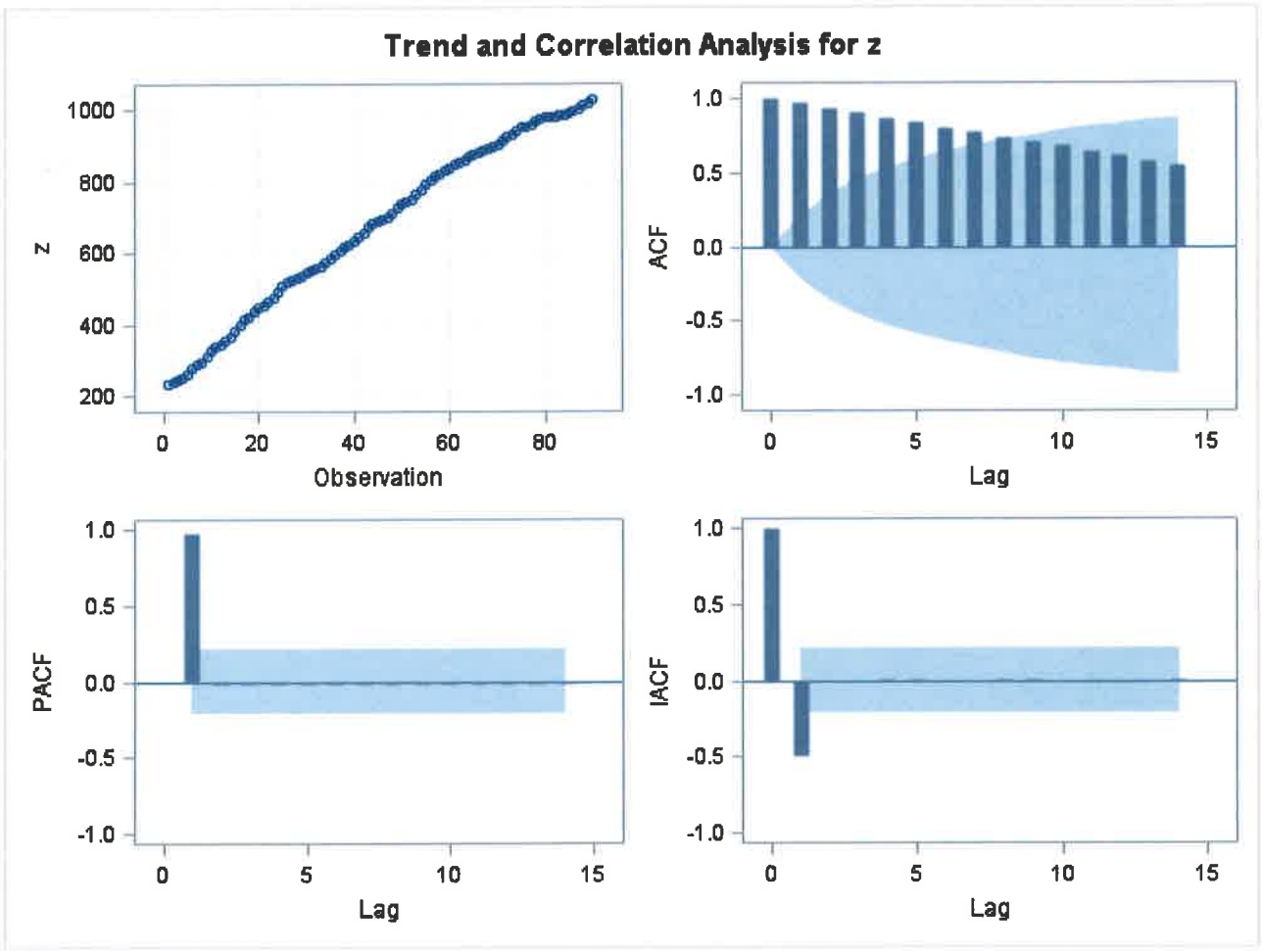
toothpaste original time series

The ARIMA Procedure

Name of Variable = z	
Mean of Working Series	674.2709
Standard Deviation	240.1522
Number of Observations	90

