

LAMPIRAN

1. Uji Asumsi Dinamik

a. Unit Root Test (Level)

1) PDRB

Null Hypothesis: PDRB has a unit root

Exogenous: Constant

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

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	0.312158	0.9749
Test critical values:		
1% level	-3.679322	
5% level	-2.967767	
10% level	-2.622989	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(PDRB)

Method: Least Squares

Date: 04/26/17 Time: 11:24

Sample (adjusted): 1988 2016

Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PDRB(-1)	0.007338	0.023507	0.312158	0.7573
C	68915.13	30149.56	2.285776	0.0303
R-squared	0.003596	Mean dependent var		76819.79
Adjusted R-squared	-0.033308	S.D. dependent var		86687.47
S.E. of regression	88119.33	Akaike info criterion		25.67724
Sum squared resid	2.10E+11	Schwarz criterion		25.77154
Log likelihood	-370.3200	Hannan-Quinn criter.		25.70678
F-statistic	0.097442	Durbin-Watson stat		2.188573
Prob(F-statistic)	0.757319			

2) Tingkat Pendidikan (TP)

Null Hypothesis: TP has a unit root

Exogenous: Constant

Lag Length: 4 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	1.124025	0.9966
Test critical values:		
1% level	-3.724070	
5% level	-2.986225	
10% level	-2.632604	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(TP)

Method: Least Squares

Date: 04/26/17 Time: 11:25

Sample (adjusted): 1992 2016

Included observations: 25 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TP(-1)	0.072246	0.064274	1.124025	0.2750
D(TP(-1))	-1.244131	0.234671	-5.301595	0.0000
D(TP(-2))	-0.967486	0.321458	-3.009680	0.0072
D(TP(-3))	-0.805054	0.324584	-2.480265	0.0227
D(TP(-4))	-0.347832	0.228626	-1.521401	0.1446
C	9650.089	6258.545	1.541906	0.1396
R-squared	0.658539	Mean dependent var		3887.760
Adjusted R-squared	0.568681	S.D. dependent var		11943.35
S.E. of regression	7843.781	Akaike info criterion		20.97839
Sum squared resid	1.17E+09	Schwarz criterion		21.27092
Log likelihood	-256.2299	Hannan-Quinn criter.		21.05953
F-statistic	7.328652	Durbin-Watson stat		1.902586
Prob(F-statistic)	0.000562			

3) Jumlah Penduduk (JP)

Null Hypothesis: JP has a unit root

Exogenous: Constant

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

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.476828	0.5309
Test critical values:		
1% level	-3.679322	
5% level	-2.967767	
10% level	-2.622989	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(JP)

Method: Least Squares

Date: 04/26/17 Time: 11:25

Sample (adjusted): 1988 2016

Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
JP(-1)	-0.144325	0.097727	-1.476828	0.1513
C	57518.19	39140.33	1.469538	0.1532
R-squared	0.074741	Mean dependent var		-182.5172
Adjusted R-squared	0.040472	S.D. dependent var		12828.25
S.E. of regression	12565.97	Akaike info criterion		21.78184
Sum squared resid	4.26E+09	Schwarz criterion		21.87614
Log likelihood	-313.8367	Hannan-Quinn criter.		21.81138
F-statistic	2.181020	Durbin-Watson stat		1.877080
Prob(F-statistic)	0.151292			

4) Pengeluaran Pemerintah (G)

Null Hypothesis: PP has a unit root

Exogenous: Constant

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

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	4.184318	1.0000
Test critical values:		
1% level	-3.679322	
5% level	-2.967767	
10% level	-2.622989	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(PP)

Method: Least Squares

Date: 04/26/17 Time: 11:26

Sample (adjusted): 1988 2016

Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PP(-1)	0.097009	0.023184	4.184318	0.0003
C	1.39E+10	1.14E+10	1.218449	0.2336
R-squared	0.393375	Mean dependent var		4.58E+10
Adjusted R-squared	0.370907	S.D. dependent var		5.74E+10
S.E. of regression	4.55E+10	Akaike info criterion		51.98724
Sum squared resid	5.59E+22	Schwarz criterion		52.08154
Log likelihood	-751.8150	Hannan-Quinn criter.		52.01677
F-statistic	17.50852	Durbin-Watson stat		2.229071
Prob(F-statistic)	0.000271			

b. Unit Root Test (1st Difference)

