

BAB V

PENUTUP

5.1. Kesimpulan

Berdasarkan hasil analisis dan pembahasan yang telah dilakukan menggunakan analisis kausalitas Granger (*Granger Causality Test*) mengenai jumlah uang beredar dan produk domestik bruto periode sebelum rezim ITF 1993_{Q1}-2004_{Q4} dan setelah kebijakan ITF dilaksanakan 2005_{Q1}-2017_{Q4}, maka diperoleh kesimpulan bahwa terdapat perbedaan hubungan di antara kedua rezim.

1. Pada rezim sebelum kebijakan ITF dilaksanakan terdapat hubungan dua arah antara variabel PDB dan JUB, dengan demikian sesuai hipotesis maka teori kuantitas relevan digunakan dalam rezim tersebut.
2. Sedangkan ketika kebijakan ITF dilaksanakan justru menunjukkan hubungan satu arah antara variabel JUB dan PDB pada *lag* pertama dan kedua, namun setelah itu arah hubungan PDB dan JUB justru tidak saling berpengaruh. Hasil analisis mengindikasikan bahwa teori kuantitas sudah tidak berlaku atau tidak relevan lagi digunakan sebagai dasar untuk menjelaskan pengaruh uang dalam pertumbuhan ekonomi di Indonesia.

5.2 Saran

Berdasarkan kesimpulan di atas, maka saran yang diberikan terkait hubungan antara jumlah uang beredar dan produk domestik bruto antara lain adalah sebagai berikut:

1. Adanya perbedaan hubungan kausalitas dalam dua rezim (sebelum dan sesudah kebijakan ITF dilaksanakan) turut mengindikasikan bahwa teori kuantitas yang menjadi dasar untuk menjelaskan pengaruh uang dalam perekonomian juga berbeda. Jika dalam rezim lama teori kuantitas masih kokoh dan relevan digunakan sedangkan ketika teori kuantitas digunakan pada rezim yang baru justru sudah tidak relevan, maka lebih baik digunakan variabel selain JUB yang lebih sesuai dengan teori *Inflation Targeting Framework* serta menyesuaikan dengan kebijakan terbaru yang sedang dilakukan oleh Bank Sentral.
2. Penelitian selanjutnya diharapkan dapat membandingkan efektifitas teori kuantitas sebelum dan setelah ITF dilaksanakan dengan menggunakan variabel lain yang sejalan dengan teori ITF.

