LAMPIRAN

Lampiran 1. Data Produksi Ubi Jalar Setiap Provinsi di Indonesia

Provinsi	Produksi Ubi Jalar (Ton)							
	2008	2009	2010	2011	2012	2013	2014	2015
ACEH	13172	15298	11095	11844	13356	11602	9696	8935
SUMATERA UTARA	114186	140138	179388	191104	186583	116671	146622	122362
SUMATERA BARAT	61817	77476	104302	98120	124881	134453	159865	160922
RIAU	11330	9736	9967	9912	9424	8462	8038	6562
JAMBI	21825	20614	21156	68735	80057	68187	78677	79393
SUMATERA SELATAN	19621	20800	22839	18309	17380	15945	24454	16824
BENGKULU	30682	20930	27840	26445	37271	31672	52251	38841
LAMPUNG	48191	45041	44920	47239	47408	45141	42000	28484
KEP. BANGKA BELITUNG	4653	4828	3751	3009	3303	2863	2992	2620
KEP. RIAU	1490	1427	1790.12	1805	1916	1891	1804	1795
DKI JAKARTA	-	-	-	-	-	-	0	0
JAWA BARAT	376490	469646	430998	429378	436577	485065	471737	456176
JAWA TENGAH	117159	147083	137723	157972	166978	183694	179393	151312
DI YOGYAKARTA	7656	6687	6484	4584	5047	4951	5237	6070
JAWA TIMUR	136556	162607	141103	217545	411957	393199	312421	350516
BANTEN	33793	34549	40579	34589	32756	27972	28336	20150

Sumber: Badan Pusat Statistik, 2015

Lampiran 1. Data Produksi Ubi Jalar Setiap Provinsi di Indonesia (lanjutan)

Provinsi	Produksi Ubi Jalar (Ton)							
	2008	2009	2010	2011	2012	2013	2014	2015
BALI	88201	78983	70318	69528	62352	60755	54395	36655
NUSA TENGGARA BARAT	10985	11276	13134	11970	13232	11335	19015	19024
NUSA TENGGARA TIMUR	107316	103635	121284	129728	151864	78944	60032	60746
KALIMANTAN BARAT	12871	11735	14959	13774	15169	15296	15393	14863
KALIMANTAN TENGAH	12153	10763	9583	8570	9525	9201	9048	9631
KALIMANTAN SELATAN	25903	29968	25007	23918	19608	16534	23421	17913
KALIMANTAN TIMUR	29372	31947	25156	21432	16367	12993	13004	10933
KALIMANTAN UTARA	-	-	-	-	-	3133	3056	2248
SULAWESI UTARA	42062	53121	51838	46266	41227	39800	39429	25403
SULAWESI TENGAH	27689	29821	26332	25111	26932	21550	20452	16650
SULAWESI SELATAN	66546	68372	57513	66946	94474	70767	78275	71681
SULAWESI TENGGARA	30892	25577	25304	26476	29411	24113	24914	25740
GORONTALO	3947	3456	2926	2565	2002	2007	1904	1434
SULAWESI BARAT	15895	15756	15666	20455	16589	11486	5880	8737
MALUKU	21778	22338	20734	17913	19411	19602	22547	33639
MALUKU UTARA	35094	30381	27666	31943	34661	37024	44651	30674

Sumber: Badan Pusat Statistik, 2015

Lampiran 1. Data Produksi Ubi Jalar Setiap Provinsi di Indonesia (lanjutan)

Provinsi	Produksi Ubi Jalar (Ton)							
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
PAPUA BARAT	15340	10599	10557	10410	10647	14901	11826	12246
PAPUA	337096	343325	349134	348438	345095	405520	411893	411945
INDONESIA	1881761	2057913	2051046	2196033	2483460	2386729	2382658	2261124

Sumber: Badan Pusat Statistik, 2015

Lampiran 2. Luas Panen, Produktivitas dan Produksi Ubi Jalar di Jawa Timur

Kabupaten/Kota	Luas Panen (Ha)	Produktivitas (Kw/Ha)	Produksi (Ton)
Kabupaten			
01. Pacitan	120	207,01	2 484,12
02. Ponorogo	33	215,07	709,73
03. Trenggalek	11	202,73	223,00
04. Tulungagung	103	208,49	2 147,45
05. Blitar	82	212,00	1 738,43
06. Kediri	255	253,37	6 461,00
07. Malang	5 637	121,71	68 609,96
08. Lumajang	538	252,39	13 578,31
09. Jember	741	213,68	15 833,89
10. Banyuwangi	696	192,22	13 378,43
11. Bondowoso	109	190,29	2 074,13
12. Situbondo	-	-	-
13. Probolinggo	28	-	584,69
14. Pasuruan	116	253,33	2 938,65
15. Sidoarjo	-	-	-
16. Mojokerto	2 706	281,37	76 138,60
17. Jombang	159	172,21	2 738,16
18. Nganjuk	409	234,16	9 577,35
19. Madiun	115	234,36	2 695,10
20. Magetan	1 481	375,98	55 682,50
21. Ngawi	1 290	290,47	37 471,21
22. Bojonegoro	694	310,42	21 542,80
23. Tuban	373	335,26	12 505,11
24. Lamongan	70	224,48	1 571,35
25. Gresik	222	329,95	7 324,95
26. Bangkalan	894	146,14	13 064,52
27. Sampang	1 937	83,81	16 234,88
28. Pamekasan	106	149,15	1 580,95
29. Sumenep	123	199,42	2 452,88
Kota			
71. Kediri	2	240,00	48,00
72. Blitar	-	-	-
73. Malang	-	-	-
74. Probolinggo	-	-	-

Sumber : BPS Jawa Jawa Timur, 2013

Lampiran 2. Luas Panen, Produktivitas dan Produksi Ubi Jalar di Jawa Timur (lanjutan)

Kabupaten/Kota	Luas Panen (Ha)	Produktivitas (Kw/Ha)	Produksi (Ton)
75. Pasuruan	-	-	-
76. Mojokerto	-	-	-
77. Madiun	-	-	-
78. Surabaya	-	-	-
79. Batu	89	203,31	1 809,45
Jumlah	19 139	205,44	393 199,59

Sumber : BPS Jawa Jawa Timur, 2013

Lampiran 3. Hasil Uji Stationer (*Unit Root Test*)

a. Variabel Stikubiungu (Intercept)

Null Hypothesis: STIKUBIUNGU has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=10)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.846684	0.0000
Test critical values:	1% level	-3.565430	
	5% level	-2.919952	
	10% level	-2.597905	

*MacKinnon (1996) one-sided p-values.

b. Variabel Stikubiungu (Trend and intercept)

Null Hypothesis: STIKUBIUNGU has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=10)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.522273	0.0000
Test critical values:	1% level	-4.148465	
	5% level	-3.500495	
	10% level	-3.179617	

*MacKinnon (1996) one-sided p-values.

c. Variabel Ln Stikubiungu (Intercept)

Null Hypothesis: STIKUBIUNGU has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=10)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.721101	0.0000
Test critical values:	1% level	-3.565430	
	5% level	-2.919952	
	10% level	-2.597905	

*MacKinnon (1996) one-sided p-values.

Lampiran 3. Hasil Uji Stationer (*Unit Root Test*) (Lanjutan)

d. Variabel Ln Stikubiungu (Trend and intercept)

Null Hypothesis: STIKUBIUNGU has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=10)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.250991	0.0000
Test critical values:	1% level	-4.148465	
	5% level	-3.500495	
	10% level	-3.179617	

*MacKinnon (1996) one-sided p-values.