1) PDRB

Null Hypothesis: D(PDRB) has a unit root

Exogenous: Constant

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

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.627779	0.0001
Test critical values:		
1% level	-3.689194	
5% level	-2.971853	
10% level	-2.625121	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(PDRB,2)

Method: Least Squares

Date: 04/26/17 Time: 11:27

Sample (adjusted): 1989 2016

Included observations: 28 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PDRB(-1))	-1.090646	0.193797	-5.627779	0.0000
C	85785.38	22381.28	3.832908	0.0007
R-squared	0.549174	Mean dependent var		2515.071
Adjusted R-squared	0.531834	S.D. dependent var		129866.4
S.E. of regression	88858.03	Akaike info criterion		25.69622
Sum squared resid	2.05E+11	Schwarz criterion		25.79137
Log likelihood	-357.7470	Hannan-Quinn criter.		25.72531
F-statistic	31.67190	Durbin-Watson stat		2.026669
Prob(F-statistic)	0.000006			

2) Tingkat Pendidikan (TP)

Null Hypothesis: D(TP) has a unit root

Exogenous: Constant

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

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-12.17607	0.0000
Test critical values:		
1% level	-3.689194	
5% level	-2.971853	
10% level	-2.625121	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(TP,2)

Method: Least Squares

Date: 04/26/17 Time: 11:28

Sample (adjusted): 1989 2016

Included observations: 28 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TP(-1))	-1.701590	0.139749	-12.17607	0.0000
C	6654.868	1639.090	4.060098	0.0004
R-squared	0.850795	Mean dependent var		0.071429
Adjusted R-squared	0.845056	S.D. dependent var		20773.05
S.E. of regression	8176.876	Akaike info criterion		20.92476
Sum squared resid	1.74E+09	Schwarz criterion		21.01991
Log likelihood	-290.9466	Hannan-Quinn criter.		20.95385
F-statistic	148.2567	Durbin-Watson stat		2.393213
Prob(F-statistic)	0.000000			

3) Jumlah Penduduk (JP)

Null Hypothesis: D(JP) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.114380	0.0003
Test critical values:		
1% level	-3.689194	
5% level	-2.971853	
10% level	-2.625121	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(JP,2)
 Method: Least Squares
 Date: 04/26/17 Time: 11:28
 Sample (adjusted): 1989 2016
 Included observations: 28 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(JP(-1))	-1.002895	0.196093	-5.114380	0.0000
C	-224.6972	2515.749	-0.089316	0.9295
R-squared	0.501504	Mean dependent var		-20.32143
Adjusted R-squared	0.482331	S.D. dependent var		18499.73
S.E. of regression	13310.41	Akaike info criterion		21.89923
Sum squared resid	4.61E+09	Schwarz criterion		21.99439
Log likelihood	-304.5892	Hannan-Quinn criter.		21.92832
F-statistic	26.15688	Durbin-Watson stat		2.000258
Prob(F-statistic)	0.000025			

4) Pengeluaran Pemerintah (PP)

Null Hypothesis: D(PP) has a unit root

Exogenous: Constant

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

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.445403	0.0177
Test critical values:		
1% level	-3.689194	
5% level	-2.971853	
10% level	-2.625121	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(PP,2)

Method: Least Squares

Date: 04/26/17 Time: 11:29

Sample (adjusted): 1989 2016

Included observations: 28 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PP(-1))	-0.626104	0.181722	-3.445403	0.0019
C	3.09E+10	1.31E+10	2.361079	0.0260
R-squared	0.313455	Mean dependent var		3.18E+09
Adjusted R-squared	0.287050	S.D. dependent var		6.47E+10
S.E. of regression	5.46E+10	Akaike info criterion		52.35294
Sum squared resid	7.75E+22	Schwarz criterion		52.44810
Log likelihood	-730.9412	Hannan-Quinn criter.		52.38203
F-statistic	11.87080	Durbin-Watson stat		2.209276
Prob(F-statistic)	0.001948			