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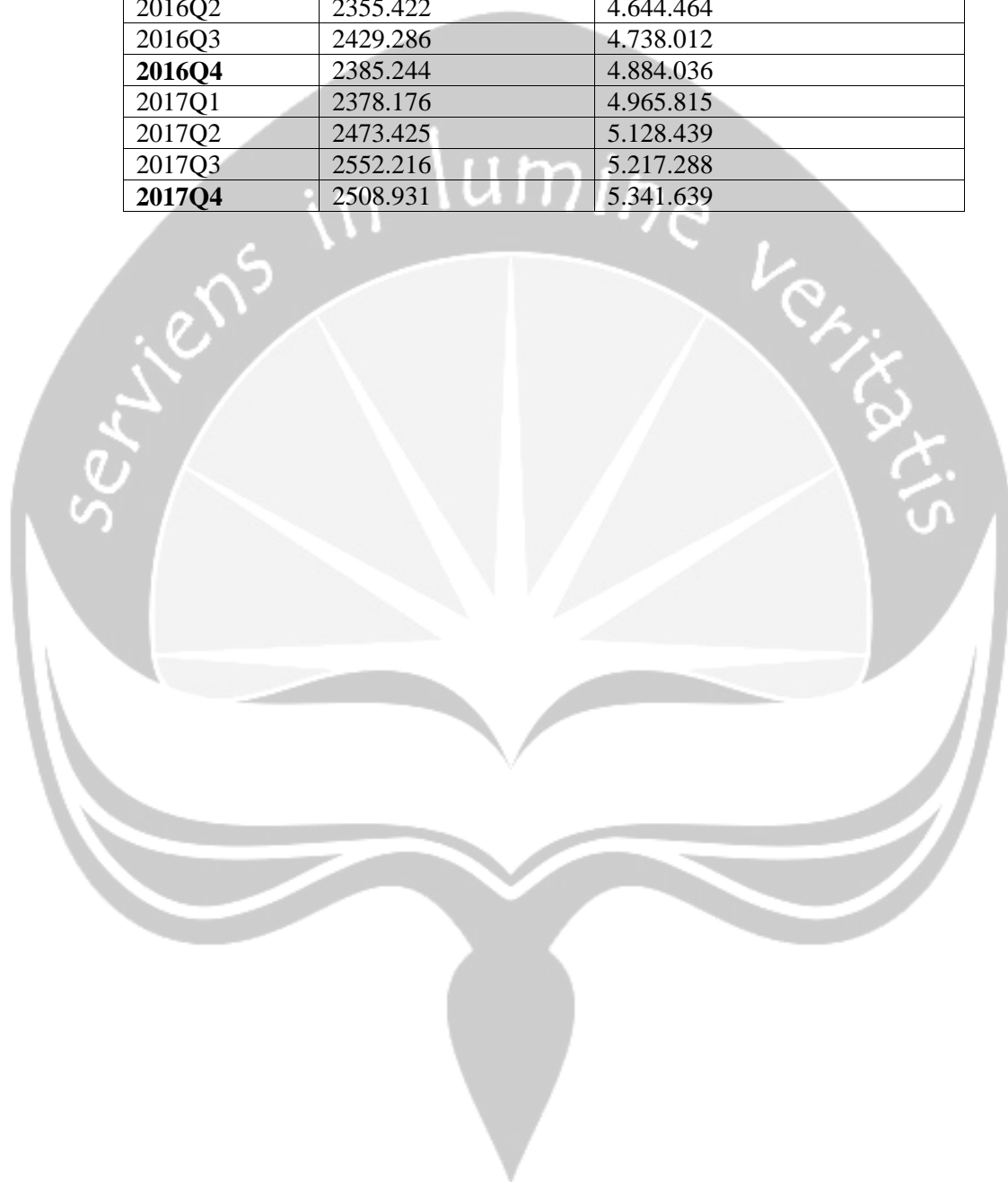