Lampiran 4. Hasil *Trial and Error* Ordo ARMA

a. Variabel Stikubiungu (Intercept)

Probability Ordo AR(1) MA(1)

Dependent Variable: STIKUBIUNGU
Method: Least Squares
Date: 09/13/16 Time: 18:31
Sample (adjusted): 7/30/2015 7/14/2016
Included observations: 51 after adjustments
Convergence achieved after 19 iterations
MA Backcast: 7/23/2015

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	236.2201	12.66006	18.65869	0.0000
AR(1)	0.907387	0.054976	16.50524	0.0000
MA(1)	-0.999982	0.056576	-17.67499	0.0000

R-squared	0.164619	Mean dependent var	207.2157
Adjusted R-squared	0.129811	S.D. dependent var	103.0719
S.E. of regression	96.14949	Akaike info criterion	12.02671
Sum squared resid	443746.7	Schwarz criterion	12.14034
Log likelihood	-303.6810	Hannan-Quinn criter.	12.07013
F-statistic	4.729394	Durbin-Watson stat	2.133814
Prob(F-statistic)	0.013342		

Inverted AR Roots	.91
Inverted MA Roots	1.00

Probability Ordo AR(2) MA(2)

Dependent Variable: STIKUBIUNGU
Method: Least Squares
Date: 09/13/16 Time: 18:37
Sample (adjusted): 8/06/2015 7/14/2016
Included observations: 50 after adjustments
Convergence achieved after 12 iterations
MA Backcast: 7/23/2015 7/30/2015

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	228.3068	7.935439	28.77053	0.0000
AR(2)	0.719435	0.079421	9.058510	0.0000
MA(2)	-0.960322	0.028242	-34.00356	0.0000

R-squared	0.224057	Mean dependent var	207.7800
Adjusted R-squared	0.191038	S.D. dependent var	104.0387
S.E. of regression	93.57482	Akaike info criterion	11.97352
Sum squared resid	411543.6	Schwarz criterion	12.08825

Lampiran 4. Hasil *Trial and Error* Ordo ARMA (Lanjutan)

Log likelihood	-296.3381	Hannan-Quinn criter.	12.01721
F-statistic	6.785725	Durbin-Watson stat	2.127296
Prob(F-statistic)	0.002576		

Inverted AR Roots	.85	-.85
Inverted MA Roots	.98	-.98

Probability Ordo AR(3) MA(3)

Dependent Variable: STIKUBIUNGU
Method: Least Squares
Date: 09/13/16 Time: 18:56
Sample (adjusted): 8/13/2015 7/14/2016
Included observations: 49 after adjustments
Convergence achieved after 23 iterations
MA Backcast: 7/23/2015 8/06/2015

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	239.4907	18.21245	13.14983	0.0000
AR(3)	0.767267	0.096303	7.967212	0.0000
MA(3)	-0.877272	0.066158	-13.26027	0.0000

R-squared	0.146640	Mean dependent var	210.1837
Adjusted R-squared	0.109537	S.D. dependent var	103.7046
S.E. of regression	97.86021	Akaike info criterion	12.06423
Sum squared resid	440524.5	Schwarz criterion	12.18005
Log likelihood	-292.5736	Hannan-Quinn criter.	12.10817
F-statistic	3.952273	Durbin-Watson stat	2.208538
Prob(F-statistic)	0.026064		

Inverted AR Roots	.92	-.46-.79i	-.46+.79i
Inverted MA Roots	.96	-.48+.83i	-.48-.83i

Probability Ordo AR(4) MA(4)

Dependent Variable: STIKUBIUNGU
Method: Least Squares
Date: 09/13/16 Time: 18:59
Sample (adjusted): 8/20/2015 7/14/2016
Included observations: 48 after adjustments
Convergence achieved after 9 iterations
MA Backcast: 7/23/2015 8/13/2015

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	238.7039	19.60699	12.17443	0.0000
AR(4)	0.714772	0.129088	5.537072	0.0000
MA(4)	-0.874968	0.052883	-16.54522	0.0000

Lampiran 4. Hasil *Trial and Error* Ordo ARMA (Lanjutan)

R-squared	0.097665	Mean dependent var	213.1875
Adjusted R-squared	0.057561	S.D. dependent var	102.6253
S.E. of regression	99.62788	Akaike info criterion	12.10122
Sum squared resid	446657.1	Schwarz criterion	12.21817
Log likelihood	-287.4293	Hannan-Quinn criter.	12.14542
F-statistic	2.435300	Durbin-Watson stat	2.141038
Prob(F-statistic)	0.099033		

Inverted AR Roots	.92	.00-.92i		
Inverted MA Roots	.97	.00-.97i	.00+.97i	-.97

b. Variabel Ln Stikubiungu (Intercept)

Probability Ordo AR(1) MA(1)

Dependent Variable: STIKUBIUNGU
Method: Least Squares
Date: 09/17/16 Time: 14:58
Sample (adjusted): 7/30/2015 7/14/2016
Included observations: 51 after adjustments
Convergence achieved after 13 iterations
MA Backcast: 7/23/2015

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.200725	0.081393	63.89678	0.0000
AR(1)	-0.863166	0.085504	-10.09507	0.0000
MA(1)	0.962742	0.034379	28.00372	0.0000

R-squared	0.033890	Mean dependent var	5.198471
Adjusted R-squared	-0.006364	S.D. dependent var	0.549769
S.E. of regression	0.551516	Akaike info criterion	1.704730
Sum squared resid	14.60015	Schwarz criterion	1.818367
Log likelihood	-40.47063	Hannan-Quinn criter.	1.748154
F-statistic	0.841895	Durbin-Watson stat	2.043354
Prob(F-statistic)	0.437156		

Inverted AR Roots	-.86
Inverted MA Roots	-.96

Probability Ordo AR(2) MA(2)

Dependent Variable: STIKUBIUNGU
Method: Least Squares
Date: 09/17/16 Time: 15:03
Sample (adjusted): 8/06/2015 7/14/2016

Lampiran 4. Hasil *Trial and Error* Ordo ARMA (Lanjutan)

Included observations: 50 after adjustments
Convergence achieved after 10 iterations
MA Backcast: 7/23/2015 7/30/2015

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.320166	0.048586	109.4990	0.0000
AR(2)	0.740409	0.081716	9.060788	0.0000
MA(2)	-0.945393	0.026550	-35.60820	0.0000

R-squared	0.201553	Mean dependent var	5.198700
Adjusted R-squared	0.167576	S.D. dependent var	0.555348
S.E. of regression	0.506685	Akaike info criterion	1.536269
Sum squared resid	12.06628	Schwarz criterion	1.650990
Log likelihood	-35.40671	Hannan-Quinn criter.	1.579955
F-statistic	5.932125	Durbin-Watson stat	2.206520
Prob(F-statistic)	0.005044		

Inverted AR Roots	.86	-.86
Inverted MA Roots	.97	-.97

Probability Ordo AR(3) MA(3)

Dependent Variable: STIKUBIUNGU
Method: Least Squares
Date: 09/17/16 Time: 15:05
Sample (adjusted): 8/13/2015 7/14/2016
Included observations: 49 after adjustments
Convergence achieved after 48 iterations
MA Backcast: 7/23/2015 8/06/2015

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.335985	0.082652	64.55971	0.0000
AR(3)	0.719684	0.127893	5.627220	0.0000
MA(3)	-0.833226	0.120815	-6.896690	0.0000

