



## LAMPIRAN 1

**Data Hasil Prediksi Grey System dengan Tipe GM (1,1) Beserta Nilai MSE dan MAPE**

<b>k</b>	<b>Tahun</b>	<b>Bulan</b>	<b>Data Aktual</b>	<b>Prediksi GM (1,1)</b>	<b>MSE</b>	<b>MAPE</b>	
1	2015	Januari	150	150	-	-	
2	2015	Februari	250	164	7,398	0.34	
3	2015	Maret	500	179	102,862	0.64	
4	2015	April	3,000	196	7,862,438	0.93	
5	2015	Mei	800	214	343,077	0.73	
6	2015	Juni	100	234	18,024	1.34	
7	2015	Juli	300	256	1,928	0.15	
8	2015	Agustus	2,000	280	2,958,480	0.86	
9	2015	September	3,000	306	7,257,183	0.90	
10	2015	Oktober	4,000	335	13,434,967	0.92	
11	2015	November	4,000	366	13,207,198	0.91	
12	2015	Desember	3,500	400	9,610,360	0.89	
13	2016	Januari	250	437	35,057	0.75	
14	2016	Februari	500	478	484	0.04	
15	2016	Maret	1,000	523	227,930	0.48	
16	2016	April	4,000	571	11,755,916	0.86	
17	2016	Mei	1,500	625	766,354	0.58	
18	2016	Juni	150	683	283,902	3.55	
19	2016	Juli	500	746	60,761	0.49	
20	2016	Agustus	3,000	816	4,769,394	0.73	
21	2016	September	4,000	892	9,658,383	0.78	
22	2016	Oktober	6,000	975	25,246,580	0.84	
23	2016	November	8,000	1,066	48,075,407	0.87	
24	2016	Desember	5,500	1,166	18,785,354	0.79	
<b>JUMLAH</b>					<b>174,469,436.16</b>	<b>JUMLAH</b>	<b>19.36</b>
<b>MSE</b>					<b>7,269,559.84</b>	<b>MAPE</b>	<b>81%</b>

## LAMPIRAN 2

Analisis Model SARIMA dengan *Eviews*1. Model SARIMA (2,0,1)(0,0,1)<sup>12</sup> Dengan Konstanta (C)

Dependent Variable: LNDATA\_SARIMA  
 Method: Least Squares  
 Date: 02/04/17 Time: 11:39  
 Sample (adjusted): 2015M03 2016M12  
 Included observations: 22 after adjustments  
 Convergence achieved after 18 iterations  
 MA Backcast: 2014M02 2015M02

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.471113	0.414834	18.00988	0.0000
AR(1)	0.681897	0.414047	1.646906	0.1179
AR(2)	-0.372724	0.343925	-1.083738	0.2936
MA(1)	0.162423	0.441294	0.368061	0.7174
SMA(12)	0.898769	0.103178	8.710892	0.0000
R-squared	0.796117	Mean dependent var	7.256654	
Adjusted R-squared	0.748144	S.D. dependent var	1.291887	
S.E. of regression	0.648337	Akaike info criterion	2.167903	
Sum squared resid	7.145786	Schwarz criterion	2.415867	
Log likelihood	-18.84693	Hannan-Quinn criter.	2.226316	
F-statistic	16.59526	Durbin-Watson stat	1.858362	
Prob(F-statistic)	0.000010			
Inverted AR Roots	.34+.51i	.34-.51i		

Model SARIMA (2,0,1)(0,0,1)<sup>12</sup> Tanpa Konstanta (C)

Dependent Variable: LNDATA\_SARIMA  
 Method: Least Squares  
 Date: 02/04/17 Time: 12:12  
 Sample (adjusted): 2015M03 2016M12  
 Included observations: 22 after adjustments  
 Convergence achieved after 16 iterations  
 MA Backcast: 2014M02 2015M02

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	1.527669	0.214867	7.109821	0.0000
AR(2)	-0.521252	0.222701	-2.340592	0.0310
MA(1)	-0.997478	0.052506	-18.99737	0.0000
SMA(12)	0.951588	0.098408	9.669774	0.0000
R-squared	0.743802	Mean dependent var	7.256654	
Adjusted R-squared	0.701102	S.D. dependent var	1.291887	
S.E. of regression	0.706295	Akaike info criterion	2.305397	
Sum squared resid	8.979335	Schwarz criterion	2.503768	
Log likelihood	-21.35937	Hannan-Quinn criter.	2.352127	
Durbin-Watson stat	1.575678			
Inverted AR Roots	1.01	.51		

