Data Observasi

Tahun	Y	X1	X2	X3	X4
2003	3.791.474,35	3.5867	328.396	7,11	966.940
2004	3.975.792,87	3.5917	256.361	7,43	970.309
2005	4.158.205,16	3.5888	209.523	7,45	973.527
2006	4.253.788,00	3.5928	382.419	7,70	978.941
2007	4.394.688,02	3.3197	425.000	7,70	981.770
2008	4.567.200,96	3.3347	256.463	7,70	984.407
2009	4.761.018,67	3.3046	264.413	7,90	987.724
2010	4.843.247,28	3.2924	525.426	7,30	984.041
2011	4.938.050,65	3.4063	836.601	7,35	999.495
2012	5.211.757,15	3.4077	1.170.088	7,43	1.001.697
2013	5.513.307,86	3.4251	748.688	7,74	886.373
2014	5.834.095,64	3.4285	888.900	7,92	894.006
2015	6.143.017,86	3.4632	956.530	8,16	901.373
2016	6.458.612,03	3.4811	1.004.553	8,22	908.520
2017	6.786.033,91	3.4820	1.201.483	8,23	915.412

Lampiran II

Hasil Uji MWD

Dependent Variable: Y
Method: Least Squares
Date: 11/29/18 Time: 16:07
Sample: 2003 2017
Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4986005.	4912207.	1.015023	0.3366
X1	-110.5644	61.39772	-1.800790	0.1053
X2	1.433186	0.221317	6.475707	0.0001
X3	988268.0	252430.3	3.915013	0.0035
X4	-4.851144	2.241447	-2.164291	0.0587
Z1	1750974.	4504462.	0.388720	0.7065

R-squared	0.962005	Mean dependent var	5042019.
Adjusted R-squared	0.940897	S.D. dependent var	926427.0
S.E. of regression	225224.2	Akaike info criterion	27.77675
Sum squared resid	4.57E+11	Schwarz criterion	28.05998
Log likelihood	-202.3257	Hannan-Quinn criter.	27.77374
F-statistic	45.57511	Durbin-Watson stat	1.490241
Prob(F-statistic)	0.000004		

Dependent Variable: LOG(Y)
Method: Least Squares
Date: 11/29/18 Time: 16:06
Sample: 2003 2017
Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	30.16307	9.732145	3.099324	0.0127
LOG(X1)	-0.877526	0.444068	-1.976108	0.0796
LOG(X2)	0.148508	0.025475	5.829595	0.0003
LOG(X3)	1.578658	0.393032	4.016614	0.0030
LOG(X4)	-0.781112	0.445282	-1.754197	0.1133
Z2	-3.06E-07	1.81E-07	-1.693414	0.1246

R-squared	0.957544	Mean dependent var	15.41802
Adjusted R-squared	0.933958	S.D. dependent var	0.179915
S.E. of regression	0.046236	Akaike info criterion	-3.020956
Sum squared resid	0.019240	Schwarz criterion	-2.737736
Log likelihood	28.65717	Hannan-Quinn criter.	-3.023973
F-statistic	40.59713	Durbin-Watson stat	1.548590
Prob(F-statistic)	0.000007		

Lampiran III

Hasil Regresi Asumsi Klasik

Multikolinieritas

Variance Inflation Factors
Date: 11/29/18 Time: 16:10
Sample: 2003 2017
Included observations: 15

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	2.09E+13	6752.323	NA
X1	3366.912	1293.899	1.171298
X2	0.037317	6.224882	1.433994
X3	5.74E+10	1098.826	2.089990
X4	4.334375	1281.322	2.238788

Autokorelasi

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.448248	Prob. F(2,8)	0.2905
Obs*R-squared	3.987286	Prob. Chi-Square(2)	0.1362

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 11/29/18 Time: 16:11
Sample: 2003 2017
Included observations: 15
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2141896.	5054450.	0.423764	0.6829
X1	-4.956811	64.69364	-0.076620	0.9408
X2	0.193797	0.308634	0.627918	0.5476
X3	-271275.3	290931.6	-0.932437	0.3784
X4	-0.026107	2.552590	-0.010228	0.9921
RESID(-1)	0.084784	0.488213	0.173662	0.8664
RESID(-2)	-0.768745	0.522808	-1.470415	0.1797

R-squared	0.265819	Mean dependent var	1.93E-09
Adjusted R-squared	-0.284817	S.D. dependent var	182090.7