R-squared	0.173804	Mean dependent var	5.212959
Adjusted R-squared	0.137882	S.D. dependent var	0.551778
S.E. of regression	0.512328	Akaike info criterion	1.559565
Sum squared resid	12.07406	Schwarz criterion	1.675391
Log likelihood	-35.20934	Hannan-Quinn criter.	1.603509
F-statistic	4.838420	Durbin-Watson stat	2.108714
Prob(F-statistic)	0.012386		

Inverted AR Roots	.90	-.45-.78i	-.45+.78i
Inverted MA Roots	.94	-.47-.81i	-.47+.81i

Lampiran 4. Hasil *Trial and Error* Ordo ARMA (Lanjutan)

Probability Ordo AR(4) MA(4)

Dependent Variable: STIKUBIUNGU
Method: Least Squares
Date: 09/17/16 Time: 15:06
Sample (adjusted): 8/20/2015 7/14/2016
Included observations: 48 after adjustments
Convergence achieved after 11 iterations
MA Backcast: 7/23/2015 8/13/2015

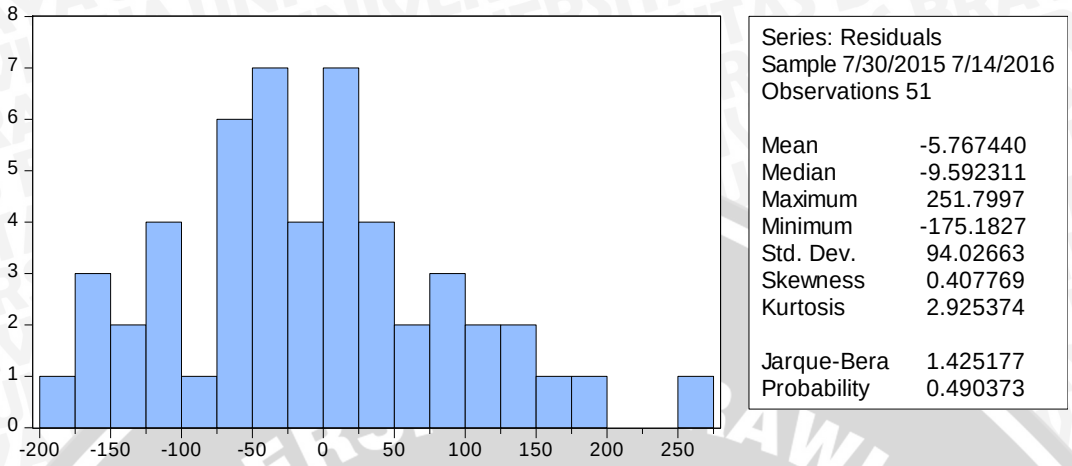
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.340333	0.082275	64.90812	0.0000
AR(4)	0.675432	0.128926	5.238897	0.0000
MA(4)	-0.874274	0.057224	-15.27798	0.0000

R-squared	0.096822	Mean dependent var	5.234271
Adjusted R-squared	0.056681	S.D. dependent var	0.536850
S.E. of regression	0.521414	Akaike info criterion	1.595916
Sum squared resid	12.23425	Schwarz criterion	1.712866
Log likelihood	-35.30198	Hannan-Quinn criter.	1.640111
F-statistic	2.412034	Durbin-Watson stat	2.116207
Prob(F-statistic)	0.101135		

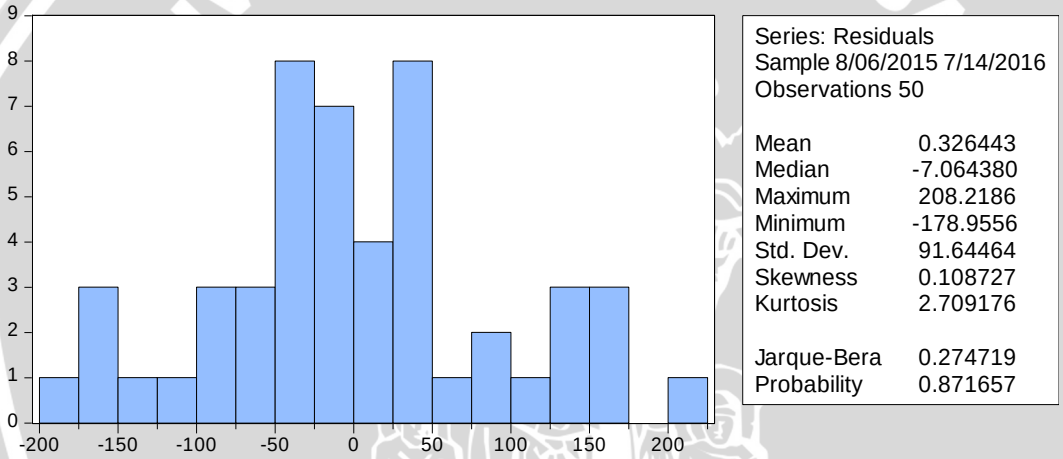
Inverted AR Roots	.91			
Inverted MA Roots	.97	.00-.97i	-.00+.97i	-.97

Lampiran 5. Hasil *Normality Test*

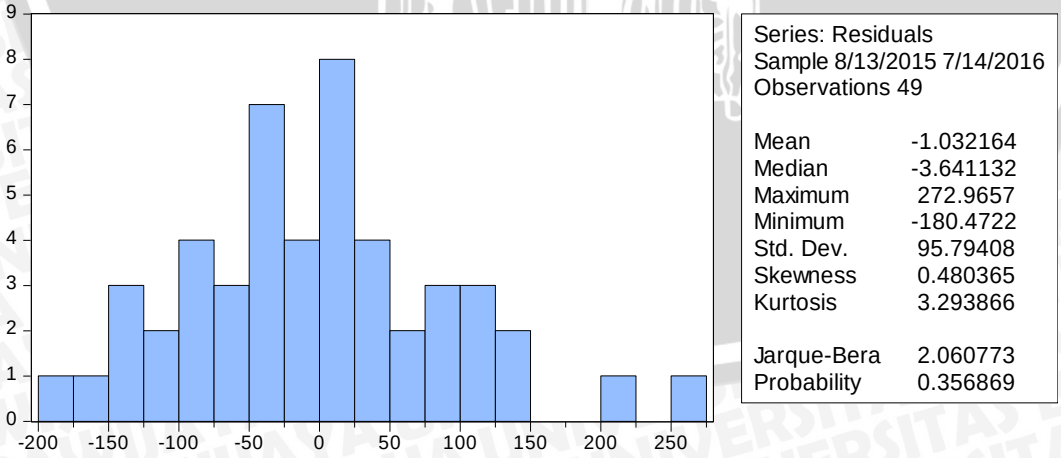
a. Variabel Stikubiungu (Intercept)



Gambar 8. Nilai Probability Ordo AR(1) MA(1)

