LAMPIRAN

Lampiran I

Data Volume Impor Jagung Indonesia, Harga Impor Jagung, Produksi Jagung Nasional, Nilai Tukar Rupiah/USD, Produk Domestik Bruto (PDB) per kapita

Tahun	Y	X_1	X_2	X_3	X_4
1995	969193.394	159.014	8142863	2308	20438.9
1996	616941.372	215.397	9200807	2383	21727.3
1997	1098353.438	156.302	8671647	4650	22830.1
1998	313456.962	152.612	10110557	8025	19564.3
1999	618059.972	129.954	9204036	7100	19298.1
2000	1264575.026	124.903	9676899	9595	19951.2
2001	1035796.968	121.175	9347192	10400	20240.1
2002	1154063.011	119.562	9654105	8940	20835.3
2003	1345446.349	125.355	10886442	8465	21510.8
2004	1088927.757	163.165	11225243	9290	22267.0
2005	185597.289	166.222	12523894	9830	23200.6
2006	1775320.810	156.309	11609463	9020	24135.5
2007	701953.110	215.988	13287527	9419	25314.9
2008	275603.211	329.146	16317252	10950	26475.2
2009	338797.674	229.757	17629748	9400	27331.9
2010	1527516.025	241.619	18327636	8991	28575.2
2011	3207656.525	320.647	17643250	9068	29991.8
2012	1692994.497	296.456	19387022	9670	31424.4
2013	3191044.790	287.959	18511853	12189	32787.8
2014	3253618.536	249.082	19008426	12440	33978.2

Keterangan

Y = Volume Impor Jagung indonesia (Ton)

X1 = Harga Impor Jagung Indonesia (USD/Ton)

X2 = Produksi Jagung Nasional (Ton)

X3 = Nilai Tukar Rupiah/USD

X4 = Produk Domestik Bruto (PDB) per Kapita (Ribuan Rupiah)

Lampiran II

Variabel Harga Impor Jagung Periode 1995-2014

Tahun	Nilai Impor Jagung (US Dollar)	Volume Impor (Ton)	Harga Impor Jagung (USD/Ton)
1995	154115268	969193	159.014
1996	132887300	616941	215.397
1997	171674409	1098353	156.302
1998	47837430	313457	152.612
1999	80319323	618060	129.954
2000	157948617	1264575	124.903
2001	125512747	1035797	121.175
2002	137982213	1154063	119.562
2003	168658420	1345446	125.355
2004	177674700	1088928	163.165
2005	30850404	185597	166.222
2006	277497733	1775321	156.309
2007	151613169	701953	215.988
2008	90713702	275603	329.146
2009	77841093	338798	229.757
2010	369076312	1527516	241.619
2011	1028526693	3207657	320.647
2012	501898250	1692994	296.456
2013	918889621	3191045	287.959
2014	810417159	3253619	249.082

Lampiran III

Hasil Uji Akar Unit dengan Metode *Augmented Dickey-Fuller* (ADF) pada Tingkat Level

Null Hypothesis: Y has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.739078	0.3970
Test critical values:	1% level	-3.831511	
	5% level	-3.029970	
	10% level	-2.655194	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 19

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(Y)
Method: Least Squares
Date: 08/01/16 Time: 15:08
Sample (adjusted): 2 20
Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Y(-1)	-0.413016	0.237491	-1.739078	0.1001
C	607185.0	342634.0	1.772110	0.0943

R-squared	0.151035	Mean dependent var	120232.9
Adjusted R-squared	0.101096	S.D. dependent var	907868.9
S.E. of regression	860755.3	Akaike info criterion	30.26831
Sum squared resid	1.26E+13	Schwarz criterion	30.36772
Log likelihood	-285.5489	F-statistic	3.024392
Durbin-Watson stat	2.154790	Prob(F-statistic)	0.100095

Null Hypothesis: X1 has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.476619	0.5233
Test critical values:	1% level	-3.831511	
	5% level	-3.029970	
	10% level	-2.655194	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 19

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(X1)
Method: Least Squares
Date: 08/01/16 Time: 15:09
Sample (adjusted): 2 20
Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1(-1)	-0.233527	0.158150	-1.476619	0.1581
C	50.35862	32.75540	1.537414	0.1426

R-squared	0.113679	Mean dependent var	4.740421
Adjusted R-squared	0.061542	S.D. dependent var	48.98045
S.E. of regression	47.44934	Akaike info criterion	10.65650
Sum squared resid	38274.48	Schwarz criterion	10.75592
Log likelihood	-99.23678	F-statistic	2.180404
Durbin-Watson stat	2.074959	Prob(F-statistic)	0.158062

Null Hypothesis: X2 has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.231783	0.9185
Test critical values:	1% level	-3.831511	
	5% level	-3.029970	
	10% level	-2.655194	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 19

