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LAMPIRAN

Lampiran 1. Hasil Estimasi Persamaan Pertumbuhan Ekonomi (Y2)

Uji Multikolinearitas

	Y2	Y1	X1	X2	X3
Y2	1.000000	-0.403176	-0.234486	0.247451	0.253766
Y1	-0.403176	1.000000	0.826619	0.082226	0.605502
X1	-0.234486	0.826619	1.000000	0.379273	0.560158
X2	0.247451	0.082226	0.379273	1.000000	0.319575
X3	0.253766	0.605502	0.560158	0.319575	1.000000

Uji Chow

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

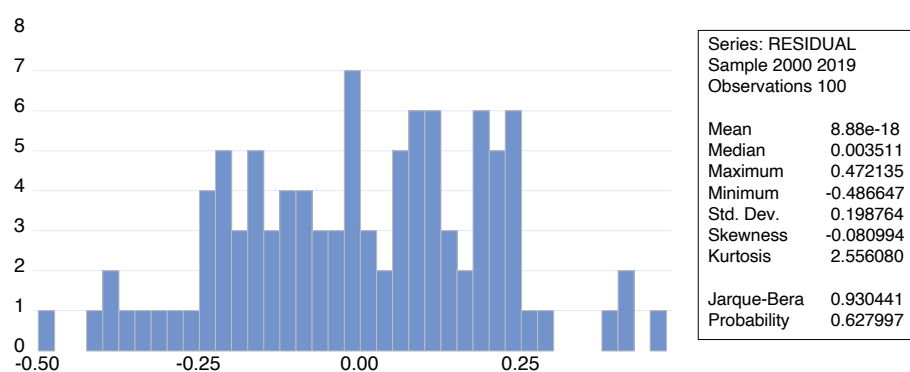
Effects Test	Statistic	d.f.	Prob.
Cross-section F	176.782036	(4,91)	0.0000

Uji Hausman

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	196.896326	4	0.0000

Uji Normalitas



Uji Autokorelasi

Residual Cross-Section Dependence Test
 Null hypothesis: No cross-section dependence (correlation) in weighted residuals
 Equation: Untitled
 Periods included: 20
 Cross-sections included: 5
 Total panel observations: 100
 Cross-section effects were removed during estimation

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	3.954685	10	0.9494
Pesaran scaled LM	-1.351774		0.1764
Bias-corrected scaled LM	-1.483353		0.1380
Pesaran CD	1.273224		0.2029

Uji Heteroskedastisitas

Dependent Variable: RESIDUAL
 Method: Panel Least Squares
 Date: 09/03/23 Time: 22:36
 Sample: 2000 2019
 Periods included: 20
 Cross-sections included: 5
 Total panel (balanced) observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.778612	0.982425	-1.810431	0.0735
Y1	0.400007	0.471148	0.849004	0.3981
X1	0.004078	0.007077	0.576265	0.5659
X2	0.018536	0.013066	1.418629	0.1594
X3	0.168577	0.069257	2.434084	0.0169

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.139252	Mean dependent var	7.77E-18
Adjusted R-squared	0.063582	S.D. dependent var	0.198764
S.E. of regression	0.192342	Akaike info criterion	-0.373399
Sum squared resid	3.366569	Schwarz criterion	-0.138934
Log likelihood	27.66996	Hannan-Quinn criter.	-0.278507
F-statistic	1.840247	Durbin-Watson stat	0.657041
Prob(F-statistic)	0.079551		

Hasil Regresi Pertumbuhan Ekonomi

Dependent Variable: Y2
 Method: Panel EGLS (Cross-section SUR)
 Date: 09/03/23 Time: 22:31
 Sample: 2000 2019
 Periods included: 20
 Cross-sections included: 5
 Total panel (balanced) observations: 100
 Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.249825	0.596575	2.095001	0.0389
Y1	1.149474	0.289588	3.969347	0.0001
X1	0.006546	0.004156	1.575266	0.1187
X2	0.048586	0.007343	6.616978	0.0000
X3	0.284255	0.043956	6.466832	0.0000