Autocorrelation Check for White Noise									
To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	453.48	6	<.0001	0.968	0.937	0.904	0.872	0.839	0.807
12	750.14	12	<.0001	0.774	0.741	0.709	0.676	0.643	0.610



toothpaste original time series

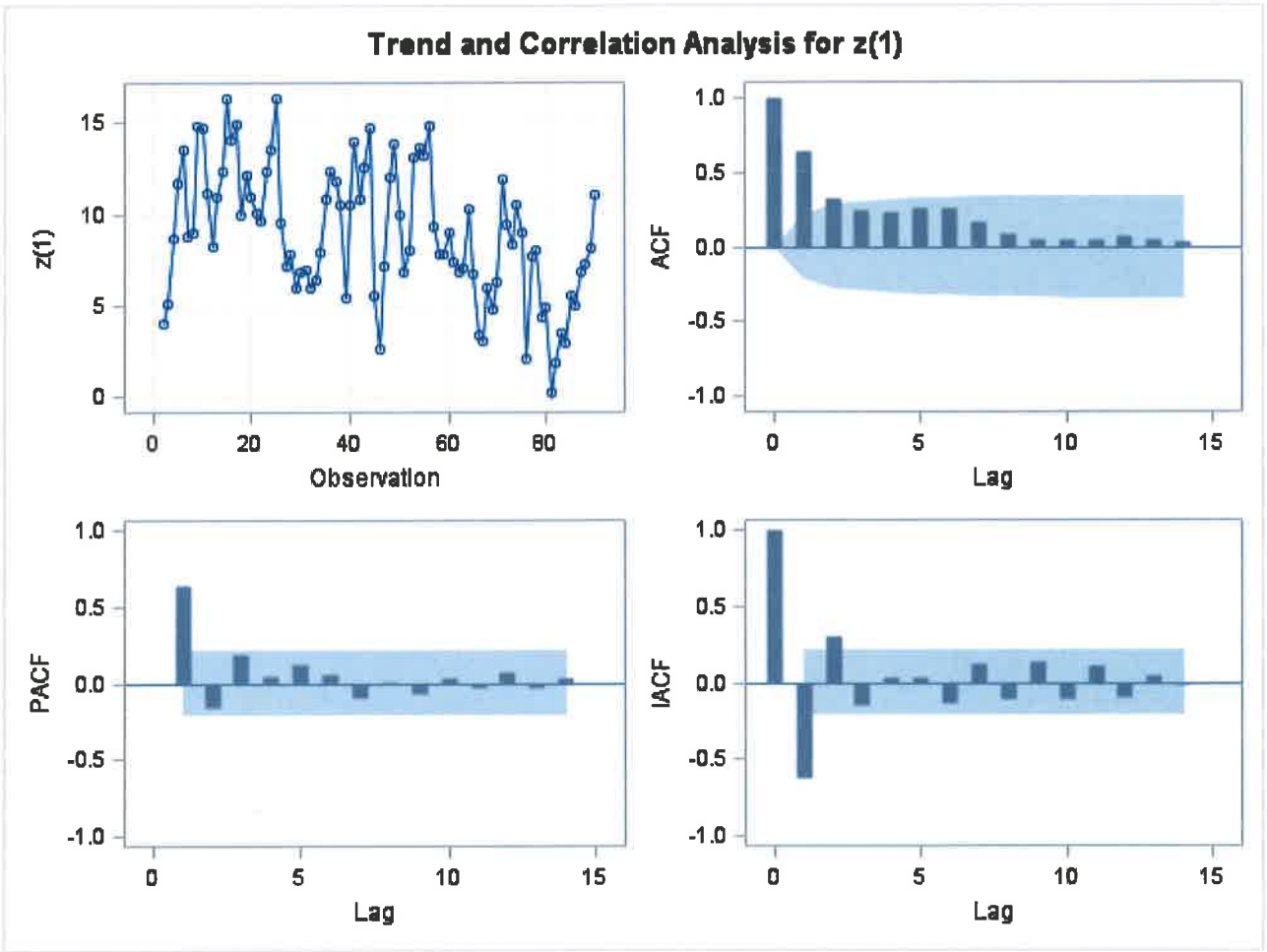
Obs	LAG	CORR	PARTCORR
1	0	1.00000	1.00000
2	1	0.96846	0.96846
3	2	0.93652	-0.02254
4	3	0.90414	-0.02347
5	4	0.87160	-0.01960
6	5	0.83914	-0.01605
7	6	0.80680	-0.01563
8	7	0.77422	-0.02173
9	8	0.74127	-0.02436
10	9	0.70852	-0.01567
11	10	0.67587	-0.01746
12	11	0.64291	-0.02447
13	12	0.60972	-0.02380
14	13	0.57651	-0.02098
15	14	0.54366	-0.01507

