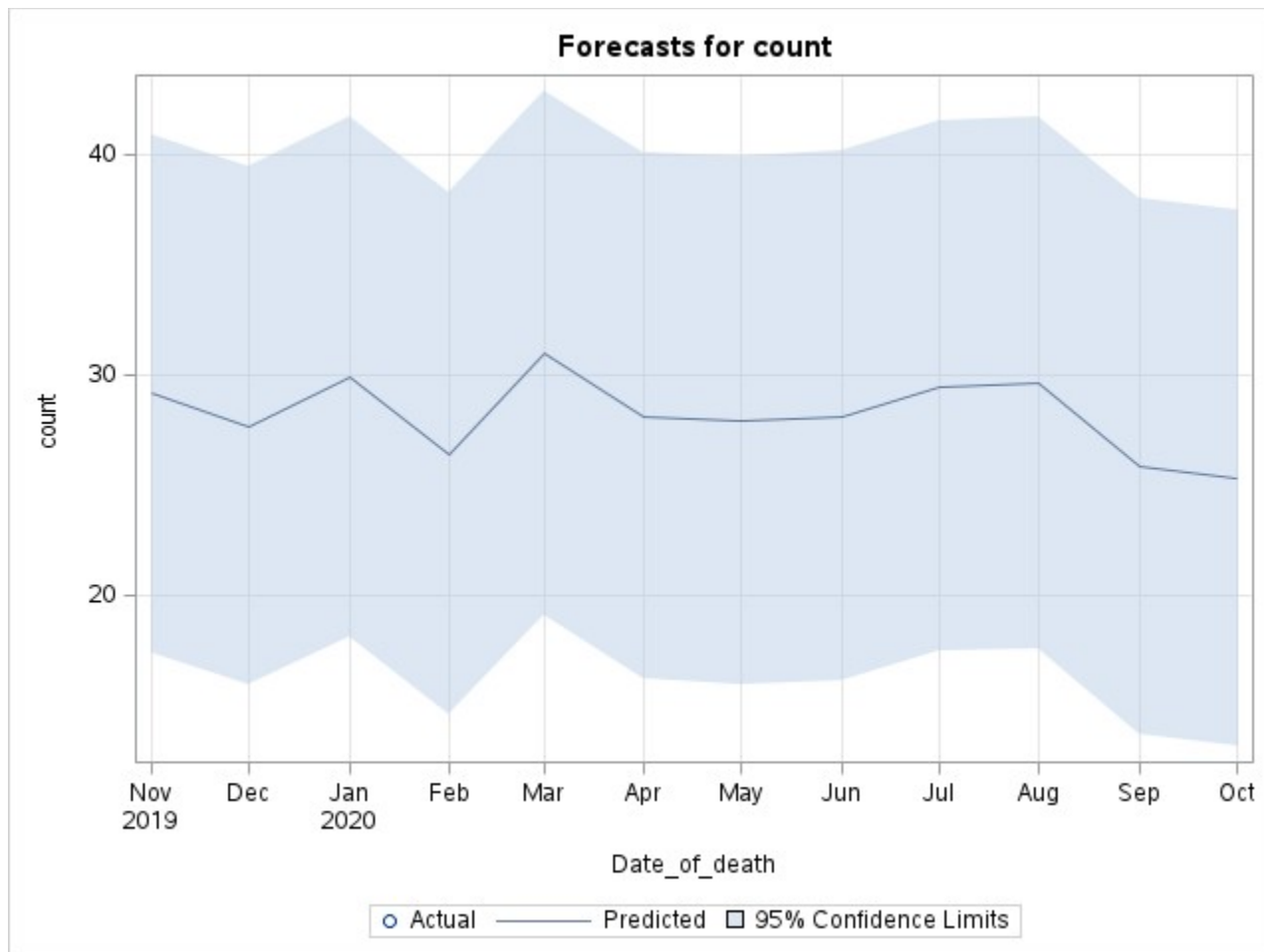
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Estimation Span Summary

Variable	Type	First Obs	Last Obs	NObs	NMiss	Min	Max	Mean	Standard Deviation
count	Dependent	JAN2000	OCT2019	238	0	5.00000	38.00000	19.42437	7.26652

Forecast Span Summary

Variable	Type	First Obs	Last Obs	NObs	NMiss	Min	Max	Mean	Standard Deviation
count	Dependent	JAN2000	OCT2019	238	0	5.00000	38.00000	19.42437	7.26652

Preliminary Estimates of the Free Parameters

Component	Parameter	Estimate
Irregular	Error Variance	42.06433
Level	Error Variance	15.77412
Season	Error Variance	20.36299

Likelihood Based Fit Statistics

Statistic	Value
Full Log Likelihood	-696.4
Diffuse Part of Log Likelihood	-2.485
Non-Missing Observations Used	238
Estimated Parameters	3
Initialized Diffuse State Elements	12
Normalized Residual Sum of Squares	226
AIC (smaller is better)	1398.8
BIC (smaller is better)	1409.1
AICC (smaller is better)	1398.9
HQIC (smaller is better)	1403
CAIC (smaller is better)	1412.1

Likelihood Optimization Algorithm Converged in 14 Iterations.

Final Estimates of the Free Parameters

Component	Parameter	Estimate	Approx Std Error	t Value	Approx Pr > |t|
Irregular	Error Variance	20.26567	2.06757	9.80	<.0001
Level	Error Variance	0.44309	0.22192	2.00	0.0459
Season	Error Variance	0.00000224	0.0009182	0.00	0.9981

Fit Statistics Based on Residuals

|	
Mean Squared Error	27.18270
Root Mean Squared Error	5.21370
Mean Absolute Percentage Error	25.82664
Maximum Percent Error	70.88664
R-Square	0.46862
Adjusted R-Square	0.46385
Random Walk R-Square	0.32877
Amemiya's Adjusted R-Square	0.45432
Number of non-missing residuals used for computing the fit statistics = 226	

Significance Analysis of Components (Based on the Final State)

Component	DF	Chi-Square	Pr > ChiSq
Irregular	1	86.35	<.0001
Level	1	213.06	<.0001
Season	11	18.36	0.0737

Trend Information (Based on the Final State)

Name	Estimate	Standard Error
Level	24.44933642	1.6750117

Summary of Seasons

Name	Type	Season Length	Error Variance
Season	DUMMY	12	0.00000224

Outlier Summary

Obs	Date_of_death	Break Type	Estimate	Standard Error	Chi-Square	DF	Pr > ChiSq
238	OCT2019	Additive Outlier	-21.38056	4.9621334	18.57	1	<.0001
157	JAN2013	Additive Outlier	11.51590	4.7953215	5.77	1	0.0163
7	JUL2000	Additive Outlier	-11.16317	4.8256355	5.35	1	0.0207