Effects Specification			
Cross-section fixed (dummy variables)			
Weighted Statistics			
R-squared	0.980355	Mean dependent var	12.00137
Adjusted R-squared	0.978628	S.D. dependent var	23.84632
S.E. of regression	0.928301	Sum squared resid	78.41867
F-statistic	567.6566	Durbin-Watson stat	0.640935
Prob(F-statistic)	0.000000		
Unweighted Statistics			
R-squared	0.839636	Mean dependent var	5.713300
Sum squared resid	3.911212	Durbin-Watson stat	0.261226

Cross-Section Fixed Effect

CROSSID	Effect
1	0.863635
2	-0.022655
3	0.443132
4	-0.199426
5	-1.084686

Lampiran 2. Hasil Estimasi Persamaan TFP (Y1)

Uji Chow

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

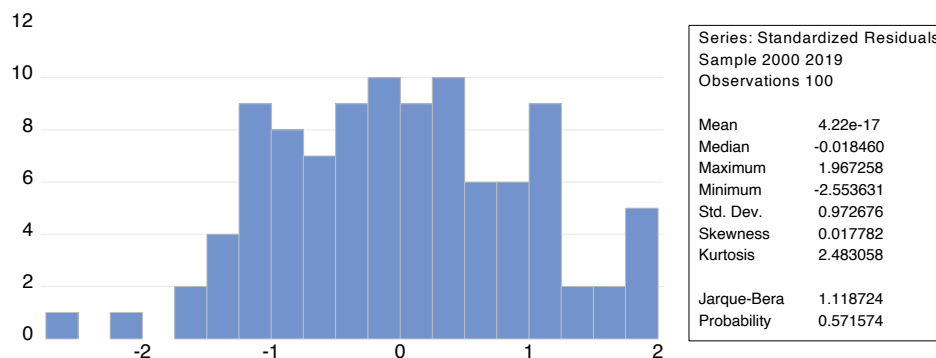
Effects Test	Statistic	d.f.	Prob.
Cross-section F	55.005229	(4,92)	0.0000

Uji Hausman

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	12.224999	3	0.0067

Uji Normalitas



Uji Autokorelasi

Residual Cross-Section Dependence Test
Null hypothesis: No cross-section dependence (correlation) in weighted residuals
Equation: Untitled
Periods included: 20
Cross-sections included: 5
Total panel observations: 100
Cross-section effects were removed during estimation

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	2.549092	10	0.9901
Pesaran scaled LM	-1.666074		0.0957
Bias-corrected scaled LM	-1.797653		0.0722
Pesaran CD	0.128967		0.8974

Uji Heteroskedastisitas

Dependent Variable: RESIDUAL
 Method: Panel Least Squares
 Date: 09/03/23 Time: 22:44
 Sample: 2000 2019
 Periods included: 20
 Cross-sections included: 5
 Total panel (balanced) observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.031792	0.182253	0.174441	0.8619
X1	-0.001497	0.001550	-0.965884	0.3366
X2	-0.000643	0.002719	-0.236553	0.8135
X3	0.014563	0.014712	0.989846	0.3248

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.019858	Mean dependent var	-5.55E-19
Adjusted R-squared	-0.054717	S.D. dependent var	0.041443
S.E. of regression	0.042562	Akaike info criterion	-3.399094
Sum squared resid	0.166660	Schwarz criterion	-3.190680
Log likelihood	177.9547	Hannan-Quinn criter.	-3.314745
F-statistic	0.266285	Durbin-Watson stat	0.646446
Prob(F-statistic)	0.965421		

