

BAB V

PENUTUP

Berdasarkan hasil dan pembahasan diatas mengenai hubungan pertumbuhan ekonomi dengan tingkat pengangguran di Indonesia Tahun 1997-2020, maka dapat diperoleh kesimpulan dan saran sebagai berikut:

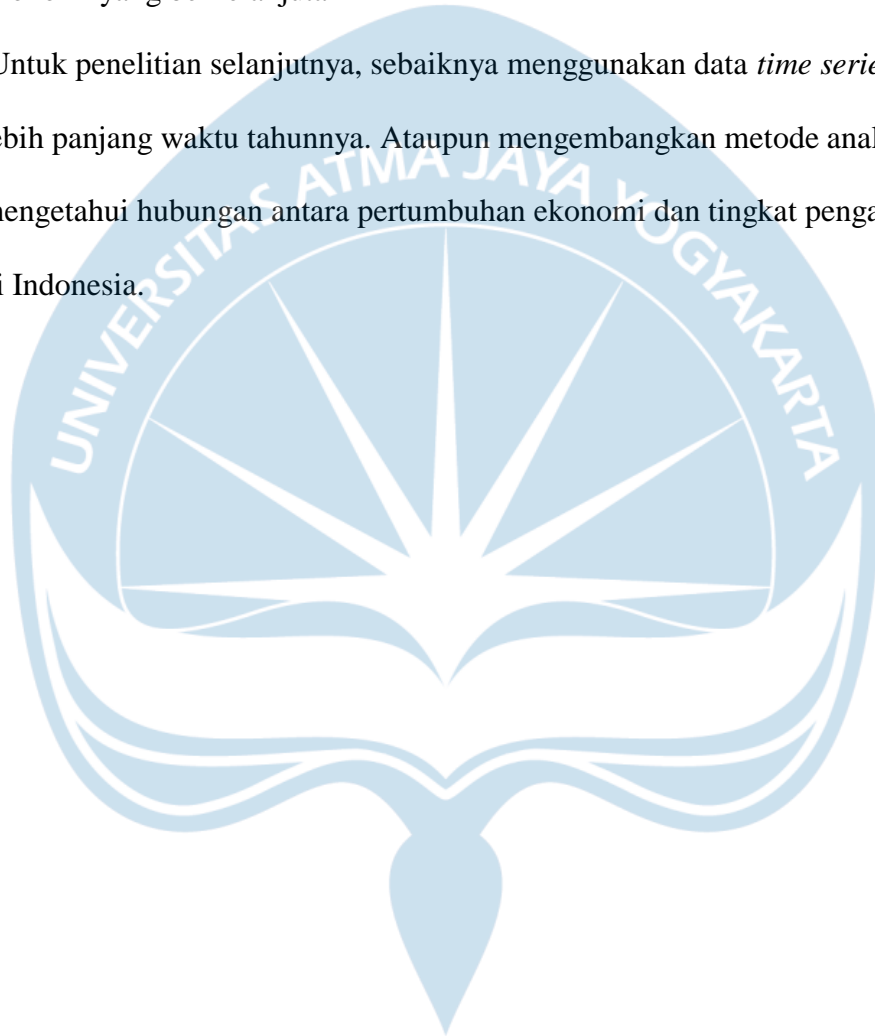
Kesimpulan

1. Hasil kesimpulan dari *Granger Causality Test* terdapat hubungan searah dari tingkat pengangguran menuju pertumbuhan ekonomi dilihat dari hasil perhitungan uji F, maka hubungan timbal balik tidak terjadi.
2. Hasil kesimpulan kointegrasi adalah terdapat hubungan jangka panjang antara variabel tingkat pengangguran dan pertumbuhan ekonomi. Artinya, ada hubungan teori antara tingkat pengangguran dengan pertumbuhan ekonomi.
3. Hasil penelitian ini tidak membuktikan hubungan timbal balik antara pertumbuhan ekonomi dengan tingkat pengangguran sehingga teori Hukum Okun tidak terjadi. Pada penelitian ini yang terjadi hanya ada hubungan searah tingkat pengangguran ke pertumbuhan ekonomi artinya bahwa tingkat pengangguran mempengaruhi pertumbuhan ekonomi.