Forecasts for Variable count

Obs	Date_of_death	Forecast	Standard Error	95% Confidence Limits	
239	NOV2019	22.202659	4.96213	12.477057	31.928262
240	DEC2019	25.355591	5.00586	15.544282	35.166901
241	JAN2020	25.239560	5.04401	15.353484	35.125636
242	FEB2020	24.634822	5.08625	14.665957	34.603686
243	MAR2020	25.180141	5.12780	15.129829	35.230453
244	APR2020	22.925421	5.16869	12.794970	33.055871
245	MAY2020	24.970725	5.20893	14.761414	35.180036
246	JUN2020	25.016041	5.24853	14.729119	35.302963
247	JUL2020	27.111330	5.28750	16.748017	37.474643
248	AUG2020	23.556624	5.32587	13.118114	33.995133
249	SEP2020	23.601933	5.36364	13.089395	34.114471
250	OCT2020	23.597191	5.40082	13.011769	34.182612

Forecasts for count
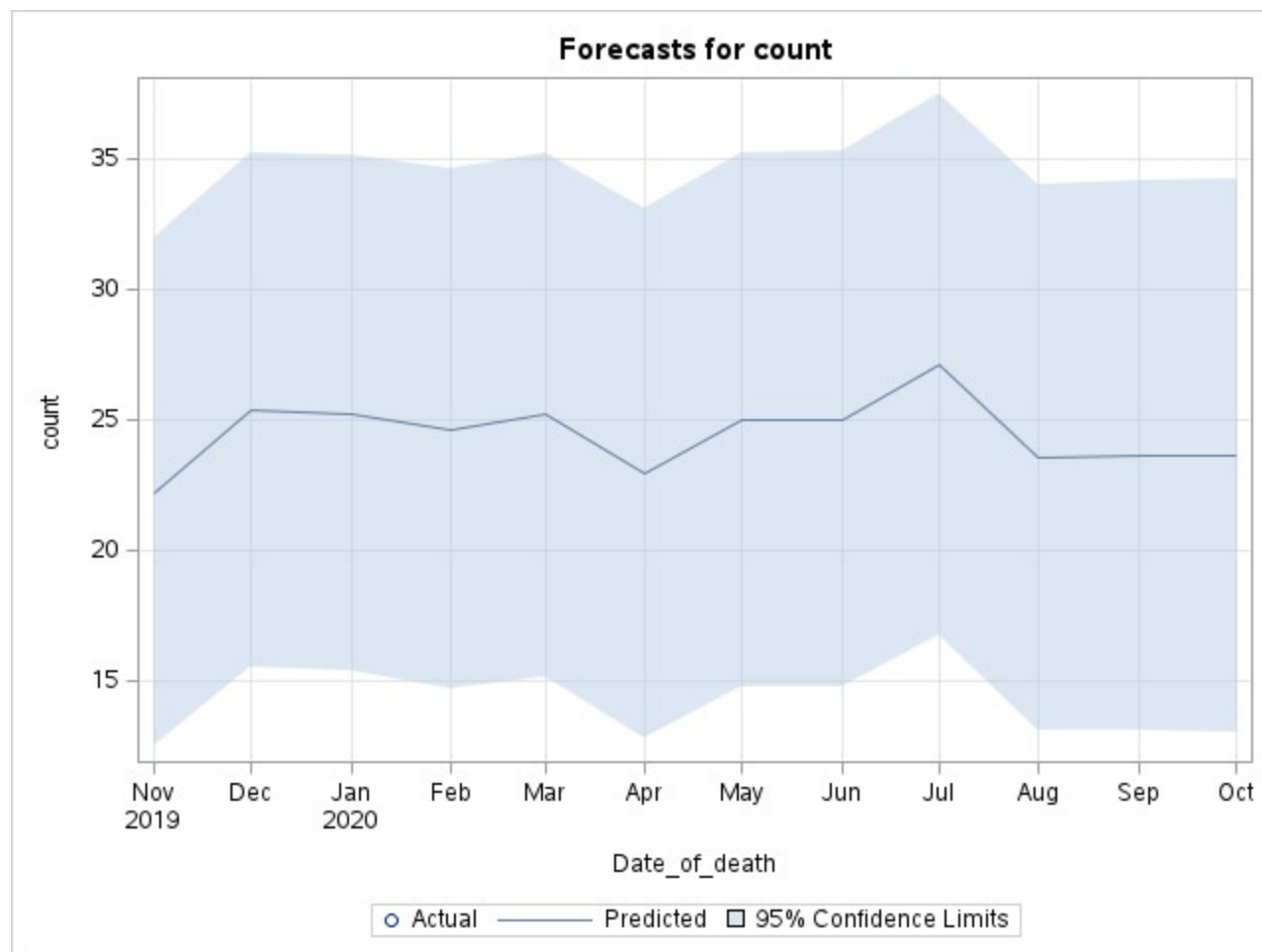
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Estimation Span Summary

Variable	Type	First Obs	Last Obs	NObs	NMiss	Min	Max	Mean	Standard Deviation
count	Dependent	JAN2000	OCT2019	238	0	2.00000	30.00000	13.22269	4.99417

Forecast Span Summary

Variable	Type	First Obs	Last Obs	NObs	NMiss	Min	Max	Mean	Standard Deviation
count	Dependent	JAN2000	OCT2019	238	0	2.00000	30.00000	13.22269	4.99417

Preliminary Estimates of the Free Parameters

Component	Parameter	Estimate
Irregular	Error Variance	19.86957
Level	Error Variance	7.45109
Season	Error Variance	13.99589

Likelihood Based Fit Statistics

Statistic	Value
Full Log Likelihood	-649.3
Diffuse Part of Log Likelihood	-2.485
Non-Missing Observations Used	238
Estimated Parameters	3

Likelihood Based Fit Statistics

Statistic	Value
Initialized Diffuse State Elements	12
Normalized Residual Sum of Squares	226
AIC (smaller is better)	1304.6
BIC (smaller is better)	1314.9
AICC (smaller is better)	1304.8
HQIC (smaller is better)	1308.8
CAIC (smaller is better)	1317.9

Likelihood Optimization Algorithm Converged in 7 Iterations.