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(X2)
Method: Least Squares
Date: 08/01/16 Time: 15:10
Sample (adjusted): 2 20
Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X2(-1)	-0.015600	0.067305	-0.231783	0.8195
C	770041.3	892746.7	0.862553	0.4004

R-squared	0.003150	Mean dependent var	571871.7
Adjusted R-squared	-0.055488	S.D. dependent var	1090027.
S.E. of regression	1119861.	Akaike info criterion	30.79461
Sum squared resid	2.13E+13	Schwarz criterion	30.89402
Log likelihood	-290.5488	F-statistic	0.053723
Durbin-Watson stat	2.342574	Prob(F-statistic)	0.819474

Null Hypothesis: X3 has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		0.981928	0.9067
Test critical values:	1% level	-2.692358	
	5% level	-1.960171	
	10% level	-1.607051	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 19

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(X3)
Method: Least Squares
Date: 08/01/16 Time: 15:11
Sample (adjusted): 2 20
Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X3(-1)	0.037296	0.037983	0.981928	0.3392

R-squared	-0.096963	Mean dependent var	533.2632
Adjusted R-squared	-0.096963	S.D. dependent var	1388.372
S.E. of regression	1454.125	Akaike info criterion	17.45339
Sum squared resid	38060655	Schwarz criterion	17.50310
Log likelihood	-164.8072	Durbin-Watson stat	1.953793

Null Hypothesis: X4 has a unit root
Exogenous: Constant
Lag Length: 3 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		1.461722	0.9981
Test critical values:	1% level	-3.920350	
	5% level	-3.065585	
	10% level	-2.673459	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 16

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(X4)
Method: Least Squares
Date: 08/01/16 Time: 15:12
Sample (adjusted): 5 20
Included observations: 16 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X4(-1)	0.023907	0.016355	1.461722	0.1718
D(X4(-1))	0.291543	0.049735	5.861963	0.0001
D(X4(-2))	-0.018561	0.044012	-0.421729	0.6813
D(X4(-3))	0.134412	0.044582	3.014948	0.0118
C	63.36200	354.1933	0.178891	0.8613

R-squared	0.916438	Mean dependent var	900.8688
Adjusted R-squared	0.886052	S.D. dependent var	452.8357
S.E. of regression	152.8603	Akaike info criterion	13.14723
Sum squared resid	257029.1	Schwarz criterion	13.38867
Log likelihood	-100.1779	F-statistic	30.15963
Durbin-Watson stat	1.810834	Prob(F-statistic)	0.000007

Lampiran IV

Hasil Uji Akar Unit dengan Metode *Augmented Dickey-Fuller* (ADF) pada *First Difference*

Null Hypothesis: D(Y) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.326740	0.0001
Test critical values:	1% level	-3.857386	
	5% level	-3.040391	
	10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 18

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(Y,2)
Method: Least Squares
Date: 08/01/16 Time: 15:12
Sample (adjusted): 3 20
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(Y(-1))	-1.420985	0.224600	-6.326740	0.0000
C	198446.8	205759.4	0.964461	0.3492

R-squared	0.714427	Mean dependent var	23045.88
Adjusted R-squared	0.696578	S.D. dependent var	1570342.
S.E. of regression	865002.7	Akaike info criterion	30.28329
Sum squared resid	1.20E+13	Schwarz criterion	30.38222
Log likelihood	-270.5496	F-statistic	40.02764
Durbin-Watson stat	2.173976	Prob(F-statistic)	0.000010

Null Hypothesis: D(X1) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.401593	0.0036
Test critical values:	1% level	-3.886751	
	5% level	-3.052169	
	10% level	-2.666593	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 17

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(X1,2)
Method: Least Squares
Date: 08/01/16 Time: 15:12
Sample (adjusted): 4 20
Included observations: 17 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(X1(-1))	-1.662244	0.377646	-4.401593	0.0006
D(X1(-1),2)	0.393375	0.234709	1.676011	0.1159
C	9.785643	11.37975	0.859917	0.4043

R-squared	0.664216	Mean dependent var	1.189294
Adjusted R-squared	0.616247	S.D. dependent var	74.06431
S.E. of regression	45.88119	Akaike info criterion	10.64877
Sum squared resid	29471.17	Schwarz criterion	10.79581
Log likelihood	-87.51457	F-statistic	13.84676
Durbin-Watson stat	1.841196	Prob(F-statistic)	0.000481

Null Hypothesis: D(X2) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.886753	0.0012
Test critical values:	1% level	-3.857386	
	5% level	-3.040391	
	10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 18

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(X2,2)
Method: Least Squares
Date: 08/01/16 Time: 15:13
Sample (adjusted): 3 20
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(X2(-1))	-1.191880	0.243900	-4.886753	0.0002
C	655401.4	300667.4	2.179821	0.0446

