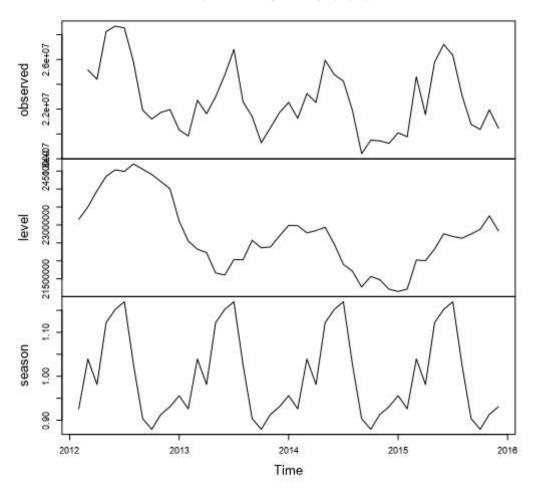
1

Plots of Time Series Exponential Smoothing Model ETS1

In statistics, a time series is a sequence of data points measured at successive points in time spaced at uniform intervals. Examples of time series are the daily closing value of a stock market index or the annual flow volume of a river. Time series analysis comprises methods for analyzing time series data in order to extract meaningful statistics and other characteristics of the data.

2

Decomposition by ETS(M,N,M) method



Decomposition
Plot separates
time series data
into several
components.
Decomposition
method is often
used to yield
information
about time
series
components i.e.
trend, cycle,
seasonal, etc.

This is the actual data.

- Level: This is the overall baseline without seasonal trends.

- Slope: This is the rate of change associated with

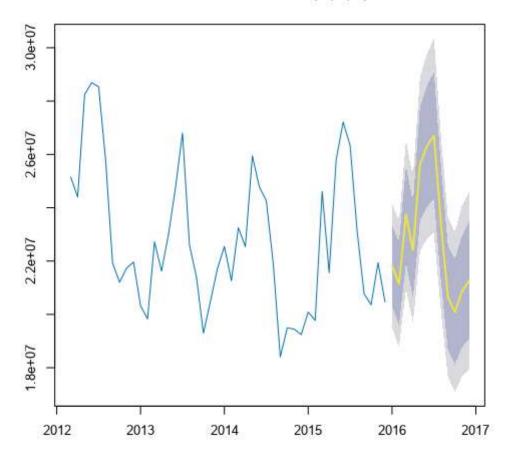
- Observed:

- Season: This shows the seasonal trend of the data.

the Level.

Not all of the above components will occur each time.

Forecasts from ETS(M,N,M)



The Forecast
Plot shows the
historic data in
black and the
expected value
in blue. The
orange in the
plot shows the
90% confidence
interval, and the
yellow shows
the 95%
confidence
interval.

Summary of Time Series Exponential Smoothing Model ETS1

Method:
ETS(M,N,M)

4

6

7

8

In-sample error measures:

ME RMSE MAE MPE MAPE MASE ACF1
-14783.6612202 1044018.8940828 809742.8924252 -0.2664397 3.5527937 0.4555978 0.3283229

Information criteria:

AIC AICc BIC 1479.4048 1495.4048 1506.8344

Smoothing parameters:

Parameter Value alpha 0.327727 gamma 0.001656

Initial states:

State	Value
I	23159664.744847
s0	0.926093
s1	0.956024
s2	0.930877
s3	0.91335
s4	0.879554
s5	0.903808
s6	1.02648
s7	1.169472
s8	1.151996
s9	1.121918
s10	0.981225