Final Estimates of the Free Parameters

Component	Parameter	Estimate	Approx Std Error	t Value	Approx Pr > |t|
Irregular	Error Variance	13.49186	1.48753	9.07	<.0001
Level	Error Variance	0.09188	0.04949	1.86	0.0634
Season	Error Variance	0.14122	0.15121	0.93	0.3503

Fit Statistics Based on Residuals

|	
Mean Squared Error	17.35322
Root Mean Squared Error	4.16572
Mean Absolute Percentage Error	28.71789
Maximum Percent Error	57.23944
R-Square	0.26690
Adjusted R-Square	0.26032
Random Walk R-Square	0.44236
Amemiya's Adjusted R-Square	0.24717
Number of non-missing residuals used for computing the fit statistics = 226	

Significance Analysis of Components (Based on the Final State)

Component	DF	Chi-Square	Pr > ChiSq
Irregular	1	55.02	<.0001
Level	1	269.21	<.0001
Season	11	20.68	0.0369

Trend Information (Based on the Final State)

Name	Estimate	Standard Error
Level	17.02849902	1.0378462

Summary of Seasons

Name	Type	Season Length	Error Variance
Season	DUMMY	12	0.14122

Outlier Summary

Obs	Date_of_death	Break Type	Estimate	Standard Error	Chi-Square	DF	Pr > ChiSq
238	OCT2019	Additive Outlier	-14.86174	4.0901702	13.20	1	0.0003
217	JAN2018	Additive Outlier	12.15257	3.9843436	9.30	1	0.0023
208	APR2017	Additive Outlier	-11.88756	3.9570456	9.02	1	0.0027

Forecasts for Variable count					
Obs	Date_of_death	Forecast	Standard Error	95% Confidence Limits	
239	NOV2019	14.615388	4.09017	6.598803	22.631973
240	DEC2019	15.781347	4.09296	7.759299	23.803395
241	JAN2020	18.700336	4.10176	10.661034	26.739638
242	FEB2020	15.875033	4.11182	7.816015	23.934052
243	MAR2020	19.268993	4.12199	11.190045	27.347941
244	APR2020	17.347440	4.13206	9.248744	25.446135
245	MAY2020	17.850159	4.14203	9.731930	25.968388
246	JUN2020	17.377120	4.15188	9.239586	25.514654
247	JUL2020	17.433335	4.16158	9.276794	25.589877
248	AUG2020	16.975077	4.17097	8.800128	25.150027
249	SEP2020	19.132190	4.17930	10.940911	27.323469
250	OCT2020	13.985570	4.18185	5.789286	22.181855

Forecasts for count
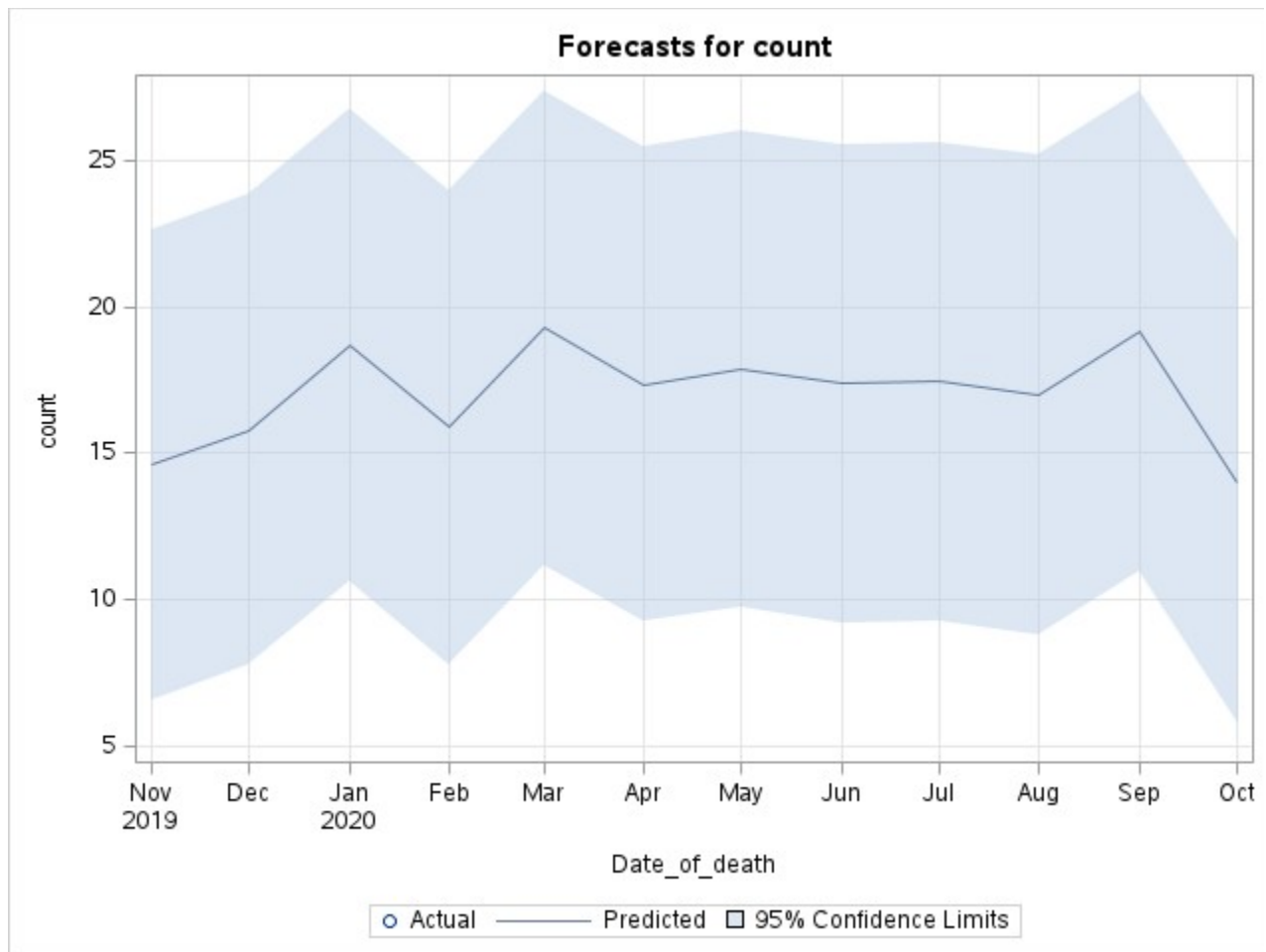
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Estimation Span Summary								
Variable	Type	First Obs	Last Obs	NObs	NMiss	Min	Max	Mean	Standard Deviation
count	Dependent	JAN2000	OCT2019	238	6	1.00000	20.00000	7.86207	4.27395

Forecast Span Summary

Variable	Type	First Obs	Last Obs	NObs	NMiss	Min	Max	Mean	Standard Deviation
count	Dependent	JAN2000	OCT2019	238	6	1.00000	20.00000	7.86207	4.27395

Preliminary Estimates of the Free Parameters

Component	Parameter	Estimate
Irregular	Error Variance	14.61254
Level	Error Variance	5.47970
Season	Error Variance	7.02704

Likelihood Based Fit Statistics

Statistic	Value
Full Log Likelihood	-561.1
Diffuse Part of Log Likelihood	-11.74
Non-Missing Observations Used	232
Estimated Parameters	3
Initialized Diffuse State Elements	12
Normalized Residual Sum of Squares	220
AIC (smaller is better)	1128.2
BIC (smaller is better)	1138.4
AICC (smaller is better)	1128.3
HQIC (smaller is better)	1132.3
CAIC (smaller is better)	1141.4

Likelihood Optimization Algorithm Converged in 12 Iterations.