S.E. of regression	206399.4	Akaike info criterion	27.61774
Sum squared resid	3.41E+11	Schwarz criterion	27.94816
Log likelihood	-200.1330	Hannan-Quinn criter.	27.61422
F-statistic	0.482749	Durbin-Watson stat	2.026597
Prob(F-statistic)	0.804771		

Heterokedastisitas

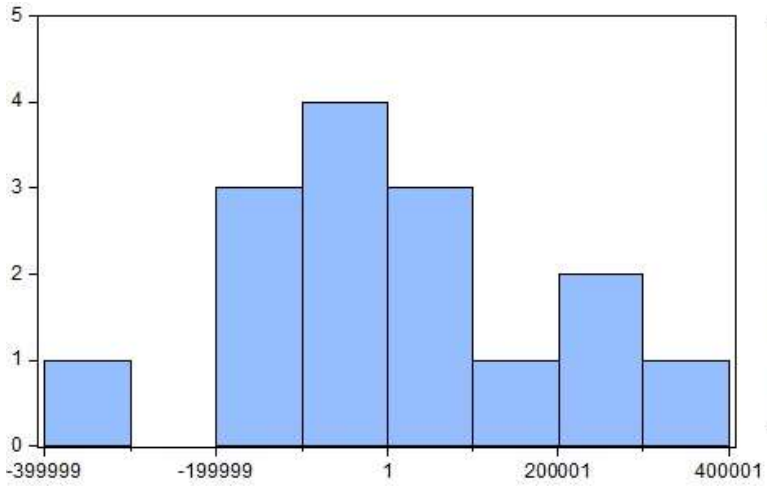
Heteroskedasticity Test: White			
F-statistic	4.923057	Prob. F(13,1)	0.3404
Obs*R-squared	14.76923	Prob. Chi-Square(13)	0.3220
Scaled explained SS	4.867118	Prob. Chi-Square(13)	0.9780

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 11/29/18 Time: 16:11
Sample: 2003 2017
Included observations: 15
Collinear test regressors dropped from specification

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.22E+13	3.01E+13	1.737458	0.3325
X1^2	-96701.43	59917.43	-1.613911	0.3531
X1*X2	-562.8920	231.2453	-2.434178	0.2482
X1*X3	1.47E+08	95003965	1.547542	0.3652
X1*X4	2644.038	1659.355	1.593413	0.3568
X1	3.14E+09	2.97E+09	1.057113	0.4823
X2^2	-0.219827	0.130425	-1.685463	0.3409
X2*X3	154080.5	391781.7	0.393282	0.7615
X2*X4	3.069881	2.890747	1.061968	0.4809
X2	15499366	12098177	1.281132	0.4219
X3^2	7.77E+11	5.36E+11	1.449429	0.3845
X3*X4	11744014	5458268.	2.151601	0.2770
X3	-2.80E+13	1.60E+13	-1.754587	0.3298
X4^2	-96.55408	41.82531	-2.308509	0.2602

R-squared	0.984615	Mean dependent var	3.09E+10
Adjusted R-squared	0.784615	S.D. dependent var	3.90E+10
S.E. of regression	1.81E+10	Akaike info criterion	49.23525
Sum squared resid	3.28E+20	Schwarz criterion	49.89610
Log likelihood	-355.2644	Hannan-Quinn criter.	49.22821
F-statistic	4.923057	Durbin-Watson stat	3.338161
Prob(F-statistic)	0.340365		

Normalitas



Series: Residuals	
Sample 2003 2017	
Observations 15	
Mean	1.93e-09
Median	-25810.67
Maximum	311429.6
Minimum	-371239.7
Std. Dev.	182090.7
Skewness	-0.153859
Kurtosis	2.482950
Jarque-Bera	0.226269
Probability	0.893030

Lampiran IV

Uji Akar Unit dan Kointegrasi

ADF Tingkat Level

Null Hypothesis: Unit root (individual unit root process)
Series: X2, Y, X4, X3, X1
Date: 11/29/18 Time: 16:15
Sample: 2003 2017
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic lag length selection based on SIC: 0
Total (balanced) observations: 70
Cross-sections included: 5

Method	Statistic	Prob.**
ADF - Fisher Chi-square	4.46150	0.9241
ADF - Choi Z-stat	2.48177	0.9935

