

LAMPIRAN

Lampiran 1. Hasil Plot Autocorrelation *Function* (ACF) Trans

Autocorrelations

Lag	ACF	T	LBQ
1	0.445039	3.78	14.86
2	0.406548	2.92	27.44
3	0.241082	1.56	31.93
4	0.230579	1.44	36.10
5	-0.049484	-0.30	36.29
6	0.043665	0.27	36.45
7	0.086821	0.53	37.06
8	-0.059129	-0.36	37.35
9	-0.021847	-0.13	37.39
10	-0.117910	-0.71	38.59
11	-0.114354	-0.68	39.73
12	-0.233676	-1.39	44.58
13	-0.053021	-0.31	44.83
14	-0.211930	-1.23	48.96
15	-0.167953	-0.95	51.60
16	-0.146734	-0.82	53.65
17	-0.115400	-0.64	54.94
18	-0.148318	-0.82	57.11
19	-0.117087	-0.64	58.48
20	-0.043593	-0.24	58.68
21	-0.036113	-0.20	58.82
22	-0.064433	-0.35	59.26
23	-0.055036	-0.30	59.59
24	-0.061092	-0.33	60.00
25	-0.057554	-0.31	60.38
26	-0.151579	-0.82	63.04
27	-0.111591	-0.60	64.51
28	-0.038496	-0.20	64.69
29	0.093094	0.50	65.77
30	0.046980	0.25	66.05
31	0.109183	0.58	67.59
32	0.071557	0.38	68.28
33	0.053186	0.28	68.66
34	-0.002654	-0.01	68.66
35	-0.048267	-0.25	69.00
36	0.019927	0.10	69.06
37	0.054619	0.29	69.51
38	0.083361	0.44	70.60

Lampiran 1. Lanjutan

39	0.026884	0.14	70.72
40	0.125720	0.66	73.35
41	0.094291	0.49	74.88
42	0.105993	0.55	76.87
43	0.120196	0.62	79.53
44	0.165969	0.85	84.77
45	0.079141	0.40	86.01
46	0.002037	0.01	86.01
47	0.015880	0.08	86.06
48	-0.087728	-0.44	87.77
49	-0.056116	-0.28	88.50
50	-0.040013	-0.20	88.89
51	-0.004119	-0.02	88.89
52	-0.027330	-0.14	89.09
53	0.034100	0.17	89.41
54	0.026998	0.14	89.63
55	-0.062269	-0.31	90.85
56	-0.054443	-0.27	91.83
57	-0.053060	-0.27	92.83
58	-0.059699	-0.30	94.19
59	-0.058868	-0.30	95.61
60	0.011593	0.06	95.67
61	-0.008400	-0.04	95.70
62	-0.003930	-0.02	95.71
63	-0.037224	-0.19	96.53
64	-0.070125	-0.35	99.81
65	-0.077319	-0.39	104.36
66	-0.099719	-0.50	113.19
67	-0.079982	-0.40	120.00
68	-0.080342	-0.40	128.60
69	-0.047082	-0.23	132.54
70	-0.031037	-0.15	135.11
71	-0.028381	-0.14	139.40

Lampiran 2. Hasil Plot *Partial Autocorrelation Function* (PACF) Trans

Partial Autocorrelations

Lag	PACF	T
1	0.445039	3.78
2	0.259980	2.21
3	-0.011382	-0.10
4	0.064623	0.55
5	-0.270172	-2.29
6	0.080290	0.68
7	0.185841	1.58
8	-0.207303	-1.76
9	0.056164	0.48
10	-0.189029	-1.60
11	-0.057144	-0.48
12	-0.009515	-0.08
13	0.082918	0.70
14	-0.152699	-1.30
15	-0.087561	-0.74
16	0.026244	0.22
17	-0.050285	-0.43
18	0.049511	0.42
19	-0.055692	-0.47
20	-0.052201	-0.44
21	0.121075	1.03
22	-0.174307	-1.48
23	0.006614	0.06
24	-0.059306	-0.50
25	-0.024763	-0.21
26	-0.164307	-1.39
27	-0.040460	-0.34
28	0.129084	1.10
29	0.163138	1.38
30	-0.039078	-0.33
31	-0.062290	-0.53
32	-0.099916	-0.85
33	0.038587	0.33
34	-0.023758	-0.20
35	-0.085084	-0.72
36	0.020977	0.18
37	0.079137	0.67
38	-0.045268	-0.38
39	0.019482	0.17
40	0.090728	0.77

Lampiran 2. Lanjutan

41	0.012985	0.11
42	0.011461	0.10
43	0.124407	1.06
44	-0.000467	-0.00
45	-0.051867	-0.44
46	-0.151313	-1.28
47	0.031959	0.27
48	-0.028562	-0.24
49	0.010477	0.09
50	-0.003972	-0.03
51	0.036469	0.31
52	0.075706	0.64
53	-0.000559	-0.00
54	0.034025	0.29
55	0.043670	0.37
56	-0.036532	-0.31
57	-0.035182	-0.30
58	-0.066178	-0.56
59	0.116462	0.99
60	-0.049077	-0.42
61	-0.069388	-0.59
62	-0.007780	-0.07
63	-0.018197	-0.15
64	0.028822	0.24
65	-0.022577	-0.19
66	-0.056198	-0.48
67	0.040147	0.34
68	-0.021433	-0.18
69	0.002196	0.02
70	0.066025	0.56
71	-0.018056	-0.15

Lampiran 3. Uji Signifikasi Parameter Model ARIMA (2,0,0)

Estimates at Each Iteration

Iteration	SSE	Parameters		
0	3.54911	0.100	0.100	9.556
1	2.80370	0.250	0.205	6.489
2	2.63620	0.334	0.270	4.705
3	2.62791	0.345	0.283	4.416
4	2.62770	0.347	0.286	4.349
5	2.62770	0.347	0.287	4.337
6	2.62770	0.348	0.287	4.334

Relative change in each estimate less than 0.001

Final Estimates of Parameters

Type	Coef	SE Coef	T-Value	P-Value
AR 1	0.348	0.117	2.98	0.004
AR 2	0.287	0.118	2.44	0.017
Constant	4.3344	0.0230	188.56	0.000
Mean	11.8488	0.0628		

Residual Sums of Squares

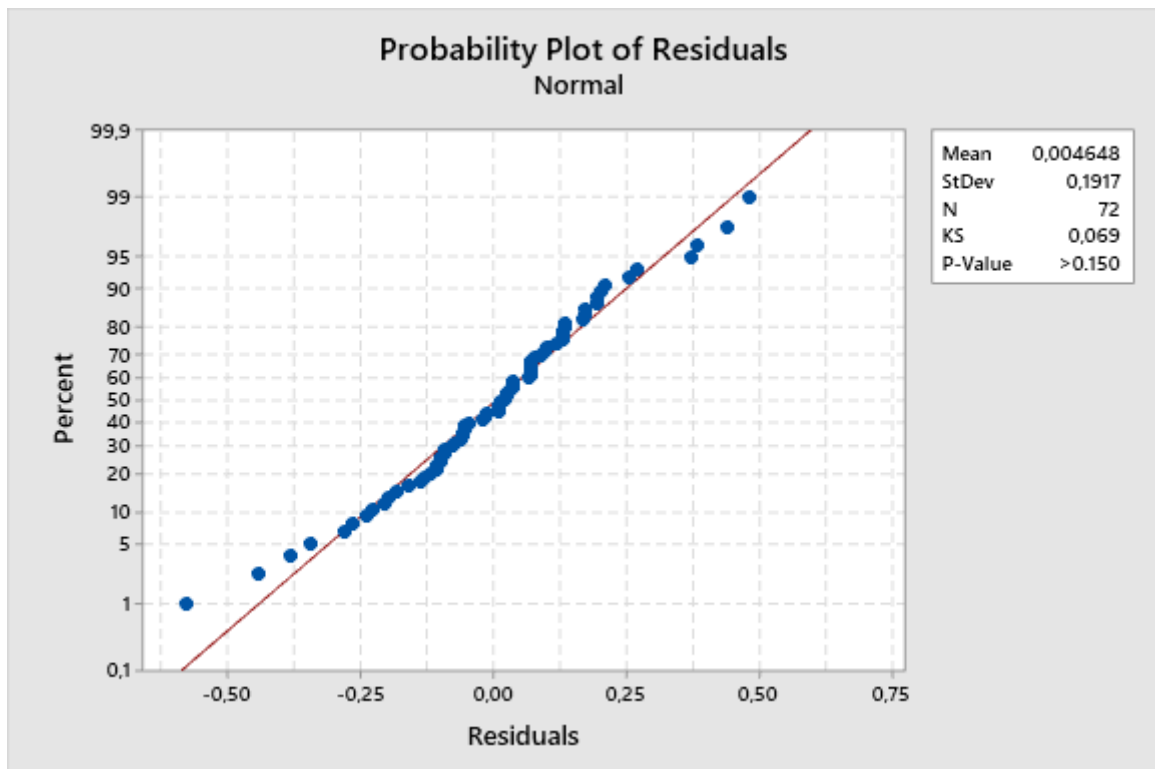
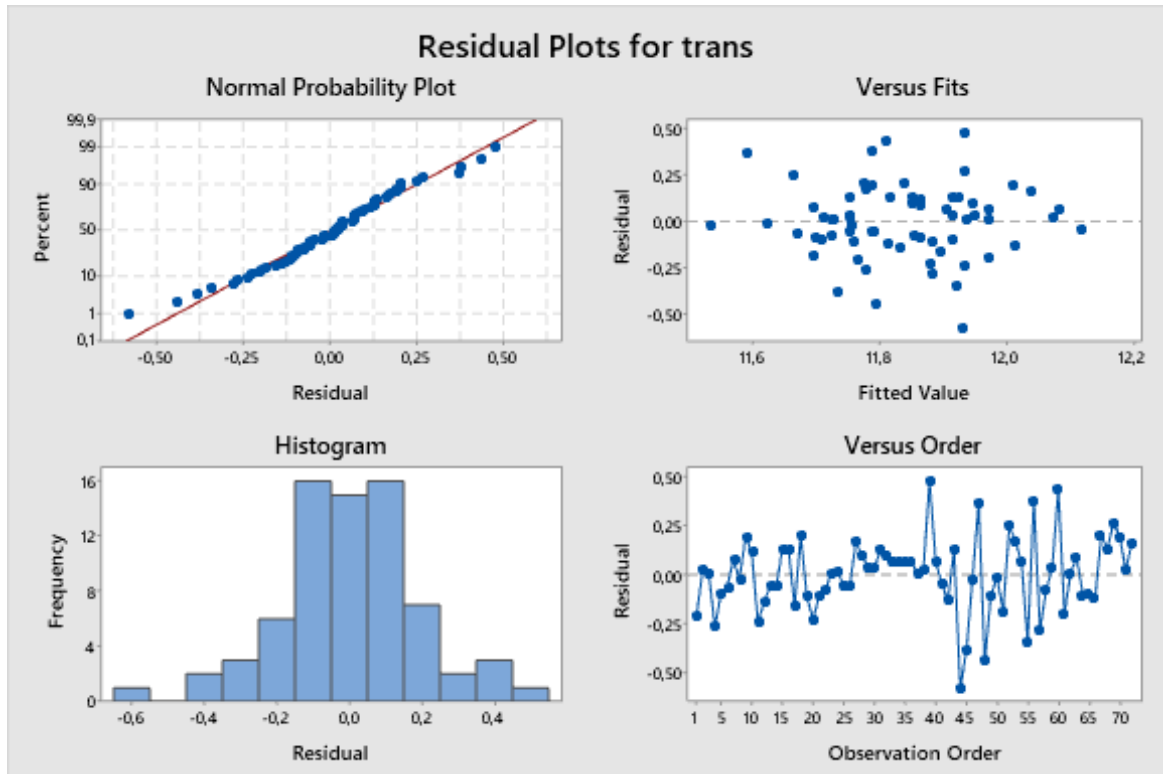
DF	SS	MS
69	2.61174	0.0378513

Back forecasts excluded

Modified Box-Pierce (Ljung-Box) Chi-Square Statistic

Lag	12	24	36	48
Chi-Square	16.80	25.71	33.85	47.55
DF	9	21	33	45
P-Value	0.052	0.218	0.426	0.369

Lampiran 3. Lanjutan



Lampiran 4. Uji Signifikasi Parameter Model ARIMA (2,0,2)

Estimates at Each Iteration

Iteration	SSE	Parameters				
0	4.32563	0.100	0.100	0.100	0.100	9.556
1	2.79870	0.242	0.195	-0.042	0.005	6.704
2	2.74437	0.101	0.329	-0.192	0.086	6.783
3	2.70303	-0.040	0.457	-0.342	0.162	6.936
4	2.60460	-0.108	0.607	-0.458	0.186	5.946
5	2.59985	0.042	0.497	-0.312	0.088	5.459
6	2.59926	-0.073	0.647	-0.432	0.222	5.044
7	2.59480	0.050	0.524	-0.309	0.113	5.059
8	2.59439	-0.051	0.638	-0.412	0.213	4.889
9	2.58875	-0.005	0.582	-0.363	0.157	5.006
10	2.58861	-0.009	0.591	-0.367	0.169	4.955
11	2.58859	-0.007	0.589	-0.364	0.167	4.950
12	2.58859	-0.007	0.590	-0.364	0.168	4.940
13	2.58859	-0.006	0.589	-0.363	0.168	4.937
14	2.58859	-0.006	0.590	-0.363	0.168	4.933
15	2.58859	-0.006	0.590	-0.363	0.168	4.932

Unable to reduce sum of squares any further

Final Estimates of Parameters

Type	Coef	SE Coef	T-Value	P-Value
AR 1	-0.006	0.337	-0.02	0.986
AR 2	0.590	0.318	1.85	0.068
MA 1	-0.363	0.372	-0.97	0.333
MA 2	0.168	0.290	0.58	0.563
Constant	4.9319	0.0278	177.25	0.000
Mean	11.8491	0.0669		