Final Estimates of the Free Parameters

Component	Parameter	Estimate	Approx Std Error	t Value	Approx Pr > |t|
Irregular	Error Variance	7.32166	0.72043	10.16	<.0001
Level	Error Variance	0.07302	0.03423	2.13	0.0329
Season	Error Variance	2.426518E-7	0.0001331	0.00	0.9985

Fit Statistics Based on Residuals

|	
Mean Squared Error	9.08404
Root Mean Squared Error	3.01397
Mean Absolute Percentage Error	45.30904
Maximum Percent Error	62.29542
R-Square	0.48771
Adjusted R-Square	0.48285
Random Walk R-Square	0.41429
Amemiya's Adjusted R-Square	0.47314
Number of non-missing residuals used for computing the fit statistics = 214	

Significance Analysis of Components (Based on the Final State)

Component	DF	Chi-Square	Pr > ChiSq
Irregular	1	41.89	<.0001
Level	1	184.82	<.0001
Season	11	30.29	0.0014

Trend Information (Based on the Final State)

Name	Estimate	Standard Error
Level	11.36929495	0.8363054

Summary of Seasons

Name	Type	Season Length	Error Variance
Season	DUMMY	12	2.426518E-7

Outlier Summary

Obs	Date_of_death	Break Type	Estimate	Standard Error	Chi-Square	DF	Pr > ChiSq
176	AUG2014	Additive Outlier	8.97428	2.8449616	9.95	1	0.0016
235	JUL2019	Additive Outlier	8.38487	2.8828652	8.46	1	0.0036
227	NOV2018	Additive Outlier	-7.73530	2.8630845	7.30	1	0.0069

Forecasts for Variable count

Obs	Date_of_death	Forecast	Standard Error	95% Confidence Limits	
239	NOV2019	9.944081	2.91569	4.229435	15.658727
240	DEC2019	12.114571	2.92408	6.383484	17.845659
241	JAN2020	11.571227	2.93310	5.822466	17.319989
242	FEB2020	10.088285	2.94473	4.316725	15.859844
243	MAR2020	11.432913	2.95900	5.633383	17.232443
244	APR2020	11.556582	2.97034	5.734815	17.378348
245	MAY2020	11.489449	2.97880	5.651108	17.327790
246	JUN2020	12.329513	2.99260	6.464116	18.194910
247	JUL2020	12.473564	3.00084	6.592017	18.355112
248	AUG2020	12.590621	3.01167	6.687856	18.493386
249	SEP2020	11.366007	3.02779	5.431652	17.300362
250	OCT2020	9.474726	3.03294	3.530282	15.419169

Forecasts for count
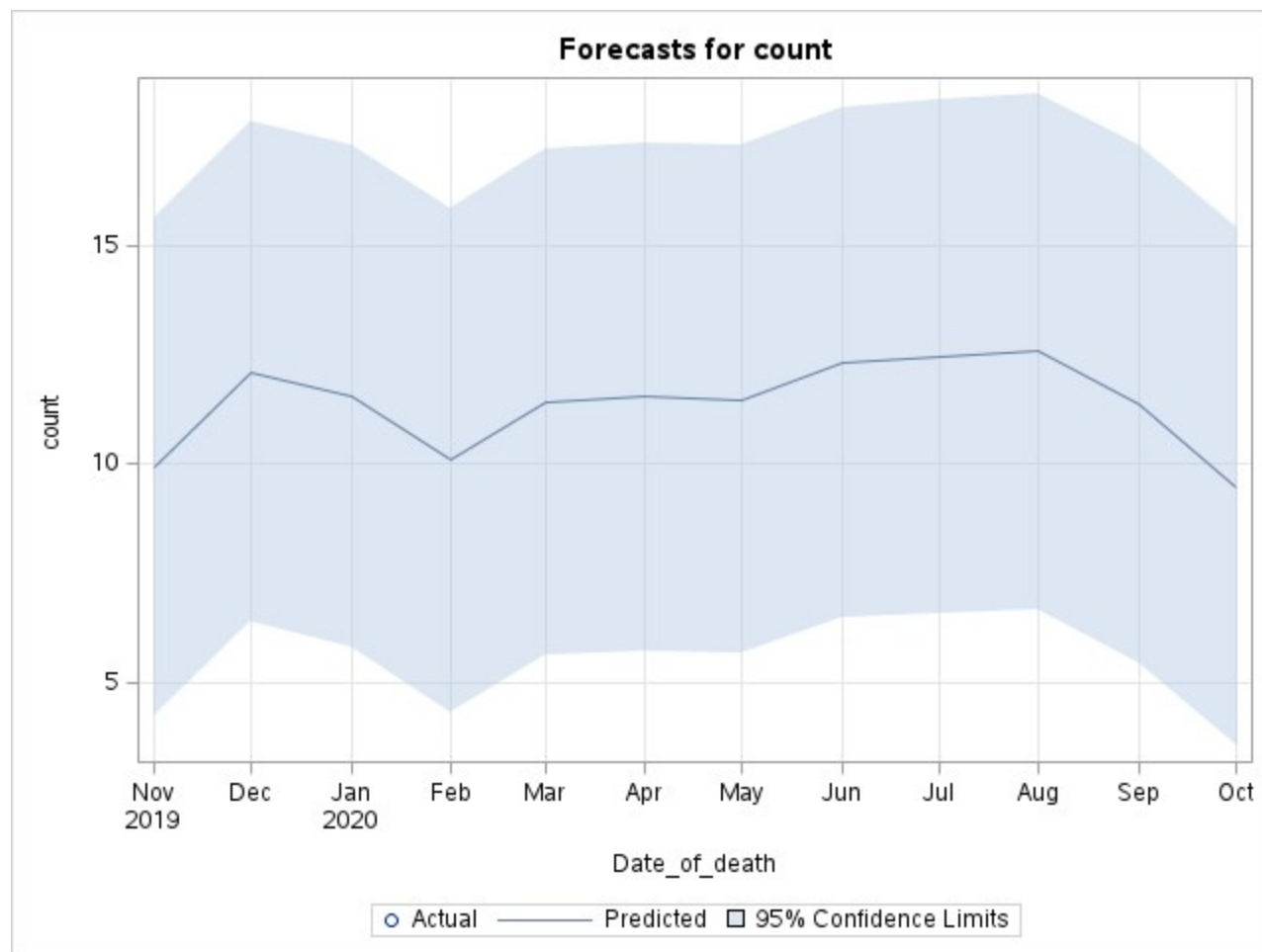
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Estimation Span Summary									
Variable	**Type**	**First Obs**	**Last Obs**	**NObs**	**NMiss**	**Min**	**Max**	**Mean**	**Standard Deviation**
count	Dependent	JAN2000	OCT2019	238	32	1.00000	12.00000	3.13107	1.96737