c. Hasil Kointegrasi

Dependent Variable: PDRB

Method: Least Squares

Date: 04/26/17 Time: 11:30

Sample: 1987 2016

Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2772807.	483800.7	5.731301	0.0000
TP	11.55740	2.036702	5.674564	0.0000
JP	-7.307911	1.044831	-6.994347	0.0000
PP	6.80E-07	1.56E-07	4.357457	0.0002
R-squared	0.975451	Mean dependent var		1118746.
Adjusted R-squared	0.972618	S.D. dependent var		732311.1
S.E. of regression	121178.2	Akaike info criterion		26.37148
Sum squared resid	3.82E+11	Schwarz criterion		26.55830
Log likelihood	-391.5722	Hannan-Quinn criter.		26.43125
F-statistic	344.3693	Durbin-Watson stat		2.664967
Prob(F-statistic)	0.000000			

d. Hasil 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	-7.413574	0.0000
Test critical values:		
1% level	-3.679322	
5% level	-2.967767	
10% level	-2.622989	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(ECT)
 Method: Least Squares
 Date: 04/26/17 Time: 11:30
 Sample (adjusted): 1988 2016
 Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ECT(-1)	-1.345259	0.181459	-7.413574	0.0000
C	2201.170	20693.81	0.106368	0.9161
R-squared	0.670575	Mean dependent var		-955.4899
Adjusted R-squared	0.658374	S.D. dependent var		190621.7
S.E. of regression	111416.0	Akaike info criterion		26.14640
Sum squared resid	3.35E+11	Schwarz criterion		26.24070
Log likelihood	-377.1228	Hannan-Quinn criter.		26.17593
F-statistic	54.96108	Durbin-Watson stat		1.912864
Prob(F-statistic)	0.000000			

e. Hasil ECM

Dependent Variable: PDRB

Method: Least Squares

Date: 04/26/17 Time: 11:31

Sample (adjusted): 1988 2016

Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2515190.	491894.5	5.113272	0.0000
TP	14.00145	2.538716	5.515170	0.0000
JP	-7.056165	1.010080	-6.985749	0.0000
PP	5.17E-07	1.83E-07	2.818711	0.0095
ECT(-1)	-0.464150	0.224875	-2.064039	0.0500
R-squared	0.977715	Mean dependent var		1154039.
Adjusted R-squared	0.974001	S.D. dependent var		718839.5
S.E. of regression	115908.2	Akaike info criterion		26.31457
Sum squared resid	3.22E+11	Schwarz criterion		26.55031
Log likelihood	-376.5613	Hannan-Quinn criter.		26.38840
F-statistic	263.2361	Durbin-Watson stat		2.127513
Prob(F-statistic)	0.000000			

2. Uji Asumsi Klasik

a) Autokorelasi

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.915609	Prob. F(1,23)	0.3486
Obs*R-squared	1.110264	Prob. Chi-Square(1)	0.2920