Residual Sums of Squares

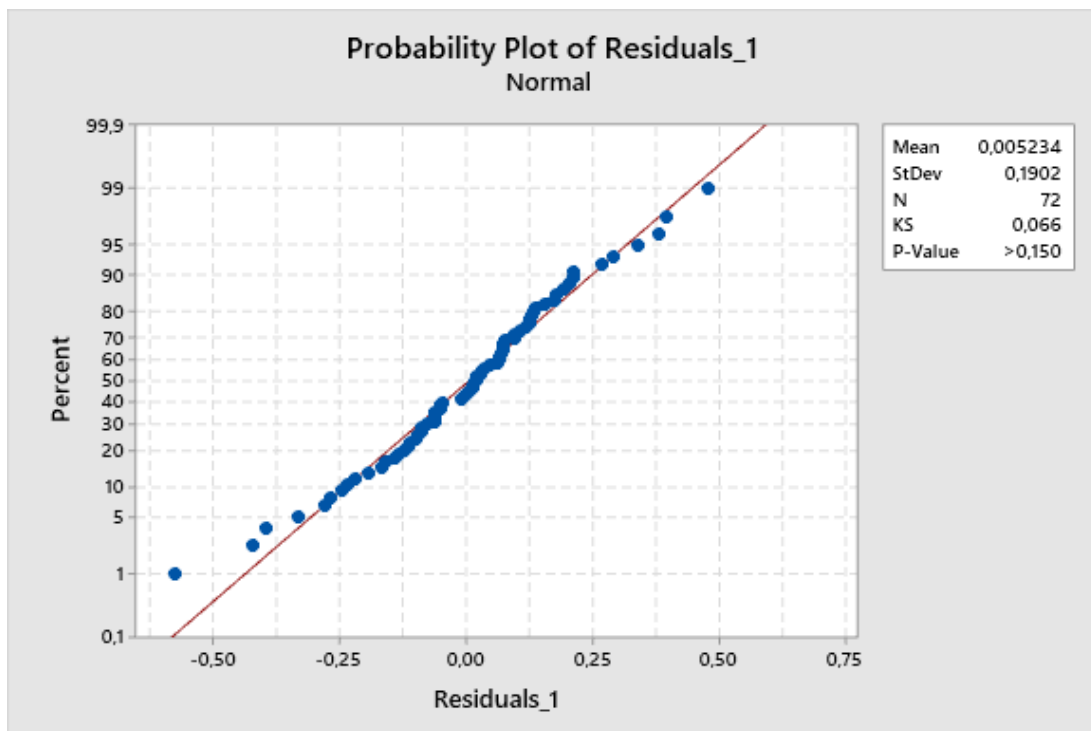
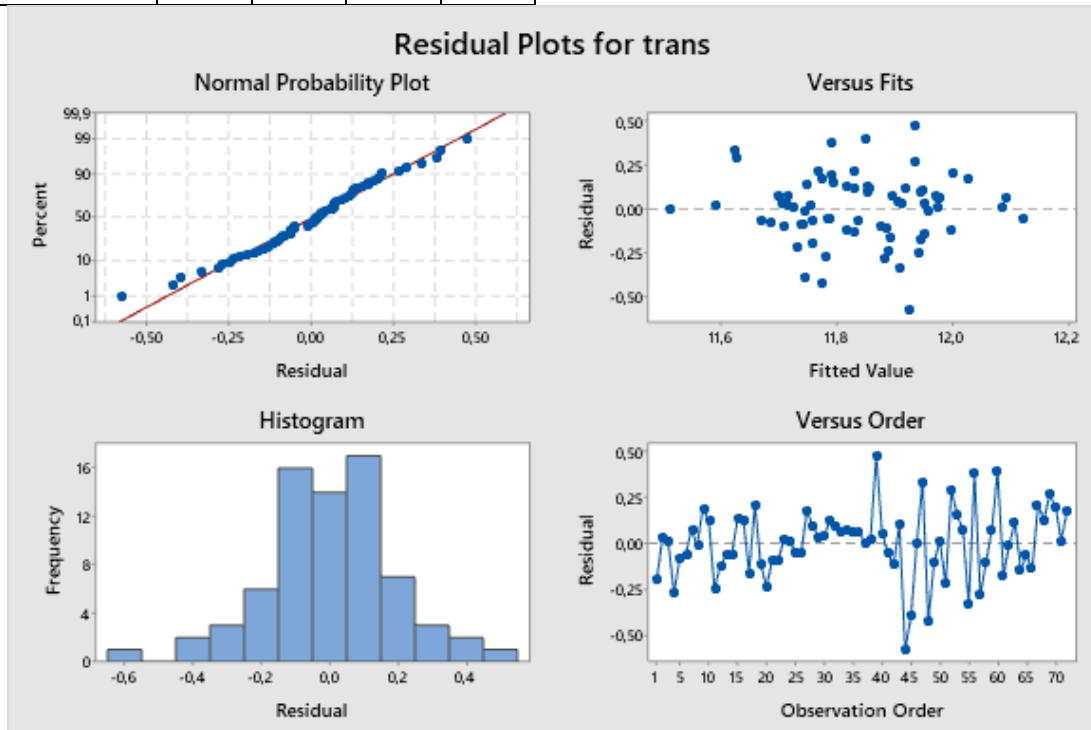
DF	SS	MS
67	2.56999	0.0383581

Back forecasts excluded

Lampiran 4. Lanjutan

Modified Box-Pierce (Ljung-Box) Chi-Square Statistic

Lag	12	24	36	48
Chi-Square	17.04	25.97	33.98	48.31
DF	7	19	31	43
P-Value	0.017	0.131	0.326	0.267



Lampiran 5. Uji Signifikansi Parameter Model ARIMA (0,0,2)

Estimates at Each Iteration

Iteration	SSE	Parameters		
0	5.56040	0.100	0.100	11.946
1	4.10689	-0.050	0.032	11.935
2	3.23450	-0.181	-0.118	11.919
3	2.89661	-0.315	-0.268	11.883
4	2.84723	-0.341	-0.223	11.847
5	2.84501	-0.367	-0.256	11.846
6	2.84440	-0.366	-0.232	11.846
7	2.84414	-0.372	-0.250	11.846
8	2.84399	-0.369	-0.237	11.846
9	2.84391	-0.372	-0.247	11.846
10	2.84386	-0.370	-0.239	11.846
11	2.84383	-0.371	-0.245	11.846
12	2.84382	-0.370	-0.241	11.846
13	2.84381	-0.371	-0.244	11.846
14	2.84381	-0.370	-0.242	11.846
15	2.84380	-0.371	-0.243	11.846
16	2.84380	-0.370	-0.242	11.846
17	2.84380	-0.371	-0.243	11.846
18	2.84380	-0.371	-0.242	11.846
19	2.84380	-0.371	-0.243	11.846
20	2.84380	-0.371	-0.242	11.846
21	2.84380	-0.371	-0.243	11.846
22	2.84380	-0.371	-0.242	11.846

Relative change in each estimate less than 0.001

Final Estimates of Parameters

Type	Coef	SE Coef	T-Value	P-Value
MA 1	-0.371	0.118	-3.15	0.002
MA 2	-0.242	0.118	-2.06	0.043
Constant	11.8458	0.0385	307.83	0.000
Mean	11.8458	0.0385		

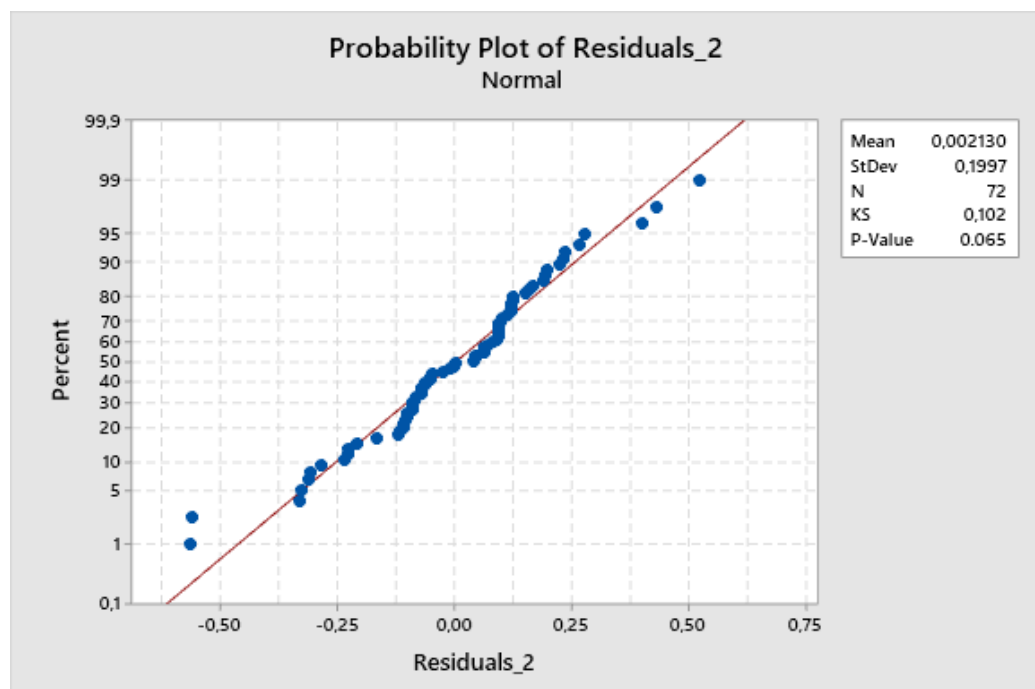
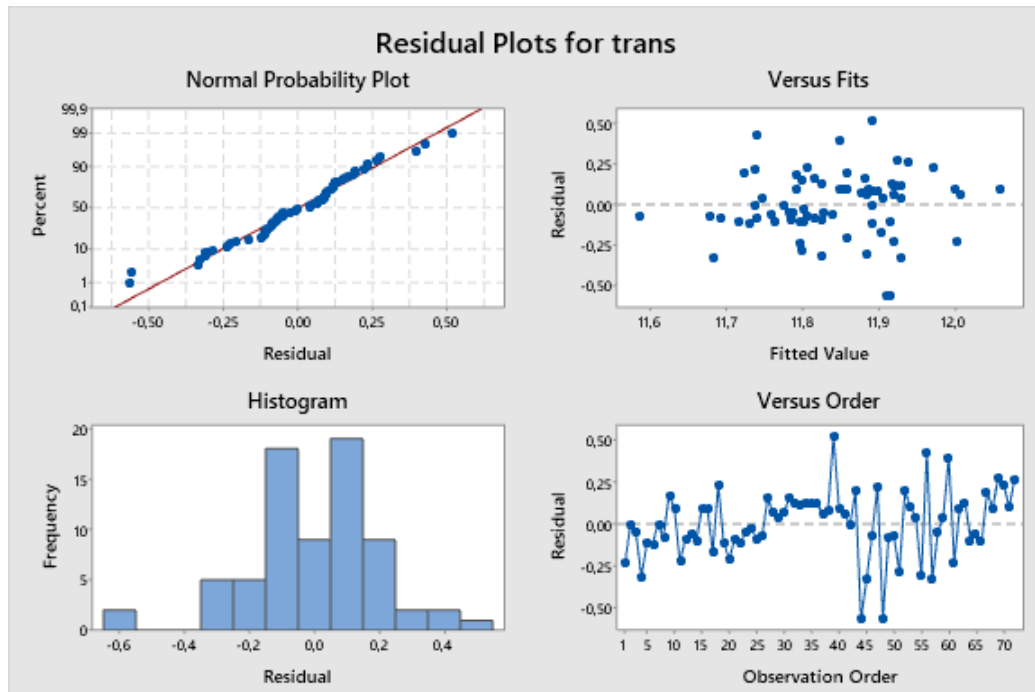
Residual Sums of Squares

DF	SS	MS
69	2.83174	0.0410397

Lampiran 5. Lanjutan

Modified Box-Pierce (Ljung-Box) Chi-Square Statistic

Lag	12	24	36	48
Chi-Square	22.40	31.93	38.07	52.04
DF	9	21	33	45
P-Value	0.008	0.059	0.250	0.219



Lampiran 6. Syntax Model ARIMA (0,0,[1,2,4])

```
data permintaan;
input y1;(0)
datalines;
11.5617
11.7361
11.7361
11.5129
11.6082
11.6082
11.7753
11.7361
11.9829
11.9829
11.6952
11.6952
11.6952
11.6952
11.8845
11.9512
11.7361
12.0436
11.7753
11.6527
11.6527
11.6527
11.7361
11.7753
11.7361
11.7361
11.7361
11.9512
11.9512
11.9512
11.9512
12.0436
12.0436
12.0436
12.0436
12.0436
12.0436
12.0436
11.9829
11.9829
12.4171
12.1548
12.0725
11.8845
12.0552
11.3504
11.3504
```

Lampiran 6. Lanjutan

```
11.5129
11.9640
11.3504
11.6082
11.6082
11.5129
11.9184
11.9512
11.9704
11.5759
12.1730
11.6019
11.7791
11.7906
12.2501
11.7753
11.9512
11.9512
11.8130
11.7753
11.6952
11.9829
11.9829
12.2061
12.2061
12.1007
12.2061
12.0154
11.9980
11.8499
11.9139
;
proc arima data=permintaan;
identify var=y1(0) nlag=72 noprint;
run;
estimate
p=(0)
q=(1 2 4)
method=cls;
forecast lead=8 out=arimaout printall;
run;
proc univariate data=arimaout normal;
var residual;
run;
```

Lampiran 7. Syntax Model ARIMA ([4],0,2)

```
data permintaan;  
input y1;(0)  
datalines;  
11.5617  
11.7361  
11.7361  
11.5129  
11.6082  
11.6082  
11.7753  
11.7361  
11.9829  
11.9829  
11.6952  
11.6952  
11.6952  
11.6952  
11.8845  
11.9512  
11.7361  
12.0436  
11.7753  
11.6527  
11.6527  
11.6527  
11.7361  
11.7753  
11.7361  
11.7361  
11.7361  
11.9512  
11.9512  
11.9512  
11.9512  
12.0436  
12.0436  
12.0436  
12.0436  
12.0436  
12.0436  
11.9829  
11.9829  
12.4171  
12.1548  
12.0725  
11.8845  
12.0552  
11.3504  
11.3504
```

Lampiran 7. Lanjutan

```
11.5129
11.9640
11.3504
11.6082
11.6082
11.5129
11.9184
11.9512
11.9704
11.5759
12.1730
11.6019
11.7791
11.7906
12.2501
11.7753
11.9512
11.9512
11.8130
11.7753
11.6952
11.9829
11.9829
12.2061
12.2061
12.1007
12.2061
12.0154
11.9980
11.8499
11.9139
;
proc arima data=permintaan;
identify var=y1(0) nlag=72 noprint;
run;
estimate
p=(4)
q=(2)
method=cls;
forecast lead=8 out=arimaout printall;
run;
proc univariate data=arimaout normal;
var residual;
run;
```

Lampiran 8. Syntax Model ARIMA ([4],0,1)

```
data permintaan;  
input y1;(0)  
datalines;  
11.5617  
11.7361  
11.7361  
11.5129  
11.6082  
11.6082  
11.7753  
11.7361  
11.9829  
11.9829  
11.6952  
11.6952  
11.6952  
11.6952  
11.8845  
11.9512  
11.7361  
12.0436  
11.7753  
11.6527  
11.6527  
11.6527  
11.7361  
11.7753  
11.7361  
11.7361  
11.7361  
11.9512  
11.9512  
11.9512  
11.9512  
12.0436  
12.0436  
12.0436  
12.0436  
12.0436  
12.0436  
11.9829  
11.9829  
12.4171  
12.1548  
12.0725  
11.8845  
12.0552  
11.3504  
11.3504
```

Lampiran 8. Lanjutan

```
11.5129
11.9640
11.3504
11.6082
11.6082
11.5129
11.9184
11.9512
11.9704
11.5759
12.1730
11.6019
11.7791
11.7906
12.2501
11.7753
11.9512
11.9512
11.8130
11.7753
11.6952
11.9829
11.9829
12.2061
12.2061
12.1007
12.2061
12.0154
11.9980
11.8499
11.9139
;
proc arima data=permintaan;
identify var=y1(0) nlag=72 noprint;
run;
estimate
p=(4)
q=(1)
method=cls;
forecast lead=8 out=arimaout printall;
run;
proc univariate data=arimaout normal;
var residual;
run;
```


Lampiran 9. Uji Signifikasi Model ARIMA (0,0,[1,2,4])