Forecast Span Summary									
Variable	**Type**	**First Obs**	**Last Obs**	**NObs**	**NMiss**	**Min**	**Max**	**Mean**	**Standard Deviation**
count	Dependent	JAN2000	OCT2019	238	32	1.00000	12.00000	3.13107	1.96737

Preliminary Estimates of the Free Parameters		
Component	**Parameter**	**Estimate**
Irregular	Error Variance	2.98508
Level	Error Variance	1.11940
Season	Error Variance	2.23640

Likelihood Based Fit Statistics	
Statistic	**Value**
Full Log Likelihood	-384
Diffuse Part of Log Likelihood	-16.69
Non-Missing Observations Used	206
Estimated Parameters	3

Likelihood Based Fit Statistics

Statistic	Value
Initialized Diffuse State Elements	12
Normalized Residual Sum of Squares	194
AIC (smaller is better)	774.05
BIC (smaller is better)	783.85
AICC (smaller is better)	774.18
HQIC (smaller is better)	778.02
CAIC (smaller is better)	786.85

Likelihood Optimization Algorithm Converged in 12 Iterations.

Final Estimates of the Free Parameters

Component	Parameter	Estimate	Approx Std Error	t Value	Approx Pr > |t|
Irregular	Error Variance	2.33672	0.24455	9.56	<.0001
Level	Error Variance	0.01478	0.0086678	1.71	0.0882
Season	Error Variance	1.070905E-7	0.00005379	0.00	0.9984

Fit Statistics Based on Residuals

|	
Mean Squared Error	2.97912
Root Mean Squared Error	1.72601
Mean Absolute Percentage Error	50.65488
Maximum Percent Error	66.70969
R-Square	0.23192
Adjusted R-Square	0.22309
Random Walk R-Square	0.42746
Amemiya's Adjusted R-Square	0.20543
Number of non-missing residuals used for computing the fit statistics = 177	

Significance Analysis of Components (Based on the Final State)

Component	DF	Chi-Square	Pr > ChiSq
Irregular	1	40.59	<.0001
Level	1	131.36	<.0001
Season	11	13.73	0.2483

Trend Information (Based on the Final State)

Name	Estimate	Standard Error
Level	4.855129739	0.4236192

Summary of Seasons

Name	Type	Season Length	Error Variance
Season	DUMMY	12	1.070905E-7

Outlier Summary

Obs	Date_of_death	Break Type	Estimate	Standard Error	Chi-Square	DF	Pr > ChiSq
227	NOV2018	Additive Outlier	7.85832	1.6191307	23.56	1	<.0001
217	JAN2018	Additive Outlier	5.25705	1.602687	10.76	1	0.0010
126	JUN2010	Additive Outlier	4.53263	1.606177	7.96	1	0.0048

Forecasts for Variable count					
Obs	**Date_of_death**	**Forecast**	**Standard Error**	**95% Confidence Limits**	
239	**NOV2019**	4.889841	1.63832	1.678790	8.100892
240	**DEC2019**	4.833376	1.64234	1.614447	8.052304
241	**JAN2020**	5.376376	1.63752	2.166897	8.585855
242	**FEB2020**	4.757062	1.65052	1.522095	7.992028
243	**MAR2020**	4.611371	1.64738	1.382557	7.840185
244	**APR2020**	4.873245	1.65560	1.628332	8.118158
245	**MAY2020**	4.669883	1.65355	1.428991	7.910774
246	**JUN2020**	5.314584	1.66112	2.058851	8.570317
247	**JUL2020**	5.023325	1.66720	1.755667	8.290982
248	**AUG2020**	5.432431	1.66686	2.165439	8.699423
249	**SEP2020**	4.082177	1.66897	0.811052	7.353302
250	**OCT2020**	4.397887	1.67288	1.119109	7.676665
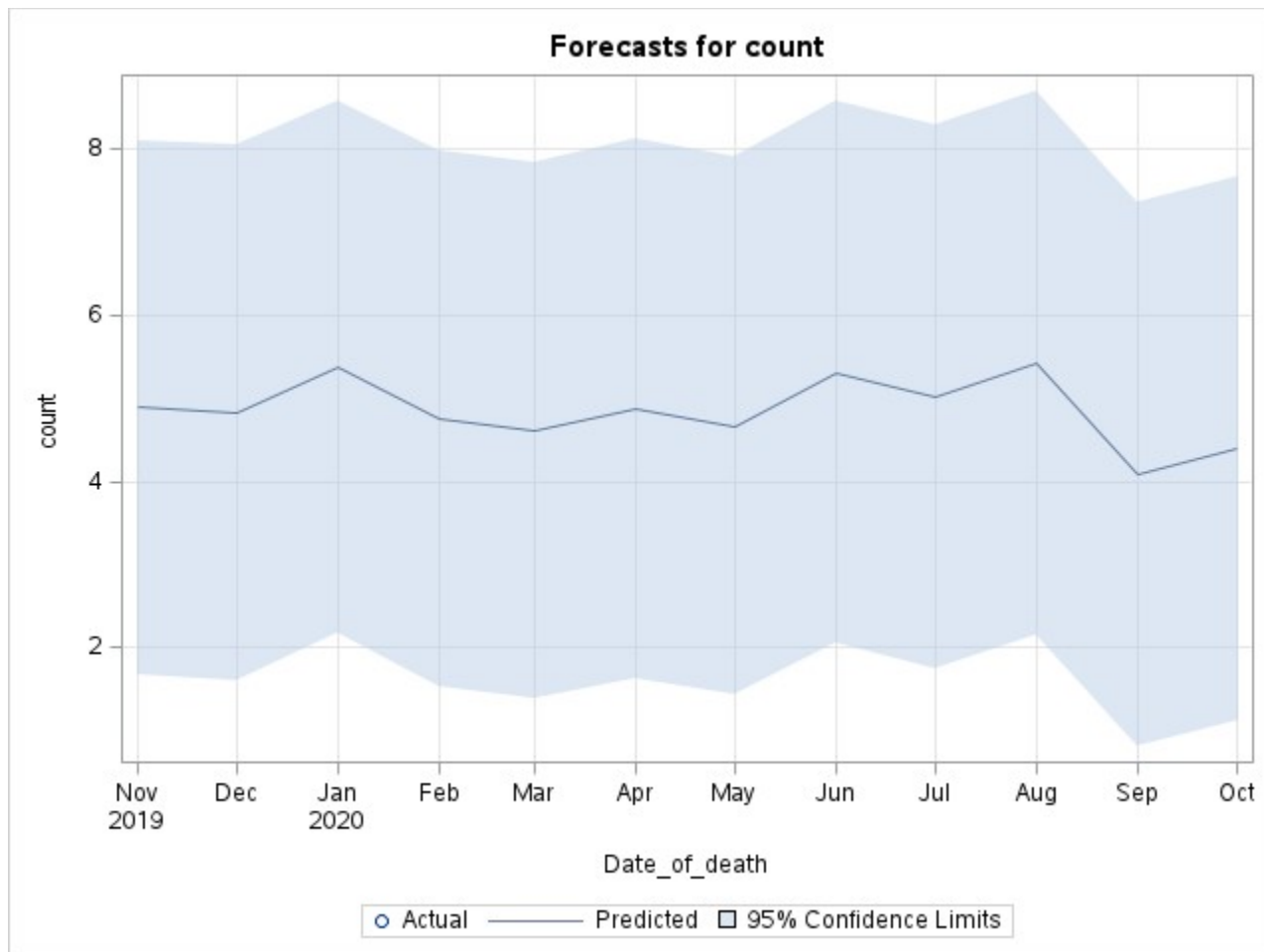
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Estimation Span Summary								
Variable	**Type**	**First Obs**	**Last Obs**	**NObs**	**NMiss**	**Min**	**Max**	**Mean**	**Standard Deviation**
count	**Dependent**	MAR2000	OCT2019	236	98	1.00000	5.00000	1.50000	0.77601