Saran

1. Antara tingkat pengangguran dan pertumbuhan ekonomi memiliki hubungan searah. Bagi pembuat kebijakan untuk mengurangi tingkat pengangguran dengan memberikan perhatian lebih dan arahan seperti pelatihan *skill*. Serta pengembangan mindset dan wawasan para pencari kerja, karena pada dasarnya

2. setiap manusia memiliki potensi dalam dirinya masing-masing tetapi seringkali tidak dikembangkan secara optimal. Dengan kebijakan tersebut diharapkan struktur ekonomi Indonesia akan kokoh dan dapat menopang pertumbuhan ekonomi yang berkelanjutan
3. Untuk penelitian selanjutnya, sebaiknya menggunakan data *time series* yang lebih panjang waktu tahunnya. Ataupun mengembangkan metode analisis untuk mengetahui hubungan antara pertumbuhan ekonomi dan tingkat pengangguran di Indonesia.



DAFTAR PUSTAKA

- Akeju, K. F., & Olanipekun, D. B. (2015). Potential-Real Gdp Relationship and Growth Process of Nigerian Economy : an Empiriical Re- Evaluation of Okun ' S Law. *International Journal of African and Asian Studies*, 11(2), 250–274.
www.iiste.org
- Akram, M., Hussain, S., Hasan Raza, S., & Masood, S. (2014). An Empirical Estimation of Okun 'S Law in Context of Pakistan. *Journal of Finance and Economics*, 2(5), 173–177. <https://doi.org/10.12691/jfe-2-5-7>
- Al-hosban, S., & Edienat, M. (2017). The Validity of Okun's Law, Case of Jordan. *European Scientific Journal, ESJ*, 13(28), 470.
<https://doi.org/10.19044/esj.2017.v13n28p470>
- Alamro, D. H., & Al-dalaien, Q. F. (2014). Modeling the Relationship between GDP and Unemployment for Okun's Law Specific to Jordan. In *SSRN Electronic Journal* (Issue 55302). <https://doi.org/10.2139/ssrn.2440674>
- Altunöz, U. (2019). The Relationship between Real Output (Real GDP) and Unemployment Rate: An Analysis of Okun's Law for Eurozone. *Sosyoekonomi*, 27(40), 197–210.
<https://doi.org/10.17233/sosyoekonomi.2019.02.12>
- Arewa, A. (2012). Potential-Real Gdp Relationship and Growth Process of Nigerian Economy : an Empiriical Re- Evaluation of Okun ' S Law. *European Scientific Journal*, 8(9), 25–33.
- Astari, M., Hamzah, L. M., & Ratih, A. (2019). Hukum OKUN: Pertumbuhan

Arsyad, L., (2010). *Ekonomi Pembangunan Edisi Ke 5*. Yogyakarta: UPP STIM YKPN.

Badan Pusat Statistika Nasional. 2020. *Pertumbuhan Ekonomi*. Jakarta: Badan Pusat Statistika Nasional.

Badan Pusat Statistika Nasional. 2020. *Tingkat Pengangguran*. Jakarta: Badan Pusat Statistika Nasional.

Bankole, A. S., Fatai, B. O., & Programme, T. (2013). Empirical Test of Okun's Law in Nigeria. *International Journal of Economic Practices and Theories*, 3(3), 227–231.

Cazes, S., Verick, S., & Al Hussami, F. (2013). Why did unemployment respond so differently to the global financial crisis across countries? Insights from Okun's Law. *IZA Journal of Labor Policy*, 2(1). <https://doi.org/10.1186/2193-9004-2-10>

Ekonomi dan Tingkat Pengangguran di Indonesia. *Jurnal Ekonomi Pembangunan*, 8(1), 37–44. <https://doi.org/10.23960/jep.v8i1.32>

Darman, D. (2013). Pengaruh Pertumbuhan Ekonomi terhadap Tingkat Pengangguran: Analisis Hukum Okun. *The Winners*, 14(1), 1. <https://doi.org/10.21512/tw.v14i1.639>

Iswanto, D. A. (2013). Validitas Hukum Okun Di Indonesia. *Ekonomi, Pertumbuhan Pengangguran, D A N Ilmiah*.

