LAMPIRAN

Lampiran 1

Metode Johansen

Menentukan Lag optimum

VAR Lag Order Selection Criteria
Endogenous variables: LNM2 LNY SSBI SKR JIBOR
Exogenous variables: C
Date: 07/24/08 Time: 10:58
Sample: 1990:1 2005:4
Included observations: 60

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-516.4519	NA	24.34580	17.38173	17.55626	17.45000
1	-174.8511	614.8814	0.000638	6.828370	7.875543	7.237977
2	-118.2023	92.52642	0.000226	5.773409	7.693225*	6.524355*
3	-89.23913	42.47929	0.000207	5.641304	8.433764	6.733589
4	-50.63720	50.18250*	0.000144*	5.187907*	8.853010	6.621530

* 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

Perhatikan mayoritas lag yang dipilih tanda *, adalah lag **4**, maka lakukan uji kointegrasi pada lag **4**.

Date: 07/24/08 Time: 11:01
Sample(adjusted): 1991:2 2005:4
Included observations: 59 after adjusting endpoints
Trend assumption: Linear deterministic trend
Series: LNM2 LNY SSBI SKR JIBOR
Lags interval (in first differences): 1 to 4

Unrestricted Cointegration Rank Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	5 Percent Critical Value	1 Percent Critical Value

None **	0.404188	77.95033	68.52	76.07
At most 1 *	0.293577	47.39834	47.21	54.46
At most 2	0.242045	26.89344	29.68	35.65
At most 3	0.163185	10.54271	15.41	20.04
At most 4	0.000538	0.031731	3.76	6.65

*(**) denotes rejection of the hypothesis at the 5%(1%) level
Trace test indicates 2 cointegrating equation(s) at the 5% level
Trace test indicates 1 cointegrating equation(s) at the 1% level

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	5 Percent Critical Value	1 Percent Critical Value
None	0.404188	30.55198	33.46	38.77
At most 1	0.293577	20.50491	27.07	32.24
At most 2	0.242045	16.35073	20.97	25.52
At most 3	0.163185	10.51098	14.07	18.63
At most 4	0.000538	0.031731	3.76	6.65

*(**) denotes rejection of the hypothesis at the 5%(1%) level
Max-eigenvalue test indicates no cointegration at both 5% and 1% levels

Unrestricted Cointegrating Coefficients (normalized by b'*S11*b=I):

LNM2	LNY	SSBI	SKR	JIBOR
-5.594690	1.491278	0.666011	-0.995529	0.035600
-3.094053	-6.377047	-0.488290	0.589935	-0.171948
-6.364939	10.74994	-0.133393	0.591162	0.011372
9.245473	-5.253150	0.049255	-0.416712	0.201566
-13.18632	17.73361	-0.006363	0.159559	-0.070578

Unrestricted Adjustment Coefficients (alpha):

D(LNM2)	-0.003106	0.010701	0.000146	-0.002652	0.000317
D(LNY)	-0.000537	0.005407	-0.007492	0.005102	-0.000161
D(SSBI)	-2.273346	-0.389743	0.136719	0.064472	0.003537
D(SKR)	-0.242948	-0.165737	-0.141171	-0.020553	0.010468
D(JIBOR)	-0.138909	-0.292026	-0.407590	-0.552831	-0.019017

1 Cointegrating Equation(s):		Log likelihood	-43.41702

Normalized cointegrating coefficients (std.err. in parentheses)

LNM2	LNY	SSBI	SKR	JIBOR
1.000000	-0.266552	-0.119043	0.177942	-0.006363
	(0.45462)	(0.02985)	(0.04764)	(0.00791)

Adjustment coefficients (std.err. in parentheses)

D(LNM2)	0.017377
	(0.02316)
D(LNY)	0.003005
	(0.02137)
D(SSBI)	12.71867
	(2.64368)
D(SKR)	1.359219
	(0.63009)
D(JIBOR)	0.777155
	(1.73315)

2 Cointegrating Equation(s): Log likelihood -33.16457

Normalized cointegrating coefficients (std.err. in parentheses)