toothpaste 1st differences

The ARIMA Procedure

Name of Variable = z	
Period(s) of Differencing	1
Mean of Working Series	8.926742
Standard Deviation	3.617174
Number of Observations	89
Observation(s) eliminated by differencing	1

Autocorrelation Check for White Noise									
To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	71.67	6	<.0001	0.643	0.321	0.246	0.238	0.256	0.262
12	76.32	12	<.0001	0.168	0.090	0.041	0.042	0.045	0.068



Preliminary Estimation

Initial Autoregressive Estimates	
	Estimate
1	0.64279

Constant Term Estimate	3.188758
White Noise Variance Est	7.678004

Conditional Least Squares Estimation						
Iteration	SSE	MU	AR1,1	Constant	Lambda	R Crit
0	681.46	8.92674	0.64279	3.188758	0.00001	1
1	680.86	8.70798	0.64516	3.089906	1E-6	0.029489
2	680.85	8.70279	0.64766	3.066321	1E-7	0.003303
3	680.85	8.69994	0.64774	3.064672	1E-8	0.000384

ARIMA Estimation Optimization Summary	
Estimation Method	Conditional Least Squares
Parameters Estimated	2
Termination Criteria	Maximum Relative Change in Estimates
Iteration Stopping Value	0.001
Criteria Value	0.000327
Alternate Criteria	Relative Change in Objective Function
Alternate Criteria Value	1.56E-7
Maximum Absolute Value of Gradient	0.068662
R-Square Change from Last Iteration	0.000384
Objective Function	Sum of Squared Residuals
Objective Function Value	680.848
Marquardt's Lambda Coefficient	1E-8
Numerical Derivative Perturbation Delta	0.001
Iterations	3