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 04/26/17 Time: 11:33

Sample: 1988 2016

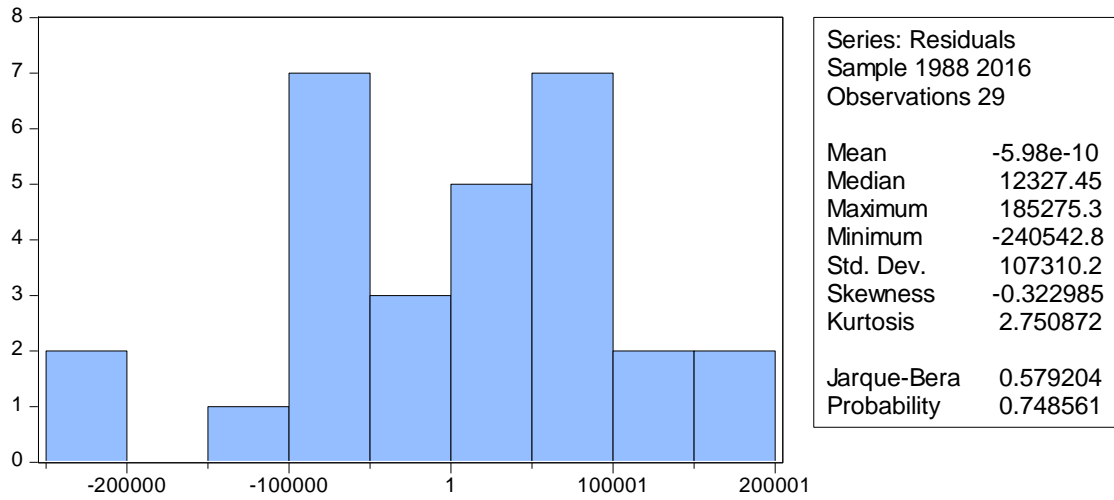
Included observations: 29

Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2546.223	492768.8	-0.005167	0.9959
TP	0.198805	2.551664	0.077912	0.9386
JP	-0.026026	1.012226	-0.025712	0.9797
PP	-1.20E-08	1.84E-07	-0.065345	0.9485
ECT(-1)	0.411609	0.485576	0.847671	0.4054
RESID(-1)	-0.503537	0.526231	-0.956874	0.3486

R-squared	0.038285	Mean dependent var	-5.98E-10
Adjusted R-squared	-0.170784	S.D. dependent var	107310.2
S.E. of regression	116112.5	Akaike info criterion	26.34450
Sum squared resid	3.10E+11	Schwarz criterion	26.62739
Log likelihood	-375.9952	Hannan-Quinn criter.	26.43310
F-statistic	0.183122	Durbin-Watson stat	2.079699
Prob(F-statistic)	0.966127		

b) Normalitas



c) Linearitas

Ramsey RESET Test
 Equation: UNTITLED
 Specification: PDRB C TP JP PP ECT(-1)
 Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	6.312151	23	0.0000
F-statistic	39.84326	(1, 23)	0.0000
Likelihood ratio	29.14933	1	0.0000

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	2.04E+11	1	2.04E+11
Restricted SSR	3.22E+11	24	1.34E+10
Unrestricted SSR	1.18E+11	23	5.13E+09
Unrestricted SSR	1.18E+11	23	5.13E+09

LR test summary:

	Value	df
Restricted LogL	-376.5613	24
Unrestricted LogL	-361.9866	23

Unrestricted Test Equation:
 Dependent Variable: PDRB
 Method: Least Squares
 Date: 04/26/17 Time: 11:34
 Sample: 1988 2016
 Included observations: 29

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2968655.	312355.9	9.504080	0.0000
TP	24.73600	2.313761	10.69082	0.0000
JP	-9.542972	0.738142	-12.92836	0.0000
PP	1.82E-06	2.35E-07	7.729224	0.0000
ECT(-1)	-0.997184	0.162614	-6.132210	0.0000
FITTED^2	-5.03E-07	7.98E-08	-6.312151	0.0000
R-squared	0.991844	Mean dependent var		1154039.
Adjusted R-squared	0.990071	S.D. dependent var		718839.5
S.E. of regression	71629.27	Akaike info criterion		25.37839
Sum squared resid	1.18E+11	Schwarz criterion		25.66128
Log likelihood	-361.9866	Hannan-Quinn criter.		25.46698
F-statistic	559.3892	Durbin-Watson stat		1.784449
Prob(F-statistic)	0.000000			

d) Heterokedastisitas

Heteroskedasticity Test: White

F-statistic	0.762587	Prob. F(14,14)	0.6905
Obs*R-squared	12.54691	Prob. Chi-Square(14)	0.5625
Scaled explained SS	7.522943	Prob. Chi-Square(14)	0.9127

