LAMPIRAN

Lampiran 1. Data Harga Jagung Pada Ketiga Level Pemasaran di Jawa Timur Pada Tahun 2005-2013 (Rp/Kg)

1. Data Perkembangan Harga Jagung di Tingkat Petani Rerata Bulanan Provinsi Jawa Timur Tahun 2005-2013

Bulan	2005	2006	2007	2008	2009	2010	2011	2012	2013
Januari	1,220	1,263	1,632	2,106	1,802	2,090	2,225	2,675	2,926
Pebruari	1,187	1,275	1,748	2,057	1,767	2,090	2,425	2,425	2,855
Maret	1,154	1,266	1,747	1,867	1,818	2,100	2,950	2,475	2,880
April	1,201	1,316	1,741	1,936	1,904	2,100	2,950	2,650	2,911
Mei	1,214	1,410	1,750	2,071	1,967	2,100	2,975	2,658	2,881
Juni	1,229	1,470	1,745	2,308	2,097	2,100	2,875	2,500	2,843
Juli	1,250	1,486	1,746	2,631	2,077	2,200	2,400	2,450	3,010
Agustus	1,237	1,507	1,776	2,655	2,047	2,500	2,350	2,525	2,977
September	1,245	1,541	1,873	2,563	2,087	2,600	2,500	2,750	2,981
Oktober	1,286	1,574	1,916	2,310	2,065	2,600	2,300	2,725	3,188
November	1,273	1,632	1,945	2,073	2,020	2,600	2,475	2,750	3,089
Desember	1,247	1,733	1,976	1,938	2,072	2,650	2,475	2,775	3,049

2. Data Perkembangan Harga Jagung di Tingkat Pedagang Besar Rerata Bulanan Provinsi Jawa Timur Tahun 2005-2013.

Bulan	2005	2006	2007	2008	2009	2010	2011	2012	2013
Januari	2,000	1,212	1,814	2,149	1,835	2,604	3,533	2,601	2,975
Pebruari	1,368	1,140	1,644	2,193	1,843	2,682	3,292	2,562	2,950
Maret	1,368	1,249	1,925	2,114	1,903	2,628	3,333	2,340	2,850
April	1,308	1,345	2,487	2,114	2,005	2,595	3,232	2,539	2,925
Mei	1,282	1,554	1,837	2,246	2,054	2,588	3,163	2,532	3,075
Juni	1,312	1,495	1,831	2,470	2,253	2,684	2,933	2,529	3,175
Juli	1,329	1,538	1,820	3,136	2,463	2,847	2,777	2,555	3,400
Agustus	1,290	1,579	1,759	3,136	2,509	2,602	2,793	2,651	3,400
September	1,364	1,577	1,757	3,015	2,608	2,679	2,300	2,783	3,425
Oktober	1,362	1,538	1,913	2,829	2,374	2,749	2,434	2,789	3,275
November	1,292	1,601	1,992	2,047	2,253	2,668	2,408	2,779	3,225
Desember	1,249	1,728	2,064	1,884	2,303	2,602	2,438	2,882	3,175

Lampiran 1 (Lanjutan)

3. Data Perkembangan Harga Jagung di Tingkat Pedagang Pengecer Rerata Bulanan Provinsi Jawa Timur Tahun 2005-2013.

Bulan	2005	2006	2007	2008	2009	2010	2011	2012	2013
Januari	2,245	2,220	3,000	3,455	4,508	4,345	4,936	4,004	4,313
Pebruari	2,367	2,300	3,000	3,300	4,500	4,350	4,878	3.902	4,388
Maret	2,286	2,390	3,000	3,000	3,919	4,384	4,752	3,849	4,305
April	2,200	2,400	3,000	3,000	3,393	4,407	4,909	3,980	4,287
Mei	2,170	2,400	2,875	3,371	3,532	4,500	4,997	3,953	4,238
Juni	1,938	2,467	3,000	3,420	3,708	4,558	5,000	3,953	4,317
Juli	1,914	2,690	2,842	3,516	4,000	4,734	5,000	3,949	4,529
Agustus	1,900	2,874	2,881	4,581	4,000	4,952	4,857	3,966	4,562
September	2,129	2,900	2,993	4,725	4,483	4,958	4,731	4,013	4,555
Oktober	2,365	2,900	2,910	4,589	4,548	4,911	4,777	4,151	4,575
November	2,376	2,923	3,020	4,637	4,717	6,383	4,813	4,209	4,569
Desember	2,200	3,000	3,281	4,723	4,363	4,952	4,861	4,228	4,579