R-squared	0.598800	Mean dependent var	-31187.28
Adjusted R-squared	0.573725	S.D. dependent var	1727349.
S.E. of regression	1127782.	Akaike info criterion	30.81384
Sum squared resid	2.04E+13	Schwarz criterion	30.91277
Log likelihood	-275.3246	F-statistic	23.88035
Durbin-Watson stat	1.858894	Prob(F-statistic)	0.000165

Null Hypothesis: D(X3) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.285675	0.0323
Test critical values:	1% level	-3.886751	
	5% level	-3.052169	
	10% level	-2.666593	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 17

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(X3,2)
Method: Least Squares
Date: 08/01/16 Time: 15:13
Sample (adjusted): 4 20
Included observations: 17 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(X3(-1))	-1.212302	0.368966	-3.285675	0.0054
D(X3(-1),2)	0.196554	0.265990	0.738951	0.4721
C	552.4384	402.1272	1.373790	0.1911

R-squared	0.546474	Mean dependent var	-118.5882
Adjusted R-squared	0.481685	S.D. dependent var	2040.119
S.E. of regression	1468.765	Akaike info criterion	17.58102
Sum squared resid	30201799	Schwarz criterion	17.72805
Log likelihood	-146.4386	F-statistic	8.434624
Durbin-Watson stat	1.977136	Prob(F-statistic)	0.003947

Null Hypothesis: D(X4) has a unit root
Exogenous: Constant
Lag Length: 2 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.202615	0.0000
Test critical values:	1% level	-3.920350	
	5% level	-3.065585	
	10% level	-2.673459	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 16

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(X4,2)
Method: Least Squares
Date: 08/01/16 Time: 15:13
Sample (adjusted): 5 20
Included observations: 16 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(X4(-1))	-0.470200	0.057323	-8.202615	0.0000
D(X4(-1),2)	-0.188085	0.047944	-3.923004	0.0020
D(X4(-2),2)	-0.172012	0.038098	-4.514965	0.0007
C	575.7581	53.06854	10.84933	0.0000

R-squared	0.966777	Mean dependent var	278.5125
Adjusted R-squared	0.958472	S.D. dependent var	784.8263
S.E. of regression	159.9360	Akaike info criterion	13.19974
Sum squared resid	306954.2	Schwarz criterion	13.39289
Log likelihood	-101.5979	F-statistic	116.3995
Durbin-Watson stat	1.582076	Prob(F-statistic)	0.000000

Lampiran V

Hasil Uji Kointegrasi *Johansen*

Date: 08/01/16 Time: 15:08
Sample (adjusted): 3 20
Included observations: 18 after adjustments
Trend assumption: Linear deterministic trend
Series: Y X1 X2 X3 X4
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.889250	95.45105	69.81889	0.0001
At most 1 *	0.829723	55.84248	47.85613	0.0074
At most 2	0.475210	23.97656	29.79707	0.2014
At most 3	0.410807	12.37093	15.49471	0.1400
At most 4	0.146383	2.848910	3.841466	0.0914

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.889250	39.60857	33.87687	0.0093
At most 1 *	0.829723	31.86592	27.58434	0.0132
At most 2	0.475210	11.60563	21.13162	0.5869
At most 3	0.410807	9.522015	14.26460	0.2452
At most 4	0.146383	2.848910	3.841466	0.0914

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by b'*S11*b=I):

Lampiran VI

Hasil Estimasi *Error Correction Model* (ECM) Impor Jagung Indonesia Periode 1995-2014

Dependent Variable: D(Y)
Method: Least Squares
Date: 08/01/16 Time: 15:27
Sample (adjusted): 2 20
Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	272230.2	167332.3	1.626884	0.1277
D(X1)	2216.729	2475.317	0.895533	0.3868
D(X2)	-0.620721	0.108087	-5.742771	0.0001
D(X3)	19.98781	87.65211	0.228036	0.8232
D(X4)	263.1040	119.7703	2.196738	0.0468
RESID01(-1)	-0.830365	0.207399	-4.003714	0.0015

R-squared	0.804494	Mean dependent var	120232.9
Adjusted R-squared	0.729299	S.D. dependent var	907868.9
S.E. of regression	472354.2	Akaike info criterion	29.22094
Sum squared resid	2.90E+12	Schwarz criterion	29.51918
Log likelihood	-271.5989	F-statistic	10.69882
Durbin-Watson stat	1.720875	Prob(F-statistic)	0.000303

Lampiran VII

Hasil Estimasi Jangka Panjang Impor Jagung Indonesia Periode 1995-2014

Dependent Variable: Y
Method: Least Squares
Date: 08/01/16 Time: 15:01
Sample: 1 20
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4704495.	1142287.	-4.118489	0.0009
X1	-3091.275	4422.592	-0.698973	0.4953
X2	-0.288001	0.132989	-2.165606	0.0469
X3	63.77378	77.38774	0.824081	0.4228
X4	398.4649	93.39437	4.266477	0.0007