Forecast Span Summary									
Variable	Type	First Obs	Last Obs	NObs	NMiss	Min	Max	Mean	Standard Deviation
count	Dependent	MAR2000	OCT2019	236	98	1.00000	5.00000	1.50000	0.77601

Preliminary Estimates of the Free Parameters		
Component	Parameter	Estimate
Irregular	Error Variance	0.40071
Level	Error Variance	0.15027
Season	Error Variance	0.41004

Likelihood Based Fit Statistics	
Statistic	Value
Full Log Likelihood	-160.8
Diffuse Part of Log Likelihood	-4.179
Non-Missing Observations Used	138
Estimated Parameters	3
Initialized Diffuse State Elements	12
Normalized Residual Sum of Squares	126
AIC (smaller is better)	327.67
BIC (smaller is better)	336.18
AICC (smaller is better)	327.87
HQIC (smaller is better)	331.13
CAIC (smaller is better)	339.18

Likelihood Optimization Algorithm Converged in 11 Iterations.

Final Estimates of the Free Parameters					
Component	Parameter	Estimate	Approx Std Error	t Value	Approx Pr > |t|
Irregular	Error Variance	0.54257	0.07170	7.57	<.0001
Level	Error Variance	0.00177	0.0019225	0.92	0.3579
Season	Error Variance	2.81002E-8	0.00001396	0.00	0.9984

Fit Statistics Based on Residuals	
Mean Squared Error	0.74560
Root Mean Squared Error	0.86348
Mean Absolute Percentage Error	41.57056
Maximum Percent Error	66.96194
R-Square	-0.09954
Adjusted R-Square	-0.12009
Random Walk R-Square	0.39243
Amemiya's Adjusted R-Square	-0.16120
Number of non-missing residuals used for computing the fit statistics = 110	

Significance Analysis of Components (Based on the Final State)			
Component	DF	Chi-Square	Pr > ChiSq
Irregular	1	7.07	0.0078
Level	1	112.54	<.0001
Season	11	4.80	0.9403

Trend Information (Based on the Final State)

Name	Estimate	Standard Error
Level	1.967385654	0.185453

Summary of Seasons

Name	Type	Season Length	Error Variance
Season	DUMMY	12	2.81002E-8

Outlier Summary

Obs	Date_of_death	Break Type	Estimate	Standard Error	Chi-Square	DF	Pr > ChiSq
232	JUN2019	Additive Outlier	3.24870	0.7943405	16.73	1	<.0001
137	JUL2011	Additive Outlier	2.60999	0.7761896	11.31	1	0.0008
162	AUG2013	Additive Outlier	2.44515	0.7750494	9.95	1	0.0016

Forecasts for Variable count

Obs	Date_of_death	Forecast	Standard Error	95% Confidence Limits	
237	NOV2019	1.828146	0.80189	0.256463	3.399830
238	DEC2019	1.821187	0.78973	0.273340	3.369034
239	JAN2020	1.932829	0.79943	0.365966	3.499693
240	FEB2020	1.997009	0.79994	0.429155	3.564864
241	MAR2020	2.100472	0.78994	0.552213	3.648730
242	APR2020	1.886680	0.79597	0.326606	3.446755
243	MAY2020	1.859437	0.79030	0.310479	3.408395
244	JUN2020	2.215125	0.79910	0.648908	3.781342
245	JUL2020	2.076678	0.79150	0.525365	3.627991
246	AUG2020	2.045736	0.79512	0.487321	3.604152
247	SEP2020	2.117048	0.80110	0.546928	3.687168
248	OCT2020	1.728279	0.79923	0.161821	3.294737

Forecasts for count
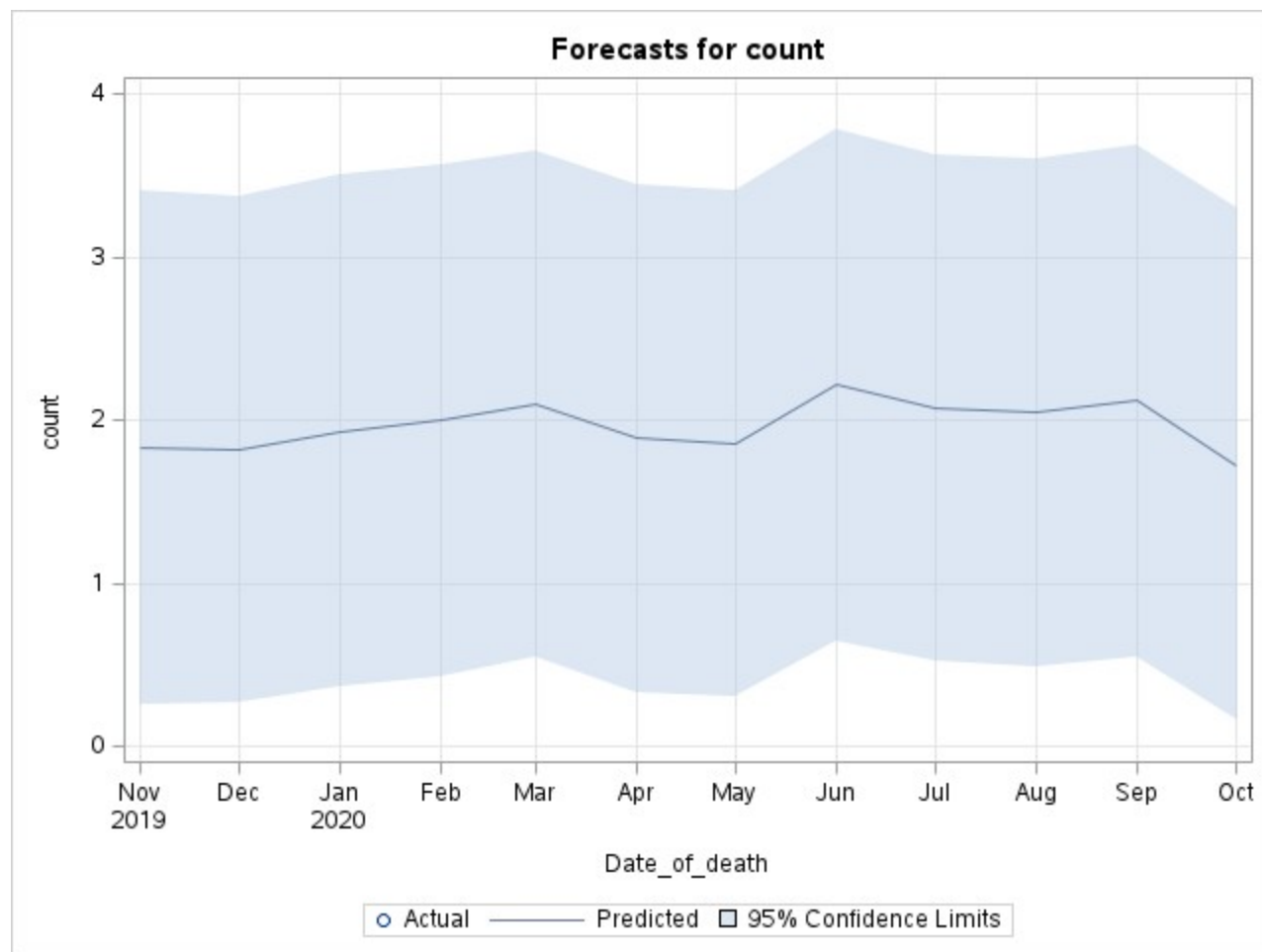
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Estimation Span Summary								
Variable	Type	First Obs	Last Obs	NObs	NMiss	Min	Max	Mean	Standard Deviation
count	Dependent	FEB2000	FEB2019	229	184	1.00000	2.00000	1.11111	0.31782