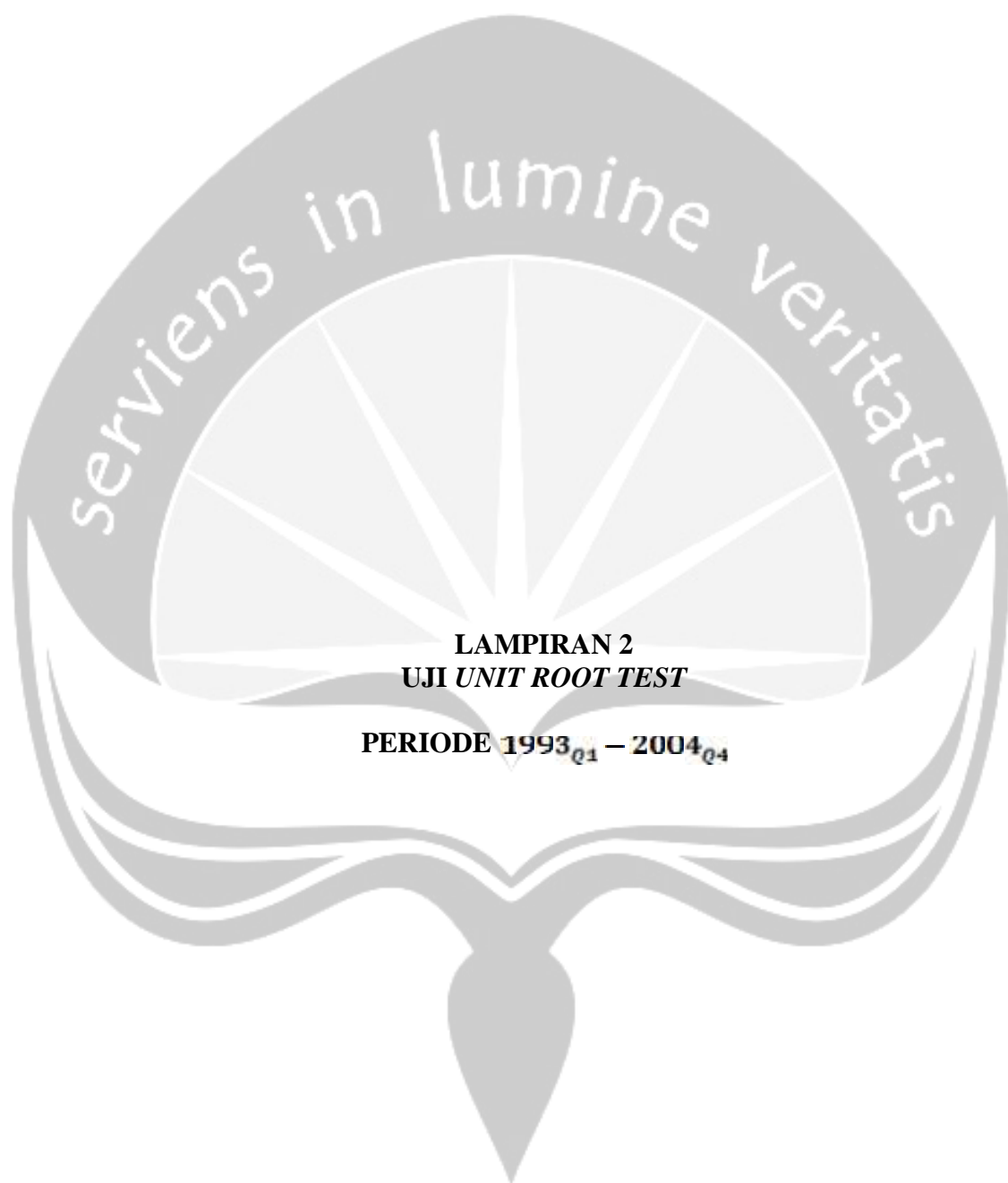
TAHUN	PDB RILL	JUB
1993Q1	274.052	121.145
1993Q2	277.021	123.789
1993Q3	297.518	132.370
1993Q4	302.256	141.272
1994Q1	298.743	149.185
1994Q2	306.711	151.252
1994Q3	318.069	161.450
1994Q4	314.097	169.388
1995Q1	323.026	179.239
1995Q2	329.227	186.676
1995Q3	343.024	201.161
1995Q4	344.077	216.745
1996Q1	341.562	227.769
1996Q2	351.193	243.200
1996Q3	371.878	256.201
1996Q4	379.431	278.103
1997Q1	367.338	292.891
1997Q2	369.453	305.261
1997Q3	391.598	324.173
1997Q4	383.545	342.315
1998Q1	350.848	443.587
1998Q2	320.159	504.363
1998Q3	328.940	549.272
1998Q4	313.519	553.431
1999Q1	329.335	600.844
1999Q2	325.904	618.937
1999Q3	338.299	638.675
1999Q4	330.321	638.149
2000Q1	342.852	653.461
2000Q2	340.865	677.821
2000Q3	355.290	687.330
2000Q4	350.763	724.912
2001Q1	356.115	753.814
2001Q2	360.533	792.329
2001Q3	367.517	776.092
2001Q4	356.240	824.753
2002Q1	368.650	835.531
2002Q2	375.721	833.332
2002Q3	387.920	856.420
2002Q4	372.926	872.321
2003Q1	386.744	877.558
2003Q2	394.621	890.017
2003Q3	405.608	904.128

2003 Q4	390.199	942.221
2004Q1	402.597	931.166
2004Q2	411.936	951.277
2004Q3	423.852	981.646
2004 Q4	418.132	1.011.210

TAHUN	PDB	JUB
2005Q1	426.612	1.018.190
2005Q2	436.121	1.057.566
2005Q3	448.598	1.121.787
2005Q4	439.484	1.180.230
2006Q1	448.485	1.197.153
2006Q2	457.637	1.232.257
2006Q3	474.904	1.273.881
2006Q4	466.101	1.351.286
2007Q1	475.642	1.372.146
2007Q2	488.421	1.412.120
2007Q3	506.933	1.494.901
2007Q4	493.331	1.581.026
2008Q1	505.219	1.598.235
2008Q2	519.205	1.652.268
2008Q3	538.641	1.715.667
2008Q4	519.392	1.853.117
2009Q1	528.056	1.897.035
2009Q2	540.677	1.939.075
2009Q3	561.637	1.991.585
2009Q4	548.479	2.075.036
2010Q1	559.683	2.084.141
2010Q2	574.712	2.163.467
2010Q3	594.250	2.243.001
2010Q4	585.812	2.375.953
2011Q1	595.721	2.436.076
2011Q2	612.500	2.477.516
2011Q3	632.823	2.609.744
2011Q4	623.519	2.761.515
2012Q1	633.400	2.874.442
2012Q2	651.326	2.992.290
2012Q3	672.108	3.092.361
2012Q4	662.096	3.226.620
2013Q1	671.320	3.290.579
2013Q2	688.526	3.400.204
2013Q3	709.679	3.531.025
2013Q4	699.526	3.641.109
2014Q1	705.934	3.646.647
2014Q2	723.411	3.786.933
2014Q3	745.151	3.928.025
2014Q4	734.684	4.091.495
2015Q1	215.804	4.213.103