Hasil Regresi TFP

Dependent Variable: Y1
 Method: Panel EGLS (Cross-section SUR)
 Date: 09/03/23 Time: 22:43
 Sample: 2000 2019
 Periods included: 20
 Cross-sections included: 5
 Total panel (balanced) observations: 100
 Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.104887	0.099964	11.05289	0.0000
X1	0.003659	0.001393	2.625512	0.0101
X2	-0.008797	0.001419	-6.198060	0.0000
X3	0.026605	0.006440	4.130921	0.0001

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics

R-squared	0.957073	Mean dependent var	15.01593
Adjusted R-squared	0.953807	S.D. dependent var	13.82520
S.E. of regression	1.009002	Sum squared resid	93.66385
F-statistic	293.0281	Durbin-Watson stat	0.749462
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.923982	Mean dependent var	0.553900
Sum squared resid	0.170036	Durbin-Watson stat	0.591253

Cross-Section Fixed Effect

CROSSID	Effect
1	-0.115080
2	-0.029793
3	-0.086910
4	0.012105
5	0.219677

Lampiran 3. Data penelitian

1. Data sebelum ditransformasi ke logaritma natural (ln)

Negara	Tahun	GDP (Milyar)	TFP	FDI (persen)	TPAK (Persen)	Inovasi (ribu)
Indonesia	2000	395.01	0.44	-2.8	69.6	3.89
Indonesia	2001	409.40	0.43	-1.9	69.1	3.93
Indonesia	2002	427.83	0.42	0.1	68.0	3.84
Indonesia	2003	448.28	0.40	-0.3	67.7	3.30
Indonesia	2004	470.83	0.41	0.7	67.6	3.67
Indonesia	2005	497.63	0.43	2.9	66.6	4.30
Indonesia	2006	525.01	0.43	1.3	66.4	4.61
Indonesia	2007	558.32	0.42	1.6	68.4	5.13
Indonesia	2008	591.89	0.43	1.8	68.6	5.13
Indonesia	2009	619.29	0.41	0.9	68.3	4.52
Indonesia	2010	657.84	0.41	2.0	68.9	5.63
Indonesia	2011	698.42	0.46	2.3	69.4	5.83
Indonesia	2012	740.54	0.47	2.3	70.0	5.73
Indonesia	2013	781.69	0.47	2.6	69.3	7.45
Indonesia	2014	820.83	0.47	2.8	69.1	8.02
Indonesia	2015	860.85	0.45	2.3	69.0	9.15
Indonesia	2016	904.18	0.44	0.5	68.8	9.64
Indonesia	2017	950.02	0.44	2.0	69.1	9.30
Indonesia	2018	999.18	0.45	1.8	70.1	9.75
Indonesia	2019	1049.33	0.45	2.2	70.6	11.48
Thailand	2000	221.45	0.34	2.7	76.62	2.52
Thailand	2001	229.08	0.36	4.2	77.30	2.67
Thailand	2002	243.17	0.38	2.5	77.34	2.24
Thailand	2003	260.65	0.40	3.4	77.39	2.57
Thailand	2004	277.04	0.41	3.4	77.98	2.69
Thailand	2005	288.65	0.43	4.3	78.48	3.17
Thailand	2006	302.98	0.44	4.0	77.85	3.13
Thailand	2007	319.45	0.44	3.3	78.67	3.41
Thailand	2008	324.96	0.44	2.9	78.61	3.37
Thailand	2009	322.72	0.40	2.3	78.05	2.93
Thailand	2010	346.97	0.42	4.3	77.07	0.97
Thailand	2011	349.88	0.43	0.7	79.10	1.96
Thailand	2012	375.22	0.47	3.2	78.94	3.37
Thailand	2013	385.31	0.48	3.8	76.42	3.70
Thailand	2014	389.10	0.46	1.2	76.23	3.97
Thailand	2015	401.30	0.46	2.2	75.91	4.08