The ARIMA Procedure

Conditional Least Squares Estimation					
Parameter	Estimate	Standard Error	t Value	Approx Pr > t	Lag
MU	11.84087	0.04538	260.94	<.0001	0
MA1,1	-0.39909	0.11686	-3.42	0.0011	1
MA1,2	-0.32917	0.10617	-3.10	0.0028	2
MA1,3	-0.34887	0.10809	-3.23	0.0019	4

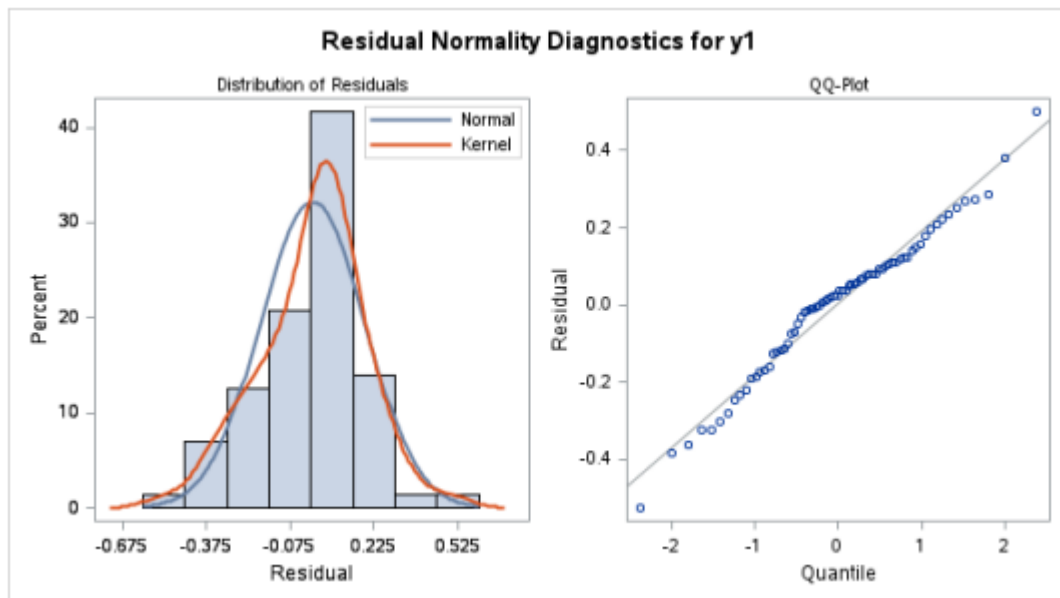
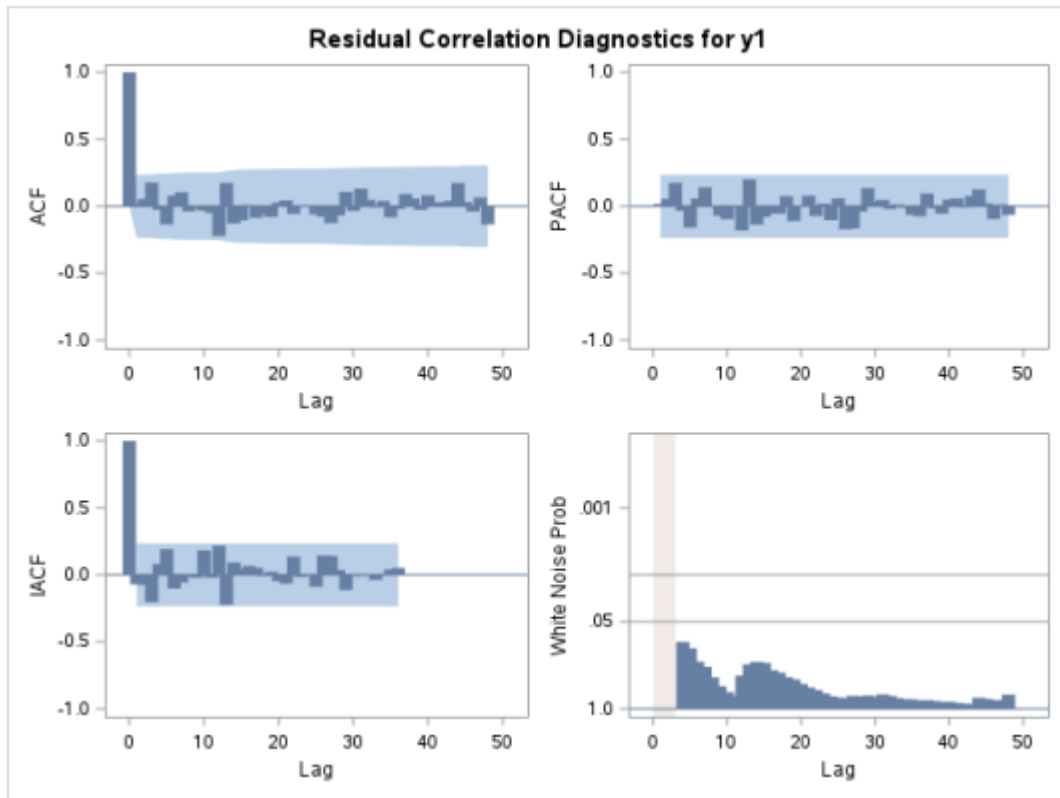
Constant Estimate	11.84087
Variance Estimate	0.036249
Std Error Estimate	0.190391
AIC	-30.6376
SBC	-21.531
Number of Residuals	72

* AIC and SBC do not include log determinant.

Correlations of Parameter Estimates				
Parameter	MU	MA1,1	MA1,2	MA1,3
MU	1.000	0.015	0.033	0.010
MA1,1	0.015	1.000	0.399	-0.425
MA1,2	0.033	0.399	1.000	-0.066
MA1,3	0.010	-0.425	-0.066	1.000

Autocorrelation Check of Residuals									
To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	4.66	3	0.1981	0.018	0.055	0.177	-0.026	-0.135	0.079
12	10.35	9	0.3228	0.104	-0.038	-0.010	-0.033	-0.049	-0.222
18	16.62	15	0.3419	0.174	-0.128	-0.106	0.010	-0.086	-0.052
24	17.86	21	0.6576	-0.079	0.027	0.043	-0.056	0.003	-0.002
30	22.92	27	0.6894	-0.058	-0.076	-0.124	-0.067	0.110	-0.032
36	26.81	33	0.7679	0.133	0.050	-0.006	0.039	-0.082	-0.020
42	29.97	39	0.8502	0.091	0.057	-0.028	0.078	0.025	0.024
48	41.33	45	0.6282	0.037	0.172	0.030	-0.041	0.064	-0.136

Lampiran 9. Lanjutan



Model for variable y1

Model for variable y1	
Estimated Mean	11.84087

Moving Average Factors	
Factor 1:	$1 + 0.39909 B^{**}(1) + 0.32917 B^{**}(2) + 0.34887 B^{**}(4)$

Lampiran 9. Lanjutan

The UNIVARIATE Procedure
Variable: RESIDUAL (Residual: Actual-Forecast)

Moments			
N	72	Sum Weights	72
Mean	0.00504735	Sum Observations	0.36340955
Std Deviation	0.18625575	Variance	0.0346912
Skewness	-0.3281454	Kurtosis	0.521442
Uncorrected SS	2.46490972	Corrected SS	2.46307546
Coeff Variation	3690.16555	Std Error Mean	0.02195045

Basic Statistical Measures			
Location		Variability	
Mean	0.005047	Std Deviation	0.18626

Basic Statistical Measures			
Location		Variability	
Median	0.030729	Variance	0.03469
Mode	.	Range	1.02588
		Interquartile Range	0.22559

Tests for Location: $\mu_0=0$				
Test	Statistic		p Value	
Student's t	t	0.229943	Pr > t 	0.8188
Sign	M	6	Pr >= M 	0.1945
Signed Rank	S	126	Pr >= S 	0.4834

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.979978	Pr < W	0.3068
Kolmogorov-Smirnov	D	0.115902	Pr > D	0.0177
Cramer-von Mises	W-Sq	0.141985	Pr > W-Sq	0.0307
Anderson-Darling	A-Sq	0.709401	Pr > A-Sq	0.0644

Lampiran 9. Lanjutan

Quantiles (Definition 5)	
Level	Quantile
100% Max	0.5003871
99%	0.5003871
95%	0.2729809
90%	0.2224287
75% Q3	0.1108809
50% Median	0.0307294
25% Q1	-0.1147101
10%	-0.2470490
5%	-0.3239613
1%	-0.5254977
0% Min	-0.5254977

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
-0.525498	45	0.268449	57
-0.385297	49	0.272981	61
-0.359776	52	0.284864	19
-0.323961	5	0.380451	53
-0.323540	58	0.500387	40

Missing Values			
Missing Value	Count	Percent Of	
		All Obs	Missing Obs
.	13	15.29	100.00

Lampiran 10. Uji Signifikasi Model ARIMA ([4],0,2)

The ARIMA Procedure

Conditional Least Squares Estimation					
Parameter	Estimate	Standard Error	t Value	Approx Pr > t	Lag
MU	11.84251	0.04226	280.25	<.0001	0
MA1,1	-0.38620	0.11550	-3.34	0.0013	2
AR1,1	0.27088	0.12074	2.24	0.0279	4

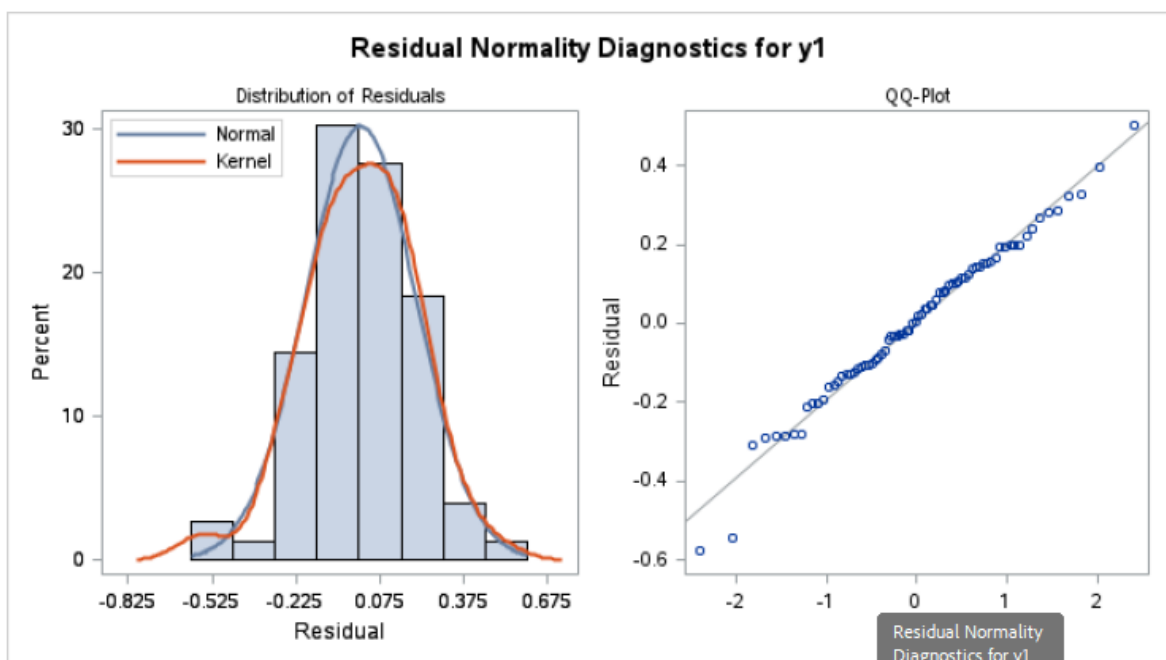
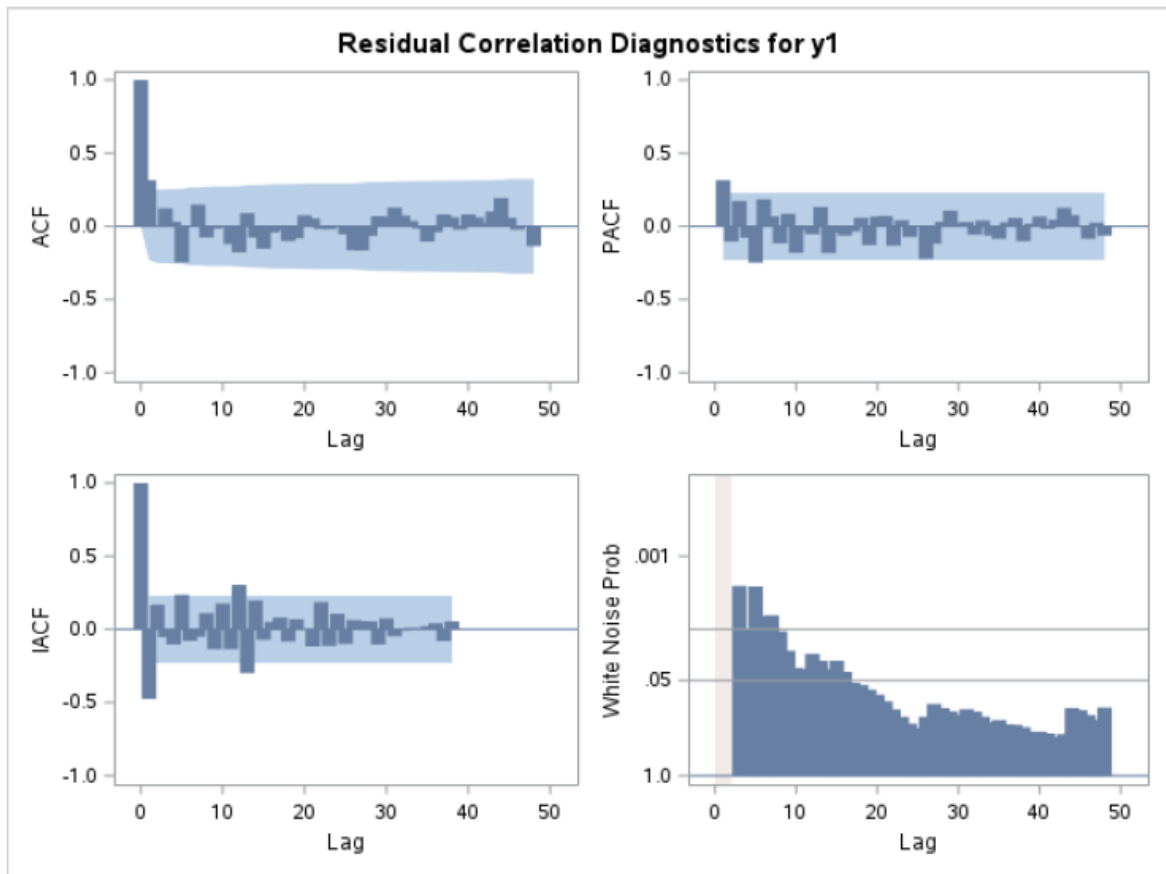
Constant Estimate	8.634589
Variance Estimate	0.040342
Std Error Estimate	0.200854
AIC	-25.3692
SBC	-18.377
Number of Residuals	76

* AIC and SBC do not include log determinant.