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

Intermediate ADF test results UNTITLED

Series	Prob.	Lag	Max Lag	Obs
X2	0.8498	0	2	14
Y	1.0000	0	2	14
X4	0.6087	0	2	14
X3	0.5533	0	2	14
X1	0.3754	0	2	14

ADF Tingkat Diferensi Kedua

Null Hypothesis: Unit root (individual unit root process)
Series: X2, Y, X4, X3, X1
Date: 11/29/18 Time: 16:17
Sample: 2003 2017
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic lag length selection based on SIC: 0 to 1
Total number of observations: 59
Cross-sections included: 5

Method	Statistic	Prob.**
ADF - Fisher Chi-square	63.1445	0.0000
ADF - Choi Z-stat	-6.42715	0.0000

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

Intermediate ADF test results D(UNTITLED,2)

Series	Prob.	Lag	Max Lag	Obs
D(X2,2)	0.0029	0	1	12
D(Y,2)	0.0215	1	1	11
D(X4,2)	0.0020	0	1	12
D(X3,2)	0.0003	0	1	12
D(X1,2)	0.0005	0	1	12

Kointegrasi

Null Hypothesis: RES1 has a unit root
Exogenous: Constant
Lag Length: 3 (Automatic - based on SIC, maxlag=3)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.658353	0.0234
Test critical values:	1% level	-4.200056	
	5% level	-3.175352	
	10% level	-2.728985	

*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 11

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RES1)
Method: Least Squares
Date: 11/29/18 Time: 16:20
Sample (adjusted): 2007 2017
Included observations: 11 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RES1(-1)	-2.337423	0.638928	-3.658353	0.0106
D(RES1(-1))	1.427491	0.477473	2.989679	0.0243
D(RES1(-2))	0.861501	0.379730	2.268717	0.0638
D(RES1(-3))	0.625907	0.281054	2.226999	0.0675
C	-25468.92	48329.61	-0.526984	0.6171

R-squared	0.726124	Mean dependent var	35082.88
Adjusted R-squared	0.543539	S.D. dependent var	223824.4
S.E. of regression	151220.0	Akaike info criterion	26.99381
Sum squared resid	1.37E+11	Schwarz criterion	27.17468
Log likelihood	-143.4660	Hannan-Quinn criter.	26.87981
F-statistic	3.976922	Durbin-Watson stat	2.244241

Prob(F-statistic)	0.065293

Lampiran V

Hasil Uji Jangka Pendek (ECM) dan Jangkan Panjang

Dependent Variable: D(Y)
Method: Least Squares
Date: 11/29/18 Time: 16:24
Sample (adjusted): 2004 2017
Included observations: 14 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	157831.3	37934.37	4.160641	0.0032
D(X1)	26.11145	31.62314	0.825707	0.4329
D(X2)	0.431721	0.282002	1.530913	0.1643
D(X3)	240537.7	128944.4	1.865437	0.0991
D(X4)	-1.405886	1.152414	-1.219949	0.2572
ECT(-1)	-0.434780	0.233269	-1.863853	0.0993

R-squared	0.443474	Mean dependent var	213897.1
Adjusted R-squared	0.095645	S.D. dependent var	91892.35
S.E. of regression	87387.41	Akaike info criterion	25.89162
Sum squared resid	6.11E+10	Schwarz criterion	26.16550
Log likelihood	-175.2413	Hannan-Quinn criter.	25.86626
F-statistic	1.274977	Durbin-Watson stat	1.001846
Prob(F-statistic)	0.361195		

Dependent Variable: Y
Method: Least Squares
Date: 12/01/18 Time: 18:51
Sample: 2003 2017
Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4543609.	4571227.	0.993958	0.3437
X1	-106.8677	58.02510	-1.841749	0.0953
X2	1.468393	0.193175	7.601356	0.0000
X3	1000516.	239590.0	4.175949	0.0019
X4	-4.642667	2.081916	-2.229997	0.0498

R-squared	0.961367	Mean dependent var	5042019.
Adjusted R-squared	0.945914	S.D. dependent var	926427.0
S.E. of regression	215452.7	Akaike info criterion	27.66007
Sum squared resid	4.64E+11	Schwarz criterion	27.89609
Log likelihood	-202.4505	Hannan-Quinn criter.	27.65756
F-statistic	62.21229	Durbin-Watson stat	1.545257
Prob(F-statistic)	0.000000		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