Thailand	2016	415.08	0.47	0.8	75.19	3.91
Thailand	2017	432.42	0.50	1.8	74.70	3.93
Thailand	2018	450.68	0.50	2.7	75.35	4.07
Thailand	2019	460.21	0.49	1.0	74.89	4.09
Filipina	2000	142.80	0.45	1.8	62.86	1.82
Filipina	2001	147.15	0.47	1.0	62.84	1.30
Filipina	2002	152.62	0.47	2.1	62.78	0.43
Filipina	2003	160.38	0.47	0.6	62.67	0.94
Filipina	2004	170.92	0.46	0.6	63.08	1.35
Filipina	2005	179.37	0.46	1.5	63.13	1.49
Filipina	2006	188.90	0.47	2.1	63.03	1.63
Filipina	2007	201.22	0.48	1.9	62.84	1.74
Filipina	2008	209.96	0.48	0.7	62.72	1.66
Filipina	2009	213.00	0.46	1.2	63.14	1.50
Filipina	2010	228.62	0.45	0.5	63.13	1.70
Filipina	2011	237.44	0.45	0.9	64.05	1.60
Filipina	2012	253.82	0.48	1.2	63.59	1.50
Filipina	2013	270.95	0.49	1.3	63.32	1.64
Filipina	2014	288.15	0.50	1.9	64.12	1.79
Filipina	2015	306.45	0.51	1.8	63.31	1.87
Filipina	2016	328.36	0.52	2.6	63.52	1.71
Filipina	2017	351.11	0.53	3.1	61.26	1.70
Filipina	2018	373.38	0.52	2.9	61.07	2.15
Filipina	2019	396.22	0.51	2.3	61.58	2.19
Malaysia	2000	148.27	0.55	4.0	63.64	6.23
Malaysia	2001	149.04	0.52	0.6	63.62	5.93
Malaysia	2002	157.07	0.53	3.2	63.54	4.94
Malaysia	2003	166.17	0.54	2.9	63.45	5.06
Malaysia	2004	177.44	0.57	3.5	63.33	5.44
Malaysia	2005	186.90	0.60	2.7	63.23	6.29
Malaysia	2006	197.34	0.60	4.7	63.15	4.80
Malaysia	2007	209.77	0.63	4.7	63.12	2.37
Malaysia	2008	219.90	0.67	3.3	62.61	5.30
Malaysia	2009	216.57	0.61	0.1	62.95	5.74
Malaysia	2010	232.65	0.61	4.3	62.97	6.38
Malaysia	2011	244.97	0.65	5.1	64.33	6.45
Malaysia	2012	258.38	0.67	2.8	65.53	6.94
Malaysia	2013	270.51	0.66	3.5	67.23	7.21
Malaysia	2014	286.75	0.64	3.1	67.63	7.62
Malaysia	2015	301.35	0.61	3.3	67.94	7.73
Malaysia	2016	314.76	0.61	4.5	67.92	7.24

Malaysia	2017	333.06	0.60	2.9	68.15	7.07
Malaysia	2018	349.19	0.60	2.3	68.71	7.30
Malaysia	2019	364.60	0.60	2.5	69.36	7.55
Singapura	2000	140.53	0.91	16.1	70.70	8.24
Singapura	2001	139.03	0.83	18.9	70.91	8.25
Singapura	2002	144.48	0.83	6.7	70.27	8.20
Singapura	2003	151.05	0.74	17.5	70.45	7.87
Singapura	2004	166.07	0.78	21.2	70.51	8.59
Singapura	2005	178.30	0.87	15.1	70.86	8.61
Singapura	2006	194.36	0.97	26.3	71.30	9.16
Singapura	2007	211.90	0.97	26.2	71.78	9.95
Singapura	2008	215.84	0.78	7.0	72.28	9.69
Singapura	2009	216.12	0.78	12.1	72.79	8.74
Singapura	2010	247.50	0.86	23.1	73.32	9.77
Singapura	2011	262.88	0.83	17.6	73.83	9.79
Singapura	2012	274.54	0.81	18.7	74.33	9.69
Singapura	2013	287.77	0.75	20.9	74.29	9.72
Singapura	2014	299.10	0.76	21.8	75.18	10.31
Singapura	2015	308.00	0.76	22.7	76.31	10.81
Singapura	2016	319.09	0.77	20.5	76.32	10.98
Singapura	2017	333.59	0.78	29.8	76.44	10.93
Singapura	2018	345.52	0.75	21.5	76.31	11.85
Singapura	2019	350.12	0.71	27.9	77.13	14.14

