

LAMPIRAN

Lampiran 1

Data Produksi Padi, Luas Panen, Jumlah Penduduk, dan Harga Beras di Kabupaten Gunungkidul Tahun 1982-2015.

Tahun	Produksi Padi (Ton)	Luas Panen (Ha)	Jumlah Penduduk (Jiwa/Tahun)	Harga Beras (Kg)
1982	112107	47690	692340	252
1983	127348	38988	694575	296
1984	156524	48264	694855	290
1985	122198	44055	700286	265
1986	125226	41843	702710	289
1987	143937	46418	704469	352
1988	140573	46118	705331	430
1989	144307	47739	703914	432
1990	151142	45449	707267	435
1991	154797	43395	710169	542
1992	166177	44649	713094	570
1993	137564	43478	716700	474
1994	151134	43742	720643	683
1995	154264	44672	724685	790
1996	155385	44528	729655	802
1997	167124	44488	733164	910
1998	153470	42302	736293	2047
1999	193713	48158	739259	2427
2000	192467	47571	743282	2053
2001	176363	48750	746451	2453
2002	168688	47641	749875	2961
2003	168542	45694	753008	2588
2004	182803	45147	755941	2550
2005	164996	43409	681554	3220
2006	214139	47041	683389	4430
2007	204058	48315	685210	5400
2008	243846	52707	686772	5758
2009	260363	52970	688145	5964
2010	258482	53803	675382	6174
2011	277813	57375	677998	7235
2012	291696	56416	680406	7817
2013	289521	58924	683735	8353
2014	289787	57201	698825	9040
2015	289571	57014	704026	9040

Lampiran 2

Uji Akar Unit ADF (Level)

Produksi Padi

Null Hypothesis: LOG(PP) has a unit root

Exogenous: Constant

Lag Length: 1 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.367403	0.9032
Test critical values: 1% level	-3.653730	
5% level	-2.957110	
10% level	-2.617434	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOG(PP))

Method: Least Squares

Date: 03/01/17 Time: 06:11

Sample (adjusted): 1984 2015

Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(PP(-1))	-0.026627	0.072472	-0.367403	0.7160
D(LOG(PP(-1)))	-0.375573	0.172850	-2.172822	0.0381
C	0.358858	0.875538	0.409872	0.6849
R-squared	0.160141	Mean dependent var		0.025671
Adjusted R-squared	0.102219	S.D. dependent var		0.108410
S.E. of regression	0.102720	Akaike info criterion		-1.624567
Sum squared resid	0.305988	Schwarz criterion		-1.487154
Log likelihood	28.99307	Hannan-Quinn criter.		-1.579018
F-statistic	2.764796	Durbin-Watson stat		2.128472
Prob(F-statistic)	0.079615			

Luas Panen

Null Hypothesis: LOG(LP) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.642183	0.4504
Test critical values: 1% level	-3.646342	
5% level	-2.954021	
10% level	-2.615817	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOG(LP))

Method: Least Squares

Date: 03/01/17 Time: 06:16

Sample (adjusted): 1983 2015

Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(LP(-1))	-0.202529	0.123329	-1.642183	0.1107
C	2.185547	1.327638	1.646192	0.1098
R-squared	0.080030	Mean dependent var		0.005411
Adjusted R-squared	0.050354	S.D. dependent var		0.070928
S.E. of regression	0.069119	Akaike info criterion		-2.447277
Sum squared resid	0.148101	Schwarz criterion		-2.356579
Log likelihood	42.38007	Hannan-Quinn criter.		-2.416760
F-statistic	2.696766	Durbin-Watson stat		2.298824
Prob(F-statistic)	0.110659			

Jumlah Penduduk

Null Hypothesis: LOG(JP) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.741601	0.4018
Test critical values: 1% level	-3.646342	
5% level	-2.954021	
10% level	-2.615817	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOG(JP))

Method: Least Squares

Date: 03/01/17 Time: 06:17

Sample (adjusted): 1983 2015

Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(JP(-1))	-0.170681	0.098002	-1.741601	0.0915
C	2.299916	1.320288	1.741980	0.0914
R-squared	0.089124	Mean dependent var		0.000507
Adjusted R-squared	0.059741	S.D. dependent var		0.019463
S.E. of regression	0.018873	Akaike info criterion		-5.043519
Sum squared resid	0.011041	Schwarz criterion		-4.952822
Log likelihood	85.21806	Hannan-Quinn criter.		-5.013002
F-statistic	3.033176	Durbin-Watson stat		1.867741
Prob(F-statistic)	0.091495			

