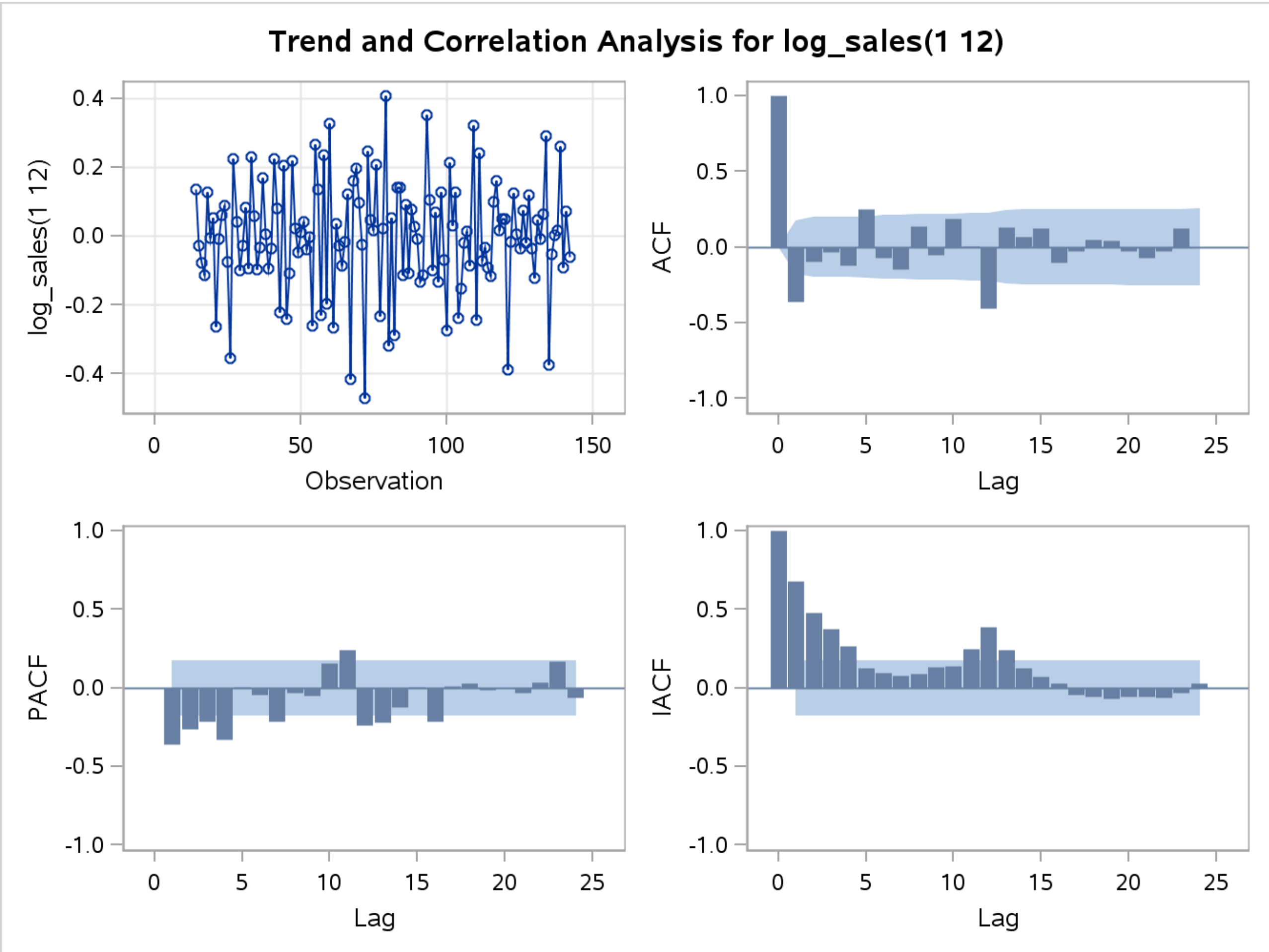
Appendix 2 – ARIMA Model

The ARIMA Procedure

Name of Variable = log_sales	
Period(s) of Differencing	1,12
Mean of Working Series	-0.00025
Standard Deviation	0.166026
Number of Observations	129
Observation(s) eliminated by differencing	13

Autocorrelation Check for White Noise									
To Lag	**Chi-Square**	**DF**	**Pr > ChiSq**	**Autocorrelations**					
6	29.93	6	<.0001	-0.362	-0.098	-0.034	-0.124	0.249	-0.072
12	64.97	12	<.0001	-0.149	0.137	-0.056	0.189	0.007	-0.406
18	72.45	18	<.0001	0.130	0.064	0.124	-0.105	-0.026	0.048
24	76.15	24	<.0001	0.043	-0.029	-0.071	-0.031	0.122	-0.005