Lampiran 2 : Output Uji Stasioner Data Harga Petani Pada Tingkat Level

Null Hypothesis: PT has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=12)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.169049	0.6857
Test critical values:	1% level	-3.492523	
	5% level	-2.888669	
	10% level	-2.581313	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PT)
Method: Least Squares
Date: 05/18/14 Time: 14:44
Sample (adjusted): 2005M02 2013M12
Included observations: 107 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PT(-1)	-0.026152	0.022370	-1.169049	0.2450
C	72.47138	48.98298	1.479522	0.1420

R-squared	0.012849	Mean dependent var	17.09346
Adjusted R-squared	0.003447	S.D. dependent var	129.1764
S.E. of regression	128.9535	Akaike info criterion	12.57530
Sum squared resid	1746047.	Schwarz criterion	12.62526
Log likelihood	-670.7783	Hannan-Quinn criter.	12.59555
F-statistic	1.366676	Durbin-Watson stat	1.720798
Prob(F-statistic)	0.245031		

Lampiran 3 : Output Uji Stasioner Data Harga Pedagang Besar Pada Tingkat Level

Null Hypothesis: PB has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=12)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.441004	0.5595
Test critical values:	1% level	-3.492523	
	5% level	-2.888669	
	10% level	-2.581313	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PB)
Method: Least Squares
Date: 05/18/14 Time: 14:50
Sample (adjusted): 2005M02 2013M12
Included observations: 107 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PB(-1)	-0.045498	0.031574	-1.441004	0.1526
C	115.3451	75.13943	1.535081	0.1278

R-squared	0.019393	Mean dependent var	10.98131
Adjusted R-squared	0.010054	S.D. dependent var	208.0982
S.E. of regression	207.0495	Akaike info criterion	13.52231
Sum squared resid	4501296.	Schwarz criterion	13.57227
Log likelihood	-721.4434	Hannan-Quinn criter.	13.54256
F-statistic	2.076494	Durbin-Watson stat	1.840609
Prob(F-statistic)	0.152559		

Lampiran 4 : Output Uji Stasioner Data Harga Pedagang Pengecer Pada Tingkat Level

Null Hypothesis: PP has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic based on SIC, MAXLAG=12)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.424535	0.1375
Test critical values:	1% level	-3.493129	
	5% level	-2.888932	
	10% level	-2.581453	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PP)
Method: Least Squares
Date: 05/18/14 Time: 14:51
Sample (adjusted): 2005M03 2013M12
Included observations: 106 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PP(-1)	-0.134806	0.055601	-2.424535	0.0171
D(PP(-1))	-0.263816	0.094370	-2.795543	0.0062
C	530.1906	214.2852	2.474229	0.0150

R-squared	0.156214	Mean dependent var	20.86792
Adjusted R-squared	0.139829	S.D. dependent var	610.5119
S.E. of regression	566.2216	Akaike info criterion	15.54374
Sum squared resid	33022507	Schwarz criterion	15.61912
Log likelihood	-820.8183	Hannan-Quinn criter.	15.57429
F-statistic	9.534410	Durbin-Watson stat	2.106841
Prob(F-statistic)	0.000159		

Lampiran 5 : Output Uji Stasioner Data Harga Petani Pada Tingkat *First Defference*

Null Hypothesis: D(PT) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=12)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.931404	0.0000
Test critical values:	1% level	-4.046925	
	5% level	-3.452764	
	10% level	-3.151911	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PT,2)
Method: Least Squares
Date: 05/18/14 Time: 15:00
Sample (adjusted): 2005M03 2013M12
Included observations: 106 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PT(-1))	-0.873150	0.097762	-8.931404	0.0000
C	16.58287	25.81501	0.642373	0.5221
@TREND(2005M01)	-0.022999	0.412337	-0.055778	0.9556

R-squared	0.436511	Mean dependent var	-0.066038
Adjusted R-squared	0.425569	S.D. dependent var	171.3810
S.E. of regression	129.8918	Akaike info criterion	12.59917
Sum squared resid	1737802.	Schwarz criterion	12.67455
Log likelihood	-664.7562	Hannan-Quinn criter.	12.62973
F-statistic	39.89481	Durbin-Watson stat	1.960851
Prob(F-statistic)	0.000000		