Harga Beras

Null Hypothesis: LOG(HB) has a unit root

Exogenous: Constant

Lag Length: 2 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.213577	0.9266
Test critical values: 1% level	-3.661661	
5% level	-2.960411	
10% level	-2.619160	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOG(HB))

Method: Least Squares

Date: 03/01/17 Time: 06:19

Sample (adjusted): 1985 2015

Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(HB(-1))	-0.005641	0.026414	-0.213577	0.8325
D(LOG(HB(-1)))	0.052511	0.168928	0.310850	0.7583
D(LOG(HB(-2)))	-0.479637	0.168830	-2.840945	0.0085
C	0.200851	0.193878	1.035963	0.3094
R-squared	0.238278	Mean dependent var		0.110953
Adjusted R-squared	0.153643	S.D. dependent var		0.183682
S.E. of regression	0.168983	Akaike info criterion		-0.598126
Sum squared resid	0.770989	Schwarz criterion		-0.413096
Log likelihood	13.27096	Hannan-Quinn criter.		-0.537811
F-statistic	2.815341	Durbin-Watson stat		1.808347
Prob(F-statistic)	0.058084			

Lampiran 3

Uji Derajat Integrasi (*first difference*)

Produksi Padi

Null Hypothesis: D(LOG(PP)) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-8.394061	0.0000
Test critical values: 1% level	-3.653730	
5% level	-2.957110	
10% level	-2.617434	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOG(PP),2)

Method: Least Squares

Date: 03/01/17 Time: 06:15

Sample (adjusted): 1984 2015

Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG(PP(-1)))	-1.390389	0.165640	-8.394061	0.0000
C	0.037257	0.018558	2.007638	0.0538
R-squared	0.701374	Mean dependent var	-0.004007	
Adjusted R-squared	0.691420	S.D. dependent var	0.182229	
S.E. of regression	0.101228	Akaike info criterion	-1.682423	
Sum squared resid	0.307413	Schwarz criterion	-1.590814	
Log likelihood	28.91877	Hannan-Quinn criter.	-1.652057	
F-statistic	70.46027	Durbin-Watson stat	2.150995	
Prob(F-statistic)	0.000000			

Luas Panen

Null Hypothesis: D(LOG(LP)) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-11.25166	0.0000
Test critical values: 1% level	-3.653730	
5% level	-2.957110	
10% level	-2.617434	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOG(LP),2)

Method: Least Squares

Date: 03/01/17 Time: 06:17

Sample (adjusted): 1984 2015

Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG(LP(-1)))	-1.465847	0.130278	-11.25166	0.0000
C	0.014524	0.009268	1.567115	0.1276
R-squared	0.808429	Mean dependent var		0.006194
Adjusted R-squared	0.802043	S.D. dependent var		0.117456
S.E. of regression	0.052259	Akaike info criterion		-3.004753
Sum squared resid	0.081930	Schwarz criterion		-2.913145
Log likelihood	50.07605	Hannan-Quinn criter.		-2.974388
F-statistic	126.5998	Durbin-Watson stat		1.553636
Prob(F-statistic)	0.000000			

Jumlah Penduduk

Null Hypothesis: D(LOG(JP)) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.523848	0.0001
Test critical values: 1% level	-3.653730	
5% level	-2.957110	
10% level	-2.617434	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOG(JP),2)

Method: Least Squares

Date: 03/01/17 Time: 06:18

Sample (adjusted): 1984 2015

Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG(JP(-1)))	-1.010196	0.182879	-5.523848	0.0000
C	0.000425	0.003553	0.119723	0.9055
R-squared	0.504238	Mean dependent var		0.000131
Adjusted R-squared	0.487713	S.D. dependent var		0.028074
S.E. of regression	0.020094	Akaike info criterion		-4.916342
Sum squared resid	0.012113	Schwarz criterion		-4.824734
Log likelihood	80.66147	Hannan-Quinn criter.		-4.885976
F-statistic	30.51290	Durbin-Watson stat		1.996224
Prob(F-statistic)	0.000005			