Indayani,Siti & Hartono, Budi (2020). Analisis Pengangguran dan Pertumbuhan

Ekonomi sebagai Akibat Pandemi Covid-19. *Jurnal Ekonomi & Manajemen Universitas Bina Sarana Informatika*, 18(2), 201-208.

Keyjohadikusumo, Wiryo. 2000. *Perkembangan Pemikiran Ekonomi: Dasar Teori Ekonomi Pertumbuhan dan Ekonomi Pembangunan*. Jakarta: EGC.

Knotek, Edward S. 2007. "How Useful is Okun's Law?". Federal Reserve Bank of Kansas City, 73-103.

Lamudi. 2015. *Perkembangan Ekonomi di Tahun 2015*. Jakarta: Journal Lamudi Indonesia.

Rubcova, Anna. (2010). Okun's law: evidence from the Baltic States. SSE Riga Student Research Papers (126).

Sukirno, Sadono. 2008. *Makroekonomi Teori Pengantar*. Edisi Ketiga. Jakarta : Raja Grafindo Persada.

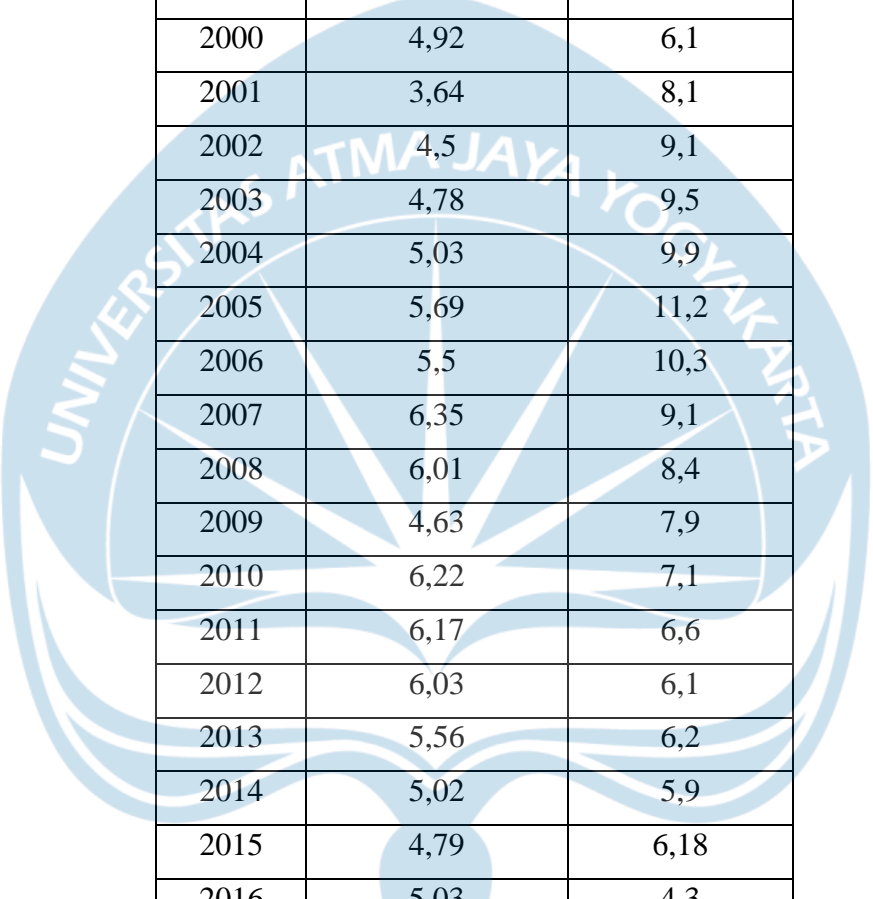
Tambunan, Tulus. 2008. *Pembangunan Ekonomi dan Utang Luar Negeri*. Edisi Pertama. Jakarta: Rajawali Pers

Widarjono, A., (2013). *Ekonometrika Pengantar dan Aplikasi views*. UPP STIM YKPN: Yogyakarta.