Appendix 2 – ARIMA Model

The ARIMA Procedure

Conditional Least Squares Estimation					
Parameter	Estimate	Standard Error	t Value	Approx Pr > |t|	Lag
MU	-0.0006015	0.0006041	-1.00	0.3213	0
MA1,1	0.83886	0.06318	13.28	<.0001	1
MA2,1	0.80134	0.09099	8.81	<.0001	12
AR1,1	0.12061	0.11670	1.03	0.3034	1
AR2,1	0.07301	0.13674	0.53	0.5944	12

Constant Estimate	-0.00049
Variance Estimate	0.013767
Std Error Estimate	0.117333
AIC	-181.84
SBC	-167.541
Number of Residuals	129

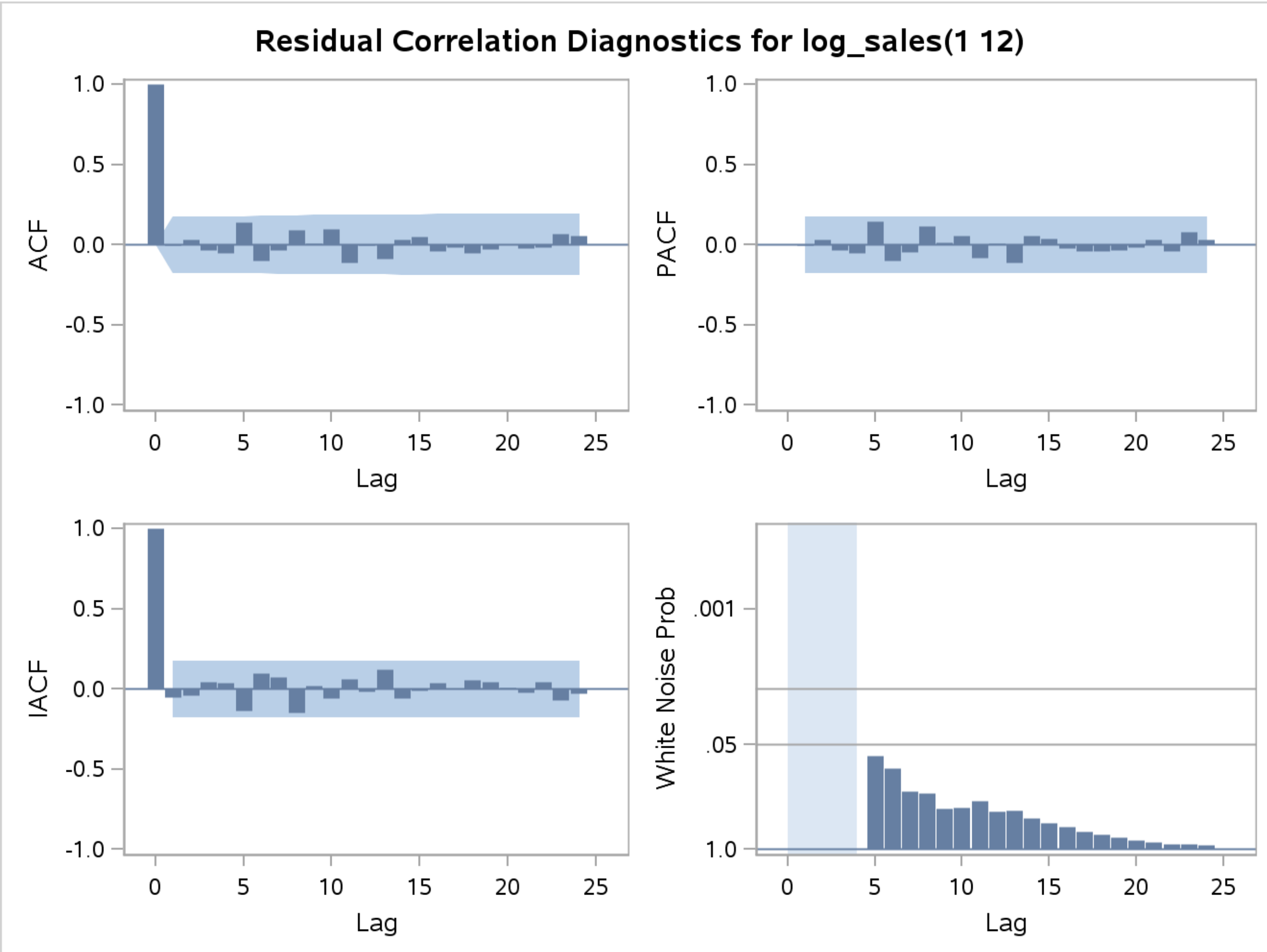
*** AIC and SBC do not include log determinant.**