Correlations of Parameter Estimates			
Parameter	MU	MA1,1	AR1,1
MU	1.000	0.024	-0.025
MA1,1	0.024	1.000	-0.351
AR1,1	-0.025	-0.351	1.000

Autocorrelation Check of Residuals									
To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	14.25	4	0.0065	0.316	0.008	0.125	0.034	-0.244	-0.000
12	20.92	10	0.0216	0.150	-0.075	-0.015	-0.007	-0.121	-0.176
18	25.72	16	0.0581	0.091	-0.075	-0.151	-0.041	-0.027	-0.100
24	27.43	22	0.1955	-0.082	0.076	0.055	-0.017	-0.018	0.004
30	35.71	28	0.1501	-0.053	-0.161	-0.163	-0.063	0.070	0.064
36	40.61	34	0.2021	0.128	0.075	0.040	-0.013	-0.102	-0.037
42	44.05	40	0.3041	0.082	0.062	-0.023	0.080	0.060	0.022
48	57.38	46	0.1213	0.100	0.193	0.058	-0.023	0.003	-0.135

Lampiran 10. Lanjutan



Model for variable y1	
Estimated Mean	11.84251

Lampiran 10. Lanjutan

Autoregressive Factors	
Factor 1:	$1 - 0.27088 B^{**}(4)$

Moving Average Factors	
Factor 1:	$1 + 0.3862 B^{**}(2)$

Forecasts for variable y1						
Obs	Forecast	Std Error	95% Confidence Limits		Actual	Residual
1	11.8425	0.2009	11.4488	12.2362	11.5617	-0.2808
2	11.8425	0.2009	11.4488	12.2362	11.7361	-0.1064
3	11.7341	0.2009	11.3404	12.1277	11.7361	0.0020
4	11.8014	0.2009	11.4077	12.1951	11.5129	-0.2885
5	11.7672	0.2009	11.3736	12.1609	11.6082	-0.1590
6	11.7023	0.2009	11.3086	12.0959	11.6082	-0.0941
7	11.7523	0.2009	11.3586	12.1459	11.7753	0.0230
8	11.7169	0.2009	11.3232	12.1106	11.7361	0.0192
9	11.7879	0.2009	11.3943	12.1816	11.9829	0.1950
10	11.7865	0.2009	11.3928	12.1801	11.9829	0.1964
11	11.8996	0.2009	11.5059	12.2933	11.6952	-0.2044
12	11.8895	0.2009	11.4959	12.2832	11.6952	-0.1943
13	11.8016	0.2009	11.4079	12.1953	11.6952	-0.1064
14	11.8055	0.2009	11.4118	12.1991	11.6952	-0.1103
15	11.7615	0.2009	11.3678	12.1552	11.8845	0.1230
16	11.7600	0.2009	11.3663	12.1537	11.9512	0.1912
17	11.8501	0.2009	11.4564	12.2438	11.7361	-0.1140
18	11.8764	0.2009	11.4828	12.2701	12.0436	0.1672
19	11.8099	0.2009	11.4162	12.2035	11.7753	-0.0346
20	11.9365	0.2009	11.5428	12.3302	11.6527	-0.2838
21	11.8003	0.2009	11.4067	12.1940	11.6527	-0.1476
22	11.7874	0.2009	11.3937	12.1810	11.6527	-0.1347
23	11.7673	0.2009	11.3736	12.1610	11.7361	-0.0312
24	11.7391	0.2009	11.3454	12.1327	11.7753	0.0362
25	11.7790	0.2009	11.3854	12.1727	11.7361	-0.0429

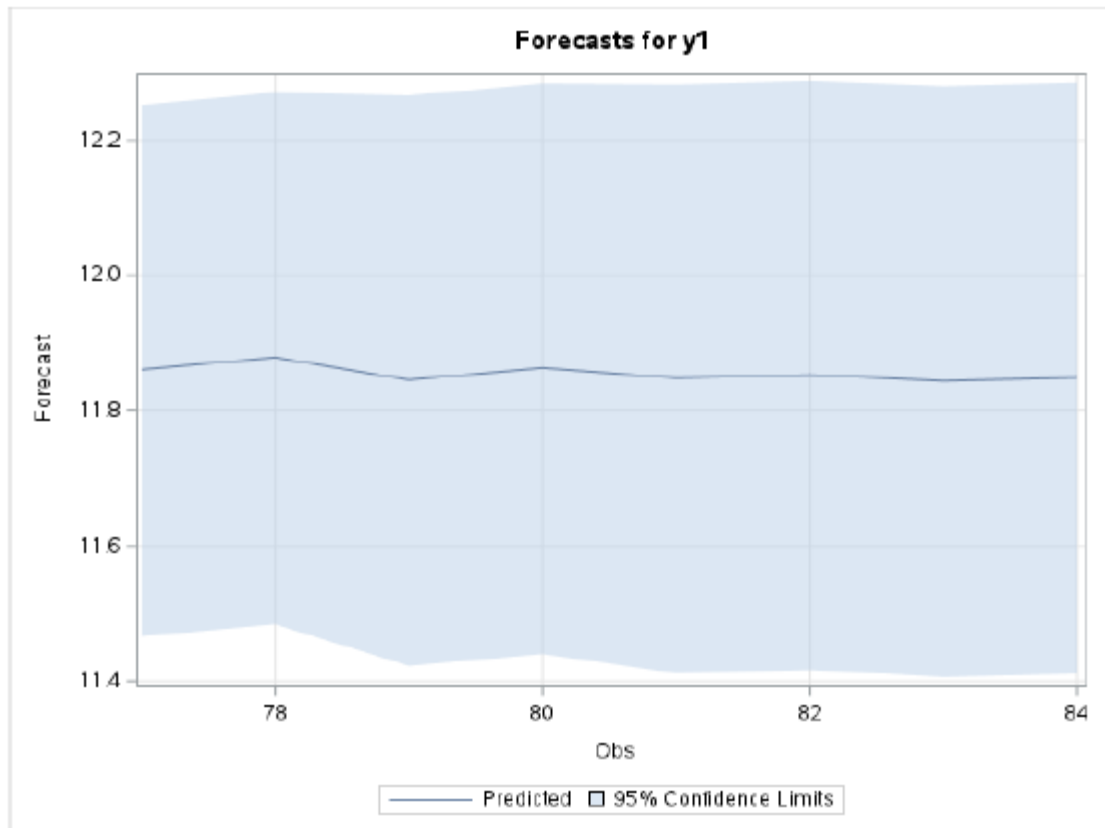
Lampiran 10. Lanjutan

26	11.8051	0.2009	11.4114	12.1987	11.7361	-0.0690
27	11.7971	0.2009	11.4034	12.1908	11.9512	0.1541
28	11.7977	0.2009	11.4040	12.1913	11.9512	0.1535
29	11.8732	0.2009	11.4795	12.2669	11.9512	0.0780
30	11.8730	0.2009	11.4793	12.2666	11.9512	0.0782
31	11.9021	0.2009	11.5084	12.2957	12.0436	0.1415
32	11.9022	0.2009	11.5085	12.2958	12.0436	0.1414
33	11.9266	0.2009	11.5329	12.3203	12.0436	0.1170
34	11.9266	0.2009	11.5329	12.3202	12.0436	0.1170
35	11.9422	0.2009	11.5485	12.3358	12.0436	0.1014
36	11.9422	0.2009	11.5485	12.3358	12.0436	0.1014
37	11.9362	0.2009	11.5425	12.3298	11.9829	0.0467
38	11.9361	0.2009	11.5425	12.3298	11.9829	0.0468
39	11.9150	0.2009	11.5214	12.3087	12.4171	0.5021
40	11.9150	0.2009	11.5214	12.3087	12.1548	0.2398
41	12.0744	0.2009	11.6808	12.4681	12.0725	-0.0019
42	11.9731	0.2009	11.5795	12.3668	11.8845	-0.0886
43	11.9974	0.2009	11.6037	12.3911	12.0552	0.0578
44	11.8929	0.2009	11.4992	12.2865	11.3504	-0.5425
45	11.9271	0.2009	11.5335	12.3208	11.3504	-0.5767
46	11.6444	0.2009	11.2507	12.0380	11.5129	-0.1315
47	11.6774	0.2009	11.2837	12.0711	11.9640	0.2866
48	11.6584	0.2009	11.2648	12.0521	11.3504	-0.3080

Lampiran 10. Lanjutan

Forecasts for variable y1						
Obs	Forecast	Std Error	95% Confidence Limits		Actual	Residual
49	11.8199	0.2009	11.4262	12.2136	11.6082	-0.2117
50	11.6343	0.2009	11.2406	12.0279	11.6082	-0.0261
51	11.7937	0.2009	11.4000	12.1873	11.5129	-0.2808
52	11.6991	0.2009	11.3055	12.0928	11.9184	0.2193
53	11.6706	0.2009	11.2769	12.0643	11.9512	0.2806
54	11.8637	0.2009	11.4700	12.2574	11.9704	0.1067
55	11.8616	0.2009	11.4679	12.2553	11.5759	-0.2857
56	11.9043	0.2009	11.5106	12.2979	12.1730	0.2687
57	11.7616	0.2009	11.3680	12.1553	11.6019	-0.1597
58	11.9809	0.2009	11.5873	12.3746	11.7791	-0.2018
59	11.7086	0.2009	11.3149	12.1023	11.7906	0.0820
60	11.8541	0.2009	11.4604	12.2477	12.2501	0.3960
61	11.8090	0.2009	11.4153	12.2027	11.7753	-0.0337
62	11.9783	0.2009	11.5846	12.3719	11.9512	-0.0271
63	11.8154	0.2009	11.4218	12.2091	11.9512	0.1358
64	11.9425	0.2009	11.5488	12.3361	11.8130	-0.1295
65	11.8767	0.2009	11.4831	12.2704	11.7753	-0.1014
66	11.8220	0.2009	11.4283	12.2156	11.6952	-0.1268
67	11.8328	0.2009	11.4391	12.2264	11.9829	0.1501
68	11.7856	0.2009	11.3919	12.1792	11.9829	0.1973
69	11.8823	0.2009	11.4886	12.2759	12.2061	0.3238
70	11.8788	0.2009	11.4851	12.2725	12.2061	0.3273
71	12.0056	0.2009	11.6119	12.3993	12.1007	0.0951
72	12.0069	0.2009	11.6133	12.4006	12.2061	0.1992
73	11.9777	0.2009	11.5841	12.3714	12.0154	0.0377
74	12.0179	0.2009	11.6242	12.4116	11.9980	-0.0199
75	11.9270	0.2009	11.5333	12.3207	11.8499	-0.0771
76	11.9333	0.2009	11.5396	12.3270	11.9139	-0.0194
77	11.8596	0.2009	11.4659	12.2532	.	.
78	11.8771	0.2009	11.4835	12.2708	.	.
79	11.8445	0.2153	11.4225	12.2665	.	.
80	11.8618	0.2153	11.4398	12.2838	.	.
81	11.8471	0.2221	11.4119	12.2824	.	.
82	11.8519	0.2221	11.4166	12.2872	.	.
83	11.8430	0.2231	11.4058	12.2803	.	.
84	11.8477	0.2231	11.4105	12.2850	.	.

Lampiran 10. Lanjutan



The UNIVARIATE Procedure
Variable: RESIDUAL (Residual: Actual-Forecast)

Moments			
N	76	Sum Weights	76
Mean	0.00505793	Sum Observations	0.38440244
Std Deviation	0.19809223	Variance	0.03924053
Skewness	-0.3225867	Kurtosis	0.62000137
Uncorrected SS	2.94498413	Corrected SS	2.94303985
Coeff Variation	3916.47082	Std Error Mean	0.02272274

Basic Statistical Measures			
Location		Variability	
Mean	0.005058	Std Deviation	0.19809
Median	0.010622	Variance	0.03924
Mode	.	Range	1.07879
		Interquartile Range	0.26186

Tests for Location: $\mu_0=0$			
Test	Statistic	p Value	
Student's t	t	0.222593	Pr > t 0.8245
Sign	M	1	Pr >= M 0.9088
Signed Rank	S	88	Pr >= S 0.6591

Lampiran 10. Lanjutan

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.985534	Pr < W	0.5427

Tests for Normality				
Test	Statistic		p Value	
Kolmogorov-Smirnov	D	0.051547	Pr > D	>0.1500
Cramer-von Mises	W-Sq	0.031125	Pr > W-Sq	>0.2500
Anderson-Darling	A-Sq	0.263483	Pr > A-Sq	>0.2500

Quantiles (Definition 5)	
Level	Quantile
100% Max	0.5020683
99%	0.5020683
95%	0.3238216
90%	0.2397664
75% Q3	0.1414842
50% Median	0.0106222
25% Q1	-0.1203761
10%	-0.2807622
5%	-0.2885122
1%	-0.5767267
0% Min	-0.5767267

Extreme Observations				
Lowest		Highest		
Value	Obs	Value	Obs	
-0.576727	45	0.286609	47	
-0.542471	44	0.323822	69	
-0.308026	48	0.327286	70	
-0.288512	4	0.396017	60	
-0.285685	55	0.502068	39	

Missing Values			
Missing Value	Count	Percent Of	
		All Obs	Missing Obs
.	8	9.52	100.00

Lampiran 11. Uji Signifikasi Model ARIMA ([4],0,1)

The ARIMA Procedure

Conditional Least Squares Estimation					
Parameter	Estimate	Standard Error	t Value	Approx Pr > t	Lag
MU	11.84266	0.04158	284.82	<.0001	0
MA1,1	-0.32030	0.11114	-2.88	0.0052	1
AR1,1	0.29586	0.11261	2.63	0.0105	4

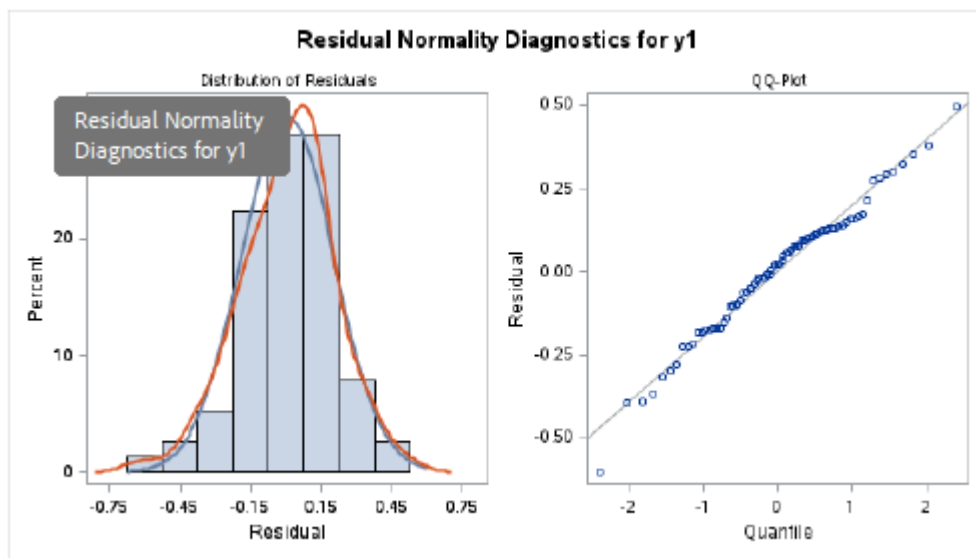
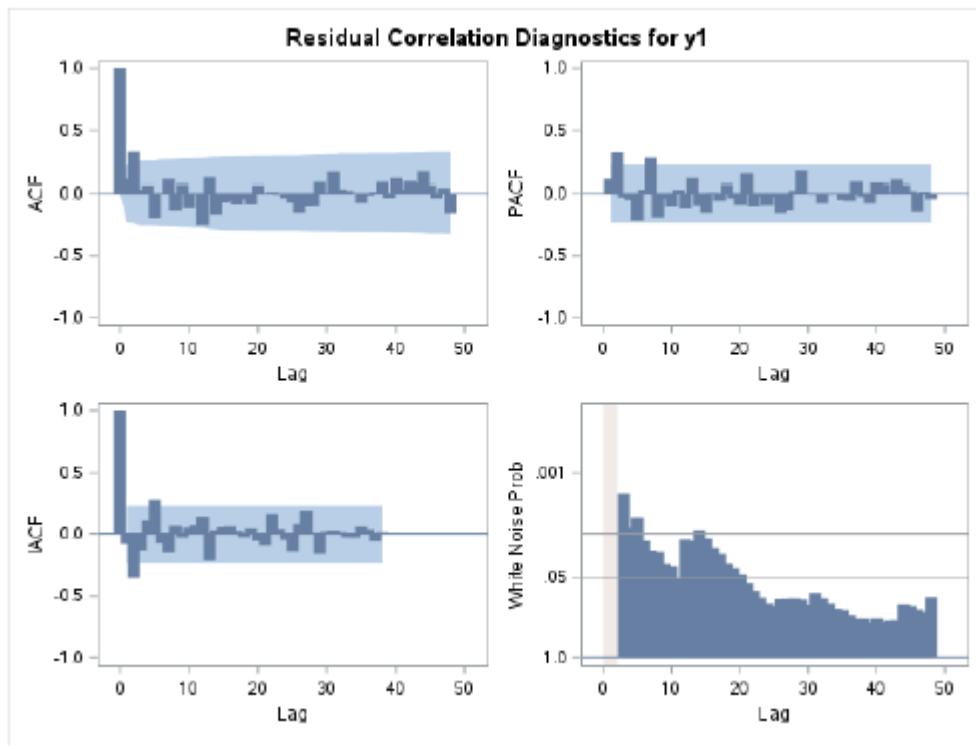
Constant Estimate	8.338883
Variance Estimate	0.039853
Std Error Estimate	0.199633
AIC	-26.2962
SBC	-19.304
Number of Residuals	76

* AIC and SBC do not include log determinant.