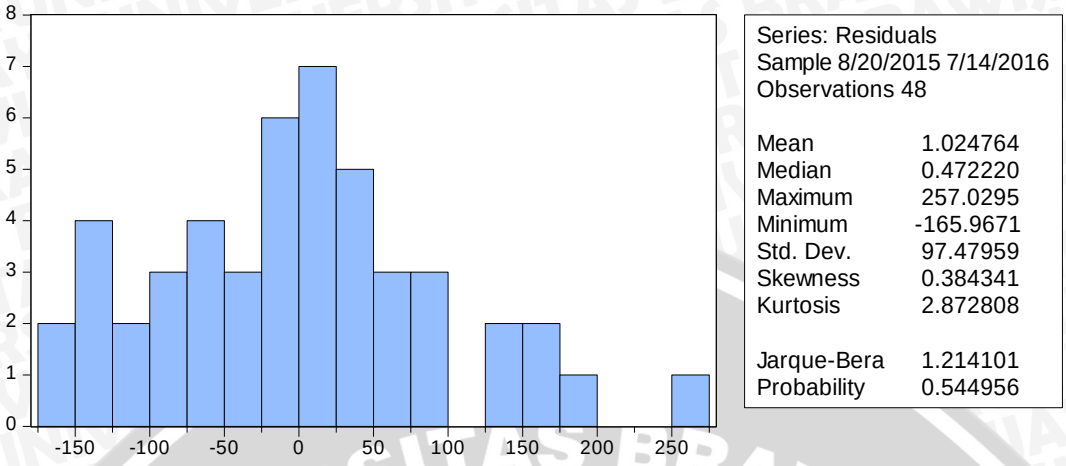


Gambar 9. Nilai Probability Ordo AR(2) MA(2)



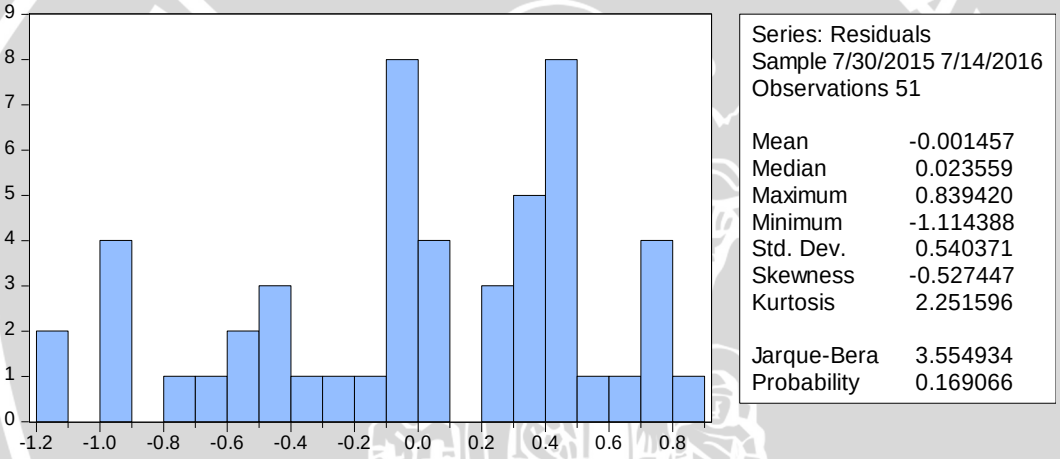
Gambar 10. Nilai Probability Ordo AR(3) MA(3)

Lampiran 3. Hasil *Normality Test* (Lanjutan)

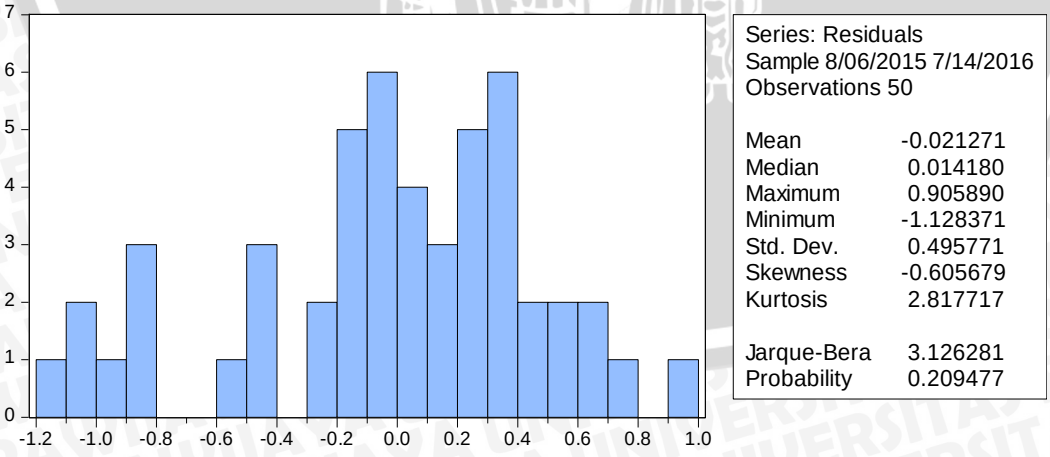


Gambar 11. Nilai Probability Ordo AR(4) MA(4)

b. Variabel Ln Stikubiungu (Intercept)

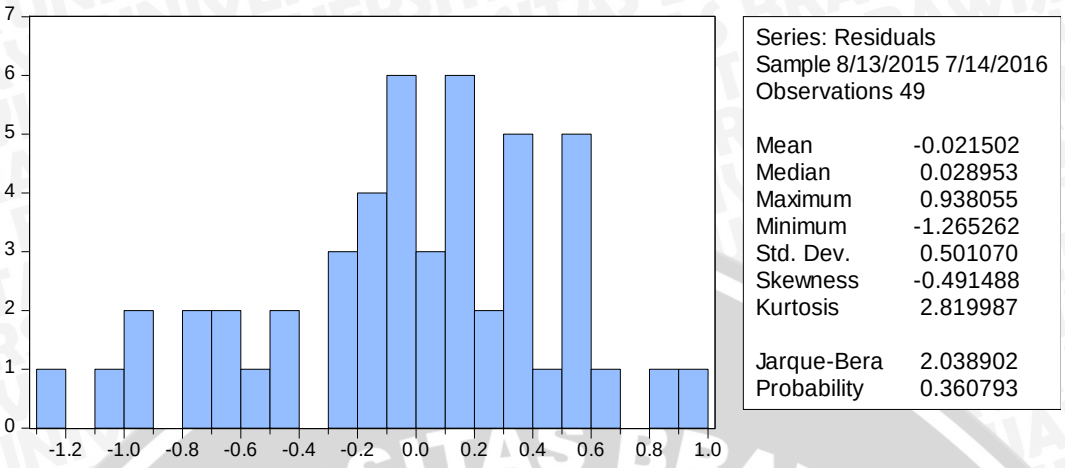


Gambar 12. Nilai Probability Ordo AR(1) MA(1)

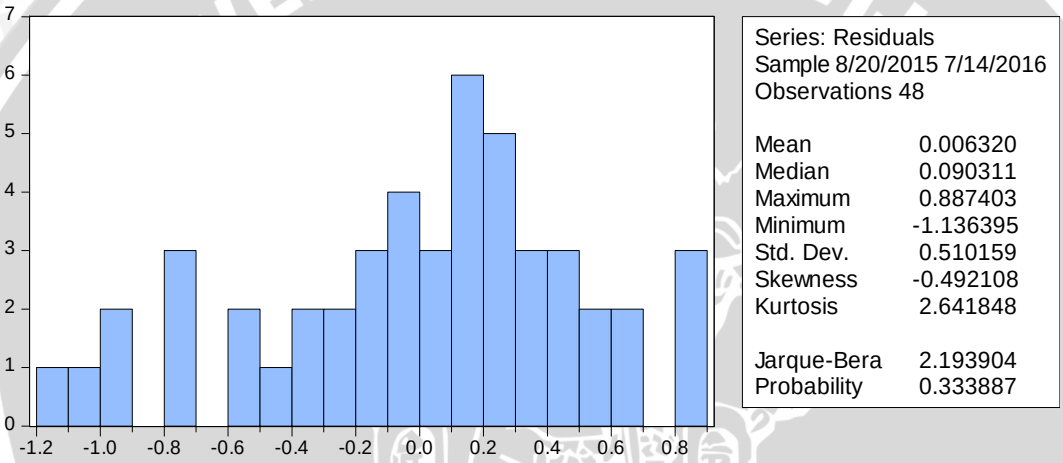


Gambar 13. Nilai Probability Ordo AR(2) MA(2)