Forecast Span Summary								
Variable	Type	First Obs	Last Obs	NObs	NMiss	Min	Max	Mean	Standard Deviation
count	Dependent	FEB2000	FEB2019	229	184	1.00000	2.00000	1.11111	0.31782

Preliminary Estimates of the Free Parameters		
Component	Parameter	Estimate
Irregular	Error Variance	0.03782
Level	Error Variance	0.01418
Season	Error Variance	0.03688

Likelihood Based Fit Statistics	
Statistic	Value
Full Log Likelihood	-16.61
Diffuse Part of Log Likelihood	14.634
Non-Missing Observations Used	45
Estimated Parameters	3

Likelihood Based Fit Statistics

Statistic	Value
Initialized Diffuse State Elements	11
Normalized Residual Sum of Squares	33
AIC (smaller is better)	39.22
BIC (smaller is better)	43.799
AICC (smaller is better)	40.02
HQIC (smaller is better)	40.782
CAIC (smaller is better)	46.799

Likelihood Optimization Algorithm Converged in 3 Iterations.

Note: For this model the collapse of the diffuse Kalman filter has not occurred within the data span. In this case the one step ahead forecasts and the corresponding fit statistics are set to missing.

Final Estimates of the Free Parameters

Component	Parameter	Estimate	Approx Std Error	t Value	Approx Pr > |t|
Irregular	Error Variance	0.10480	0.02542	4.12	<.0001
Level	Error Variance	2.36987E-9	1.09911E-6	0.00	0.9983
Season	Error Variance	1.548989E-8	0.00001109	0.00	0.9989

Fit Statistics Based on Residuals

Mean Squared Error	.
Root Mean Squared Error	.
Mean Absolute Percentage Error	.
Maximum Percent Error	.
R-Square	.
Adjusted R-Square	.
Random Walk R-Square	.
Amemiya's Adjusted R-Square	.
Number of non-missing residuals used for computing the fit statistics = 0	

Significance Analysis of Components (Based on the Final State)

Component	DF	Chi-Square	Pr > ChiSq
Irregular	1	6.36	0.0117
Level	1	1.52	0.2172
Season	11	9.41	0.5841

Trend Information (Based on the Final State)

Name	Estimate	Standard Error
Level	1.249999394	1.0130152

Summary of Seasons

Name	Type	Season Length	Error Variance
Season	DUMMY	12	1.548989E-8

Outlier Summary

Obs	Date_of_death	Break Type	Estimate	Standard Error	Chi-Square	DF	Pr > ChiSq

Outlier Summary

Obs	Date_of_death	Break Type	Estimate	Standard Error	Chi-Square	DF	Pr > ChiSq
53	JUN2004	Additive Outlier	1.00000	0.3460772	8.35	1	0.0039
171	APR2014	Additive Outlier	1.00000	0.3738055	7.16	1	0.0075
217	FEB2018	Additive Outlier	0.80000	0.3546233	5.09	1	0.0241

Forecasts for Variable count

Obs	Date_of_death	Forecast	Standard Error	95% Confidence Limits	
230	MAR2019	1.50000	0.39648	0.72291	2.27709
231	APR2019	1.25000	0.36194	0.54062	1.95938
232	MAY2019	.	.	.	.
233	JUN2019	1.12500	0.34336	0.45202	1.79798
234	JUL2019	1.00000	0.37381	0.26735	1.73265
235	AUG2019	1.00000	0.36194	0.29062	1.70938
236	SEP2019	1.00000	0.36194	0.29062	1.70938
237	OCT2019	1.00000	0.35462	0.30495	1.69505
238	NOV2019	1.00000	0.39648	0.22291	1.77709
239	DEC2019	1.00000	0.39648	0.22291	1.77709
240	JAN2020	1.00000	0.35462	0.30495	1.69505
241	FEB2020	1.33333	0.34966	0.64800	2.01866

