

## APPENDIX

## Data

Years	Month	Exchange Rate (Rp=\$)	Eksport (Millions USD)	JCI	M2 (Billions Rp)	BI Rate
2010	January	9321.95	11595.87	2610.80	2073860	6.50
	February	9395.11	11166.45	2549.03	2066481	6.50
	March	9219.68	12774.37	2777.30	2112083	6.50
	April	9072.33	12035.25	2971.25	2116024	6.50
	May	9229.16	12619.13	2796.96	2143234	6.50
	June	9194.00	12330.11	2913.68	2231144	6.50
	July	9094.45	12486.97	3069.28	2217589	6.50
	August	9016.76	13726.52	3081.88	2236459	6.50
	September	9020.84	12181.63	3501.30	2274955	6.50
	October	8972.90	14399.64	3635.32	2308846	6.50
	November	8983.29	15633.28	3531.21	2347807	6.50
	December	9067.62	16829.89	3703.51	2471206	6.50
2011	January	9082.38	14606.25	3409.17	2436679	6.50
	February	8957.11	14415.28	3470.35	2420191	6.75
	March	8805.48	16365.95	3678.67	2451357	6.75
	April	8694.30	16554.24	3819.62	2434478	6.75
	May	8598.80	18287.44	3836.97	2475286	6.75
	June	8607.00	18386.86	3888.57	2522784	6.75
	July	8576.19	17418.47	4130.80	2564556	6.75
	August	8574.79	18647.83	3841.73	2621346	6.75
	September	8809.45	17543.41	3549.03	2643331	6.75
	October	8939.67	16957.74	3790.85	2677787	6.50
	November	9060.23	17235.46	3715.08	2729538	6.00
	December	9133.76	17077.69	3821.99	2877220	6.00
2012	January	9154.76	15570.07	3941.69	2857127	6.00
	February	9070.81	15695.44	3985.21	2852005	5.75
	March	9211.29	17251.52	4121.55	2914194	5.75
	April	9221.50	16173.19	4180.73	2929610	5.75
	May	9336.57	16829.55	3832.82	2994474	5.75
	June	9498.14	15441.46	3955.58	3052786	5.75
	July	9503.59	16090.60	4142.34	3057336	5.75
	August	9547.16	14047.01	4060.33	3091568	5.75
	September	9614.25	15898.12	4262.56	3128179	5.75
	October	9645.14	15324.04	4350.29	3164443	5.75
	November	9675.95	16316.91	4276.14	3207908	5.75
	December	9693.94	15393.95	4316.69	3307508	5.75
2013	January	9735.57	15375.49	4453.70	3268789	5.75
	February	9735.05	15015.63	4795.79	3280420	5.75
	March	9758.11	15024.58	4940.99	3322529	5.75
	April	9772.95	14760.89	5034.07	3360928	5.75
	May	9809.91	16133.36	5068.63	3426305	5.75
	June	9931.00	14758.82	4818.90	3413379	6.00