Lampiran 5. Hasil *Normality Test* (Lanjutan)



Gambar 14. Nilai Probability Ordo AR(3) MA(3)



Gambar 15. Nilai Probability Ordo AR(4) MA(4)

Lampiran 6. Hasil *Autocorrelation* Test

a. Variabel Stikubiungu (Intercept)

Probability Ordo AR(1) MA(1)

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.661126	Prob. F(2,46)	0.5211
Obs*R-squared	1.234762	Prob. Chi-Square(2)	0.5394

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 09/14/16 Time: 10:34
Sample: 7/30/2015 7/14/2016
Included observations: 51
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.126789	17.46023	0.236354	0.8142
AR(1)	0.018620	0.055763	0.333916	0.7400
MA(1)	3.79E-05	0.000434	0.087334	0.9308
RESID(-1)	-0.106309	0.156576	-0.678962	0.5006
RESID(-2)	-0.145453	0.157537	-0.923292	0.3607

R-squared	0.024211	Mean dependent var	-5.767440
Adjusted R-squared	-0.060640	S.D. dependent var	94.02663
S.E. of regression	96.83557	Akaike info criterion	12.07680
Sum squared resid	431347.8	Schwarz criterion	12.26619
Log likelihood	-302.9584	Hannan-Quinn criter.	12.14917
F-statistic	0.285335	Durbin-Watson stat	1.959729
Prob(F-statistic)	0.886000		

Probability Ordo AR(2) MA(2)

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.094981	Prob. F(2,45)	0.9096
Obs*R-squared	0.209538	Prob. Chi-Square(2)	0.9005

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 09/14/16 Time: 10:37
Sample: 8/06/2015 7/14/2016
Included observations: 50
Presample missing value lagged residuals set to zero.

Lampiran 6. Hasil *Autocorrelation* Test (Lanjutan)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.293731	8.978795	0.032714	0.9740
AR(2)	0.006745	0.102319	0.065925	0.9477
MA(2)	-0.000165	0.030889	-0.005347	0.9958
RESID(-1)	-0.065916	0.151240	-0.435840	0.6650
RESID(-2)	-0.010512	0.192606	-0.054577	0.9567

R-squared	0.004191	Mean dependent var	0.326443
Adjusted R-squared	-0.084326	S.D. dependent var	91.64464
S.E. of regression	95.43044	Akaike info criterion	12.04931
Sum squared resid	409813.6	Schwarz criterion	12.24051
Log likelihood	-296.2328	Hannan-Quinn criter.	12.12212
F-statistic	0.047344	Durbin-Watson stat	2.002648
Prob(F-statistic)	0.995627		

Probability Ordo AR(3) MA(3)

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.880508	Prob. F(2,44)	0.4217
Obs*R-squared	1.880078	Prob. Chi-Square(2)	0.3906

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 09/14/16 Time: 10:40
Sample: 8/13/2015 7/14/2016
Included observations: 49
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.614516	18.38847	-0.033419	0.9735
AR(3)	-0.009943	0.099340	-0.100093	0.9207
MA(3)	-0.011333	0.066883	-0.169442	0.8662
RESID(-1)	-0.122546	0.149955	-0.817219	0.4182
RESID(-2)	-0.174013	0.157731	-1.103226	0.2759

R-squared	0.038369	Mean dependent var	-1.032164
Adjusted R-squared	-0.049052	S.D. dependent var	95.79408
S.E. of regression	98.11541	Akaike info criterion	12.10662
Sum squared resid	423571.9	Schwarz criterion	12.29966
Log likelihood	-291.6121	Hannan-Quinn criter.	12.17986
F-statistic	0.438898	Durbin-Watson stat	1.973370
Prob(F-statistic)	0.779785		

Lampiran 6. Hasil *Autocorrelation* Test (Lanjutan)

Probability Ordo AR(4) MA(4)

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.290320	Prob. F(2,43)	0.2856
Obs*R-squared	2.712507	Prob. Chi-Square(2)	0.2576

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 09/14/16 Time: 10:42
Sample: 8/20/2015 7/14/2016
Included observations: 48
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.515694	19.55573	-0.026370	0.9791
AR(4)	-0.019657	0.130570	-0.150546	0.8810
MA(4)	-0.007831	0.052776	-0.148377	0.8827
RESID(-1)	-0.093878	0.149535	-0.627797	0.5335
RESID(-2)	-0.235145	0.155321	-1.513934	0.1374

R-squared	0.056511	Mean dependent var	1.024764
Adjusted R-squared	-0.031256	S.D. dependent var	97.47959
S.E. of regression	98.99128	Akaike info criterion	12.12627
Sum squared resid	421368.7	Schwarz criterion	12.32119
Log likelihood	-286.0306	Hannan-Quinn criter.	12.19993
F-statistic	0.643874	Durbin-Watson stat	1.958104
Prob(F-statistic)	0.634185		

b. Variabel Ln Stikubiungu (Intercept)

Probability Ordo AR(1) MA(1)

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.049649	Prob. F(2,46)	0.9516
Obs*R-squared	0.109477	Prob. Chi-Square(2)	0.9467

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 09/17/16 Time: 15:30
Sample: 7/30/2015 7/14/2016
Included observations: 51
Presample missing value lagged residuals set to zero.

Lampiran 6. Hasil *Autocorrelation* Test (Lanjutan)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000327	0.083063	-0.003942	0.9969
AR(1)	0.022591	0.112949	0.200015	0.8424
MA(1)	-0.000763	0.035172	-0.021680	0.9828
RESID(-1)	-0.046581	0.178902	-0.260369	0.7957
RESID(-2)	0.041778	0.172668	0.241956	0.8099

R-squared	0.002147	Mean dependent var	-0.001457
Adjusted R-squared	-0.084623	S.D. dependent var	0.540371
S.E. of regression	0.562771	Akaike info criterion	1.781006
Sum squared resid	14.56870	Schwarz criterion	1.970400
Log likelihood	-40.41564	Hannan-Quinn criter.	1.853379
F-statistic	0.024739	Durbin-Watson stat	1.998508
Prob(F-statistic)	0.998768		

Probability Ordo AR(2) MA(2)

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.257071	Prob. F(2,45)	0.7744
Obs*R-squared	0.471956	Prob. Chi-Square(2)	0.7898

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 09/17/16 Time: 15:30
Sample: 8/06/2015 7/14/2016
Included observations: 50
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000660	0.053224	-0.012401	0.9902
AR(2)	0.001458	0.099866	0.014596	0.9884
MA(2)	-0.002091	0.027568	-0.075833	0.9399
RESID(-1)	-0.107631	0.150115	-0.716992	0.4771
RESID(-2)	-0.008827	0.184638	-0.047807	0.9621