LNM2	LNY	SSBI	SKR	JIBOR
1.000000	0.000000	-0.087338	0.135730	0.000730
		(0.02732)	(0.04402)	(0.00515)
0.000000	1.000000	0.118945	-0.158363	0.026610
		(0.03198)	(0.05152)	(0.00603)

Adjustment coefficients (std.err. in parentheses)

D(LNM2)	-0.015734	-0.072875
	(0.02396)	(0.02454)
D(LNY)	-0.013726	-0.035284
	(0.02374)	(0.02432)
D(SSBI)	13.92455	-0.904781
	(2.99313)	(3.06609)
D(SKR)	1.872016	0.694607
	(0.69864)	(0.71567)
D(JIBOR)	1.680700	1.655112
	(1.95660)	(2.00429)

3 Cointegrating Equation(s): Log likelihood -24.98921

Normalized cointegrating coefficients (std.err. in parentheses)

LNM2	LNY	SSBI	SKR	JIBOR
1.000000	0.000000	0.000000	-0.004400	0.012714
			(0.01089)	(0.00281)
0.000000	1.000000	0.000000	0.032478	0.010288
			(0.00869)	(0.00224)
0.000000	0.000000	1.000000	-1.604447	0.137216
			(0.10111)	(0.02604)

Adjustment coefficients (std.err. in parentheses)

D(LNM2)	-0.016664	-0.071306	-0.007313
	(0.03381)	(0.04718)	(0.00314)
D(LNY)	0.033958	-0.115818	-0.001999

	(0.03161)	(0.04411)	(0.00293)
D(SSBI)	13.05435	0.564936	-1.342003
	(4.21869)	(5.88641)	(0.39119)
D(SKR)	2.770561	-0.822974	-0.062047
	(0.96335)	(1.34418)	(0.08933)
D(JIBOR)	4.274986	-2.726459	0.104448
	(2.69394)	(3.75890)	(0.24980)

4 Cointegrating Equation(s):	Log likelihood	-19.73372

Normalized cointegrating coefficients (std.err. in parentheses)

LNM2	LNY	SSBI	SKR	JIBOR
1.000000	0.000000	0.000000	0.000000	0.008143
				(0.00361)
0.000000	1.000000	0.000000	0.000000	0.044029
				(0.01067)
0.000000	0.000000	1.000000	0.000000	-1.529599
				(0.51587)
0.000000	0.000000	0.000000	1.000000	-1.038872
				(0.31685)

Adjustment coefficients (std.err. in parentheses)

D(LNM2)	-0.041183	-0.057374	-0.007444	0.010597
	(0.04808)	(0.05077)	(0.00312)	(0.00508)
D(LNY)	0.081126	-0.142619	-0.001748	-0.002830
	(0.04395)	(0.04640)	(0.00285)	(0.00464)
D(SSBI)	13.65042	0.226253	-1.338827	2.087216
	(6.03911)	(6.37679)	(0.39177)	(0.63798)
D(SKR)	2.580540	-0.715007	-0.063060	0.069198
	(1.37872)	(1.45581)	(0.08944)	(0.14565)
D(JIBOR)	-0.836196	0.177645	0.077218	-0.044569
	(3.67440)	(3.87986)	(0.23836)	(0.38817)

Penjelasan:

Metode *Trace Statistics* mengindikasikan keberadaan kombinasi diantara kelima variabel tersebut terbukti dapat menghasilkan setidaknya ada sebuah hubungan kointegrasi pada nilai kritis 5%.