Yilmaz, Ö. G. (2005). *Türkiye ekonomisinde büyüme ile işsizlik oranları arasındaki nedensellik ilişkisi*. *Ekonometri ve İstatistik e-Dergisi*, (2), 63-76.



LAMPIRAN 1
DATA PERTUMBUHAN EKONOMI DENGAN TINGKAT
PENGANGGURAN DI INDONESIA TAHUN 1990-2020



Tahun	PE	TP
1997	4,7	4,7
1998	-13,13	5,5
1999	0,79	6,3
2000	4,92	6,1
2001	3,64	8,1
2002	4,5	9,1
2003	4,78	9,5
2004	5,03	9,9
2005	5,69	11,2
2006	5,5	10,3
2007	6,35	9,1
2008	6,01	8,4
2009	4,63	7,9
2010	6,22	7,1
2011	6,17	6,6
2012	6,03	6,1
2013	5,56	6,2
2014	5,02	5,9
2015	4,79	6,18
2016	5,03	4,3
2017	5,07	3,88
2018	5,17	4,4
2019	5,03	3,35
2020	2,07	7,07



LEVEL TP

Null Hypothesis: TP has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=2)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.542751	0.4947
Test critical values:		
1% level	-3.752946	
5% level	-2.998064	
10% level	-2.638752	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(TP)

Method: Least Squares

Date: 09/09/21 Time: 15:37

Sample (adjusted): 1998 2020

Included observations: 23 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TP(-1)	-0.173911	0.112728	-1.542751	0.1378
C	1.313693	0.821002	1.600109	0.1245
R-squared	0.101800	Mean dependent var		0.103043
Adjusted R-squared	0.059028	S.D. dependent var		1.193092
S.E. of regression	1.157343	Akaike info criterion		3.213072
Sum squared resid	28.12830	Schwarz criterion		3.311811
Log likelihood	-34.95033	Hannan-Quinn criter.		3.237905
F-statistic	2.380081	Durbin-Watson stat		1.485828
Prob(F-statistic)	0.137827			

LEVEL PE

Null Hypothesis: PE has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=2)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.676101	0.0119
Test critical values:		
1% level	-3.752946	
5% level	-2.998064	
10% level	-2.638752	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(PE)

Method: Least Squares

Date: 09/09/21 Time: 16:04

Sample (adjusted): 1998 2020

Included observations: 23 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PE(-1)	-0.789150	0.214670	-3.676101	0.0014
C	3.230962	1.231304	2.624016	0.0159
R-squared	0.391546	Mean dependent var		-0.114348
Adjusted R-squared	0.362572	S.D. dependent var		4.982381
S.E. of regression	3.977886	Akaike info criterion		5.682320
Sum squared resid	332.2952	Schwarz criterion		5.781058
Log likelihood	-63.34667	Hannan-Quinn criter.		5.707152
F-statistic	13.51372	Durbin-Watson stat		1.011153
Prob(F-statistic)	0.001406			



Null Hypothesis: D(PE) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=2)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-11.79776	0.0000
Test critical values:		
1% level	-3.769597	
5% level	-3.004861	
10% level	-2.642242	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(PE,2)
 Method: Least Squares
 Date: 09/09/21 Time: 22:23
 Sample (adjusted): 1999 2020
 Included observations: 22 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PE(-1))	-1.369030	0.116041	-11.79776	0.0000
C	0.696445	0.573667	1.214023	0.2389
R-squared	0.874362	Mean dependent var		0.675909
Adjusted R-squared	0.868080	S.D. dependent var		7.408212
S.E. of regression	2.690724	Akaike info criterion		4.904005
Sum squared resid	144.7999	Schwarz criterion		5.003191
Log likelihood	-51.94406	Hannan-Quinn criter.		4.927371
F-statistic	139.1871	Durbin-Watson stat		0.730848
Prob(F-statistic)	0.000000			