R-squared	0.009439	Mean dependent var	-0.021271
Adjusted R-squared	-0.078611	S.D. dependent var	0.495771
S.E. of regression	0.514889	Akaike info criterion	1.604908
Sum squared resid	11.92997	Schwarz criterion	1.796110
Log likelihood	-35.12270	Hannan-Quinn criter.	1.677719
F-statistic	0.107202	Durbin-Watson stat	2.000851
Prob(F-statistic)	0.979412		

Lampiran 6. Hasil *Autocorrelation* Test (Lanjutan)

Probability Ordo AR(3) MA(3)

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.476242	Prob. F(2,44)	0.6243
Obs*R-squared	0.948083	Prob. Chi-Square(2)	0.6225

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 09/17/16 Time: 15:31
Sample: 8/13/2015 7/14/2016
Included observations: 49
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003012	0.083905	0.035894	0.9715
AR(3)	0.008480	0.131089	0.064687	0.9487
MA(3)	-0.030498	0.126110	-0.241837	0.8100
RESID(-1)	-0.072419	0.151640	-0.477570	0.6353
RESID(-2)	-0.139964	0.160190	-0.873738	0.3870

R-squared	0.019349	Mean dependent var	-0.021502
Adjusted R-squared	-0.069801	S.D. dependent var	0.501070
S.E. of regression	0.518263	Akaike info criterion	1.619781
Sum squared resid	11.81823	Schwarz criterion	1.812824
Log likelihood	-34.68464	Hannan-Quinn criter.	1.693022
F-statistic	0.217034	Durbin-Watson stat	1.985053
Prob(F-statistic)	0.927558		

Probability Ordo AR(4) MA(4)

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.872223	Prob. F(2,43)	0.4253
Obs*R-squared	1.864142	Prob. Chi-Square(2)	0.3937

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 09/17/16 Time: 15:32
Sample: 8/20/2015 7/14/2016
Included observations: 48
Presample missing value lagged residuals set to zero.

Lampiran 6. Hasil *Autocorrelation* Test (Lanjutan)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000312	0.082521	0.003779	0.9970
AR(4)	-0.009956	0.130010	-0.076576	0.9393
MA(4)	-0.007099	0.057641	-0.123153	0.9026
RESID(-1)	-0.084446	0.150407	-0.561449	0.5774
RESID(-2)	-0.190896	0.155792	-1.225321	0.2271

R-squared	0.038836	Mean dependent var	0.006320
Adjusted R-squared	-0.050574	S.D. dependent var	0.510159
S.E. of regression	0.522901	Akaike info criterion	1.639482
Sum squared resid	11.75728	Schwarz criterion	1.834399
Log likelihood	-34.34757	Hannan-Quinn criter.	1.713141
F-statistic	0.434359	Durbin-Watson stat	1.966489
Prob(F-statistic)	0.783023		

Lampiran 7. Hasil Uji *Heterokedasticity* Test

a. Variabel Stikubiungu (Intercept)

Probability Ordo AR(1) MA(1)

Heteroskedasticity Test: White

F-statistic	1.356919	Prob. F(3,47)	0.2675
Obs*R-squared	4.065117	Prob. Chi-Square(3)	0.2545
Scaled explained SS	3.287009	Prob. Chi-Square(3)	0.3495

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 10/06/16 Time: 16:53
Sample: 7/30/2015 7/14/2016
Included observations: 51

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-677294.0	544419.8	-1.244066	0.2196
GRADF_01^2	1609.606	1768.352	0.910230	0.3673
GRADF_02^2	-0.004942	0.008089	-0.610985	0.5442
GRADF_03^2	0.000131	0.000103	1.266061	0.2117

R-squared	0.079708	Mean dependent var	8700.917
Adjusted R-squared	0.020966	S.D. dependent var	11873.34
S.E. of regression	11748.21	Akaike info criterion	21.65597
Sum squared resid	6.49E+09	Schwarz criterion	21.80749
Log likelihood	-548.2274	Hannan-Quinn criter.	21.71387
F-statistic	1.356919	Durbin-Watson stat	2.423123
Prob(F-statistic)	0.267475		

Probability Ordo AR(2) MA(2)

Heteroskedasticity Test: White

F-statistic	0.562101	Prob. F(3,46)	0.6427
Obs*R-squared	1.768122	Prob. Chi-Square(3)	0.6219
Scaled explained SS	1.336362	Prob. Chi-Square(3)	0.7205

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 10/06/16 Time: 16:55
Sample: 8/06/2015 7/14/2016
Included observations: 50

Lampiran 7. Hasil Uji *Heterokedasticity* Test (Lanjutan)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7417.477	2812.436	2.637385	0.0114
GRADF_01^2	-161.4048	418.2745	-0.385882	0.7014
GRADF_02^2	0.040972	0.032615	1.256251	0.2154
GRADF_03^2	-0.000362	0.005795	-0.062550	0.9504

R-squared	0.035362	Mean dependent var	8230.872
Adjusted R-squared	-0.027549	S.D. dependent var	10874.92
S.E. of regression	11023.69	Akaike info criterion	21.53010
Sum squared resid	5.59E+09	Schwarz criterion	21.68306
Log likelihood	-534.2525	Hannan-Quinn criter.	21.58835
F-statistic	0.562101	Durbin-Watson stat	2.066807
Prob(F-statistic)	0.642748		

Probability Ordo AR(3) MA(3)

Heteroskedasticity Test: White

F-statistic	1.803563	Prob. F(3,45)	0.1601
Obs*R-squared	5.259276	Prob. Chi-Square(3)	0.1538
Scaled explained SS	5.267404	Prob. Chi-Square(3)	0.1532

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 10/06/16 Time: 17:37
Sample: 8/13/2015 7/14/2016
Included observations: 49

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10193.90	4835.026	2.108344	0.0406
GRADF_01^2	3549.845	2753.675	1.289130	0.2039
GRADF_02^2	-0.079377	0.051417	-1.543787	0.1296
GRADF_03^2	-0.022476	0.025990	-0.864784	0.3917

R-squared	0.107332	Mean dependent var	8990.296
Adjusted R-squared	0.047821	S.D. dependent var	13694.31
S.E. of regression	13362.86	Akaike info criterion	21.91645
Sum squared resid	8.04E+09	Schwarz criterion	22.07089
Log likelihood	-532.9531	Hannan-Quinn criter.	21.97505
F-statistic	1.803563	Durbin-Watson stat	2.336654
Prob(F-statistic)	0.160103		

Lampiran 7. Hasil Uji *Heterokedasticity* Test (Lanjutan)

Probability Ordo AR(4) MA(4)

Heteroskedasticity Test: White

F-statistic	1.005666	Prob. F(3,44)	0.3993
Obs*R-squared	3.080076	Prob. Chi-Square(3)	0.3794
Scaled explained SS	2.557078	Prob. Chi-Square(3)	0.4651

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 10/06/16 Time: 17:36
Sample: 8/20/2015 7/14/2016
Included observations: 48

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5443.916	4490.923	1.212204	0.2319
GRADF_01^2	4620.210	2826.496	1.634607	0.1093
GRADF_02^2	-0.049980	0.073315	-0.681722	0.4990
GRADF_03^2	0.010295	0.023015	0.447332	0.6568

R-squared	0.064168	Mean dependent var	9305.357
Adjusted R-squared	0.000362	S.D. dependent var	12925.27
S.E. of regression	12922.94	Akaike info criterion	21.85105
Sum squared resid	7.35E+09	Schwarz criterion	22.00698
Log likelihood	-520.4252	Hannan-Quinn criter.	21.90998
F-statistic	1.005666	Durbin-Watson stat	2.471050
Prob(F-statistic)	0.399285		

b. Variabel Ln Stikubiungu (Intercept)