Lampiran 2

Uji Stasioneritas → Stasioner Pada 1st Difference

1. Uji Stasioneritas Ln(m2)

Uji Unit Root Level
Null Hypothesis:LN(M2) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.338805	0.8689
Test critical values:	1% level	-4.110440	
	5% level	-3.482763	
	10% level	-3.169372	

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

Uji Unit Root 1st Difference
Null Hypothesis: D(Ln(M2)) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.724173	0.0000
Test critical values:	1% level	-3.540198	
	5% level	-2.909206	
	10% level	-2.592215	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LN((M2),2))
Method: Least Squares
Date: 06/09/08 Time: 13:23
Sample(adjusted): 1990:3 2005:
Included observations: 62 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LN((M2(-1))	-1.144146	0.131147	-8.724173	0.0000
C	85.68711	36.99153	2.316398	0.0240

R-squared	0.559184	Mean dependent var	-9.189212
Adjusted R-squared	0.551837	S.D. dependent var	415.8639
S.E. of regression	278.4000	Akaike info criterion	14.12772
Sum squared resid	4650393.	Schwarz criterion	14.19634
Log likelihood	-435.9594	F-statistic	76.11120
Durbin-Watson stat	1.968419	Prob(F-statistic)	0.000000

2. Uji Stasioneritas Ln(y)

Uji Unit Root Level
Null Hypothesis: LN(Y) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.673695	0.2508
Test critical values:	1% level	-4.110440	
	5% level	-3.482763	
	10% level	-3.169372	

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

Uji unit Root 1st Difference
Null Hypothesis: D(LN(Y)) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.999748	0.0000
Test critical values:	1% level	-3.540198	
	5% level	-2.909206	
	10% level	-2.592215	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LN(Y),2)
Method: Least Squares
Date: 06/09/08 Time: 13:35
Sample(adjusted): 1990:3 2005:4
Included observations: 62 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(Y(-1))	-1.181150	0.131243	-8.999748	0.0000
C	50.56055	15.83730	3.192498	0.0022

R-squared	0.574454	Mean dependent var	-3.316346
Adjusted R-squared	0.567362	S.D. dependent var	175.5232
S.E. of regression	115.4508	Akaike info criterion	12.36729
Sum squared resid	799733.1	Schwarz criterion	12.43591
Log likelihood	-381.3861	F-statistic	80.99546
Durbin-Watson stat	1.919345	Prob(F-statistic)	0.000000

3. Uji Stasioneritas ssbi

Uni Unit Root Level

Null Hypothesis: SSBI has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.104700	0.1143
Test critical values:	1% level	-4.113017	
	5% level	-3.483970	
	10% level	-3.170071	

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

Uji Unit Root 1st Difference

Null Hypothesis: D(SSBI) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.651693	0.0000
Test critical values:	1% level	-3.540198	
	5% level	-2.909206	
	10% level	-2.592215	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(SSBI,2)
Method: Least Squares
Date: 06/09/08 Time: 13:41
Sample(adjusted): 1990:3 2005:4
Included observations: 62 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SSBI(-1))	-0.847499	0.127411	-6.651693	0.0000
C	-0.059882	0.824236	-0.072651	0.9423

R-squared	0.424433	Mean dependent var	-0.017097
Adjusted R-squared	0.414840	S.D. dependent var	8.483932
S.E. of regression	6.489847	Akaike info criterion	6.610081
Sum squared resid	2527.087	Schwarz criterion	6.678698
Log likelihood	-202.9125	F-statistic	44.24501
Durbin-Watson stat	1.954427	Prob(F-statistic)	0.000000

4. Uji Stasioneritas skr

Uji Unit Root Level
Null Hypothesis: SKR has a unit root
Exogenous: Constant
Lag Length: 4 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.361802	0.1569
Test critical values:	1% level	-3.546099	
	5% level	-2.911730	
	10% level	-2.593551	

Uji Unit Root 1st Difference

Null Hypothesis: D(SKR) has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.900279	0.0002
Test critical values:	1% level	-2.602794	
	5% level	-1.946161	
	10% level	-1.613398	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(SKR,2)
Method: Least Squares
Date: 07/27/08 Time: 16:01
Sample(adjusted): 1990:3 2005:4
Included observations: 62 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SKR(-1))	-0.408713	0.104791	-3.900279	0.0002
R-squared	0.198873	Mean dependent var		0.045700
Adjusted R-squared	0.198873	S.D. dependent var		1.525565
S.E. of regression	1.365468	Akaike info criterion		3.476869
Sum squared resid	113.7347	Schwarz criterion		3.511178
Log likelihood	-106.7829	Durbin-Watson stat		1.873871