Correlations of Parameter Estimates			
Parameter	MU	MA1,1	AR1,1
MU	1.000	0.016	-0.018
MA1,1	0.016	1.000	-0.059
AR1,1	-0.018	-0.059	1.000

Autocorrelation Check of Residuals									
To Lag	Chi-Square	DF	Pr > ChiSq	Autocorrelations					
6	12.77	4	0.0125	0.105	0.326	0.034	0.061	-0.189	0.004
12	22.62	10	0.0122	0.105	-0.130	0.070	-0.115	0.005	-0.251
18	28.27	16	0.0294	0.122	-0.167	-0.066	-0.057	-0.079	-0.041
24	29.48	22	0.1318	-0.078	0.062	0.007	0.017	-0.007	-0.032
30	35.96	28	0.1437	-0.068	-0.146	-0.100	-0.100	0.088	0.002
36	40.57	34	0.2033	0.166	0.036	0.029	0.005	-0.068	-0.012
42	45.56	40	0.2518	0.019	0.087	-0.031	0.111	0.032	0.089
48	58.17	46	0.1076	0.076	0.167	0.062	-0.033	0.042	-0.155

Lampiran 11. Lanjutan



Model for variable y1	
Estimated Mean	11.84266
Autoregressive Factors	
Factor 1:	$1 - 0.29586 B^{**}(4)$
Moving Average Factors	
Factor 1:	$1 + 0.3203 B^{**}(1)$

Lampiran 11. Lanjutan

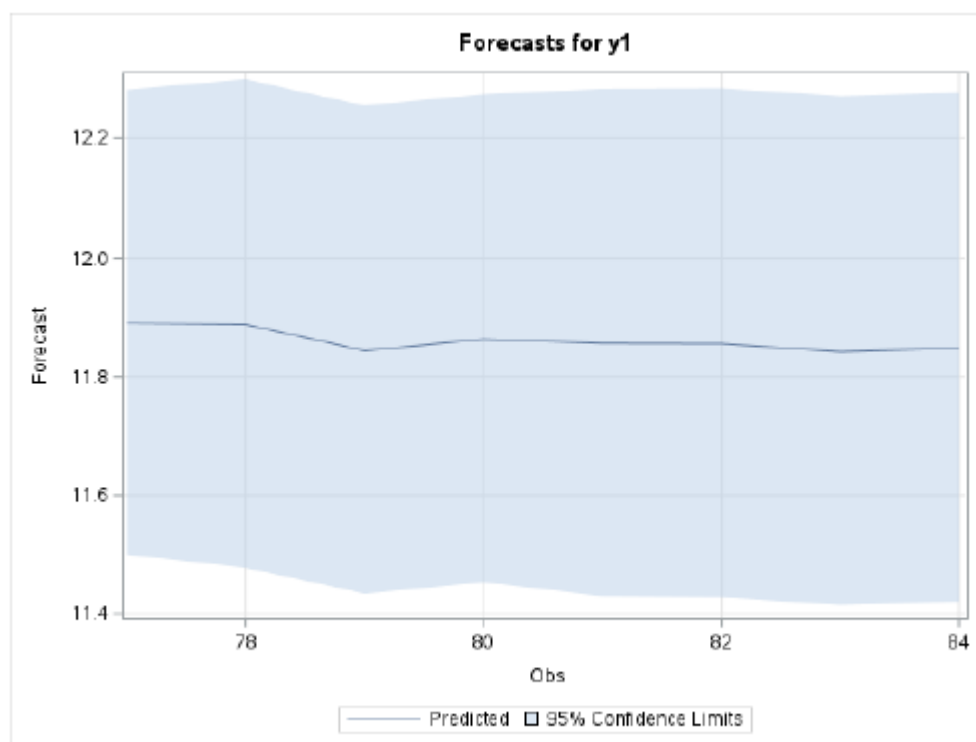
Forecasts for variable y1						
Obs	Forecast	Std Error	95% Confidence Limits		Actual	Residual
1	11.8427	0.1996	11.4514	12.2339	11.5617	-0.2810
2	11.7527	0.1996	11.3614	12.1439	11.7361	-0.0166
3	11.8374	0.1996	11.4461	12.2286	11.7361	-0.1013
4	11.8102	0.1996	11.4190	12.2015	11.5129	-0.2973
5	11.6643	0.1996	11.2730	12.0556	11.6082	-0.0561
6	11.7932	0.1996	11.4019	12.1844	11.6082	-0.1850
7	11.7519	0.1996	11.3606	12.1432	11.7753	0.0234
8	11.7526	0.1996	11.3613	12.1439	11.7361	-0.0165
9	11.7680	0.1996	11.3767	12.1593	11.9829	0.2149
10	11.8421	0.1996	11.4508	12.2334	11.9829	0.1408
11	11.8678	0.1996	11.4765	12.2591	11.6952	-0.1726
12	11.7558	0.1996	11.3646	12.1471	11.6952	-0.0606
13	11.8647	0.1996	11.4735	12.2560	11.6952	-0.1695
14	11.8299	0.1996	11.4386	12.2211	11.6952	-0.1347
15	11.7559	0.1996	11.3646	12.1472	11.8845	0.1286
16	11.8402	0.1996	11.4489	12.2315	11.9512	0.1110
17	11.8346	0.1996	11.4433	12.2259	11.7361	-0.0985
18	11.7675	0.1996	11.3762	12.1588	12.0436	0.2761
19	11.9435	0.1996	11.5522	12.3347	11.7753	-0.1682
20	11.8209	0.1996	11.4296	12.2122	11.6527	-0.1682
21	11.7573	0.1996	11.3660	12.1485	11.6527	-0.1046
22	11.8686	0.1996	11.4773	12.2599	11.6527	-0.2159
23	11.7536	0.1996	11.3623	12.1448	11.7361	-0.0175
24	11.7809	0.1996	11.3896	12.1721	11.7753	-0.0056
25	11.7847	0.1996	11.3934	12.1759	11.7361	-0.0486
26	11.7709	0.1996	11.3796	12.1622	11.7361	-0.0348
27	11.8000	0.1996	11.4087	12.1913	11.9512	0.1512
28	11.8712	0.1996	11.4799	12.2624	11.9512	0.0800
29	11.8368	0.1996	11.4455	12.2280	11.9512	0.1144
30	11.8478	0.1996	11.4565	12.2391	11.9512	0.1034
31	11.9079	0.1996	11.5166	12.2992	12.0436	0.1357
32	11.9182	0.1996	11.5270	12.3095	12.0436	0.1254
33	11.9149	0.1996	11.5237	12.3062	12.0436	0.1287
34	11.9160	0.1996	11.5247	12.3073	12.0436	0.1276
35	11.9430	0.1996	11.5517	12.3343	12.0436	0.1006
36	11.9343	0.1996	11.5431	12.3256	12.0436	0.1093
37	11.9371	0.1996	11.5458	12.3284	11.9829	0.0458
38	11.9168	0.1996	11.5255	12.3081	11.9829	0.0661
39	11.9233	0.1996	11.5320	12.3146	12.4171	0.4938
40	12.0603	0.1996	11.6690	12.4516	12.1548	0.0945

Lampiran 11. Lanjutan

41	11.9144	0.1996	11.5232	12.3057	12.0725	0.1581
42	11.9348	0.1996	11.5435	12.3261	11.8845	-0.0503
43	11.9965	0.1996	11.6052	12.3878	12.0552	0.0587
44	11.9538	0.1996	11.5625	12.3451	11.3504	-0.6034
45	11.7174	0.1996	11.3261	12.1087	11.3504	-0.3670
46	11.7375	0.1996	11.3462	12.1288	11.5129	-0.2246
47	11.8336	0.1996	11.4423	12.2249	11.9640	0.1304
48	11.7388	0.1996	11.3475	12.1301	11.3504	-0.3884

Forecasts for variable y1						
Obs	Forecast	Std Error	95% Confidence Limits		Actual	Residual
49	11.5726	0.1996	11.1813	11.9639	11.6082	0.0356
50	11.7565	0.1996	11.3652	12.1478	11.6082	-0.1483
51	11.8311	0.1996	11.4398	12.2223	11.5129	-0.3182
52	11.5951	0.1996	11.2038	11.9864	11.9184	0.3233
53	11.8768	0.1996	11.4856	12.2681	11.9512	0.0744
54	11.7971	0.1996	11.4058	12.1884	11.9704	0.1733
55	11.8006	0.1996	11.4093	12.1919	11.5759	-0.2247
56	11.7931	0.1996	11.4018	12.1844	12.1730	0.3799
57	11.9965	0.1996	11.6052	12.3877	11.6019	-0.3946
58	11.7541	0.1996	11.3628	12.1453	11.7791	0.0250
59	11.7718	0.1996	11.3805	12.1630	11.7906	0.0188
60	11.9464	0.1996	11.5552	12.3377	12.2501	0.3037
61	11.8687	0.1996	11.4774	12.2600	11.7753	-0.0934
62	11.7939	0.1996	11.4027	12.1852	11.9512	0.1573
63	11.8776	0.1996	11.4864	12.2689	11.9512	0.0736
64	11.9868	0.1996	11.5955	12.3780	11.8130	-0.1738
65	11.7671	0.1996	11.3758	12.1583	11.7753	0.0082
66	11.8774	0.1996	11.4861	12.2687	11.6952	-0.1822
67	11.8164	0.1996	11.4251	12.2077	11.9829	0.1665
68	11.8872	0.1996	11.4959	12.2785	11.9829	0.0957
69	11.8534	0.1996	11.4621	12.2447	12.2061	0.3527
70	11.9120	0.1996	11.5207	12.3033	12.2061	0.2941
71	11.9783	0.1996	11.5871	12.3696	12.1007	0.1224
72	11.9233	0.1996	11.5321	12.3146	12.2061	0.2928
73	12.0408	0.1996	11.6495	12.4320	12.0154	-0.0254
74	11.9421	0.1996	11.5508	12.3333	11.9980	0.0559
75	11.9369	0.1996	11.5456	12.3282	11.8499	-0.0870
76	11.9223	0.1996	11.5310	12.3136	11.9139	-0.0084
77	11.8911	0.1996	11.4998	12.2823	.	.
78	11.8886	0.2096	11.4778	12.2995	.	.
79	11.8448	0.2096	11.4339	12.2557	.	.
80	11.8637	0.2096	11.4529	12.2746	.	.
81	11.8570	0.2178	11.4301	12.2838	.	.
82	11.8563	0.2186	11.4278	12.2847	.	.
83	11.8433	0.2186	11.4148	12.2718	.	.
84	11.8489	0.2186	11.4204	12.2774	.	.

Lampiran 11. Lanjutan



The UNIVARIATE Procedure
Variable: RESIDUAL (Residual: Actual-Forecast)

Moments			
N	76	Sum Weights	76
Mean	0.00551551	Sum Observations	0.4191788
Std Deviation	0.19687451	Variance	0.03875961
Skewness	-0.3409023	Kurtosis	0.57259821
Uncorrected SS	2.90928296	Corrected SS	2.90697098
Coeff Variation	3569.47213	Std Error Mean	0.02258307

Basic Statistical Measures			
Location		Variability	
Mean	0.005516	Std Deviation	0.19687
Median	0.024218	Variance	0.03876
Mode	.	Range	1.09722
		Interquartile Range	0.24771

Tests for Location: $\mu_0=0$				
Test		Statistic	p Value	
Student's t	t	0.244232	Pr > t	0.8077
Sign	M	3	Pr >= M	0.5665
Signed Rank	S	87	Pr >= S	0.6554

Tests for Normality				
Test		Statistic	p Value	
Shapiro-Wilk	W	0.984173	Pr < W	0.4544

Lampiran 11. Lanjutan

Tests for Normality				
Test	Statistic		p Value	
Kolmogorov-Smirnov	D	0.078632	Pr > D	>0.1500
Cramer-von Mises	W-Sq	0.088935	Pr > W-Sq	0.1765
Anderson-Darling	A-Sq	0.483305	Pr > A-Sq	0.2299

Quantiles (Definition 5)	
Level	Quantile
100% Max	0.4938110
99%	0.4938110
95%	0.3232881
90%	0.2761108
75% Q3	0.1281051
50% Median	0.0242178
25% Q1	-0.1196038
10%	-0.2247019
5%	-0.3669876
1%	-0.6034086
0% Min	-0.6034086

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
-0.603409	44	0.303668	60
-0.394556	57	0.323288	52
-0.388365	48	0.352720	69
-0.366988	45	0.379904	56
-0.318161	51	0.493811	39

Missing Values			
Missing Value	Count	Percent Of	
		All Obs	Missing Obs
.	8	9.52	100.00