Lampiran 6 : Output Uji Stasioner Data Harga Pedagang Besar Pada Tingkat *First Defference*

Null Hypothesis: D(PB) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=12)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-10.53839	0.0000
Test critical values:	1% level	-4.046925	
	5% level	-3.452764	
	10% level	-3.151911	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PB,2)
Method: Least Squares
Date: 05/18/14 Time: 15:01
Sample (adjusted): 2005M03 2013M12
Included observations: 106 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PB(-1))	-0.991671	0.094101	-10.53839	0.0000
C	19.06435	39.93823	0.477346	0.6341
@TREND(2005M01)	-0.038779	0.639718	-0.060618	0.9518

R-squared	0.519613	Mean dependent var	5.490566
Adjusted R-squared	0.510285	S.D. dependent var	287.6141
S.E. of regression	201.2713	Akaike info criterion	13.47508
Sum squared resid	4172543.	Schwarz criterion	13.55046
Log likelihood	-711.1791	Hannan-Quinn criter.	13.50563
F-statistic	55.70522	Durbin-Watson stat	2.003066
Prob(F-statistic)	0.000000		

Lampiran 7 : Output Uji Stasioner Data Harga Pedagang Pengecer Pada Tingkat *First Defference*

Null Hypothesis: D(PP) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic based on SIC, MAXLAG=12)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-10.47042	0.0000
Test critical values:	1% level	-4.047795	
	5% level	-3.453179	
	10% level	-3.152153	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(PP,2)
Method: Least Squares
Date: 05/18/14 Time: 15:02
Sample (adjusted): 2005M04 2013M12
Included observations: 105 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PP(-1))	-1.648453	0.157439	-10.47042	0.0000
D(PP(-1),2)	0.240485	0.096562	2.490468	0.0144
C	66.29216	115.5017	0.573950	0.5673
@TREND(2005M01)	-0.555671	1.837324	-0.302435	0.7629

R-squared	0.683917	Mean dependent var	0.866667
Adjusted R-squared	0.674528	S.D. dependent var	999.8751
S.E. of regression	570.4299	Akaike info criterion	15.56801
Sum squared resid	32864414	Schwarz criterion	15.66911
Log likelihood	-813.3204	Hannan-Quinn criter.	15.60898
F-statistic	72.84547	Durbin-Watson stat	2.065370
Prob(F-statistic)	0.000000		

Lampiran 8 : Hasil Output Eviews Regresi Variabel Harga di tingkat Petani dan Harga di tingkat Pedagang Besar

Dependent Variable: PT
Method: Least Squares
Date: 05/17/14 Time: 08:10
Sample: 2005M01 2013M12
Included observations: 108

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PB	0.506074	0.046842	10.80390	0.0000
SER01	0.004223	0.000450	9.393432	0.0000
C	3.497512	0.339637	10.29779	0.0000

R-squared	0.936962	Mean dependent var	7.624034
Adjusted R-squared	0.935761	S.D. dependent var	0.284066
S.E. of regression	0.071997	Akaike info criterion	-2.396988
Sum squared resid	0.544281	Schwarz criterion	-2.322485
Log likelihood	132.4374	Hannan-Quinn criter.	-2.366780
F-statistic	780.3336	Durbin-Watson stat	0.834638
Prob(F-statistic)	0.000000		

Lampiran 9 : Output Hasil Uji Kointegrasi Harga di Tingkat Petani dan Harga di tingkat Pedagang Besar

Null Hypothesis: D(RESID04) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 4 (Automatic based on SIC, MAXLAG=12)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.634708	0.0000
Test critical values:	1% level	-4.051450	
	5% level	-3.454919	
	10% level	-3.153171	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID04,2)
Method: Least Squares
Date: 05/18/14 Time: 15:18
Sample (adjusted): 2005M08 2013M12
Included observations: 101 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RESID04(-1))	-2.748523	0.318311	-8.634708	0.0000
D(RESID04(-1),2)	1.374802	0.272804	5.039517	0.0000
D(RESID04(-2),2)	0.931544	0.219937	4.235496	0.0001
D(RESID04(-3),2)	0.662670	0.154329	4.293892	0.0000
D(RESID04(-4),2)	0.367168	0.092547	3.967382	0.0001
C	0.012152	0.012522	0.970458	0.3343
@TREND(2005M01)	-0.000186	0.000196	-0.948808	0.3452