Probability Ordo AR(1) MA(1)

Heteroskedasticity Test: White

F-statistic	0.819291	Prob. F(3,47)	0.4898
Obs*R-squared	2.534510	Prob. Chi-Square(3)	0.4691
Scaled explained SS	1.411443	Prob. Chi-Square(3)	0.7029

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 10/06/16 Time: 18:09
Sample: 7/30/2015 7/14/2016
Included observations: 51

Lampiran 7. Hasil Uji *Heterokedasticity* Test (Lanjutan)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.049817	0.461185	-0.108019	0.9144
GRADF_01^2	0.388601	0.507066	0.766371	0.4473
GRADF_02^2	0.029920	0.026971	1.109318	0.2729
GRADF_03^2	-0.006976	0.010307	-0.676814	0.5018

R-squared	0.049696	Mean dependent var	0.286278
Adjusted R-squared	-0.010961	S.D. dependent var	0.324202
S.E. of regression	0.325974	Akaike info criterion	0.671188
Sum squared resid	4.994181	Schwarz criterion	0.822703
Log likelihood	-13.11529	Hannan-Quinn criter.	0.729086
F-statistic	0.819291	Durbin-Watson stat	1.561312
Prob(F-statistic)	0.489753		

Probability Ordo AR(2) MA(2)

Heteroskedasticity Test: White

F-statistic	0.062856	Prob. F(3,46)	0.9792
Obs*R-squared	0.204130	Prob. Chi-Square(3)	0.9769
Scaled explained SS	0.173425	Prob. Chi-Square(3)	0.9818

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 10/06/16 Time: 18:18
Sample: 8/06/2015 7/14/2016
Included observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.225801	0.097223	2.322507	0.0247
GRADF_01^2	0.003722	0.019548	0.190423	0.8498
GRADF_02^2	-0.009901	0.036100	-0.274262	0.7851
GRADF_03^2	0.001991	0.005859	0.339768	0.7356

R-squared	0.004083	Mean dependent var	0.241326
Adjusted R-squared	-0.060869	S.D. dependent var	0.338049
S.E. of regression	0.348186	Akaike info criterion	0.804457
Sum squared resid	5.576730	Schwarz criterion	0.957418
Log likelihood	-16.11142	Hannan-Quinn criter.	0.862705
F-statistic	0.062856	Durbin-Watson stat	1.878034
Prob(F-statistic)	0.979154		

Lampiran 7. Hasil Uji *Heterokedasticity* Test (Lanjutan)

Probability Ordo AR(3) MA(3)

Heteroskedasticity Test: White

F-statistic	1.335845	Prob. F(3,45)	0.2746
Obs*R-squared	4.006918	Prob. Chi-Square(3)	0.2607
Scaled explained SS	3.364572	Prob. Chi-Square(3)	0.3388

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 10/06/16 Time: 18:19
Sample: 8/13/2015 7/14/2016
Included observations: 49

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.296312	0.105680	2.803872	0.0074
GRADF_01^2	0.042634	0.061153	0.697166	0.4893
GRADF_02^2	-0.060610	0.049192	-1.232127	0.2243
GRADF_03^2	-0.055914	0.058915	-0.949061	0.3477

R-squared	0.081774	Mean dependent var	0.246409
Adjusted R-squared	0.020559	S.D. dependent var	0.343675
S.E. of regression	0.340124	Akaike info criterion	0.759092
Sum squared resid	5.205783	Schwarz criterion	0.913526
Log likelihood	-14.59776	Hannan-Quinn criter.	0.817684
F-statistic	1.335845	Durbin-Watson stat	2.116327
Prob(F-statistic)	0.274606		

Probability Ordo AR(4) MA(4)

Heteroskedasticity Test: White

F-statistic	0.332941	Prob. F(3,44)	0.8016
Obs*R-squared	1.065439	Prob. Chi-Square(3)	0.7854
Scaled explained SS	0.757249	Prob. Chi-Square(3)	0.8597

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 10/06/16 Time: 18:24
Sample: 8/20/2015 7/14/2016
Included observations: 48

Lampiran 7. Hasil Uji *Heterokedasticity* Test (Lanjutan)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.251076	0.110567	2.270800	0.0281
GRADF_01^2	0.027190	0.056318	0.482797	0.6316
GRADF_02^2	-0.057869	0.065010	-0.890164	0.3782
GRADF_03^2	0.001443	0.022223	0.064919	0.9485

R-squared	0.022197	Mean dependent var	0.254880
Adjusted R-squared	-0.044472	S.D. dependent var	0.327572
S.E. of regression	0.334777	Akaike info criterion	0.728949
Sum squared resid	4.931316	Schwarz criterion	0.884882
Log likelihood	-13.49476	Hannan-Quinn criter.	0.787876
F-statistic	0.332941	Durbin-Watson stat	2.179754
Prob(F-statistic)	0.801554		

Lampiran 8. Biaya-biaya Persediaan Produk Stik Ubi Ungu

DATA BIAYA-BIAYA PERSEDIAAN

	Jenis Biaya	Keterangan	Jumlah (Rp)
Biaya Pemesanan	Biaya telepon	Pemesanan stik ubi ungu dilakukan via telepon. Durasi telepon selama pemesanan: 5 menit Tarif telepon: selular dengan beda SIM	1.000,00
	Biaya transportasi	Biaya angkut setiap pemesanan Dari pemasok: Pacet, Mojokerto Biaya transportasi = $\frac{jarak\ tempuh}{jarak\ yang\ dapat\ \ ditempuh\ per\ liter}$ x harga bahan bakar per liter = $\frac{54{,}3\ km}{10\ km}$ x 6.900 = Rp. 37.467 x 2 = Rp. 74.934,-	74.934,00
	Biaya kerusakan	Jumlah stik ubi ungu yang dibutuhkan: 73,8815/kg Harga stik ubi ungu Rp. 25.200/kg Jumlah = Rp. 1.861.814 Kerusakan 1% = Rp. 18.618	18.618
		Total biaya pemesanan stik ubi ungu (A)	**94,552**
Biaya Penyimpanan (per kilogram per minggu)	Biaya modal	Tingkat suku bunga bank pertahun saat ini 9,75%/tahun Harga stik ubi ungu: Rp. 25.200,00/kg Biaya modal = (9,75%:52)x25.200	47,25
	Biaya sewa gudang	Gudang tidak menyewa	0
	Biaya penyusutan peralatan	Biaya penyusutan alat per minggu Alat yang digunakan: timbangan manual 5kg, sealer, keranjang besar dan keranjang kecil. Umur ekonomis alat: 5 tahun	3.615,39

Lampiran 8. Biaya-biaya Persediaan Produk Stik Ubi Ungu (lanjutan)

Biaya Penyimpanan (per kilogram per minggu)	Biaya penerangan	Penggunaan listrik tiap minggu 12x7=84 jam/minggu Biaya penerangan = $\frac{jumlah\ lampu\ x\ daya\ lampu\ x\ waktu}{1000}\ x\ TDL$ $= \frac{2\ x\ 15\ watt\ x\ 84\ jam}{1000}\ x$ Rp 1.412 per kWh	3.558,24
		Total biaya penyimpanan stik ubi ungu (B)	**7.220,88**
		Total Biaya Persediaan (A+B)	**101.772,88**