R-squared	0.677154	Mean dependent var	1282746.
Adjusted R-squared	0.591061	S.D. dependent var	952139.2
S.E. of regression	608877.1	Akaike info criterion	29.68894
Sum squared resid	5.56E+12	Schwarz criterion	29.93787
Log likelihood	-291.8894	F-statistic	7.865428
Durbin-Watson stat	1.753467	Prob(F-statistic)	0.001263

Lampiran VIII

Hasil Uji Autokorelasi

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.428470	Probability	0.661928
Obs*R-squared	1.373192	Probability	0.503286

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 08/01/16 Time: 15:14
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7235.742	180559.6	0.040074	0.9688
D(X1)	-134.4774	2597.234	-0.051777	0.9596
D(X2)	0.047947	0.124663	0.384617	0.7079
D(X3)	-10.42654	97.62925	-0.106797	0.9169
D(X4)	-31.94803	133.5375	-0.239244	0.8153
RESID01(-1)	-0.239662	0.344222	-0.696243	0.5007
RESID(-1)	0.393594	0.477501	0.824278	0.4273
RESID(-2)	0.211735	0.348539	0.607492	0.5559

R-squared	0.072273	Mean dependent var	3.06E-12
Adjusted R-squared	-0.518098	S.D. dependent var	401423.9
S.E. of regression	494598.9	Akaike info criterion	29.35644
Sum squared resid	2.69E+12	Schwarz criterion	29.75410
Log likelihood	-270.8862	F-statistic	0.122420
Durbin-Watson stat	2.101098	Prob(F-statistic)	0.994812

Lampiran IX

Hasil Uji *White* Heteroskedastisitas

White Heteroskedasticity Test:

F-statistic	0.381997	Probability	0.922063
Obs*R-squared	6.140410	Probability	0.803332

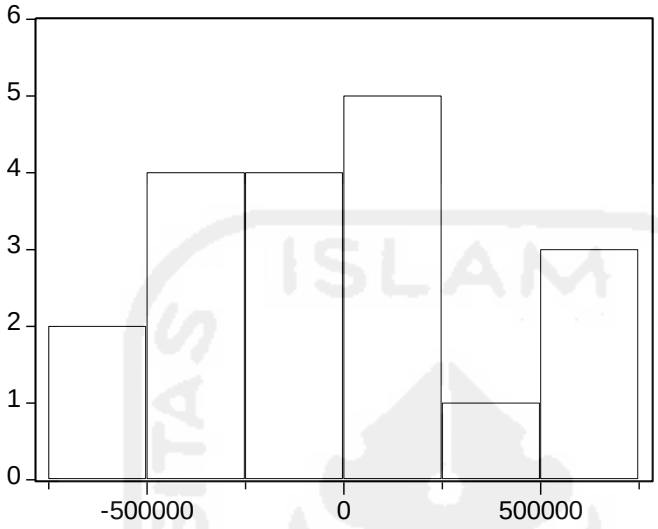
Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 08/01/16 Time: 15:14
Sample: 2 20
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.01E+11	1.53E+11	1.314425	0.2251
D(X1)	9.23E+08	1.63E+09	0.566536	0.5866
(D(X1))^2	911239.2	23135137	0.039388	0.9695
D(X2)	51267.21	82279.45	0.623086	0.5506
(D(X2))^2	-0.036934	0.070738	-0.522120	0.6157
D(X3)	33595018	80207413	0.418852	0.6863
(D(X3))^2	-8748.169	44736.75	-0.195548	0.8498
D(X4)	17440219	1.03E+08	0.169086	0.8699
(D(X4))^2	-7929.329	52097.25	-0.152202	0.8828
RESID01(-1)	16815.08	142155.2	0.118287	0.9088
RESID01(-1)^2	-0.102481	0.170632	-0.600595	0.5647

R-squared	0.323179	Mean dependent var	1.53E+11
Adjusted R-squared	-0.522846	S.D. dependent var	1.69E+11
S.E. of regression	2.09E+11	Akaike info criterion	55.26199
Sum squared resid	3.49E+23	Schwarz criterion	55.80877
Log likelihood	-513.9889	F-statistic	0.381997
Durbin-Watson stat	2.141283	Prob(F-statistic)	0.922063

Lampiran X

Hasil Histogram Uji Normalitas *Jarque-Bera*



Series: Residuals	
Sample 2 20	
Observations 19	
Mean	3.06e-12
Median	-21977.96
Maximum	680863.3
Minimum	-659763.5
Std. Dev.	401423.9
Skewness	0.227548
Kurtosis	2.166029
Jarque-Bera	0.714573
Probability	0.699572