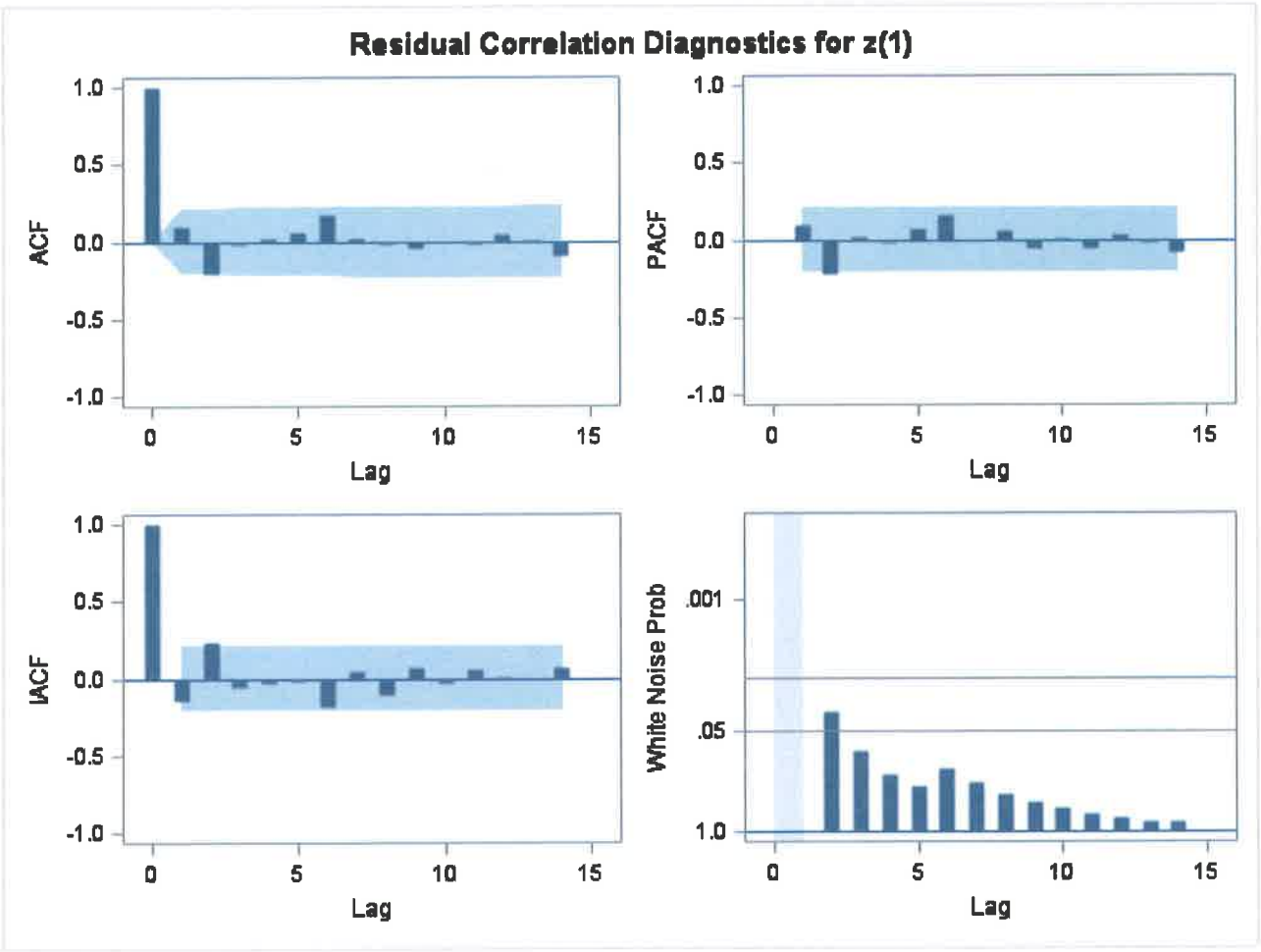
Conditional Least Squares Estimation					
Parameter	Estimate	Standard Error	t Value	Approx Pr > |t|	Lag
MU	8.69994	0.81123	10.72	<.0001	0
AR1,1	0.64774	0.08213	7.89	<.0001	1