Null Hypothesis: D(TP) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=2)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.225778	0.0320
Test critical values:		
1% level	-3.769597	
5% level	-3.004861	
10% level	-2.642242	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(TP,2)
 Method: Least Squares
 Date: 09/09/21 Time: 22:24
 Sample (adjusted): 1999 2020
 Included observations: 22 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TP(-1))	-0.952654	0.295326	-3.225778	0.0042
C	0.074269	0.265062	0.280195	0.7822
R-squared	0.342227	Mean dependent var		0.132727
Adjusted R-squared	0.309339	S.D. dependent var		1.492480
S.E. of regression	1.240341	Akaike info criterion		3.355158
Sum squared resid	30.76892	Schwarz criterion		3.454344
Log likelihood	-34.90674	Hannan-Quinn criter.		3.378523
F-statistic	10.40564	Durbin-Watson stat		1.589407
Prob(F-statistic)	0.004239			

Tingkat Pengangguran (*2 Different*)

Null Hypothesis: D(TP,2) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=2)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.335281	0.0000
Test critical values:		
1% level	-3.788030	
5% level	-3.012363	
10% level	-2.646119	

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

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(TP,3)
 Method: Least Squares
 Date: 09/09/21 Time: 22:24
 Sample (adjusted): 2000 2020
 Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TP(-1),2)	-1.723055	0.271978	-6.335281	0.0000
C	0.075350	0.293242	0.256955	0.8000
R-squared	0.678706	Mean dependent var		0.227143
Adjusted R-squared	0.661795	S.D. dependent var		2.302988
S.E. of regression	1.339311	Akaike info criterion		3.512580
Sum squared resid	34.08132	Schwarz criterion		3.612058
Log likelihood	-34.88209	Hannan-Quinn criter.		3.534169
F-statistic	40.13579	Durbin-Watson stat		1.913392
Prob(F-statistic)	0.000004			

Pertumbuhan Ekonomi (*2 Different*)

Null Hypothesis: D(PE,2) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=2)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-20.34818	0.0000
Test critical values:		
1% level	-3.788030	
5% level	-3.012363	
10% level	-2.646119	

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



LAMPIRAN 4
UJI KOINTEGRASI

Date: 09/09/21 Time: 23:36
 Sample (adjusted): 1999 2020
 Included observations: 22 after adjustments
 Trend assumption: Linear deterministic trend
 Series: PE TP
 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 *	0.954053	69.92181	15.49471	0.0000
At most 1	0.093352	2.156031	3.841466	0.1420

Trace test indicates 1 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 *	0.954053	67.76578	14.26460	0.0000
At most 1	0.093352	2.156031	3.841466	0.1420

Max-eigenvalue test indicates 1 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):

	PE	TP
	-0.363634	0.061694
	0.083447	-0.522607

Unrestricted Adjustment Coefficients (alpha):

	D(PE)	D(TP)
	2.249913	-0.185376
	0.142610	0.357509



VAR Lag Order Selection Criteria

Endogenous variables: PE TP

Exogenous variables: C

Date: 09/09/21 Time: 23:55

Sample: 1997 2020

Included observations: 20

Lag	LogL	LR	FPE	AIC	SC
0	-71.58168	NA	5.379421	7.358168	7.457741
1	-46.54107	42.56904*	0.658965*	5.254107*	5.552827*
2	-44.65141	2.834484	0.827818	5.465141	5.963007
3	-42.49923	2.797835	1.036598	5.649923	6.346936
4	-40.60614	2.082402	1.382179	5.860614	6.756773