BIAYA PENYUSUTAN PERALATAN

No.	Nama Alat	Jumlah (unit)	Estimasi Umur Ekonomis	Harga Alat (Rp)	Biaya Penyusutan
1	Timbangan manual 5 kg	2	5 tahun	250.000x2 = 500.000	100.000
2	Sealer	1	5 tahun	330.000x1 = 330.000	66.000
3	Keranjang besar	1	5 tahun	70.000x1= 70.000	14.000
4	Keranjang kecil	1	5 tahun	40.000x1 = 40.000	8.000
				Biaya penyusutan per tahun	188.000
				Biaya penyusutan per minggu (1 tahun = 52 minggu)	3.615,39

Lampiran 9. Hasil Perhitungan Model *Economic Order Quantity* (EOQ) Periode yang Akan Datang (Hasil Peramalan)

Diketahui:

Jumlah kebutuhan stik ubi ungu rata-rata per minggu (D) = 73,8815 kg

(209 bungkus x 350gr = 73.150gr = 73,15 kg

Estimasi kerusakan produk = 1%

73,15 kg x 1% = 0,7315 kg)

Biaya pemesanan stik ubi ungu per pesanan (Co) = Rp. 94.552,00

Biaya penyimpanan stik ubi ungu (Cc) = Rp. 7.220,88

***Economic Order Quantity* (EOQ)**

$$EOQ = \sqrt{\frac{2.Co.D}{Cc}}$$

$$= \sqrt{\frac{2\ x\ 94.552\ x\ 73{,}8815}{7220{,}88}}$$

$$= \sqrt{\frac{13971287{,}176}{7220{,}88}}$$

= 44 kg

Frekuensi Pemesanan

$$fp = \frac{D}{EOQ}$$

$$= \frac{73{,}8815}{44}$$

= 1,68 ≈ 2 per minggu

Waktu Siklus Pemesanan

Jumlah hari efektif dalam satu minggu (e) = 6 hari

Waktu siklus pemesanan = $\frac{e}{fp} = \frac{6}{2}$ = 3 hari

Total Biaya Persediaan Produk Stik Ubi Ungu

TIC = TOC + TCC

$$TIC = \left[\left(\frac{D}{EOQ}\right) x\ Co\right] + \left[\left(\frac{EOQ}{2}\right) x\ Cc\right]$$

$$TIC = \left[\left(\frac{73{,}8815}{44}\right) x\ 94552\right] + \left[\left(\frac{44}{2}\right) x\ 7220{,}88\right]$$

TIC = 158.764,63 + 158.859,36 = Rp 317.624

Lampiran 10. Tabel Persentase Permintaan Normal

Z	Service Level (%)	Stockout (%)
0	50,0	50,0
0,5	69,1	30,9
1	84,1	15,9
1,1	86,4	13,6
1,2	88,5	11,5
1,3	90,3	9,7
1,4	91,9	8,1
1,5	93,3	6,7
1,6	94,5	5,5
1,7	95,5	4,5
1,8	96,4	3,6
1,9	97,1	2,9
2	97,7	2,3
2,1	98,2	1,8
2,2	98,6	1,4
2,3	98,9	1,1
2,4	99,2	0,8
2,5	99,4	0,6
2,6	99,5	0,5
2,7	99,6	0,4
2,8	99,7	0,3
2,9	99,8	0,2
3	99,9	0,1

Sumber: Schroeder, 2004

Lampiran 11. Hasil Perhitungan Persediaan Pengaman (*Safety Stock*) dan Titik Pemesanan Kembali (*reorder point*) Periode yang Akan Datang pada Produk Stik Ubi Ungu

Diketahui Faktor Pengaman berdasarkan tingkat pelayanan 99,9% (Z) = 3

(*Besarnya faktor pengaman dapat dilihat dari tabel persentase permintaan normal pada informasi sebelumnya*)

Standar deviasi kebutuhan stik ubi ungu selama waktu tenggang (σ) = 7,473 kg

Waktu tenggang pemesanan per minggu (L) = 0,143 minggu

Jumlah kebutuhan stik ubi ungu rata-rata per hari (d) = 10,56 kg

Persediaan Pengaman (*safety stock*)

SS = Z x σ x $\sqrt{L}$

= 3 x 7,473 x $\sqrt{0,143}$

= 8,478 kg

Titik Pemesanan Kembali (*Reorder Point*)

ROP = d x L + SS

ROP = 10,56 x 0,143 + 8,478

ROP = 12,8 kg

Lampiran 12. Perhitungan Persediaan Minimal dan Maksimal Produk Stik Ubi Ungu pada Masa Mendatangan

Diketahui:

Jumlah kebutuhan stik ubi ungu rata-rata per minggu (D)	= 73,8815 kg
Jumlah hari kerja efektif dalam satu minggu (e)	= 6 hari
Waktu tenggang per minggu (L)	= 0,143
Jumlah persediaan pengaman (*safety stock*)	= 8,478 kg
Tingkat pemesanan yag ekonomis (EOQ)	= 44 kg

Persediaan Minimal (Mi)

$$Mi = \left(\frac{D}{e}\right) \text{ x } L$$

$$Mi = \left(\frac{73{,}8815}{6}\right) \text{ x } 0{,}143$$

Mi = 1,76 kg

Persediaan Maksimal (Ms)

Ms = SS + EOQ

Ms = 8,478 + 44

Ms = 52,478 kg

Lampiran 13. Perhitungan Efisiensi Biaya Persediaan Produk Stik Ubi Ungu CV. Cita Mandiri

Diketahui:

Total Biaya Pemesanan Perusahaan per minggu (TOC_0) = Rp 199.290,31

Total Biaya Penyimpanan Perusahaan per minggu (TCC_0) = Rp 199.297,03

Total Biaya Persediaan Perusahaan per minggu (TIC_0) = Rp 398.587,34

Total Biaya Pemesanan Metode EOQ per minggu (TOC_1) = Rp 158.764,63

Total Biaya Penyimpanan Metode EOQ per minggu (TCC_1) = Rp 158.859,36

Total Biaya Persediaan Metode EOQ per minggu (TICi) = Rp 317.624,00

Efisiensi Biaya Persediaan Produki Stik Ubi Ungu (Rupiah)

$\eta = [(TOC_0 + TCC_0) - (TOC_1 + TCC_1)]$

$\eta = [(199.290,31+199.297,03) - (158.764,63+158.859,36)]$

$\eta = [398.587,34 - 317.624,00]$

η = Rp. 80.963,34 per minggu

Efesiensi Biaya Persediaan Produk Stik Ubi Ungu (Persentase)

$$\eta = \left(\frac{[(TOC_0 + TCC_0) - (TOC_1 + TCC_1)]}{(TOC_0 + TCC_0)}\right) \text{ x } 100\%$$

$$\eta = \left(\frac{[(199.290,31+199.297,03) - (158.764,63+158.859,36)]}{(199.290,31+199.297,03)}\right) \text{ x } 100\%$$

$$\eta = \left(\frac{[398.587,34 - 317.624,00]}{398.587,34}\right) \text{ x } 100\%$$

$$\eta = \left(\frac{80.963,34}{398.587,34}\right) \text{ x } 100\%$$

η = 21% per minggu

Lampiran 14. Dokumentasi Penelitian

Gambar 16. Produk Stik Ubi Ungu

Gambar 17. Proses Pengemasan Produk Camilan di CV. Cita Mandiri

Gambar 18. Kegiatan Wawancara

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