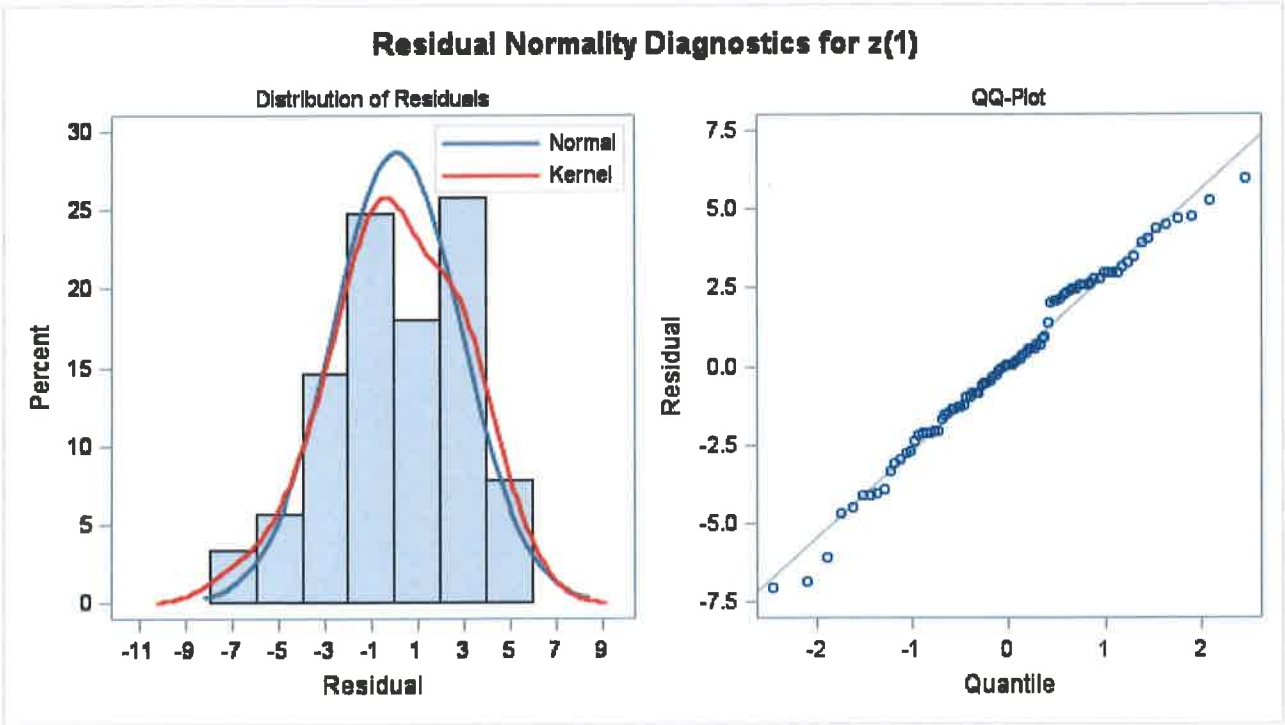
Constant Estimate	3.064672
Variance Estimate	7.825839
Std Error Estimate	2.79747
AIC	437.6596
SBC	442.6369
Number of Residuals	89

*** AIC and SBC do not include log determinant.**

Correlations of Parameter Estimates		
Parameter	**MU**	**AR1,1**
MU	1.000	-0.053
AR1,1	-0.053	1.000

Autocorrelation Check of Residuals									
To Lag	**Chi-Square**	**DF**	**Pr > ChiSq**	**Autocorrelations**					
6	8.02	5	0.1550	0.104	-0.202	-0.022	0.024	0.064	0.168
12	8.63	11	0.6562	0.016	-0.015	-0.048	-0.004	-0.013	0.054
18	13.29	17	0.7164	0.010	-0.095	0.092	0.106	-0.101	0.056
24	21.64	23	0.5418	0.193	0.008	-0.013	-0.116	-0.099	0.097





Model for variable z

Estimated Mean	8.699938
Period(s) of Differencing	1

Autoregressive Factors	
Factor 1:	1 - 0.64774 B**(1)

toothpaste 1st differences

Obs	LAG	CORR	PARTCORR
1	0	1.00000	1.00000
2	1	0.64279	0.64279
3	2	0.32124	-0.15667
4	3	0.24558	0.18771
5	4	0.23751	0.04019
6	5	0.25555	0.12233
7	6	0.26173	0.05707
8	7	0.16819	-0.08918
9	8	0.08980	0.00569
10	9	0.04144	-0.06552
11	10	0.04230	0.03286
12	11	0.04489	-0.02993
13	12	0.06817	0.06615
14	13	0.05113	-0.03135
15	14	0.03741	0.03979