Harga Beras

Null Hypothesis: D(LOG(HB)) has a unit root

Exogenous: Constant

Lag Length: 1 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.247499	0.0000
Test critical values: 1% level	-3.661661	
5% level	-2.960411	
10% level	-2.619160	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LOG(HB),2)

Method: Least Squares

Date: 03/01/17 Time: 06:20

Sample (adjusted): 1985 2015

Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOG(HB(-1)))	-1.436147	0.229876	-6.247499	0.0000
D(LOG(HB(-1)),2)	0.484160	0.164618	2.941115	0.0065
C	0.160335	0.039346	4.075006	0.0003
R-squared	0.605351	Mean dependent var		0.000661
Adjusted R-squared	0.577162	S.D. dependent var		0.255402
S.E. of regression	0.166078	Akaike info criterion		-0.660954
Sum squared resid	0.772292	Schwarz criterion		-0.522181
Log likelihood	13.24479	Hannan-Quinn criter.		-0.615718
F-statistic	21.47454	Durbin-Watson stat		1.805626
Prob(F-statistic)	0.000002			

Lampiran 4

Hasil Uji Kointegrasi (Jangka Panjang)

Dependent Variable: LOG(PP)

Method: Least Squares

Date: 02/22/17 Time: 11:31

Sample: 1982 2015

Included observations: 34

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.610694	0.579954	2.777278	0.0094
LOG(LP)	0.094371	0.016479	5.726815	0.0000
LOG(JP)	-0.015968	0.038383	-0.416018	0.6804
LOG(HB)	0.010996	0.001313	8.374128	0.0000
R-squared	0.928503	Mean dependent var	2.492544	
Adjusted R-squared	0.921353	S.D. dependent var	0.022973	
S.E. of regression	0.006443	Akaike info criterion	-7.141631	
Sum squared resid	0.001245	Schwarz criterion	-6.962059	
Log likelihood	125.4077	Hannan-Quinn criter.	-7.080392	
F-statistic	129.8661	Durbin-Watson stat	1.487386	
Prob(F-statistic)	0.000000			

Lampiran 4

Hasil Uji Kointegrasi ECT

Null Hypothesis: ECT has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.192564	0.0000
Test critical values: 1% level	-3.646342	
5% level	-2.954021	
10% level	-2.615817	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(ECT)

Method: Least Squares

Date: 02/22/17 Time: 11:33

Sample (adjusted): 1983 2015

Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ECT(-1)	-0.905458	0.146217	-6.192564	0.0000
C	0.000614	0.000896	0.685151	0.4983
R-squared	0.552978	Mean dependent var		0.000682
Adjusted R-squared	0.538558	S.D. dependent var		0.007576
S.E. of regression	0.005146	Akaike info criterion		-7.642309
Sum squared resid	0.000821	Schwarz criterion		-7.551611
Log likelihood	128.0981	Hannan-Quinn criter.		-7.611792
F-statistic	38.34785	Durbin-Watson stat		1.400160
Prob(F-statistic)	0.000001			

Lampiran 5

Hasil Uji *Error Correction Model* (ECM) atau Jangka Pendek

Dependent Variable: D(LOG(PP))

Method: Least Squares

Date: 02/22/17 Time: 11:34

Sample (adjusted): 1983 2015

Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000918	0.001026	0.895073	0.3784
D(LOG(LP))	0.095388	0.013838	6.893344	0.0000
D(LOG(JP))	0.062569	0.051493	1.215094	0.2345
D(LOG(HB))	0.007716	0.004521	1.706778	0.0989
ECT(-1)	-0.987248	0.166086	-5.944188	0.0000
R-squared	0.710099	Mean dependent var	0.002377	
Adjusted R-squared	0.668685	S.D. dependent var	0.009018	
S.E. of regression	0.005191	Akaike info criterion	-7.545202	
Sum squared resid	0.000754	Schwarz criterion	-7.318459	
Log likelihood	129.4958	Hannan-Quinn criter.	-7.468910	
F-statistic	17.14620	Durbin-Watson stat	1.498642	
Prob(F-statistic)	0.000000			