R-squared	0.705350	Mean dependent var	-0.000241
Adjusted R-squared	0.686542	S.D. dependent var	0.101138
S.E. of regression	0.056624	Akaike info criterion	-2.837968
Sum squared resid	0.301394	Schwarz criterion	-2.656722
Log likelihood	150.3174	Hannan-Quinn criter.	-2.764594
F-statistic	37.50372	Durbin-Watson stat	2.031049
Prob(F-statistic)	0.000000		

Lampiran 10 : Output Hasil Uji ECM Harga di tingkat Petani dan Harga di tingkat Pedagang Besar

Dependent Variable: D(PT)
Method: Least Squares
Date: 05/17/14 Time: 17:43
Sample (adjusted): 2005M03 2013M12
Included observations: 106 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PB)	0.346988	0.054434	6.374519	0.0000
D(DRESID03)	0.401040	0.052362	7.658980	0.0000
RESID04	-0.057396	0.069483	-0.826052	0.4107
C	0.006924	0.003861	1.793220	0.0759

R-squared	0.485906	Mean dependent var	0.008900
Adjusted R-squared	0.470786	S.D. dependent var	0.054310
S.E. of regression	0.039509	Akaike info criterion	-3.587567
Sum squared resid	0.159219	Schwarz criterion	-3.487060
Log likelihood	194.1410	Hannan-Quinn criter.	-3.546831
F-statistic	32.13576	Durbin-Watson stat	1.467229
Prob(F-statistic)	0.000000		

Lampiran 11 : Hasil Output Eviews Regresi Variabel Harga di tingkat Pedagang Besar dan Harga di tingkat Pedagang Pengecer

Dependent Variable: PB
Method: Least Squares
Date: 05/18/14 Time: 03:30
Sample: 2005M01 2013M12
Included observations: 108

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PP	0.041740	0.020452	2.040889	0.0438
SER01	0.008115	0.000468	17.35682	0.0000
C	6.917551	0.162766	42.49995	0.0000

R-squared	0.764944	Mean dependent var	7.699248
Adjusted R-squared	0.760467	S.D. dependent var	0.300579
S.E. of regression	0.147110	Akaike info criterion	-0.967893
Sum squared resid	2.272330	Schwarz criterion	-0.893389
Log likelihood	55.26622	Hannan-Quinn criter.	-0.937684
F-statistic	170.8511	Durbin-Watson stat	0.469463
Prob(F-statistic)	0.000000		

Lampiran 12 : Output Hasil Uji Kointegrasi Harga di tingkat Pedagang Besar dan Harga di tingkat Pedagang Pengecer

Null Hypothesis: D(RESID04) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic based on SIC, MAXLAG=12)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-11.79206	0.0000
Test critical values:	1% level	-4.047795	
	5% level	-3.453179	
	10% level	-3.152153	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID04,2)
Method: Least Squares
Date: 05/18/14 Time: 15:42
Sample (adjusted): 2005M04 2013M12
Included observations: 105 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RESID04(-1))	-1.079410	0.091537	-11.79206	0.0000
C	0.001484	0.019106	0.077661	0.9383
@TREND(2005M01)	-3.61E-05	0.000304	-0.118787	0.9057

R-squared	0.577800	Mean dependent var	0.003492
Adjusted R-squared	0.569522	S.D. dependent var	0.143730
S.E. of regression	0.094302	Akaike info criterion	-1.856471
Sum squared resid	0.907075	Schwarz criterion	-1.780643
Log likelihood	100.4647	Hannan-Quinn criter.	-1.825744
F-statistic	69.79596	Durbin-Watson stat	2.036984
Prob(F-statistic)	0.000000		

Lampiran 13 : Output Hasil Uji ECM Harga di tingkat Pedagang Besar dan Harga di tingkat Pedagang Pengecer

Dependent Variable: D(PB)
Method: Least Squares
Date: 05/18/14 Time: 04:04
Sample (adjusted): 2005M03 2013M12
Included observations: 106 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PP)	0.019945	0.007134	2.795831	0.0062
D(DRESID03)	0.395761	0.052351	7.559775	0.0000
RESID04	-0.020577	0.048210	-0.426824	0.6704
C	0.006399	0.006175	1.036284	0.3025