2015Q2	2238.704	4.307.627
2015Q3	2312.843	4.428.632
2015Q4	2272.929	4.481.401
2016Q1	2264.680	4.527.395
2016Q2	2355.422	4.644.464
2016Q3	2429.286	4.738.012
2016Q4	2385.244	4.884.036
2017Q1	2378.176	4.965.815
2017Q2	2473.425	5.128.439
2017Q3	2552.216	5.217.288
2017Q4	2508.931	5.341.639





A. PDB

Null Hypothesis: PDB has a unit root

Exogenous: Constant

Bandwidth: 6 (Newey-West automatic) using Bartlett kernel

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-1.524078	0.5129
Test critical values: 1% level	-3.577723	
5% level	-2.925169	
10% level	-2.600658	

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

B. JUB

Null Hypothesis: JUB has a unit root

Exogenous: Constant

Bandwidth: 3 (Newey-West automatic) using Bartlett kernel

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	0.399411	0.9809
Test critical values: 1% level	-3.577723	
5% level	-2.925169	
10% level	-2.600658	

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



A. PDB

Null Hypothesis: PDB has a unit root

Exogenous: Constant

Bandwidth: 3 (Newey-West automatic) using Bartlett kernel

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-0.309560	0.9160
Test critical values: 1% level	-3.565430	
5% level	-2.919952	
10% level	-2.597905	

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

B. JUB

Null Hypothesis: JUB has a unit root

Exogenous: Constant

Bandwidth: 4 (Newey-West automatic) using Bartlett kernel

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	4.305939	1.0000
Test critical values: 1% level	-3.565430	
5% level	-2.919952	
10% level	-2.597905	

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



A. PDB

Null Hypothesis: D(PDB) has a unit root

Exogenous: Constant

Bandwidth: 7 (Newey-West automatic) using Bartlett kernel

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-6.903936	0.0000
Test critical values: 1% level	-3.581152	
5% level	-2.926622	
10% level	-2.601424	

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

B. JUB

Null Hypothesis: D(JUB) has a unit root

Exogenous: Constant

Bandwidth: 1 (Newey-West automatic) using Bartlett kernel

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-5.690096	0.0000
Test critical values: 1% level	-3.581152	
5% level	-2.926622	
10% level	-2.601424	

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



LAMPIRAN 5
UJI DERAJAT INTEGRASI
PERIODE 2005_{Q1} - 2017_{Q4}

A. PDB

Null Hypothesis: D(PDB) has a unit root

Exogenous: Constant

Bandwidth: 4 (Newey-West automatic) using Bartlett kernel

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-8.947659	0.0000
Test critical values: 1% level	-3.568308	
5% level	-2.921175	
10% level	-2.598551	

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

B. JUB

Null Hypothesis: D(JUB) has a unit root

Exogenous: Constant

Bandwidth: 1 (Newey-West automatic) using Bartlett kernel

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-5.178975	0.0001
Test critical values: 1% level	-3.568308	
5% level	-2.921175	
10% level	-2.598551	

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



Date: 11/16/18 Time: 22:10
 Sample (adjusted): 1993Q3 2004Q4
 Included observations: 46 after adjustments
 Trend assumption: Linear deterministic trend
 Series: PDB JUB
 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	0.116188	6.271428	15.49471	0.6634
At most 1	0.012743	0.589935	3.841466	0.4424

Trace test indicates no cointegration 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	0.116188	5.681494	14.26460	0.6544
At most 1	0.012743	0.589935	3.841466	0.4424

Max-eigenvalue test indicates no cointegration at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values