2. Data setelah ditransformasi ke logaritma natural (ln)

Negara	Tahun	Ln_Y2	Y1	X1	X2	Ln_X3
Indonesia	2000	5.98	0.44	-2.8	69.59	1.36
Indonesia	2001	6.01	0.43	-1.9	69.10	1.37
Indonesia	2002	6.06	0.42	0.1	68.02	1.35
Indonesia	2003	6.11	0.40	-0.3	67.65	1.19
Indonesia	2004	6.15	0.41	0.7	67.61	1.30
Indonesia	2005	6.21	0.43	2.9	66.58	1.46
Indonesia	2006	6.26	0.43	1.3	66.42	1.53
Indonesia	2007	6.32	0.42	1.6	68.41	1.64
Indonesia	2008	6.38	0.43	1.8	68.61	1.64
Indonesia	2009	6.43	0.41	0.9	68.27	1.51
Indonesia	2010	6.49	0.41	2.0	68.88	1.73
Indonesia	2011	6.55	0.46	2.3	69.41	1.76
Indonesia	2012	6.61	0.47	2.3	69.98	1.75
Indonesia	2013	6.66	0.47	2.6	69.31	2.01
Indonesia	2014	6.71	0.47	2.8	69.10	2.08
Indonesia	2015	6.76	0.45	2.3	69.04	2.21
Indonesia	2016	6.81	0.44	0.5	68.78	2.27
Indonesia	2017	6.86	0.44	2.0	69.08	2.23
Indonesia	2018	6.91	0.45	1.8	70.06	2.28
Indonesia	2019	6.96	0.45	2.2	70.61	2.44
Thailand	2000	5.40	0.34	2.7	76.62	0.93
Thailand	2001	5.43	0.36	4.2	77.30	0.98
Thailand	2002	5.49	0.38	2.5	77.34	0.81
Thailand	2003	5.56	0.40	3.4	77.38	0.94
Thailand	2004	5.62	0.41	3.4	77.98	0.99
Thailand	2005	5.67	0.43	4.3	78.48	1.15
Thailand	2006	5.71	0.44	4.0	77.85	1.14
Thailand	2007	5.77	0.44	3.3	78.67	1.23
Thailand	2008	5.78	0.44	2.9	78.61	1.22
Thailand	2009	5.78	0.40	2.3	78.05	1.07
Thailand	2010	5.85	0.42	4.3	77.07	-0.03
Thailand	2011	5.86	0.43	0.7	79.10	0.67
Thailand	2012	5.93	0.47	3.2	78.94	1.22
Thailand	2013	5.95	0.48	3.8	76.42	1.31
Thailand	2014	5.96	0.46	1.2	76.23	1.38
Thailand	2015	5.99	0.46	2.2	75.91	1.41
Thailand	2016	6.03	0.47	0.8	75.19	1.36
Thailand	2017	6.07	0.50	1.8	74.70	1.37
Thailand	2018	6.11	0.50	2.7	75.35	1.40