Years	Month	Exchange Rate (Rp=)	Eksport (Millions USD)	JCI	M2 (Billions Rp)	BI Rate
2013	July	10123.70	15087.86	4610.38	3506574	6.50
	August	10625.28	13083.71	4195.09	3502420	7.00
	September	11402.95	14706.78	4316.18	3584017	7.25
	October	11423.86	15698.33	4510.63	3576758	7.25
	November	11671.25	15938.56	4256.44	3614408	7.50
	December	12147.55	16967.80	4274.18	3730197	7.50
2014	January	12240.55	14472.62	4418.76	3652349	7.50
	February	11994.75	14634.17	4620.22	3643059	7.50
	March	11484.15	15192.78	4768.28	3660606	7.50
	April	11492.95	14292.52	4840.15	3730376	7.50
	May	11583.72	14823.66	4893.91	3789279	7.50
	June	11952.10	15409.49	4878.58	3865891	7.50
	July	11747.50	14124.15	5088.80	3895981	7.50
	August	11765.24	14481.65	5136.86	3895374	7.50
	September	11950.36	15275.85	5137.58	4010147	7.50
	October	12205.57	15292.89	5089.55	4024489	7.50
	November	12219.25	13544.73	5149.89	4076670	7.75
	December	12500.48	14436.34	5226.95	4173327	7.75
2015	January	12641.95	13244.88	5289.40	4174826	7.75
	February	12813.53	12172.80	5450.29	4218123	7.50
	March	13132.09	13634.04	5518.67	4246361	7.50
	April	13012.62	13104.60	5086.42	4275711	7.50
	May	13206.26	12754.66	5216.38	4288369	7.50
	June	13379.95	13514.10	4910.66	4358802	7.50
	July	13441.79	11465.78	4802.53	4373208	7.50
	August	13850.70	12726.04	4509.61	4404085	7.50
	September	14468.00	12588.36	4223.91	4508603	7.50
	October	13864.76	12121.74	4455.18	4443078	7.50
	November	13740.95	11122.18	4446.46	4452325	7.50
	December	13923.75	11917.11	4593.01	4548800	7.50
2016	January	13958.35	10581.88	4615.16	4498361	7.25
	February	13583.20	11316.73	4770.96	4521951	7.00
	March	13259.14	11812.13	4845.37	4561873	6.75
	April	13245.81	11689.75	4838.58	4581878	6.75
	May	13486.70	11517.41	4796.87	4614062	6.75
	June	13421.68	13206.12	5016.65	4737451	6.50
	July	13184.53	9649.50	5215.99	4730380	6.50
	August	13230.91	12753.92	5386.08	4746027	6.50
	September	13183.76	12579.75	5364.80	4737631	6.50
	October	13082.24	12743.74	5422.54	4778479	6.50
	November	13377.05	13502.92	5148.91	4868651	6.50
	December	13484.76	13832.36	5296.71	5004977	6.50
2017	January	13425.67	13401.70	5294.10	4936882	6.50
	February	13407.84	12613.52	5386.69	4942920	6.50
	March	13412.50	14678.81	5568.11	5016983	6.50

**Unit Root Test - On Level**  
**(Augmented Dickey-Fuller Test with Intercept and Trend)**

***Log Exchange Rate***

**With Intercept and Trend**

Null Hypothesis: LOG\_EXC\_RATE has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 1 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.470749	0.3416
Test critical values:		
1% level	-4.069631	
5% level	-3.463547	
10% level	-3.158207	

***Log Export***

**With Intercept and Trend**

Null Hypothesis: LOG\_EXPORT has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 1 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.145516	0.1027
Test critical values:		
1% level	-4.069631	
5% level	-3.463547	
10% level	-3.158207	

***Log Jakarta Composite Index***

**With Intercept and Trend**

Null Hypothesis: LOG\_JCI has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.969739	0.1468
Test critical values:		
1% level	-4.068290	
5% level	-3.462912	
10% level	-3.157836	

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

**Log Money Supply (M2)****With Intercept and Trend**

Null Hypothesis: LOG\_M2 has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 2 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.947726	0.9449
Test critical values: 1% level	-4.071006	
5% level	-3.464198	
10% level	-3.158586	

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

**Var BI Rate****With Intercept and Trend**

Null Hypothesis: VAR\_BI\_RATE has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 1 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.623025	0.7757
Test critical values: 1% level	-4.069631	
5% level	-3.463547	
10% level	-3.158207	

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

**Unit Root Test - On First Difference**  
**(Augmented Dickey-Fuller Test with Intercept Only)**

**D Log Exchange Rate**

Null Hypothesis: D\_LOG\_EXC\_RATE has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.751445	0.0000
Test critical values: 1% level	-3.509281	
5% level	-2.895924	
10% level	-2.585172	

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

**D Log Export**

Null Hypothesis: D\_LOG\_EXPORT has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-15.72281	0.0001
Test critical values: 1% level	-3.509281	
5% level	-2.895924	
10% level	-2.585172	

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

**D Log Jakarta Composite Index**

Null Hypothesis: D\_LOG\_JCI has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-9.153810	0.0000
Test critical values: 1% level	-3.509281	
5% level	-2.895924	
10% level	-2.585172	