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 04/26/17 Time: 11:32

Sample: 1988 2016

Included observations: 29

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.92E+12	4.64E+12	0.414732	0.6846
TP	-26106977	25479280	-1.024636	0.3229
TP^2	56.47980	55.40345	1.019427	0.3253
TP*JP	48.80975	54.25396	0.899653	0.3835
TP*PP	-7.54E-06	9.78E-06	-0.770587	0.4538
TP*ECT(-1)	5.600256	7.003670	0.799617	0.4373
JP	-4934122.	23123928	-0.213377	0.8341
JP^2	1.588815	29.54468	0.053777	0.9579
JP*PP	-2.97E-06	5.84E-06	-0.507923	0.6194
JP*ECT(-1)	-2.780921	3.241339	-0.857954	0.4054
PP	1.562658	2.126436	0.734872	0.4745
PP^2	2.99E-13	3.61E-13	0.826295	0.4225
PP*ECT(-1)	-4.02E-07	4.80E-07	-0.836148	0.4171
ECT(-1)	696880.3	1421227.	0.490337	0.6315
ECT(-1)^2	-0.072952	0.289023	-0.252411	0.8044

R-squared	0.432652	Mean dependent var	1.11E+10
Adjusted R-squared	-0.134696	S.D. dependent var	1.50E+10
S.E. of regression	1.59E+10	Akaike info criterion	50.12942
Sum squared resid	3.56E+21	Schwarz criterion	50.83664
Log likelihood	-711.8766	Hannan-Quinn criter.	50.35092
F-statistic	0.762587	Durbin-Watson stat	2.074432
Prob(F-statistic)	0.690530		

e) Multikolinearitas

1) Multikolinearitas dengan memasukkan semua variabel (PDRB, TP, JP, PP)

	PDRB	TP	JP	PP
PDRB	1.000000	0.959961	-0.548456	0.926595
TP	0.959961	1.000000	-0.389276	0.932044
JP	-0.548456	-0.389276	1.000000	-0.287999
PP	0.926595	0.932044	-0.287999	1.000000

2) Multikolinearitas dengan eliminasi satu variabel bebas (PDRB, TP, JP)

	PDRB	TP	JP
PDRB	1.000000	0.959961	-0.548456
TP	0.959961	1.000000	-0.389276
JP	-0.548456	-0.389276	1.000000

**ANALISIS PENGARUH TINGKAT PENDIDIKAN, JUMLAH
PENDUDUK DAN PENGELUARAN PEMERINTAH TERHADAP
PERTUMBUHAN EKONOMI
(Studi Kasus di Kabupaten Kulonprogo Tahun 1987-2016)
Menggunakan Pendekatan *Error Correction Model* (ECM)**

Data

No	Tahun	PDRB	TP (SLTA+PT)	JP	PP
1	1987	95252	35824	417904	4052478000
2	1988	114817	39900	418886	4571496000
3	1989	146457	43987	419793	6233266000
4	1990	159985	48092	420700	7995036000
5	1991	196424	52214	421607	9956806000
6	1992	282655	56442	423182	11194458000
7	1993	310827	60699	424751	15077808000
8	1994	465991	65093	427022	15205266000
9	1995	531981	69423	428630	18344481000
10	1996	565158	74002	431511	19213880000
11	1997	597071	78444	433330	33918176000
12	1998	648746	73640	435225	33249554642
13	1999	680877	77255	370351	43864739933
14	2000	1181581	72264	370965	86209414000
15	2001	1233559	87172	371579	273022009000
16	2002	1284279	86194	372167	283649480000
17	2003	1338139	92586	372728	337897035000
18	2004	1398117	94846	373262	315546951000
19	2005	1464778	86640	373770	403047247000
20	2006	1524230	108913	374142	458909842000
21	2007	1586977	98966	374445	501065457000
22	2008	1661588	126264	374783	543221072000
23	2009	1727619	94555	374921	577736996100
24	2010	1780682	118838	388869	612902631166
25	2011	1869338	129393	390207	780620062253
26	2012	1963078	127679	393221	881690249329
27	2013	2053065	125408	396235	964587545892
28	2014	2143052	138458	407709	1060745009543
29	2015	2233039	145330	412198	1243069952899
30	2016	2323026	149408	412611	1332597333006

	Keterangan
1.	2. PDRB = Produk Domestik Regional Bruto 3. TP = Tingkat Pendidikan yang ditamatkan (SLTA & Perguruan Tinggi) 4. JP = Jumlah Penduduk 5. PP = Pengeluaran Pemerintah