* indicates lag order selected by the criterion

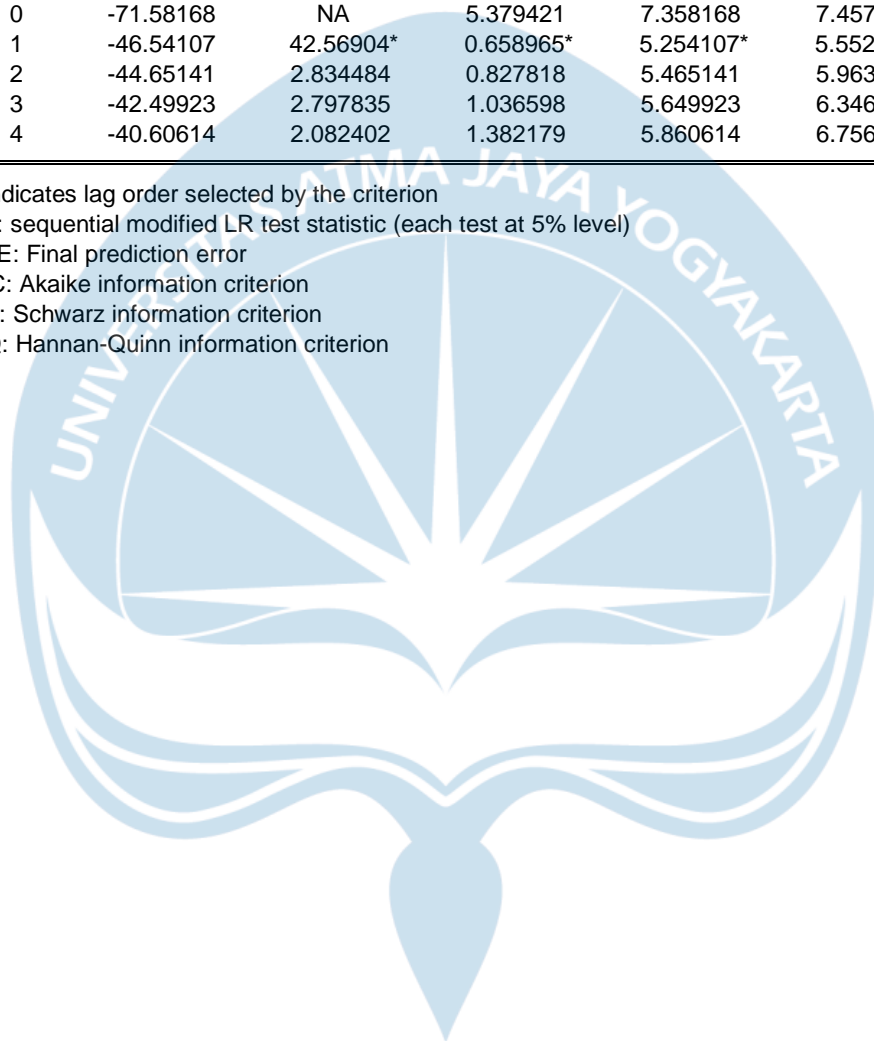
LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion





LAMPIRAN 6
GRANGER CAUSALITY TEST

LAG 1

Pairwise Granger Causality Tests

Date: 09/10/21 Time: 15:38

Sample: 1997 2020

Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
TP does not Granger Cause PE	23	2.47151	0.1316
PE does not Granger Cause TP		0.27956	0.6028

LAG 2

Pairwise Granger Causality Tests

Date: 09/10/21 Time: 15:38

Sample: 1997 2020

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
TP does not Granger Cause PE	22	2.97286	0.0781
PE does not Granger Cause TP		0.04144	0.9595

LAG 3

Pairwise Granger Causality Tests

Date: 09/10/21 Time: 15:39

Sample: 1997 2020

Lags: 3

Null Hypothesis:	Obs	F-Statistic	Prob.
TP does not Granger Cause PE	21	2.92921	0.0704
PE does not Granger Cause TP		0.96926	0.4348

LAG 4

Pairwise Granger Causality Tests

Date: 09/10/21 Time: 15:39

Sample: 1997 2020

Lags: 4

Null Hypothesis:	Obs	F-Statistic	Prob.
TP does not Granger Cause PE	20	1.93860	0.1741
PE does not Granger Cause TP		0.37042	0.8249

