

Emilia Romagna Grand Prix, 2021

Forecasting Sebastian Vettel's Next 5 Lap Times

Nathan Jones 2022

The ARIMA Procedure

Name of Variable = time	
Period(s) of Differencing	1,1
Mean of Working Series	0.477186
Standard Deviation	4.420286
Number of Observations	59
Observation(s) eliminated by differencing	2

Autocorrelation Check for White Noise									
To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	3.76	6	0.7090	-0.176	-0.003	-0.089	-0.039	-0.024	0.133
12	12.90	12	0.3767	-0.025	0.039	-0.118	-0.201	0.258	0.019

Variance Estimate	19.76663
Std Error Estimate	4.445968
AIC	343.4905
SBC	343.4905
Number of Residuals	59

* AIC and SBC do not include log determinant.

Autocorrelation Check of Residuals									
To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	3.62	6	0.7279	-0.171	-0.002	-0.087	-0.038	-0.019	0.133
12	12.80	12	0.3840	-0.020	0.041	-0.115	-0.196	0.264	0.022
18	13.05	18	0.7885	0.004	0.020	-0.020	0.011	-0.021	0.040
24	13.84	24	0.9502	-0.048	-0.026	0.054	0.022	-0.027	0.035

Model for variable time	
Period(s) of Differencing	1,1

No mean term in this model.

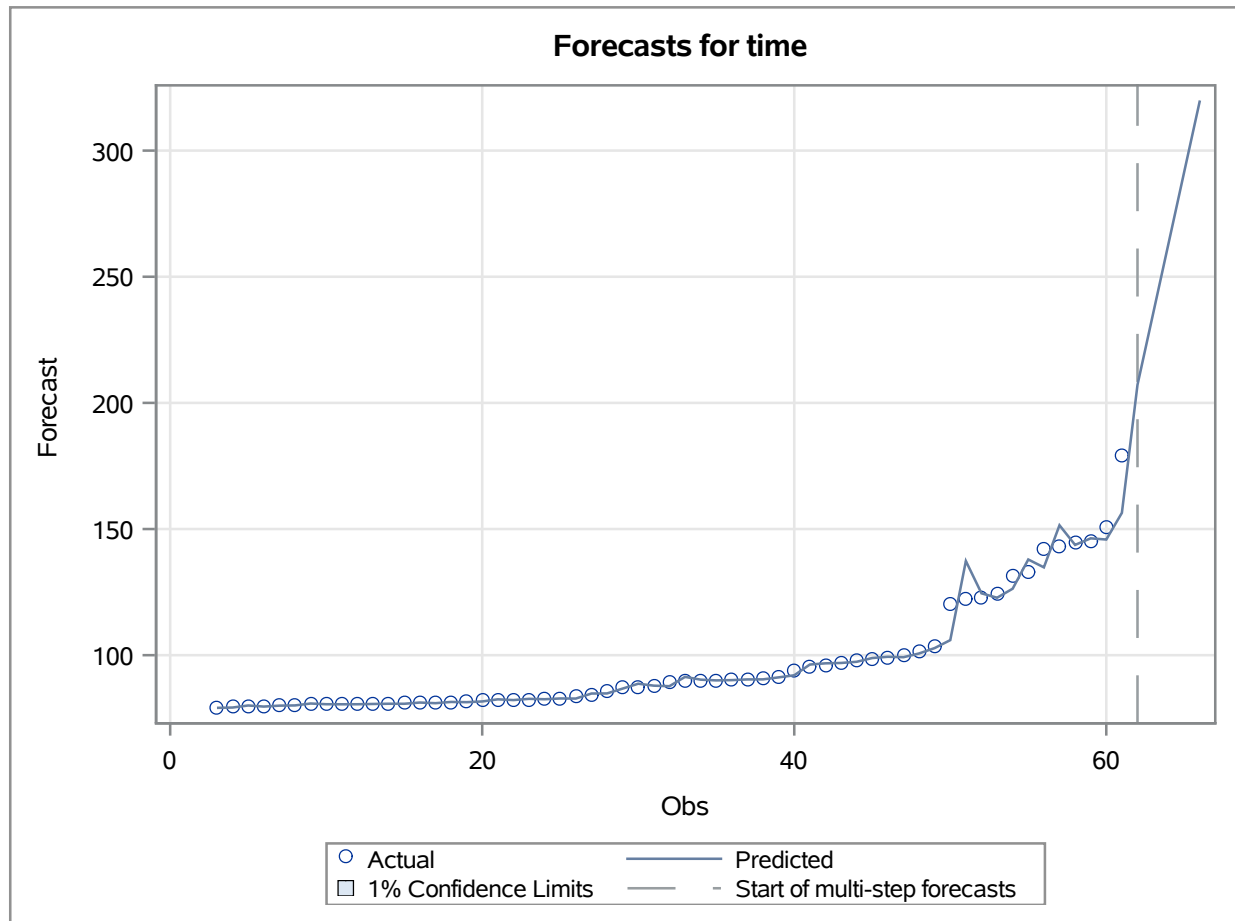
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Forecasts for variable time				
Obs	Forecast	Std Error	1% Confidence Limits	
62	207.1750	4.4460	207.1193	207.2307
63	235.3500	9.9415	235.2254	235.4746
64	263.5250	16.6353	263.3165	263.7335
65	291.7000	24.3516	291.3948	292.0052
66	319.8750	32.9722	319.4617	320.2883



Outlier Detection Summary	
Maximum number searched	2
Number found	2
Significance used	0.05

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Outlier Details				
Obs	Type	Estimate	Chi-Square	Approx Prob>ChiSq
61	Additive	22.59200	1735.14	<.0001
50	Shift	14.66150	1545.28	<.0001