5. Uji Stasioneritas JIBOR

Uji Unit Root Level

Null Hypothesis: JIBOR has a unit root
Exogenous: None
Lag Length: 1 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.035335	0.2677
Test critical values:	1% level	-2.602794	
	5% level	-1.946161	
	10% level	-1.613398	

Uji Unit Root 1st Difference

Null Hypothesis: D(JIBOR) has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on SIC, MAXLAG=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.844903	0.0000
Test critical values:	1% level	-2.602794	
	5% level	-1.946161	
	10% level	-1.613398	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(JIBOR,2)
Method: Least Squares
Date: 07/27/08 Time: 15:50
Sample(adjusted): 1990:3 2005:4
Included observations: 62 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(JIBOR(-1))	-0.546506	0.112800	-4.844903	0.0000

R-squared	0.277718	Mean dependent var	0.045161
Adjusted R-squared	0.277718	S.D. dependent var	3.072252
S.E. of regression	2.611021	Akaike info criterion	4.773357
Sum squared resid	415.8631	Schwarz criterion	4.807666
Log likelihood	-146.9741	Durbin-Watson stat	2.005354

Lampiran 3

Model Persamaan Long-Run

Dependent Variable: LNM2
Method: Least Squares
Date: 07/24/08 Time: 10:26
Sample: 1990:1 2005:4
Included observations: 64

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.922303	0.639239	-1.442816	0.1544
LNY	1.158692*	0.073985	15.66117	0.0000*
SSBI	-0.004532	0.002343	-1.934399	0.0579
SKR	0.023428*	0.005297	4.423023	0.0000*
JIBOR	-0.007473*	0.001399	-5.340947	0.0000*

R-squared	0.930570	Mean dependent var	8.555907
Adjusted R-squared	0.925863	S.D. dependent var	0.357041
S.E. of regression	0.097215	Akaike info criterion	-1.748871
Sum squared resid	0.557599	Schwarz criterion	-1.580208
Log likelihood	60.96387	F-statistic	197.6954
Durbin-Watson stat	0.477901	Prob(F-statistic)	0.000000

Uji Unit Root Residual (ECT) → Stasioner Pada Level

Null Hypothesis: ECT has a unit root
Exogenous: None
Lag Length: 0 (Automatic based on AIC, MAXLAG=10)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.069638	0.0027
Test critical values:	1% level	-2.602185	
	5% level	-1.946072	
	10% level	-1.613448	

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

Lampiran 4

Bentuk ECM :

Model Persamaan Short-Run

Dependent Variable: D(LNM2)
Method: Least Squares
Date: 07/24/08 Time: 15:17
Sample(adjusted): 1990:4 2005:4
Included observations: 61 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.012112	0.004223	2.868389	0.0059
D(LNM2(-1))	0.228980*	0.066021	3.468306	0.0010*
D(LNY(-1))	0.738051*	0.065590	11.25253	0.0000*
D(SSBI(-1))	-0.001255*	0.000452	-2.780548	0.0075*
D(SKR(-1))	0.000547	0.001756	0.311274	0.7568
D(JIBOR(-1))	0.000540	0.000800	0.675673	0.5022
D(ECT(-1))	-0.699719*	0.062357	-11.22122	0.0000*
DUM	-0.018244*	0.004913	-3.713813	0.0005*

R-squared	0.871487	Mean dependent var	0.016161
Adjusted R-squared	0.854514	S.D. dependent var	0.045693
S.E. of regression	0.017429	Akaike info criterion	-5.139700
Sum squared resid	0.016099	Schwarz criterion	-4.862864
Log likelihood	164.7608	F-statistic	51.34425
Durbin-Watson stat	1.381083	Prob(F-statistic)	0.000000

Uji Residual Unit Root ECT(-1) → Stasioner pada Level

Null Hypothesis: ECT(-1) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=10)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.512517	0.0000
Test critical values:	1% level	-3.542097	
	5% level	-2.910019	
	10% level	-2.592645	

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