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

**D Log Money Supply (M2)**

Null Hypothesis: D\_LOG\_M2 has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=12)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-11.55550	0.0001
Test critical values: 1% level	-3.509281	
5% level	-2.895924	
10% level	-2.585172	

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

**D Var BI Rate**

Null Hypothesis: D\_VAR\_BI\_RATE has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.259911	0.0000
Test critical values: 1% level	-3.509281	
5% level	-2.895924	
10% level	-2.585172	

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

### **Long-Run Estimation (OLS)**

Dependent Variable: LOG\_EXC\_RATE

Method: Least Squares

Sample: 2010M01 2017M03

Included observations: 87

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG_EXPORT	-0.200074	0.024171	-8.277598	0.0000
LOG_JCI	-0.269933	0.038613	-6.990737	0.0000
LOG_M2	0.674887	0.029600	22.80040	0.0000
VAR_BI_RATE	0.058007	0.004247	13.65759	0.0000
C	2.927566	0.358888	8.157334	0.0000
R-squared	0.983132	Mean dependent var		9.294107
Adjusted R-squared	0.982309	S.D. dependent var		0.172660
S.E. of regression	0.022965	Akaike info criterion		-4.653921
Sum squared resid	0.043247	Schwarz criterion		-4.512202
Log likelihood	207.4455	Hannan-Quinn criter.		-4.596855
F-statistic	1194.793	Durbin-Watson stat		1.139767
Prob(F-statistic)	0.000000			

### **Unit Root Test of ECT**

Null Hypothesis: ECT\_NO\_IMPORT has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.833728	0.0000
Test critical values:		
1% level	-3.509281	
5% level	-2.895924	
10% level	-2.585172	

### **Short-Run Estimation (ECM)**

Dependent Variable: D\_LOG\_EXC\_RATE

Method: Least Squares

Sample (adjusted): 2010M02 2017M03

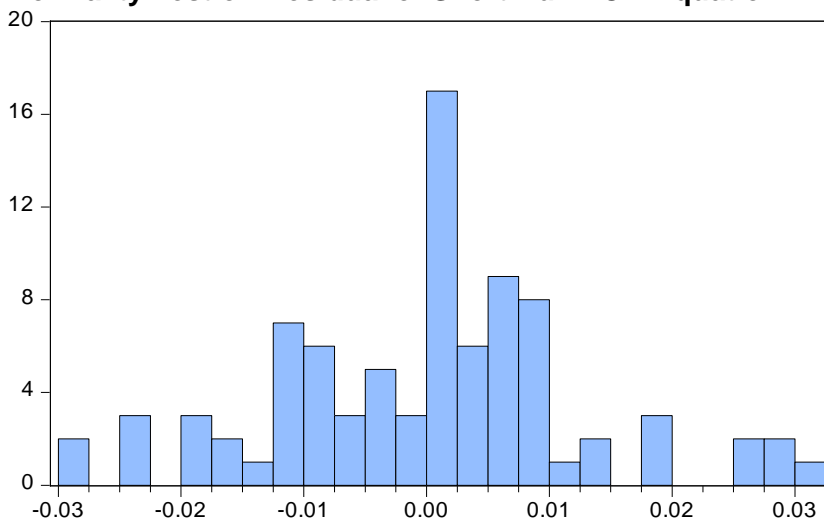
Included observations: 86 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D_LOG_EXPORT	-0.025327	0.017484	-1.448564	0.1514
D_LOG_JCI	-0.163769	0.033964	-4.821856	0.0000
D_LOG_M2	0.425501	0.110641	3.845786	0.0002
D_VAR_BI_RATE	0.027263	0.010894	2.502573	0.0144
ECT-1	-0.370436	0.067818	-5.462244	0.0000
C	0.001262	0.001806	0.698927	0.4866
R-squared	0.499567	Mean dependent var		0.004230
Adjusted R-squared	0.468290	S.D. dependent var		0.017624
S.E. of regression	0.012851	Akaike info criterion		-5.803563
Sum squared resid	0.013212	Schwarz criterion		-5.632329
Log likelihood	255.5532	Hannan-Quinn criter.		-5.734649
F-statistic	15.97234	Durbin-Watson stat		1.489427
Prob(F-statistic)	0.000000			