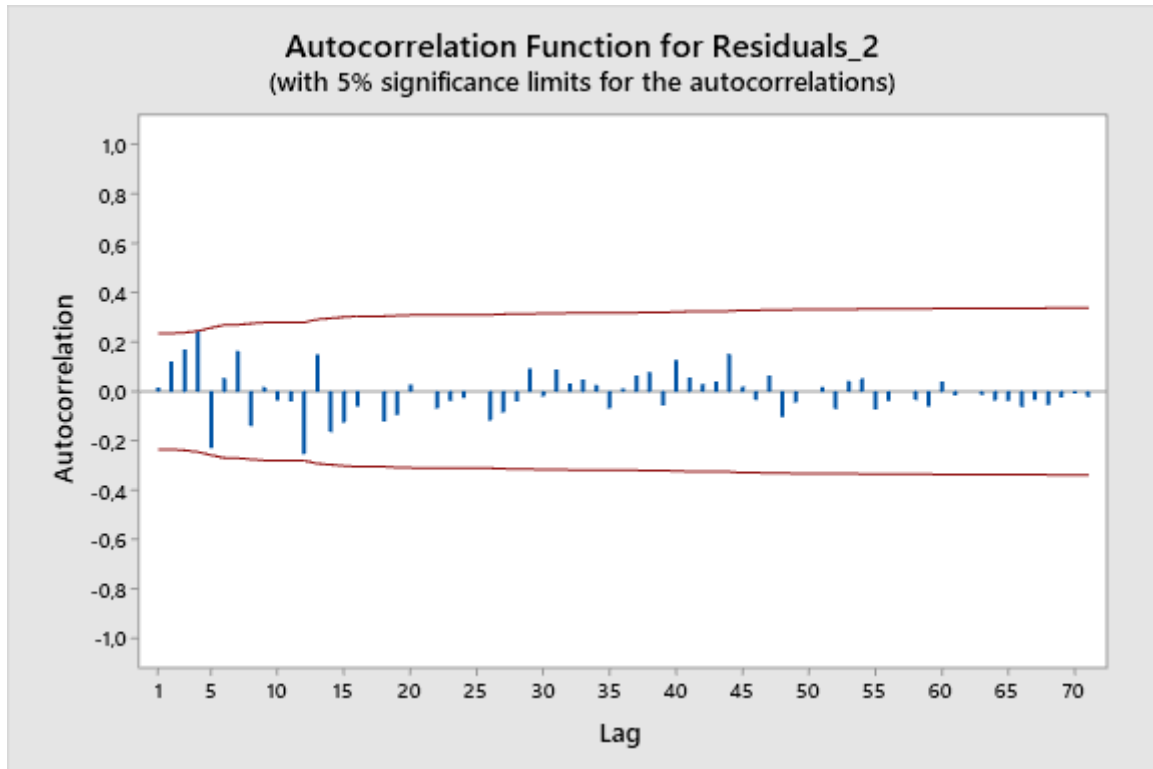
Lampiran 12. Hasil Plot *Autocorrelation Function* (ACF) Residual Model ARIMA (2,0,2)

Autocorrelations

Lag	ACF	T	LBQ
1	0.016235	0.14	0.02
2	0.120784	1.02	1.13
3	0.169739	1.42	3.35
4	0.247743	2.02	8.16
5	-0.228884	-1.77	12.33
6	0.055619	0.41	12.58
7	0.163944	1.21	14.78
8	-0.139478	-1.01	16.40
9	0.018244	0.13	16.43
10	-0.036826	-0.26	16.55
11	-0.041230	-0.29	16.70
12	-0.253517	-1.80	22.40
13	0.149547	1.02	24.42
14	-0.164240	-1.10	26.90
15	-0.125280	-0.83	28.37
16	-0.061360	-0.40	28.73
17	0.001726	0.01	28.73
18	-0.121161	-0.79	30.17
19	-0.095246	-0.62	31.09
20	0.028803	0.19	31.17
21	0.005263	0.03	31.17
22	-0.069400	-0.45	31.69
23	-0.039236	-0.25	31.85
24	-0.026641	-0.17	31.93
25	-0.005875	-0.04	31.94
26	-0.117462	-0.75	33.54
27	-0.085460	-0.54	34.40
28	-0.041235	-0.26	34.61
29	0.094176	0.60	35.71
30	-0.019375	-0.12	35.75
31	0.089167	0.56	36.79
32	0.032957	0.21	36.93
33	0.047890	0.30	37.24
34	0.026231	0.16	37.34
35	-0.069848	-0.44	38.04

Lampiran 12. Lanjutan

36	0.012196	0.08	38.07
37	0.064300	0.40	38.69
38	0.079698	0.50	39.69
39	-0.057662	-0.36	40.23
40	0.127712	0.79	42.94
41	0.057639	0.35	43.51
42	0.031351	0.19	43.69
43	0.041251	0.25	44.00
44	0.152255	0.93	48.41
45	0.021230	0.13	48.50
46	-0.035119	-0.21	48.75
47	0.065817	0.40	49.68
48	-0.103216	-0.62	52.04
49	-0.043857	-0.26	52.49
50	-0.006697	-0.04	52.50
51	0.018255	0.11	52.58
52	-0.070573	-0.42	53.91
53	0.042948	0.26	54.43
54	0.053714	0.32	55.28
55	-0.072171	-0.43	56.91
56	-0.037730	-0.22	57.39
57	-0.001297	-0.01	57.39
58	-0.035161	-0.21	57.86
59	-0.060910	-0.36	59.38
60	0.040277	0.24	60.10
61	-0.015363	-0.09	60.21
62	-0.001246	-0.01	60.21
63	-0.013360	-0.08	60.32
64	-0.036746	-0.22	61.22
65	-0.037620	-0.22	62.30
66	-0.062457	-0.37	65.76
67	-0.033519	-0.20	66.96
68	-0.054904	-0.32	70.97
69	-0.024663	-0.15	72.05
70	-0.008507	-0.05	72.25
71	-0.022175	-0.13	74.87

Lampiran 12. Lanjutan

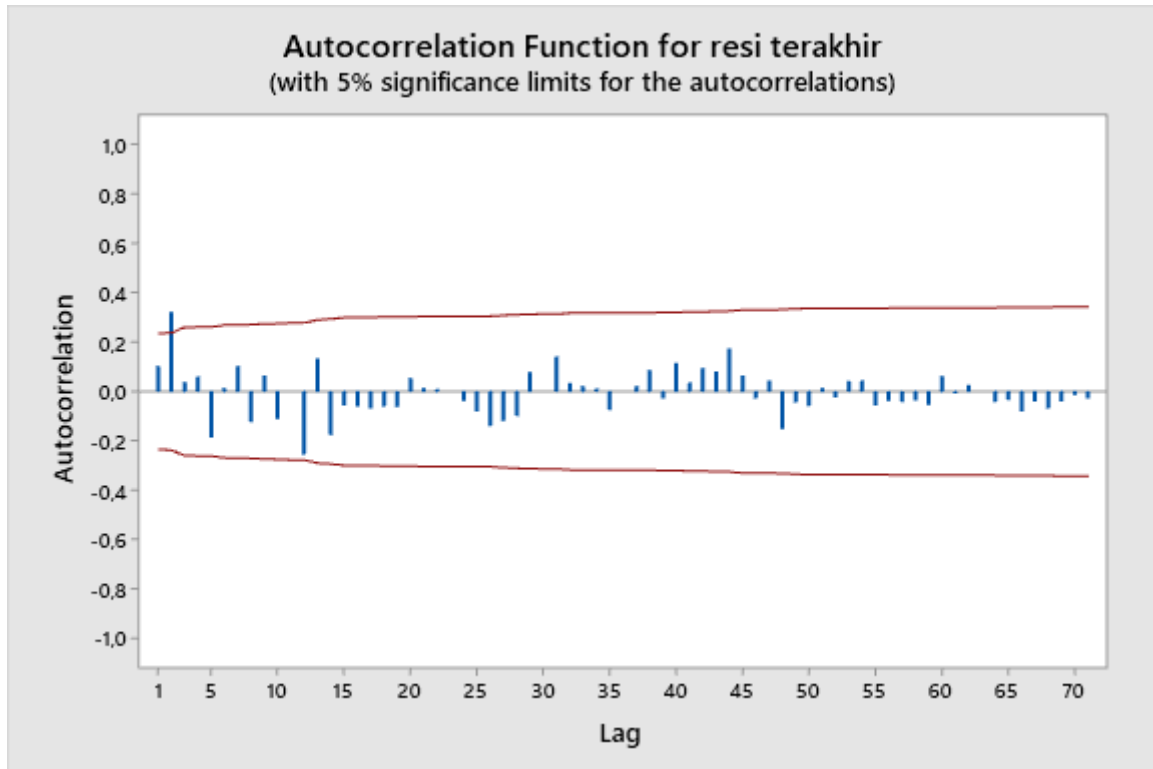
Lampiran 13. Hasil Plot *Autocorrelation Function* (ACF) Residual Model ARIMA (0,0,2)

Autocorrelations

Lag	ACF	T	LBQ
1	0.103450	0.88	0.80
2	0.321892	2.70	8.69
3	0.039450	0.30	8.81
4	0.061105	0.47	9.10
5	-0.187510	-1.43	11.90
6	0.014724	0.11	11.92
7	0.103883	0.77	12.80
8	-0.123351	-0.91	14.07
9	0.064549	0.47	14.42
10	-0.112419	-0.81	15.51
11	0.001417	0.01	15.51
12	-0.255531	-1.84	21.30
13	0.134387	0.92	22.93
14	-0.176958	-1.20	25.81
15	-0.056781	-0.38	26.11
16	-0.059875	-0.40	26.45
17	-0.068337	-0.45	26.91
18	-0.060627	-0.40	27.27
19	-0.062355	-0.41	27.66
20	0.054959	0.36	27.97
21	0.013500	0.09	27.99
22	0.010892	0.07	28.00
23	0.006786	0.04	28.01
24	-0.038906	-0.26	28.17
25	-0.080598	-0.53	28.91
26	-0.139472	-0.91	31.16
27	-0.118916	-0.77	32.84
28	-0.100154	-0.64	34.05
29	0.079106	0.50	34.83
30	-0.002575	-0.02	34.83
31	0.142479	0.90	37.47
32	0.034686	0.22	37.63
33	0.021920	0.14	37.69
34	0.011477	0.07	37.71
35	-0.075509	-0.47	38.53

Lampiran 13. Lanjutan

36	0.001390	0.01	38.53
37	0.021469	0.13	38.60
38	0.088004	0.55	39.82
39	-0.028210	-0.18	39.94
40	0.115769	0.72	42.18
41	0.036216	0.22	42.40
42	0.095829	0.59	44.03
43	0.081464	0.50	45.25
44	0.173470	1.06	50.98
45	0.065376	0.39	51.82
46	-0.029376	-0.18	52.00
47	0.043865	0.26	52.41
48	-0.151278	-0.91	57.49
49	-0.044140	-0.26	57.94
50	-0.058881	-0.35	58.78
51	0.013327	0.08	58.82
52	-0.023936	-0.14	58.98
53	0.043423	0.26	59.51
54	0.044528	0.26	60.09
55	-0.056150	-0.33	61.08
56	-0.038439	-0.23	61.57
57	-0.042432	-0.25	62.21
58	-0.036181	-0.21	62.71
59	-0.054909	-0.32	63.95
60	0.063209	0.37	65.72
61	-0.008950	-0.05	65.76
62	0.026391	0.15	66.13
63	0.004496	0.03	66.14
64	-0.041712	-0.24	67.30
65	-0.033725	-0.20	68.17
66	-0.080327	-0.47	73.90
67	-0.039876	-0.23	75.59
68	-0.069853	-0.41	82.09
69	-0.039750	-0.23	84.90
70	-0.013466	-0.08	85.38
71	-0.027423	-0.16	89.39

Lampiran 13. Lanjutan

Lampiran 14. Perhitungan MSE Model ARIMA (2,0,0)

Error	Error Kuadrat
-0,20444	0,041796965
0,024897	0,000619859
0,008732	7,62451E-05
-0,26439	0,069901536
-0,09153	0,008377051
-0,06069	0,003683059
0,079046	0,006248243
-0,01823	0,000332472
0,194372	0,037780582
0,119819	0,014356711
-0,23862	0,056941144
-0,13864	0,019221265
-0,05618	0,003156031
-0,05618	0,003156031
0,133063	0,017705879
0,133985	0,017951867
-0,15855	0,025138136
0,204579	0,041852555
-0,10889	0,011856966
-0,2264	0,051255396
-0,10689	0,011425577
-0,07175	0,005147679
0,011634	0,000135357
0,021876	0,000478563
-0,05488	0,003011422
-0,05249	0,002754969
0,173866	0,030229367
0,099105	0,009821784
0,037445	0,0014021
0,037445	0,0014021

Lampiran 14. Lanjutan

0,129818	0,016852698
0,097714	0,009548025
0,071236	0,005074536
0,071236	0,005074536
0,071236	0,005074536
0,071236	0,005074536
0,010611	0,000112597
0,031681	0,001003684
0,483273	0,233552945
0,07	0,004899932
-0,04552	0,002072054
-0,12979	0,016844283
0,129905	0,016875301
-0,58038	0,336842616
-0,38436	0,147735453
-0,01981	0,000392277
0,374787	0,140465204
-0,44216	0,195507283
-0,10038	0,010075892
-0,0141	0,0001989
-0,18332	0,03360565
0,255271	0,065163442
0,174464	0,030437527
0,066014	0,004357786
-0,3445	0,118678825
0,384229	0,147631977
-0,28142	0,079195135
-0,07679	0,005897034
0,03675	0,001350573
0,441495	0,19491803
-0,19629	0,038529377

Lampiran 14. Lanjutan

0,012894	0,000166262
0,087863	0,007719828
-0,10071	0,010141641
-0,09043	0,008178036
-0,11776	0,013867137
0,20856	0,043497184
0,131521	0,017297735
0,272202	0,074094031
0,19465	0,037888472
0,025326	0,000641428
0,167305	0,027990809
MSE	0,03627

Catatan:

Nilai error berasal dari nilai residual

Lampiran 15. Perhitungan MAPE Model ARIMA (2,0,0)

Aktual	Error	Persentase Kesalahan Absolut
11,56172	-0,20444	0,017682761
11,73607	0,024897	0,002121407
11,73607	0,008732	0,000744018
11,51293	-0,26439	0,022964536
11,60824	-0,09153	0,007884595
11,60824	-0,06069	0,00522803
11,77529	0,079046	0,006712856
11,73607	-0,01823	0,001553656
11,98293	0,194372	0,016220765
11,98293	0,119819	0,009999182
11,69525	-0,23862	0,020403454
11,69525	-0,13864	0,011854455
11,69525	-0,05618	0,004803538
11,69525	-0,05618	0,004803538
11,88449	0,133063	0,011196395
11,95118	0,133985	0,011210991
11,73607	-0,15855	0,013509643
12,04355	0,204579	0,016986595
11,77529	-0,10889	0,009247305
11,65269	-0,2264	0,019428698
11,65269	-0,10689	0,009173034
11,65269	-0,07175	0,006157148
11,73607	0,011634	0,000991327
11,77529	0,021876	0,001857795
11,73607	-0,05488	0,004675878
11,73607	-0,05249	0,004472349
11,95118	0,173866	0,014548014
11,95118	0,099105	0,008292479
11,95118	0,037445	0,003133132
11,95118	0,037445	0,003133132