## LAMPIRAN 2

Analisis Model SARIMA dengan *Eviews*2. Model SARIMA (1,0,1)(0,0,1)<sup>12</sup> Dengan Konstanta (C)

Dependent Variable: LNDATA\_SARIMA  
 Method: Least Squares  
 Date: 02/04/17 Time: 12:17  
 Sample (adjusted): 2015M02 2016M12  
 Included observations: 23 after adjustments  
 Convergence achieved after 15 iterations  
 MA Backcast: 2014M01 2015M01

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.694717	0.451559	17.04035	0.0000
AR(1)	0.282653	0.270590	1.044582	0.3093
MA(1)	0.506498	0.239233	2.117172	0.0477
SMA(12)	0.895872	0.099084	9.041530	0.0000
R-squared	0.800978	Mean dependent var		7.181211
Adjusted R-squared	0.769554	S.D. dependent var		1.313019
S.E. of regression	0.630312	Akaike info criterion		2.071567
Sum squared resid	7.548568	Schwarz criterion		2.269044
Log likelihood	-19.82302	Hannan-Quinn criter.		2.121232
F-statistic	25.48902	Durbin-Watson stat		1.867910
Prob(F-statistic)	0.000001			
Inverted AR Roots	.28			

Model SARIMA (1,0,1)(0,0,1)<sup>12</sup> Tanpa Konstanta (C)

Dependent Variable: LNDATA\_SARIMA  
 Method: Least Squares  
 Date: 02/04/17 Time: 12:20  
 Sample (adjusted): 2015M02 2016M12  
 Included observations: 23 after adjustments  
 Convergence achieved after 14 iterations  
 MA Backcast: 2014M01 2015M01

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	1.022463	0.039834	25.66800	0.0000
MA(1)	0.131535	0.180696	0.727934	0.4751
SMA(12)	0.880543	0.100648	8.748718	0.0000
R-squared	0.672417	Mean dependent var		7.181211
Adjusted R-squared	0.639659	S.D. dependent var		1.313019
S.E. of regression	0.788184	Akaike info criterion		2.482938
Sum squared resid	12.42469	Schwarz criterion		2.631046
Log likelihood	-25.55379	Hannan-Quinn criter.		2.520187
Durbin-Watson stat	1.761080			
Inverted AR Roots	1.02			

## LAMPIRAN 2

Analisis Model SARIMA dengan *Eviews*3. Model SARIMA (0,0,1)(0,0,1)<sup>12</sup> Dengan Konstanta (C)

Dependent Variable: LNDATA\_SARIMA  
 Method: Least Squares  
 Date: 02/04/17 Time: 12:24  
 Sample: 2015M01 2016M12  
 Included observations: 24  
 Convergence achieved after 26 iterations  
 MA Backcast: 2013M12 2014M12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.195279	0.358336	20.07972	0.0000
MA(1)	0.653724	0.167423	3.904623	0.0008
SMA(12)	0.875777	0.131642	6.652711	0.0000
R-squared	0.740046	Mean dependent var		7.090771
Adjusted R-squared	0.715289	S.D. dependent var		1.358444
S.E. of regression	0.724843	Akaike info criterion		2.310746
Sum squared resid	11.03335	Schwarz criterion		2.458003
Log likelihood	-24.72895	Hannan-Quinn criter.		2.349813
F-statistic	29.89177	Durbin-Watson stat		1.537360
Prob(F-statistic)	0.000001			
Inverted MA Roots	.96+.26i	.96-.26i	.70-.70i	.70+.70i

Model SARIMA (0,0,1)(0,0,1)<sup>12</sup> Tanpa Konstanta (C)

Dependent Variable: LNDATA\_SARIMA  
 Method: Least Squares  
 Date: 02/04/17 Time: 12:27  
 Sample: 2015M01 2016M12  
 Included observations: 24  
 Convergence achieved after 17 iterations  
 MA Backcast: 2013M12 2014M12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MA(1)	0.900018	0.131994	6.818630	0.0000
SMA(12)	0.725485	0.190609	3.806150	0.0010
R-squared	-3.359835	Mean dependent var		7.090771
Adjusted R-squared	-3.558009	S.D. dependent var		1.358444
S.E. of regression	2.900209	Akaike info criterion		5.047098
Sum squared resid	185.0466	Schwarz criterion		5.145269
Log likelihood	-58.56517	Hannan-Quinn criter.		5.073143
Durbin-Watson stat	0.569964			
Inverted MA Roots	.94-.25i	.94+.25i	.69-.69i	.69-.69i