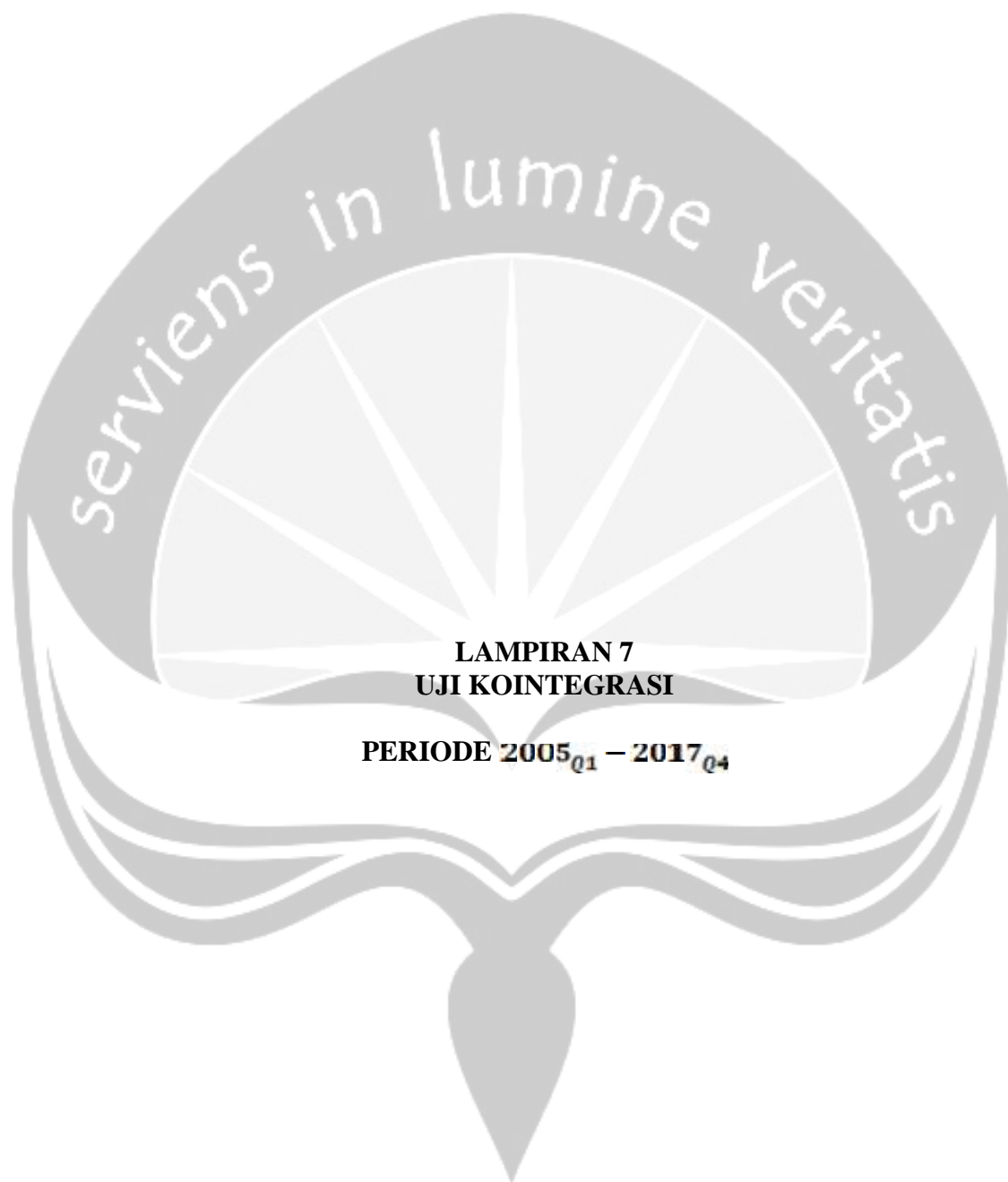
Unrestricted Cointegrating Coefficients (normalized by
 $b'S_{11}b=I$):

	PDB	JUB
	-0.041678	0.003053
	0.001391	-0.003576

Unrestricted Adjustment Coefficients (alpha):