Thailand	2019	6.13	0.49	1.0	74.89	1.41
Filipina	2000	4.96	0.45	1.8	62.86	0.60
Filipina	2001	4.99	0.47	1.0	62.84	0.26
Filipina	2002	5.03	0.47	2.1	62.78	-0.85
Filipina	2003	5.08	0.47	0.6	62.67	-0.07
Filipina	2004	5.14	0.46	0.6	63.08	0.30
Filipina	2005	5.19	0.46	1.5	63.13	0.40
Filipina	2006	5.24	0.47	2.1	63.03	0.49
Filipina	2007	5.30	0.48	1.9	62.84	0.55
Filipina	2008	5.35	0.48	0.7	62.72	0.50
Filipina	2009	5.36	0.46	1.2	63.14	0.40
Filipina	2010	5.43	0.45	0.5	63.13	0.53
Filipina	2011	5.47	0.45	0.9	64.05	0.47
Filipina	2012	5.54	0.48	1.2	63.59	0.40
Filipina	2013	5.60	0.49	1.3	63.32	0.50
Filipina	2014	5.66	0.50	1.9	64.12	0.58
Filipina	2015	5.73	0.51	1.8	63.31	0.62
Filipina	2016	5.79	0.52	2.6	63.52	0.54
Filipina	2017	5.86	0.53	3.1	61.26	0.53
Filipina	2018	5.92	0.52	2.9	61.07	0.77
Filipina	2019	5.98	0.51	2.3	61.58	0.78
Malaysia	2000	5.00	0.55	4.0	63.64	1.83
Malaysia	2001	5.00	0.52	0.6	63.62	1.78
Malaysia	2002	5.06	0.53	3.2	63.54	1.60
Malaysia	2003	5.11	0.54	2.9	63.45	1.62
Malaysia	2004	5.18	0.57	3.5	63.33	1.69
Malaysia	2005	5.23	0.60	2.7	63.23	1.84
Malaysia	2006	5.28	0.60	4.7	63.15	1.57
Malaysia	2007	5.35	0.63	4.7	63.12	0.86
Malaysia	2008	5.39	0.67	3.3	62.61	1.67
Malaysia	2009	5.38	0.61	0.1	62.95	1.75
Malaysia	2010	5.45	0.61	4.3	62.97	1.85
Malaysia	2011	5.50	0.65	5.1	64.33	1.86
Malaysia	2012	5.55	0.67	2.8	65.53	1.94
Malaysia	2013	5.60	0.66	3.5	67.23	1.97
Malaysia	2014	5.66	0.64	3.1	67.63	2.03
Malaysia	2015	5.71	0.61	3.3	67.94	2.04
Malaysia	2016	5.75	0.61	4.5	67.92	1.98
Malaysia	2017	5.81	0.60	2.9	68.15	1.96
Malaysia	2018	5.86	0.60	2.3	68.71	1.99
Malaysia	2019	5.90	0.60	2.5	69.36	2.02
Singapura	2000	4.95	0.91	16.1	70.70	2.11

Singapura	2001	4.93	0.83	18.9	70.91	2.11
Singapura	2002	4.97	0.83	6.7	70.27	2.10
Singapura	2003	5.02	0.74	17.5	70.45	2.06
Singapura	2004	5.11	0.78	21.2	70.51	2.15
Singapura	2005	5.18	0.87	15.1	70.86	2.15
Singapura	2006	5.27	0.97	26.3	71.29	2.22
Singapura	2007	5.36	0.97	26.2	71.78	2.30
Singapura	2008	5.37	0.78	7.0	72.28	2.27
Singapura	2009	5.38	0.78	12.1	72.79	2.17
Singapura	2010	5.51	0.86	23.1	73.32	2.28
Singapura	2011	5.57	0.83	17.6	73.83	2.28
Singapura	2012	5.62	0.81	18.7	74.33	2.27
Singapura	2013	5.66	0.75	20.9	74.29	2.27
Singapura	2014	5.70	0.76	21.8	75.18	2.33
Singapura	2015	5.73	0.76	22.7	76.31	2.38
Singapura	2016	5.77	0.77	20.5	76.32	2.40
Singapura	2017	5.81	0.78	29.8	76.44	2.39
Singapura	2018	5.85	0.75	21.5	76.31	2.47
Singapura	2019	5.86	0.71	27.9	77.13	2.65