Lampiran 15. Lanjutan

12,04355	0,129818	0,01077904
12,04355	0,097714	0,008113386
12,04355	0,071236	0,005914847
12,04355	0,071236	0,005914847
12,04355	0,071236	0,005914847
12,04355	0,071236	0,005914847
11,98293	0,010611	0,000885523
11,98293	0,031681	0,002643843
12,41714	0,483273	0,038919833
12,15478	0,07	0,005759012
12,07254	-0,04552	0,003770525
11,88449	-0,12979	0,010920581
12,05525	0,129905	0,010775801
11,35041	-0,58038	0,051133097
11,35041	-0,38436	0,03386343
11,51293	-0,01981	0,001720326
11,964	0,374787	0,031326216
11,35041	-0,44216	0,038955614
11,60824	-0,10038	0,008647201
11,60824	-0,0141	0,001214931
11,51293	-0,18332	0,015922837
11,91839	0,255271	0,02141827
11,95118	0,174464	0,014598018
11,97035	0,066014	0,005514753
11,5759	-0,3445	0,029759926
12,17303	0,384229	0,031563956
11,60185	-0,28142	0,024256154
11,77913	-0,07679	0,00651934
11,79056	0,03675	0,003116914
12,25009	0,441495	0,036040163
11,77529	-0,19629	0,01666957

Lampiran 15. Lanjutan

11,95118	0,012894	0,001078913
11,95118	0,087863	0,007351788
11,81303	-0,10071	0,008524969
11,77529	-0,09043	0,007679853
11,69525	-0,11776	0,010068946
11,98293	0,20856	0,017404742
11,98293	0,131521	0,010975685
12,20607	0,272202	0,022300554
12,20607	0,19465	0,015946949
12,10071	0,025326	0,00209297
12,20607	0,167305	0,013706664
MAPE		1,217%

Catatan:

Nilai aktual berasal dari nilai trans

Lampiran 16. Hasil Peramalan Model ARIMA (2,0,0)

Forecasts from period 72

95% Limits

Period	Forecast	Lower	Upper	Actual
73	12,0452	11,6638	12,4266	170.278
74	12,0195	11,6157	12,4233	165.955
75	11,9644	11,5318	12,3971	157.065
76	11,9379	11,4956	12,3802	152.957
77	11,9129	11,4640	12,3618	149.181
78	11,8966	11,4446	12,3486	146.772
79	11,8838	11,4300	12,3376	144.902
80	11,8747	11,4199	12,3294	143.586
81	11,8678	11,4126	12,3231	142.606
82	11,8628	11,4073	12,3184	141.895
83	11,8591	11,4035	12,3148	141.371
84	11,8564	11,4007	12,3122	140.988

Lampiran 17. Perhitungan MRP Produk A

<i>Item Name (Low Level)</i>	<i>Period 0 and before</i>	<i>Period 1</i>	<i>Period 2</i>	<i>Period 3</i>	<i>Period 4</i>	<i>Period 5</i>	<i>Period 6</i>	<i>Period 7</i>	<i>Period 8</i>	<i>Period 9</i>	<i>Period 10</i>	<i>Period 11</i>	<i>Period 12</i>	<i>Period 13</i>
A (0)														
<i>Grosss Requirement</i>			170.287,00	165.955,00	157.065,00	152.957,00	149.181,00	146.772,00	144.902,00	143.586,00	142.606,00	141.895,00	141.371,00	140.988,00
<i>Schedule Receipt</i>														
<i>On Hand</i>														
<i>Net Requirement</i>			170.287,00	165.955,00	157.065,00	152.957,00	149.181,00	146.772,00	144.902,00	143.586,00	142.606,00	141.895,00	141.371,00	140.988,00
<i>Order Receipt</i>			170.287,00	165.955,00	157.065,00	152.957,00	149.181,00	146.772,00	144.902,00	143.586,00	142.606,00	141.895,00	141.371,00	140.988,00
<i>Order Release</i>		170.287,00	165.955,00	157.065,00	152.957,00	149.181,00	146.772,00	144.902,00	143.586,00	142.606,00	141.895,00	141.371,00	140.988,00	
A1 (1)														
<i>Grosss Requirement</i>		42.571,75	41.488,75	39.266,25	38.239,25	37.295,25	36.693,00	36.225,50	35.896,50	35.651,50	35.473,75	35.342,75	35.247,00	
<i>Schedule Receipt</i>														
<i>On Hand</i>	103.301,00	103.301,00	60.729,25	19.240,50										
<i>Net Requirement</i>				20.025,75	38.239,25	37.295,25	36.693,00	36.225,50	35.896,50	35.651,50	35.473,75	35.342,75	35.247,00	
<i>Order Receipt</i>				20.025,75	38.239,25	37.295,25	36.693,00	36.225,50	35.896,50	35.651,50	35.473,75	35.342,75	35.247,00	
<i>Order Release</i>	38.239,25	37.295,25	36.693,00	36.225,50	35.896,50	35.651,50	35.473,75	35.342,75	35.247,00					
A2 (1)														
<i>Grosss Requirement</i>		8.514,35	8.297,75	7.853,25	7.647,85	7.459,05	7.338,60	7.245,10	7.179,30	7.130,30	7.094,75	7.068,55	7.049,40	
<i>Schedule Receipt</i>														
<i>On Hand</i>	20.660,00	20.660,00	12.145,65	3.847,90										
<i>Net Requirement</i>				4.005,35	7.647,85	7.459,05	7.338,60	7.245,10	7.179,30	7.130,30	7.094,75	7.068,55	7.049,40	
<i>Order Receipt</i>				4.005,35	7.647,85	7.459,05	7.338,60	7.245,10	7.179,30	7.130,30	7.094,75	7.068,55	7.049,40	
<i>Order Release</i>		4.005,35	7.647,85	7.459,05	7.338,60	7.245,10	7.179,30	7.130,30	7.094,75	7.068,55	7.049,40			
A3 (1)														
<i>Grosss Requirement</i>		17.028,70	16.595,50	15.706,50	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	
<i>Schedule Receipt</i>														
<i>On Hand</i>	41.320,00	41.320,00	24.291,30	7.695,80										
<i>Net Requirement</i>				8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	
<i>Order Receipt</i>				8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	
<i>Order Release</i>	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80					
A4 (1)														
<i>Grosss Requirement</i>		59.600,45	58.084,25	54.972,75	53.534,95	52.213,35	51.370,20	50.715,70	50.255,10	49.912,10	49.663,25	49.479,85	49.345,80	
<i>Schedule Receipt</i>														
<i>On Hand</i>	144.621,00	144.621,00	85.020,55	26.936,30										
<i>Net Requirement</i>				28.036,45	53.534,95	52.213,35	51.370,20	50.715,70	50.255,10	49.912,10	49.663,25	49.479,85	49.345,80	
<i>Order Receipt</i>				28.036,45	53.534,95	52.213,35	51.370,20	50.715,70	50.255,10	49.912,10	49.663,25	49.479,85	49.345,80	
<i>Order Release</i>			28.036,45	53.534,95	52.213,35	51.370,20	50.715,70	50.255,10	49.912,10	49.663,25	49.479,85	49.345,80		
A5 (1)														
<i>Grosss Requirement</i>		25.543,05	24.893,25	23.559,75	22.943,55	22.377,15	22.015,80	21.735,30	21.537,90	21.390,90	21.284,25	21.205,65	21.148,20	
<i>Schedule Receipt</i>														
<i>On Hand</i>	61.980,00	61.980,00	36.436,95	11.543,70										
<i>Net Requirement</i>				12.016,05	22.943,55	22.377,15	22.015,80	21.735,30	21.537,90	21.390,90	21.284,25	21.205,65	21.148,20	
<i>Order Receipt</i>				12.016,05	22.943,55	22.377,15	22.015,80	21.735,30	21.537,90	21.390,90	21.284,25	21.205,65	21.148,20	

Lampiran 17. Lanjutan

Item Name (Low Level)	Period 0 and before	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9	Period 10	Period 11	Period 12	Period 13
Order Release			12.016,05	22.943,55	22.377,15	22.015,80	21.735,30	21.537,90	21.390,90	21.284,25	21.205,65	21.148,20		
A6 (1)														
Gross Requirement		17.028,70	16.595,50	15.706,50	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	
Schedule Receipt														
On Hand	41.320,00	41.320,00	24.291,30	7.695,80										
Net Requirement				8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	
Order Receipt				8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	
Order Release		8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80			

Lampiran 18. Ukuran Lot Size Metode LFL

Lot Size : LFL	A1													Biaya Pesan : Rp 63.893	TOTAL
Lead Time : 4 Minggu														Biaya Simpan : Rp 29.841	
Level : 1														Total Biaya Pesan	Rp 635.980
Satuan : kg														Total Biaya Simpan	Rp 5.468.982.000
Bulan														Rp 5.469.617.980	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
Gross Requirement		42.571,75	41.488,75	39.266,25	38.239,25	37.295,25	36.693,00	36.225,50	35.896,50	35.651,50	35.473,75	35.342,75	35.247,00	449.391,25	
On Hand	103.301,00	60.729,25	19.240,50											183.270,75	
Net Requirement		-60.729,25	-19.240,50	20.025,75	38.239,25	37.295,25	36.693,00	36.225,50	35.896,50	35.651,50	35.473,75	35.342,75	35.247,00	266.120,50	
Order Receipt				20.025,75	38.239,25	37.295,25	36.693,00	36.225,50	35.896,50	35.651,50	35.473,75	35.342,75	35.247,00	346.090,25	
Order Release			20.025,75	38.239,25	37.295,25	36.693,00	36.225,50	35.896,50	35.651,50	35.473,75	35.342,75	35.247,00	0,00	346.090,25	

Lot Size : LFL	A2													Biaya Pesan : Rp 58.648	TOTAL
Lead Time : 2 Minggu														Biaya Simpan : Rp 25.330	
Level : 1														Total Biaya Pesan	Rp 586.480
Satuan : kg														Total Biaya Simpan	Rp 928.434.400
Bulan														Rp 929.020.880	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
Gross Requirement		8.514,35	8.297,75	7.853,25	7.647,85	7.459,05	7.338,60	7.245,10	7.179,30	7.130,30	7.094,75	7.068,55	7.049,40	89.878,25	
On Hand	20.660,00	12.145,65	3.847,90											36.653,55	
Net Requirement		-12.145,65	-3.847,90	4.005,35	7.647,85	7.459,05	7.338,60	7.245,10	7.179,30	7.130,30	7.094,75	7.068,55	7.049,40	53.224,70	
Order Receipt				4.005,35	7.647,85	7.459,05	7.338,60	7.245,10	7.179,30	7.130,30	7.094,75	7.068,55	7.049,40	69.218,25	
Order Release			4.005,35	7.647,85	7.459,05	7.338,60	7.245,10	7.179,30	7.130,30	7.094,75	7.068,55	7.049,40	0,00	69.218,25	

Lampiran 18. Lanjutan

Lot Size : LFL	A3													Biaya Pesan : Rp 61.741	TOTAL
Lead Time : 4 Minggu														Biaya Simpan : Rp 27.990	
Level : 1														Total Biaya Pesan	Rp 617.410
Satuan : kg														Total Biaya Simpan	Rp 2.003.483.000
Bulan														Rp 2.004.100.410	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
<i>Gross Requirement</i>		17.028,70	16.595,50	15.706,50	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	179.756,50	
<i>On Hand</i>	41.320,00	24.291,30	7.695,80											73.307,10	
<i>Net Requirement</i>		-24.291,30	-7.695,80	8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	106.449,40	
<i>Order Receipt</i>				8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	138.436,50	
<i>Order Release</i>			8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	0,00	138.436,50	

Lot Size : LFL	A4													Biaya Pesan : Rp 60.160	TOTAL
Lead Time : 1 Minggu														Biaya Simpan : Rp 26.631	
Level : 1														Total Biaya Pesan	Rp 601.600
Satuan : kg														Total Biaya Simpan	Rp 6.832.925.000
Bulan														Rp 6.833.526.600	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
<i>Gross Requirement</i>		59.600,45	58.084,25	54.972,75	53.534,95	52.213,35	51.370,20	50.715,70	50.255,10	49.912,10	49.663,25	49.479,85	49.345,80	629.147,75	
<i>On Hand</i>	144.621,00	85.020,55	26.936,30											256.577,85	
<i>Net Requirement</i>		-85.020,55	-26.936,30	28.036,45	53.534,95	52.213,35	51.370,20	50.715,70	50.255,10	49.912,10	49.663,25	49.479,85	49.345,80	372.569,90	
<i>Order Receipt</i>				28.036,45	53.534,95	52.213,35	51.370,20	50.715,70	50.255,10	49.912,10	49.663,25	49.479,85	49.345,80	484.526,75	
<i>Order Release</i>			28.036,45	53.534,95	52.213,35	51.370,20	50.715,70	50.255,10	49.912,10	49.663,25	49.479,85	49.345,80	0,00	484.526,75	

Lot Size : LFL	A5													Biaya Pesan : Rp 51.604	TOTAL
Lead Time : 1 Minggu														Biaya Simpan : Rp 19.272	
Level : 1														Total Biaya Pesan	Rp 516.040
Satuan : kg														Total Biaya Simpan	Rp 2.119.162.000
Bulan														Rp 2.119.678.040	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
<i>Gross Requirement</i>		25.543,05	24.893,25	23.559,75	22.943,55	22.377,15	22.015,80	21.735,30	21.537,90	21.390,90	21.284,25	21.205,65	21.148,20	269.634,75	
<i>On Hand</i>	61.980,00	36.436,95	11.543,70											109.960,65	
<i>Net Requirement</i>		-36.436,95	-11.543,70	12.016,05	22.943,55	22.377,15	22.015,80	21.735,30	21.537,90	21.390,90	21.284,25	21.205,65	21.148,20	159.674,10	
<i>Order Receipt</i>				12.016,05	22.943,55	22.377,15	22.015,80	21.735,30	21.537,90	21.390,90	21.284,25	21.205,65	21.148,20	207.654,75	
<i>Order Release</i>			12.016,05	22.943,55	22.377,15	22.015,80	21.735,30	21.537,90	21.390,90	21.284,25	21.205,65	21.148,20	0,00	207.654,75	

Lampiran 19. Lanjutan

Lot Size : EOQ = 245	A6													Biaya Pesan : Rp 69.806	TOTAL
Lead Time : 2 Minggu														Biaya Simpan : Rp 34.926	
Level : 1														Total Biaya Pesan	Rp 698.060
Satuan : kg														Total Biaya Simpan	Rp 2.606.545.000
Bulan														Rp 2.607.243.060	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
<i>Gross Requirement</i>		17.028,70	16.595,50	15.706,50	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	179.756,50	
<i>On Hand</i>	41.320,00	24.291,30	7.695,80	7.765,70	7.285,00	7.388,10	7.044,10	7.201,10	6.912,50	7.103,10	6.841,40	7.050,70	6.803,10	144.701,90	
<i>Net Requirement</i>				8.010,70	7.530,00	7.633,10	7.289,10	7.446,10	7.157,50	7.348,10	7.086,40	7.295,70	7.048,10	73.844,80	
<i>Order Receipt</i>				245,00	245,00	245,00	245,00	245,00	245,00	245,00	245,00	245,00	245,00	2.450,00	
<i>Order Release</i>			245,00	245,00	245,00	245,00	245,00	245,00	245,00	245,00	245,00	245,00		2.450,00	