Forecasts for count
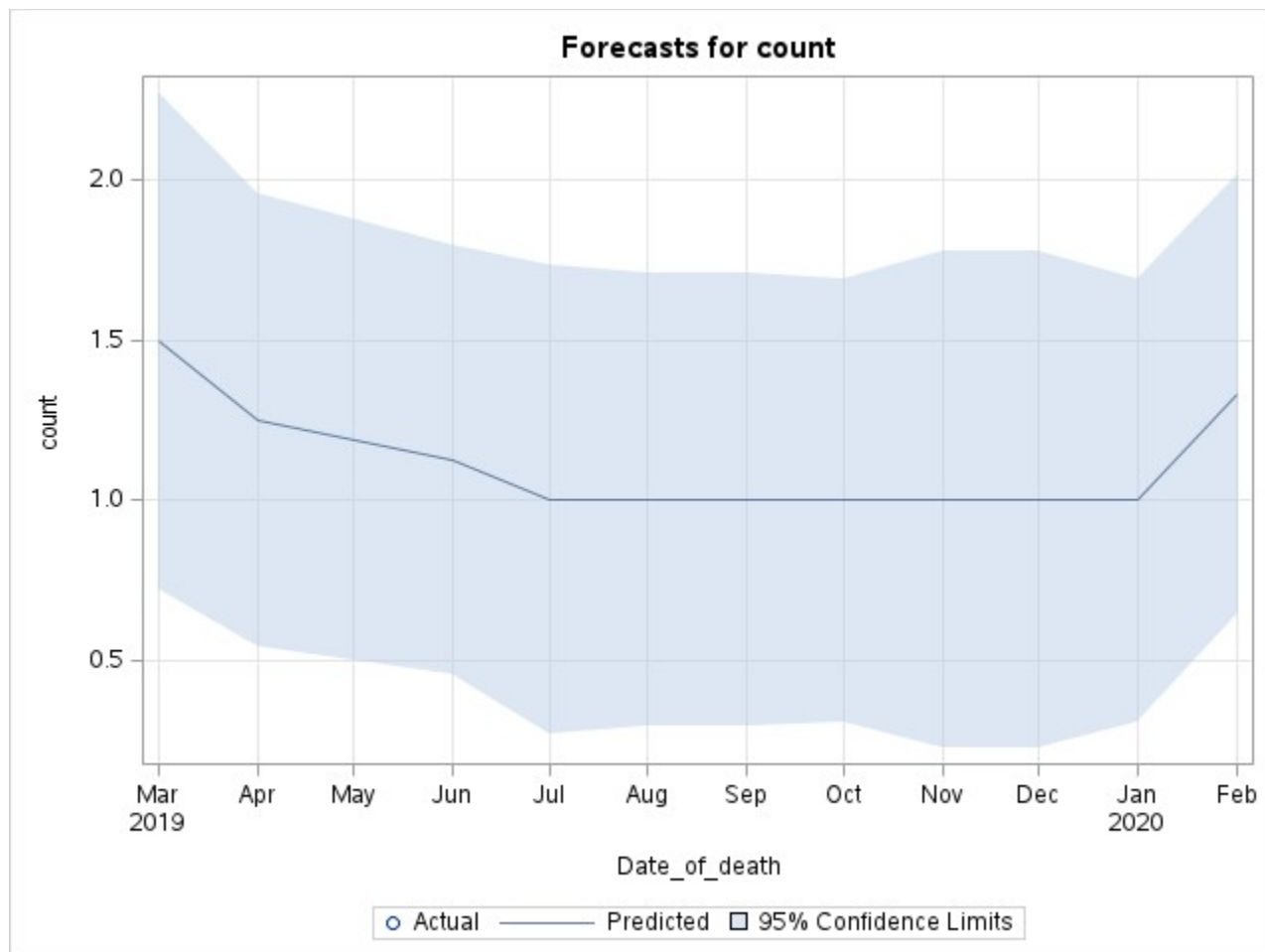
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Estimation Span Summary									
Variable	**Type**	**First Obs**	**Last Obs**	**NObs**	**NMiss**	**Min**	**Max**	**Mean**	**Standard Deviation**
count	Dependent	JAN2000	OCT2019	238	1	1.00000	19.00000	6.19409	3.12933

Forecast Span Summary									
Variable	**Type**	**First Obs**	**Last Obs**	**NObs**	**NMiss**	**Min**	**Max**	**Mean**	**Standard Deviation**
count	Dependent	JAN2000	OCT2019	238	1	1.00000	19.00000	6.19409	3.12933

Preliminary Estimates of the Free Parameters		
Component	**Parameter**	**Estimate**
Irregular	Error Variance	7.83935
Level	Error Variance	2.93976
Season	Error Variance	6.72417

Likelihood Based Fit Statistics	
Statistic	**Value**
Full Log Likelihood	-563.6
Diffuse Part of Log Likelihood	-2.485
Non-Missing Observations Used	237
Estimated Parameters	3
Initialized Diffuse State Elements	12
Normalized Residual Sum of Squares	225
AIC (smaller is better)	1133.1
BIC (smaller is better)	1143.4
AICC (smaller is better)	1133.2
HQIC (smaller is better)	1137.3
CAIC (smaller is better)	1146.4

Likelihood Optimization Algorithm Converged in 7 Iterations.

Final Estimates of the Free Parameters					
Component	**Parameter**	**Estimate**	**Approx Std Error**	**t Value**	**Approx Pr > |t|**
Irregular	Error Variance	6.57365	0.74626	8.81	<.0001
Level	Error Variance	0.02700	0.01712	1.58	0.1147
Season	Error Variance	0.06822	0.08339	0.82	0.4133

Fit Statistics Based on Residuals	
Mean Squared Error	8.40093
Root Mean Squared Error	2.89843
Mean Absolute Percentage Error	58.16163
Maximum Percent Error	77.50313
R-Square	0.15033
Adjusted R-Square	0.14268
Random Walk R-Square	0.43185
Amemiya's Adjusted R-Square	0.12737
Number of non-missing residuals used for computing the fit statistics = 225	

Significance Analysis of Components (Based on the Final State)

Component	DF	Chi-Square	Pr > ChiSq
Irregular	1	30.29	<.0001
Level	1	169.62	<.0001
Season	11	12.59	0.3213

Trend Information (Based on the Final State)

Name	Estimate	Standard Error
Level	8.345266859	0.6407706

Summary of Seasons

Name	Type	Season Length	Error Variance
Season	DUMMY	12	0.06822

Outlier Summary

Obs	Date_of_death	Break Type	Estimate	Standard Error	Chi-Square	DF	Pr > ChiSq
200	AUG2016	Additive Outlier	10.42901	2.7355452	14.53	1	0.0001
238	OCT2019	Additive Outlier	-7.24841	2.8282869	6.57	1	0.0104
213	SEP2017	Additive Outlier	-6.64098	2.7481345	5.84	1	0.0157

Forecasts for Variable count

Obs	Date_of_death	Forecast	Standard Error	95% Confidence Limits	
239	NOV2019	7.976030	2.82886	2.431565	13.520494
240	DEC2019	7.908696	2.82883	2.364297	13.453096
241	JAN2020	9.083273	2.83210	3.532462	14.634083
242	FEB2020	7.118195	2.83622	1.559311	12.677079
243	MAR2020	9.052780	2.84042	3.485664	14.619895
244	APR2020	7.720567	2.84458	2.145297	13.295838
245	MAY2020	9.759511	2.84869	4.176172	15.342851
246	JUN2020	7.353444	2.85277	1.762127	12.944761
247	JUL2020	9.033367	2.85677	3.434200	14.632533
248	AUG2020	9.901782	2.86063	4.295058	15.508507
249	SEP2020	8.278900	2.86393	2.665691	13.892109
250	OCT2020	6.956657	2.86454	1.342255	12.571059

Forecasts for count