Dependent Variable: PE

Method: Least Squares

Date: 09/10/21 Time: 16:50

Sample (adjusted): 1999 2020

Included observations: 22 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PE(-1))	0.131372	0.050128	2.620751	0.0164
C	4.907120	0.247813	19.80174	0.0000
R-squared	0.255629	Mean dependent var		4.909091
Adjusted R-squared	0.218411	S.D. dependent var		1.314751
S.E. of regression	1.162339	Akaike info criterion		3.225254
Sum squared resid	27.02064	Schwarz criterion		3.324439
Log likelihood	-33.47779	Hannan-Quinn criter.		3.248619
F-statistic	6.868338	Durbin-Watson stat		0.668559
Prob(F-statistic)	0.016374			



LAMPIRAN 7

Uji Restricted PE

Dependent Variable: TP
 Method: Least Squares
 Date: 09/11/21 Time: 03:06
 Sample (adjusted): 1998 2020
 Included observations: 23 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TP(-1)	0.826089	0.112728	7.328159	0.0000
C	1.313693	0.821002	1.600109	0.1245
R-squared	0.718883	Mean dependent var		7.064348
Adjusted R-squared	0.705496	S.D. dependent var		2.132636
S.E. of regression	1.157343	Akaike info criterion		3.213072
Sum squared resid	28.12830	Schwarz criterion		3.311811
Log likelihood	-34.95033	Hannan-Quinn criter.		3.237905
F-statistic	53.70192	Durbin-Watson stat		1.485828
Prob(F-statistic)	0.000000			

Dependent Variable: TP
 Method: Least Squares
 Date: 09/11/21 Time: 03:21
 Sample (adjusted): 1999 2020
 Included observations: 22 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TP(-1)	0.835511	0.124056	6.734948	0.0000
D(PE)	-0.051753	0.102805	-0.503412	0.6208
D(PE(-1))	-0.032239	0.065594	-0.491486	0.6290
C	1.269570	0.918072	1.382866	0.1836
R-squared	0.717473	Mean dependent var		7.135455
Adjusted R-squared	0.670385	S.D. dependent var		2.154735
S.E. of regression	1.237079	Akaike info criterion		3.426349
Sum squared resid	27.54657	Schwarz criterion		3.624720
Log likelihood	-33.68984	Hannan-Quinn criter.		3.473079
F-statistic	15.23688	Durbin-Watson stat		1.372291
Prob(F-statistic)	0.000035			

Dependent Variable: PE
 Method: Least Squares
 Date: 09/11/21 Time: 03:31
 Sample (adjusted): 1998 2020
 Included observations: 23 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PE(-1)	0.210850	0.214670	0.982204	0.3372
C	3.230962	1.231304	2.624016	0.0159
R-squared	0.043922	Mean dependent var		4.124783
Adjusted R-squared	-0.001606	S.D. dependent var		3.974696
S.E. of regression	3.977886	Akaike info criterion		5.682320
Sum squared resid	332.2952	Schwarz criterion		5.781058
Log likelihood	-63.34667	Hannan-Quinn criter.		5.707152
F-statistic	0.964725	Durbin-Watson stat		1.011153
Prob(F-statistic)	0.337181			

Dependent Variable: D(PE)
 Method: Least Squares
 Date: 09/11/21 Time: 03:34
 Sample (adjusted): 1999 2020
 Included observations: 22 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PE(-1))	-0.368932	0.119426	-3.089219	0.0060
TP(-1)	-0.002886	0.276838	-0.010426	0.9918
C	0.716832	2.042121	0.351023	0.7294
R-squared	0.335847	Mean dependent var		0.690909
Adjusted R-squared	0.265936	S.D. dependent var		3.222101
S.E. of regression	2.760616	Akaike info criterion		4.994909
Sum squared resid	144.7990	Schwarz criterion		5.143687
Log likelihood	-51.94400	Hannan-Quinn criter.		5.029957
F-statistic	4.803931	Durbin-Watson stat		0.730936
Prob(F-statistic)	0.020490			