Lampiran 20. Ukuran Lot Size Metode POQ

Lot Size : POQ = 1	A1													Biaya Pesan : Rp 63.893	TOTAL
Lead Time : 4 Minggu														Biaya Simpan : Rp 29.841	
Level : 1														Total Biaya Pesan	Rp 635.980
Satuan : kg														Total Biaya Simpan	Rp 5.468.982.000
Bulan														Rp 5.469.617.980	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
<i>Gross Requirement</i>		42.571,75	41.488,75	39.266,25	38.239,25	37.295,25	36.693,00	36.225,50	35.896,50	35.651,50	35.473,75	35.342,75	35.247,00	449.391,25	
<i>On Hand</i>	103.301,00	60.729,25	19.240,50											79.969,75	
<i>Net Requirement</i>				20.025,75	38.239,25	37.295,25	36.693,00	36.225,50	35.896,50	35.651,50	35.473,75	35.342,75	35.247,00	346.090,25	
<i>Order Receipt</i>				20.025,75	38.239,25	37.295,25	36.693,00	36.225,50	35.896,50	35.651,50	35.473,75	35.342,75	35.247,00	346.090,25	
<i>Order Release</i>			20.025,75	38.239,25	37.295,25	36.693,00	36.225,50	35.896,50	35.651,50	35.473,75	35.342,75	35.247,00		346.090,25	

Lot Size : POQ = 1	A2													Biaya Pesan : Rp 58.648	TOTAL
Lead Time : 2 Minggu														Biaya Simpan : Rp 25.330	
Level : 1														Total Biaya Pesan	Rp 586.480
Satuan : kg														Total Biaya Simpan	Rp 928.434.400
Bulan														Rp 929.020.880	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
<i>Gross Requirement</i>		8.514,35	8.297,75	7.853,25	7.647,85	7.459,05	7.338,60	7.245,10	7.179,30	7.130,30	7.094,75	7.068,55	7.049,40	89.878,25	
<i>On Hand</i>	20.660,00	12.145,65	3.847,90											15.993,55	
<i>Net Requirement</i>				4.005,35	7.647,85	7.459,05	7.338,60	7.245,10	7.179,30	7.130,30	7.094,75	7.068,55	7.049,40	69.218,25	
<i>Order Receipt</i>				4.005,35	7.647,85	7.459,05	7.338,60	7.245,10	7.179,30	7.130,30	7.094,75	7.068,55	7.049,40	69.218,25	
<i>Order Release</i>			4.005,35	7.647,85	7.459,05	7.338,60	7.245,10	7.179,30	7.130,30	7.094,75	7.068,55	7.049,40		69.218,25	

Lampiran 20. Lanjutan

Lot Size : POQ = 1	A3												Biaya Pesan : Rp 61.741	TOTAL
Lead Time : 4 Minggu													Biaya Simpan : Rp 27.990	
Level : 1													Total Biaya Pesan	Rp 617.410
Satuan : kg													Total Biaya Simpan	Rp 895.319.000
Bulan													Rp 895.936.410	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
<i>Gross Requirement</i>		17.028,70	16.595,50	15.706,50	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	179.756,50
<i>On Hand</i>	41.320,00	24.291,30	7.695,80											31.987,10
<i>Net Requirement</i>				8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	138.436,50
<i>Order Receipt</i>				8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	138.436,50
<i>Order Release</i>			8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80		138.436,50

Lot Size : POQ = 1	A4												Biaya Pesan : Rp 60.160	TOTAL
Lead Time : 1 Minggu													Biaya Simpan : Rp 26.631	
Level : 1													Total Biaya Pesan	Rp 601.600
Satuan : kg													Total Biaya Simpan	Rp 2.981.523.000
Bulan													Rp 2.982.124.600	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
<i>Gross Requirement</i>		59.600,45	58.084,25	54.972,75	53.534,95	52.213,35	51.370,20	50.715,70	50.255,10	49.912,10	49.663,25	49.479,85	49.345,80	629.147,75
<i>On Hand</i>	144.621,00	85.020,55	26.936,30											111.956,85
<i>Net Requirement</i>				28.036,45	53.534,95	52.213,35	51.370,20	50.715,70	50.255,10	49.912,10	49.663,25	49.479,85	49.345,80	484.526,75
<i>Order Receipt</i>				28.036,45	53.534,95	52.213,35	51.370,20	50.715,70	50.255,10	49.912,10	49.663,25	49.479,85	49.345,80	484.526,75
<i>Order Release</i>			28.036,45	53.534,95	52.213,35	51.370,20	50.715,70	50.255,10	49.912,10	49.663,25	49.479,85	49.345,80		484.526,75

Lot Size : POQ = 1	A5												Biaya Pesan : Rp 51.604	TOTAL
Lead Time : 1 Minggu													Biaya Simpan : Rp 19.272	
Level : 1													Total Biaya Pesan	Rp 516.040
Satuan : kg													Total Biaya Simpan	Rp 924.683.000
Bulan													Rp 925.199.040	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
<i>Gross Requirement</i>		25.543,05	24.893,25	23.559,75	22.943,55	22.377,15	22.015,80	21.735,30	21.537,90	21.390,90	21.284,25	21.205,65	21.148,20	269.634,75
<i>On Hand</i>	61.980,00	36.436,95	11.543,70											47.980,65
<i>Net Requirement</i>				12.016,05	22.943,55	22.377,15	22.015,80	21.735,30	21.537,90	21.390,90	21.284,25	21.205,65	21.148,20	207.654,75
<i>Order Receipt</i>				12.016,05	22.943,55	22.377,15	22.015,80	21.735,30	21.537,90	21.390,90	21.284,25	21.205,65	21.148,20	207.654,75
<i>Order Release</i>			12.016,05	22.943,55	22.377,15	22.015,80	21.735,30	21.537,90	21.390,90	21.284,25	21.205,65	21.148,20		207.654,75

Lampiran 20. Lanjutan

Lot Size : POQ = 1	A6													Biaya Pesan : Rp 69.806	TOTAL
Lead Time : 2 Minggu														Biaya Simpan : Rp 34.926	
Level : 1														Total Biaya Pesan	Rp 698.060
Satuan : kg														Total Biaya Simpan	Rp 2.560.324.000
Bulan														Rp 2.561.022.060	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
<i>Gross Requirement</i>		17.028,70	16.595,50	15.706,50	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	179.756,50	
<i>On Hand</i>	41.320,00	24.291,30	7.695,80											31.987,10	
<i>Net Requirement</i>				8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	138.436,50	
<i>Order Receipt</i>				8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	138.436,50	
<i>Order Release</i>			8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80		138.436,50	

Lampiran 21. Ukuran Lot Size Metode AWW

Lot Size : AWW	A1													Biaya Pesan : Rp 63.893	TOTAL
Lead Time : 4 Minggu														Biaya Simpan : Rp 29.841	
Level : 1														Total Biaya Pesan	Rp 572.382
Satuan : kg														Total Biaya Simpan	Rp 5.468.982.000
Bulan														Rp 5.469.554.382	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
<i>Gross Requirement</i>		42.571,75	41.488,75	39.266,25	38.239,25	37.295,25	36.693,00	36.225,50	35.896,50	35.651,50	35.473,75	35.342,75	35.247,00	449.391,25	
<i>On Hand</i>	103.301,00	60.729,25	19.240,50											183.270,75	
<i>Net Requirement</i>		-60.729,25	-19.240,50	20.025,75	58.265,00	75.534,50	73.988,25	72.918,50	72.122,00	71.548,00	71.125,25	70.816,50	70.589,75	576.963,75	
<i>Order Receipt</i>					20.025,75	38.239,25	37.295,25	36.693,00	36.225,50	35.896,50	35.651,50	35.473,75	35.342,75	310.843,25	
<i>Order Release</i>				20.025,75	38.239,25	37.295,25	36.693,00	36.225,50	35.896,50	35.651,50	35.473,75	35.342,75		310.843,25	

Lot Size : AWW	A2													Biaya Pesan : Rp 58.648	TOTAL
Lead Time : 2 Minggu														Biaya Simpan : Rp 25.330	
Level : 1														Total Biaya Pesan	Rp 527.832
Satuan : kg														Total Biaya Simpan	Rp 928.434.400
Bulan														Rp 928.962.232	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
<i>Gross Requirement</i>		8.514,35	8.297,75	7.853,25	7.647,85	7.459,05	7.338,60	7.245,10	7.179,30	7.130,30	7.094,75	7.068,55	7.049,40	89.878,25	
<i>On Hand</i>	20.660,00	20.660,00	12.145,65	3.847,90										36.653,55	
<i>Net Requirement</i>				4.005,35	11.653,20	15.106,90	14.797,65	14.583,70	14.424,40	14.309,60	14.225,05	14.163,30	14.117,95	131.387,10	
<i>Order Receipt</i>					4.005,35	7.647,85	7.459,05	7.338,60	7.245,10	7.179,30	7.130,30	7.094,75	7.068,55	62.168,85	
<i>Order Release</i>				4.005,35	7.647,85	7.459,05	7.338,60	7.245,10	7.179,30	7.130,30	7.094,75	7.068,55		62.168,85	

Lampiran 21. Lanjutan

Lot Size : AWW	A3													Biaya Pesan : Rp 61.741	TOTAL
Lead Time : 4 Minggu														Biaya Simpan : Rp 27.990	
Level : 1														Total Biaya Pesan	Rp 555.669
Satuan : kg														Total Biaya Simpan	Rp 2.003.483.000
Bulan														Rp 2.004.038.669	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
<i>Gross Requirement</i>		17.028,70	16.595,50	15.706,50	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	179.756,50	
<i>On Hand</i>	41.320,00	41.320,00	24.291,30	7.695,80										73.307,10	
<i>Net Requirement</i>				8.010,70	23.306,40	30.213,80	29.595,30	29.167,40	28.848,80	28.619,20	28.450,10	28.326,60	28.235,90	262.774,20	
<i>Order Receipt</i>					8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	124.337,70	
<i>Order Release</i>				8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10		124.337,70	

Lot Size : AWW	A4													Biaya Pesan : Rp 60.160	TOTAL
Lead Time : 1 Minggu														Biaya Simpan : Rp 26.631	
Level : 1														Total Biaya Pesan	Rp 541.440
Satuan : kg														Total Biaya Simpan	Rp 6.832.925.000
Bulan														Rp 6.833.466.440	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
<i>Gross Requirement</i>		59.600,45	58.084,25	54.972,75	53.534,95	52.213,35	51.370,20	50.715,70	50.255,10	49.912,10	49.663,25	49.479,85	49.345,80	629.147,75	
<i>On Hand</i>	144.621,00	144.621,00	85.020,55	26.936,30										256.577,85	
<i>Net Requirement</i>				28.036,45	81.571,41	105.748,30	103.583,50	102.085,90	100.970,80	100.167,20	99.575,35	99.143,10	98.825,66	919.707,67	
<i>Order Receipt</i>					28.036,45	53.534,95	52.213,35	51.370,20	50.715,70	50.255,10	49.912,10	49.663,25	49.479,85	435.180,95	
<i>Order Release</i>				28.036,45	53.534,95	52.213,35	51.370,20	50.715,70	50.255,10	49.912,10	49.663,25	49.479,85		435.180,95	

Lot Size : AWW	A5													Biaya Pesan : Rp 51.604	TOTAL
Lead Time : 1 Minggu														Biaya Simpan : Rp 19.272	
Level : 1														Total Biaya Pesan	Rp 464.436
Satuan : kg														Total Biaya Simpan	Rp 2.119.162.000
Bulan														Rp 2.119.626.436	
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	
<i>Gross Requirement</i>		25.543,05	24.893,25	23.559,75	22.943,55	22.377,15	22.015,80	21.735,30	21.537,90	21.390,90	21.284,25	21.205,65	21.148,20	269.634,75	
<i>On Hand</i>	61.980,00	61.980,00	36.436,95	11.543,70										109.960,65	
<i>Net Requirement</i>				12.016,05	34.959,60	45.320,70	44.392,95	43.751,10	43.273,20	42.928,80	42.675,15	42.489,90	42.353,85	394.161,30	
<i>Order Receipt</i>					12.016,05	22.943,55	22.377,15	22.015,80	21.735,30	21.537,90	21.390,90	21.284,25	21.205,65	186.506,55	
<i>Order Release</i>				12.016,05	22.943,55	22.377,15	22.015,80	21.735,30	21.537,90	21.390,90	21.284,25	21.205,65		186.506,55	

Lampiran 21. Lanjutan

Lot Size : AWW	A6												Biaya Pesan : Rp 69.806	TOTAL
Lead Time : 2 Minggu													Biaya Simpan : Rp 34.926	
Level : 1													Total Biaya Pesan	Rp 628.254
Satuan : kg													Total Biaya Simpan	Rp 2.560.324.000
Bulan														Rp 2.560.952.254
Periode	0	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
Gross Requirement		17.028,70	16.595,50	15.706,50	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	14.098,80	179.756,50
On Hand	41.320,00	41.320,00	24.291,30	7.695,80										73.307,10
Net Requirement				8.010,70	23.306,40	30.213,80	29.595,30	29.167,40	28.848,80	28.619,20	28.450,10	28.326,60	28.235,90	262.774,20
Order Receipt					8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10	124.337,70
Order Release				8.010,70	15.295,70	14.918,10	14.677,20	14.490,20	14.358,60	14.260,60	14.189,50	14.137,10		124.337,70

Lampiran 22. Perbandingan Total Biaya Persediaan Berbagai Metode

Metode	Biaya	Bahan Baku						TOTAL (Rp)
		A1	A2	A3	A4	A5	A6	
AWW	Pesan (Rp)	572.382	527.832	555.669	541.440	464.436	628.254	3.290.013
	Simpan (Rp)	5.468.982.000	928.434.400	2.003.483.000	6.832.925.000	2.119.162.000	2.560.324.000	19.913.310.400
	Total (Rp)	5.469.554.382	928.962.232	2.004.038.669	6.833.466.440	2.119.626.436	2.560.952.254	19.916.600.413
LFL	Pesan (Rp)	635.980	586.480	617.410	601.600	516.040	698.060	3.655.570
	Simpan (Rp)	5.468.982.000	928.434.400	2.003.483.000	6.832.925.000	2.119.162.000	2.560.324.000	19.913.310.400
	Total (Rp)	5.469.617.980	929.020.880	2.004.100.410	6.833.526.600	2.119.678.040	2.561.022.060	19.916.965.970
EOQ	Pesan (Rp)	635.980	586.480	617.410	601.600	516.040	698.060	3.655.570
	Simpan (Rp)	5.533.111.000	952.756.500	2.042.522.000	6.889.739.000	2.158.256.000	2.606.545.000	20.182.929.500
	Total (Rp)	5.533.746.980	953.342.980	2.043.139.410	6.890.340.600	2.158.772.040	2.607.243.060	20.186.585.070
POQ	Pesan (Rp)	635.980	586.480	617.410	601.600	516.040	698.060	3.655.570
	Simpan (Rp)	5.468.982.000	928.434.400	2.003.483.000	6.832.925.000	2.119.162.000	2.560.324.000	19.913.310.400
	Total (Rp)	5.469.617.980	929.020.880	2.004.100.410	6.833.526.600	2.119.678.040	2.561.022.060	19.916.965.970
PERUSAHAAN	Pesan (Rp)	4.785.476.045	878.529.185	1.849.720.150	6.308.250.579	2.319.019.732	2.091.340.449	18.232.336.140
	Simpan (Rp)	2.235.043.697	379.441.959	838.573.048	2.792.443.515	866.077.548	1.046.366.505	8.157.946.273
	Total (Rp)	7.020.519.742	1.257.971.144	2.688.293.198	9.100.694.094	3.185.097.281	3.137.706.954	26.390.282.414