Lampiran 6

Hasil Uji Autokorelasi

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.946979	Prob. F(2,26)	0.1630
Obs*R-squared	4.298549	Prob. Chi-Square(2)	0.1166

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 02/22/17 Time: 11:48

Sample: 1983 2015

Included observations: 33

Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000140	0.000996	-0.140720	0.8892
D(LOG(LP))	0.007427	0.014139	0.525267	0.6038
D(LOG(JP))	-0.026847	0.054224	-0.495114	0.6247
D(LOG(HB))	0.000949	0.004423	0.214507	0.8318
ECT(-1)	-0.374363	0.259946	-1.440155	0.1618
RESID(-1)	0.620098	0.319899	1.938415	0.0635
RESID(-2)	-0.023574	0.204103	-0.115499	0.9089
R-squared	0.130259	Mean dependent var	-6.77E-19	
Adjusted R-squared	-0.070450	S.D. dependent var	0.004855	
S.E. of regression	0.005023	Akaike info criterion	-7.563550	
Sum squared resid	0.000656	Schwarz criterion	-7.246109	
Log likelihood	131.7986	Hannan-Quinn criter.	-7.456741	
F-statistic	0.648993	Durbin-Watson stat	1.858925	
Prob(F-statistic)	0.690508			

Lampiran 7

Hasil Uji Heteroskedastisitas

Heteroskedasticity Test: White

F-statistic	0.620109	Prob. F(14,18)	0.8157
Obs*R-squared	10.73741	Prob. Chi-Square(14)	0.7065
Scaled explained SS	7.727288	Prob. Chi-Square(14)	0.9030

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 02/22/17 Time: 11:47

Sample: 1983 2015

Included observations: 33

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.71E-05	1.53E-05	1.768830	0.0939
D(LOG(LP))	0.000164	0.000370	0.441974	0.6638
(D(LOG(LP)))^2	-0.000906	0.001832	-0.494364	0.6270
(D(LOG(LP)))*(D(LOG(JP)))	-0.050989	0.068687	-0.742333	0.4675
(D(LOG(LP)))*(D(LOG(HB)))	-0.001253	0.001477	-0.847976	0.4076
(D(LOG(LP)))*ECT(-1)	-0.011221	0.024502	-0.457939	0.6525
D(LOG(JP))	-0.002200	0.002549	-0.862902	0.3995
(D(LOG(JP)))^2	-0.068549	0.079399	-0.863359	0.3993
(D(LOG(JP)))*(D(LOG(HB)))	0.019569	0.044576	0.438997	0.6659
(D(LOG(JP)))*ECT(-1)	0.384357	0.414033	0.928325	0.3655
D(LOG(HB))	4.10E-05	0.000202	0.203170	0.8413
(D(LOG(HB)))^2	-0.000168	0.000114	-1.469759	0.1589
(D(LOG(HB)))*ECT(-1)	-0.012638	0.011617	-1.087907	0.2910
ECT(-1)	8.20E-05	0.002356	0.034794	0.9726
ECT(-1)^2	0.163257	0.264946	0.616191	0.5455
R-squared	0.325376	Mean dependent var	2.29E-05	
Adjusted R-squared	-0.199332	S.D. dependent var	3.28E-05	
S.E. of regression	3.59E-05	Akaike info criterion	-17.32607	
Sum squared resid	2.33E-08	Schwarz criterion	-16.64584	
Log likelihood	300.8802	Hannan-Quinn criter.	-17.09720	
F-statistic	0.620109	Durbin-Watson stat	1.564111	
Prob(F-statistic)	0.815681			

Lampiran 8

Hasil Uji Multikolinearitas

	LOG(LP)	LOG(JP)	LOG(HB)
LOG(LP)	1.000000	-0.409607	0.741936
LOG(JP)	-0.409607	1.000000	-0.171747
LOG(HB)	0.741936	-0.171747	1.000000

Lampiran 9

Uji Linearitas

Ramsey RESET Test

Equation: UNTITLED

Specification: D(LOG(PP)) C D(LOG(LP)) D(LOG(JP))

D(LOG(HB)) ECT(-1)

Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.486450	27	0.6306
F-statistic	0.236633	(1, 27)	0.6306
Likelihood ratio	0.287958	1	0.5915

Lampiran 10

Uji Normalitas