	PDB	JUB
D(PDB)	3.176963	-0.664801
D(JUB)	-5.854783	-0.813707

1 Cointegrating Equation(s):	Log likelihood	-363.4969
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Date: 11/16/18 Time: 22:12
 Sample (adjusted): 2005Q3 2017Q4
 Included observations: 50 after adjustments
 Trend assumption: Linear deterministic trend
 Series: PDB JUB
 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 *	0.362542	23.63565	15.49471	0.0024
At most 1	0.022196	1.122310	3.841466	0.2894

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 *	0.362542	22.51334	14.26460	0.0020
At most 1	0.022196	1.122310	3.841466	0.2894

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 $b'S11*b=I$):

	PDB	JUB
	-0.001748	0.001586
	0.001916	-0.000344

Unrestricted Adjustment Coefficients (alpha):

D(PDB)	98.11118	-35.01498
D(JUB)	20.45952	3.346971

1 Cointegrating
Equation(s):

Log
likelihood -598.7758



VAR Lag Order Selection Criteria

Endogenous variables: PDB JUB

Exogenous variables: C

Date: 11/21/18 Time: 09:09

Sample: 1993Q1 2004Q4

Included observations: 44

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-513.8449	NA	52260831	23.44750	23.52860	23.47757
1	-358.1179	290.2185	52864.33	16.55081	16.79411	16.64104
2	-348.7813	16.55126	41541.95	16.30824	16.71374*	16.45862*
3	-347.0658	2.885132	46248.33	16.41208	16.97978	16.62261
4	-338.8817	13.02022*	38478.18*	16.22189*	16.95179	16.49258

* 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

VAR Lag Order Selection Criteria

Endogenous variables: PDB JUB

Exogenous variables: C

Date: 11/21/18 Time: 09:12

Sample: 2005Q1 2017Q4

Included observations: 48

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-771.5756	NA	3.41e+11	32.23232	32.31028	32.26178
1	-577.9990	362.9561*	1.27e+08*	24.33329*	24.56719*	24.42168*
2	-575.8884	3.781548	1.37e+08	24.41201	24.80185	24.55933
3	-574.2225	2.845822	1.52e+08	24.50927	25.05504	24.71552
4	-570.2967	6.379453	1.53e+08	24.51236	25.21406	24.77754

* 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

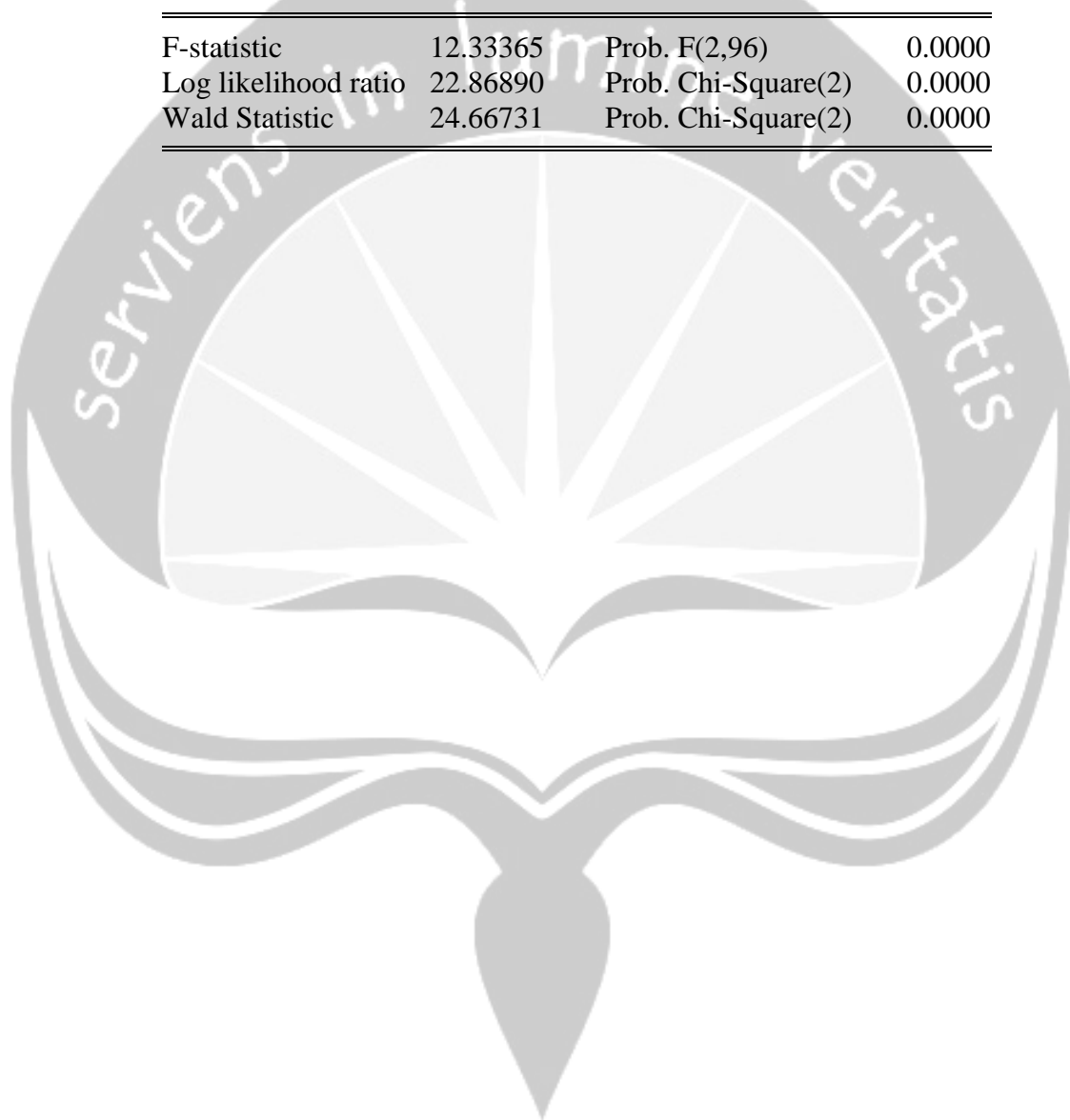
SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion



Chow Breakpoint Test: 2005Q1
Null Hypothesis: No breaks at specified breakpoints
Varying regressors: All equation variables
Equation Sample: 1993Q1 2017Q4

F-statistic	12.33365	Prob. F(2,96)	0.0000
Log likelihood ratio	22.86890	Prob. Chi-Square(2)	0.0000
Wald Statistic	24.66731	Prob. Chi-Square(2)	0.0000





Pairwise Granger Causality Tests

Date: 11/15/18 Time: 10:41

Sample: 1993Q1 2004Q4

Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
JUB does not Granger Cause PDB	47	1.62105	0.2096
PDB does not Granger Cause JUB		2.82657	0.0998

Pairwise Granger Causality Tests

Date: 11/15/18 Time: 10:42

Sample: 1993Q1 2004Q4

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
JUB does not Granger Cause PDB	46	5.56559	0.0073
PDB does not Granger Cause JUB		3.48079	0.0402

Pairwise Granger Causality Tests

Date: 11/21/18 Time: 09:44

Sample: 1993Q1 2004Q4

Lags: 3

Null Hypothesis:	Obs	F-Statistic	Prob.
JUB does not Granger Cause PDB	45	4.13875	0.0124
PDB does not Granger Cause JUB		2.21106	0.1026

Pairwise Granger Causality Tests

Date: 11/21/18 Time: 09:44

Sample: 1993Q1 2004Q4

Lags: 4

Null Hypothesis:	Obs	F-Statistic	Prob.
JUB does not Granger Cause PDB	44	6.05750	0.0008
PDB does not Granger Cause JUB		1.74938	0.1613



LAMPIRAN 11
GRANGER CAUSALITY TEST

PERIODE 2005_{q1} - 2017_{q4}

Pairwise Granger Causality Tests

Date: 11/15/18 Time: 10:53

Sample: 2005Q1 2017Q4

Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
JUB does not Granger Cause PDB	51	7.02663	0.0108
PDB does not Granger Cause JUB		3.43065	0.0702

Pairwise Granger Causality Tests

Date: 11/15/18 Time: 10:53

Sample: 2005Q1 2017Q4

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
JUB does not Granger Cause PDB	50	3.49750	0.0387
PDB does not Granger Cause JUB		2.46748	0.0962

Pairwise Granger Causality Tests

Date: 11/15/18 Time: 10:54

Sample: 2005Q1 2017Q4

Lags: 3

Null Hypothesis:	Obs	F-Statistic	Prob.
JUB does not Granger Cause PDB	49	2.06562	0.1193
PDB does not Granger Cause JUB		2.54025	0.0693