## Classical Assumptions Test

### NormalityTest

#### Normality Test on Residual of Short Run ECM Equation



Series: Residuals  
Sample 2010M02 2017M03  
Observations 86

Mean -9.81e-19  
Median 0.001554  
Maximum 0.031135  
Minimum -0.029724  
Std. Dev. 0.012467  
Skewness 0.099412  
Kurtosis 3.361179

Jarque-Bera 0.609100  
Probability 0.737455

### LinearityTest

#### Linearity Test on Long-Term Equation

Ramsey RESET Test

Equation: EQ\_LONG\_NO\_IMPORT

Specification: LOG\_EXC\_RATE LOG\_EXPORT LOG\_JCI LOG\_M2  
VAR\_BI\_RATE C

Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.594637	81	0.5537
F-statistic	0.353593	(1, 81)	0.5537
Likelihood ratio	0.378958	1	0.5382

#### Linearity Test on Short-Term Equation

Ramsey RESET Test

Equation: EQ\_ECM\_NO\_IMPORT

Specification: D\_LOG\_EXC\_RATE D\_LOG\_EXPORT D\_LOG\_JCI  
D\_LOG\_M2 D\_VAR\_BI\_RATE ECT C

Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.077551	79	0.9384
F-statistic	0.006014	(1, 79)	0.9384
Likelihood ratio	0.006547	1	0.9355



**Autocorrelation Test**

Lag = 2, ECM Equation

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	4.086961	Prob. F(2,78)	0.0205
Obs*R-squared	8.157424	Prob. Chi-Square(2)	0.0669

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Sample: 2010M02 2017M03

Included observations: 86

Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D_LOG_EXPORT	-0.007407	0.017069	-0.433976	0.6655
D_LOG_JCI	-0.005760	0.032790	-0.175673	0.8610
D_LOG_M2	0.023008	0.107896	0.213244	0.8317
D_VAR_BI_RATE	0.000222	0.010693	0.020792	0.9835
ECT	-0.124644	0.085478	-1.458203	0.1488
C	-0.000199	0.001748	-0.114071	0.9095
RESID(-1)	0.374454	0.131071	2.856871	0.0055
RESID(-2)	-0.014090	0.123910	-0.113711	0.9098

R-squared	0.094854	Mean dependent var	-9.81E-19
Adjusted R-squared	0.013623	S.D. dependent var	0.012467
S.E. of regression	0.012382	Akaike info criterion	-5.856710
Sum squared resid	0.011959	Schwarz criterion	-5.628398
Log likelihood	259.8385	Hannan-Quinn criter.	-5.764825
F-statistic	1.167703	Durbin-Watson stat	2.005144
Prob(F-statistic)	0.330997		

**Multicollinearity Test**

Covariance Analysis: Ordinary

Sample: 2010M01 2017M03

Included observations: 87

Correlation	LOG_EXPORT	LOG_JCI	LOG_M2	VAR_BI_RATE
LOG_EXPORT	1.000000			
LOG_JCI	-0.090134	1.000000		
LOG_M2	-0.376445	0.799070	1.000000	
VAR_BI_RATE	-0.295740	0.299291	0.411128	1.000000

**Heterocedasticity Test**  
**Test on Long-Term Equation**

Heteroskedasticity Test: White

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F-statistic	1.773897	Prob. F(13,73)	0.0638
Obs*R-squared	20.88553	Prob. Chi-Square(13)	0.0752
Scaled explained SS	32.58021	Prob. Chi-Square(13)	0.0020

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**Test on ECM Equation**

Heteroskedasticity Test: White

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F-statistic	1.556865	Prob. F(20,65)	0.0926
Obs*R-squared	27.85399	Prob. Chi-Square(20)	0.1129
Scaled explained SS	28.45572	Prob. Chi-Square(20)	0.0990

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