Correlations of Parameter Estimates					
Parameter	MU	MA1,1	MA2,1	AR1,1	AR2,1
MU	1.000	-0.075	-0.084	-0.051	-0.051
MA1,1	-0.075	1.000	0.142	0.626	0.227
MA2,1	-0.084	0.142	1.000	0.222	0.704
AR1,1	-0.051	0.626	0.222	1.000	0.288
AR2,1	-0.051	0.227	0.704	0.288	1.000

Autocorrelation Check of Residuals									
To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	4.61	2	0.0996	-0.003	0.031	-0.035	-0.049	0.141	-0.097
12	9.01	8	0.3416	-0.033	0.092	0.006	0.095	-0.111	-0.004
18	11.45	14	0.6501	-0.090	0.033	0.047	-0.042	-0.017	-0.055
24	12.85	20	0.8839	-0.029	0.001	-0.027	-0.021	0.064	0.052

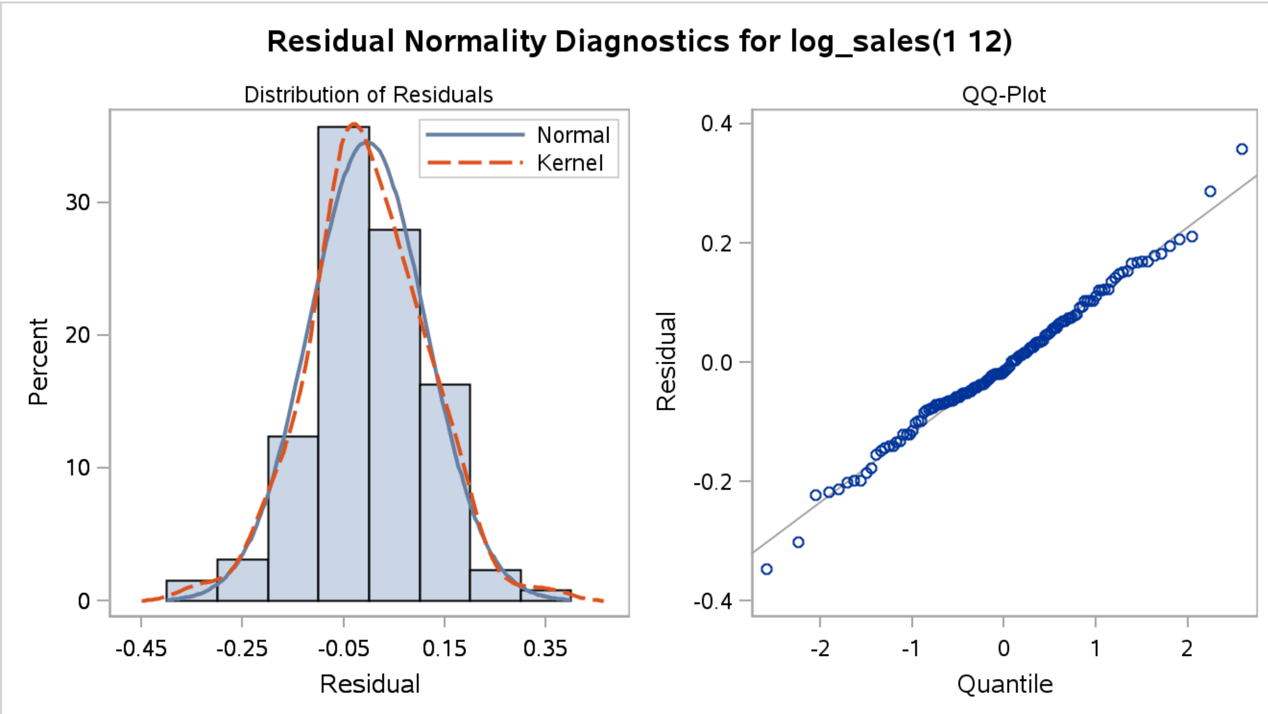
Appendix 2 – ARIMA Model

The ARIMA Procedure



Appendix 2 – ARIMA Model

The ARIMA Procedure



Model for variable log_sales	
Estimated Mean	-0.0006
Period(s) of Differencing	1,12

Autoregressive Factors	
Factor 1:	1 - 0.12061 B**(1)
Factor 2:	1 - 0.07301 B**(12)

Moving Average Factors	
Factor 1:	1 - 0.83886 B**(1)
Factor 2:	1 - 0.80134 B**(12)