R-squared	0.417331	Mean dependent var	0.007943
Adjusted R-squared	0.400194	S.D. dependent var	0.082045
S.E. of regression	0.063542	Akaike info criterion	-2.637240
Sum squared resid	0.411828	Schwarz criterion	-2.536733
Log likelihood	143.7737	Hannan-Quinn criter.	-2.596504
F-statistic	24.35221	Durbin-Watson stat	1.106606
Prob(F-statistic)	0.000000		

Lampiran 14 : Hasil Output Eviews Regresi Variabel Harga di tingkat Petani dan Harga di tingkat Pedagang Pengecer

Dependent Variable: PT
Method: Least Squares
Date: 05/18/14 Time: 04:22
Sample: 2005M01 2013M12
Included observations: 108

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PP	0.029580	0.014256	2.074977	0.0404
SER01	0.008283	0.000326	25.41749	0.0000
C	6.932039	0.113455	61.09923	0.0000

R-squared	0.872129	Mean dependent var	7.624034
Adjusted R-squared	0.869693	S.D. dependent var	0.284066
S.E. of regression	0.102542	Akaike info criterion	-1.689701
Sum squared resid	1.104063	Schwarz criterion	-1.615198
Log likelihood	94.24387	Hannan-Quinn criter.	-1.659493
F-statistic	358.0701	Durbin-Watson stat	0.312945
Prob(F-statistic)	0.000000		

Lampiran 15 : Output Hasil Uji Kointegrasi Harga di tingkat Petani dan Harga di tingkat Pedagang Pengecer

Null Hypothesis: D(RESID04) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 3 (Automatic based on SIC, MAXLAG=12)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.136433	0.0000
Test critical values:	1% level	-4.050509	
	5% level	-3.454471	
	10% level	-3.152909	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID04,2)
Method: Least Squares
Date: 05/18/14 Time: 15:45
Sample (adjusted): 2005M07 2013M12
Included observations: 102 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RESID04(-1))	-1.304475	0.182791	-7.136433	0.0000
D(RESID04(-1),2)	0.424473	0.159384	2.663221	0.0091
D(RESID04(-2),2)	0.274578	0.127316	2.156658	0.0335
D(RESID04(-3),2)	0.374596	0.094950	3.945207	0.0002
C	0.006496	0.011756	0.552619	0.5818
@TREND(2005M01)	-0.000102	0.000184	-0.552788	0.5817

R-squared	0.540005	Mean dependent var	-0.000418
Adjusted R-squared	0.516047	S.D. dependent var	0.078611
S.E. of regression	0.054687	Akaike info criterion	-2.917347
Sum squared resid	0.287108	Schwarz criterion	-2.762937
Log likelihood	154.7847	Hannan-Quinn criter.	-2.854821
F-statistic	22.53960	Durbin-Watson stat	2.089154
Prob(F-statistic)	0.000000		

Lampiran 16 : Output Hasil ECM Harga di tingkat Petani dan Harga di tingkat Pedagang Pengecer

Dependent Variable: D(PT)
Method: Least Squares
Date: 05/18/14 Time: 04:27
Sample (adjusted): 2005M03 2013M12
Included observations: 106 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PP)	0.019460	0.004454	4.368791	0.0000
D(DRESID03)	0.459437	0.060311	7.617825	0.0000
RESID04	-0.007303	0.043927	-0.166264	0.8683
C	0.008718	0.004058	2.148072	0.0341

R-squared	0.425128	Mean dependent var	0.008900
Adjusted R-squared	0.408220	S.D. dependent var	0.054310
S.E. of regression	0.041779	Akaike info criterion	-3.475825
Sum squared resid	0.178042	Schwarz criterion	-3.375318
Log likelihood	188.2187	Hannan-Quinn criter.	-3.435089
F-statistic	25.14358	Durbin-Watson stat	0.964357
Prob(F-statistic)	0.000000		

Lampiran 17 : Output Hasil Uji Kausalitas Granger Harga Jual Jagung di tingkat Petani, Pedagang Besar dan Pedagang Pengecer.

Pairwise Granger Causality Tests
Date: 05/17/14 Time: 07:07
Sample: 2005M01 2013M12
Lags: 6

Null Hypothesis:	Obs	F-Statistic	Prob.
PB does not Granger Cause PT	102	4.57986	0.0004
PT does not Granger Cause PB		3.39662	0.0046
PP does not Granger Cause PT	102	2.19243	0.0510
PT does not Granger Cause PP		2.89770	0.0126
PP does not Granger Cause PB	102	0.52277	0.7896
PB does not Granger Cause PP		3.41865	0.0044