Column: India\_8\_2010-01-01 - 2018-02-16

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2119  
Model: ARIMA(0, 1, 0) Log Likelihood -6209.374  
Date: Tue, 14 May 2024 AIC 12420.747  
Time: 18:59:51 BIC 12426.406  
Sample: 0 HQIC 12422.819  
 - 2119   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 20.6061 0.152 135.792 0.000 20.309 20.903  
===================================================================================  
Ljung-Box (L1) (Q): 3.97 Jarque-Bera (JB): 95254.49  
Prob(Q): 0.05 Prob(JB): 0.00  
Heteroskedasticity (H): 0.06 Skew: -0.66  
Prob(H) (two-sided): 0.00 Kurtosis: 35.83  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2119  
Model: ARIMA(1, 1, 0) Log Likelihood -6207.391  
Date: Tue, 14 May 2024 AIC 12418.781  
Time: 18:59:51 BIC 12430.098  
Sample: 0 HQIC 12422.925  
 - 2119   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.0432 0.017 2.496 0.013 0.009 0.077  
sigma2 20.5671 0.152 135.509 0.000 20.270 20.865  
===================================================================================  
Ljung-Box (L1) (Q): 0.07 Jarque-Bera (JB): 95418.46  
Prob(Q): 0.79 Prob(JB): 0.00  
Heteroskedasticity (H): 0.06 Skew: -0.68  
Prob(H) (two-sided): 0.00 Kurtosis: 35.85  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_8\_2018-02-16 - 2020-03-17

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 541  
Model: ARIMA(0, 1, 0) Log Likelihood -1232.800  
Date: Tue, 14 May 2024 AIC 2467.599  
Time: 18:59:51 BIC 2471.891  
Sample: 0 HQIC 2469.278  
 - 541   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 5.6296 0.092 60.912 0.000 5.448 5.811  
===================================================================================  
Ljung-Box (L1) (Q): 83.46 Jarque-Bera (JB): 14907.36  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 2.44 Skew: 2.69  
Prob(H) (two-sided): 0.00 Kurtosis: 28.17  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 541  
Model: ARIMA(1, 1, 0) Log Likelihood -1185.560  
Date: Tue, 14 May 2024 AIC 2375.119  
Time: 18:59:51 BIC 2383.703  
Sample: 0 HQIC 2378.476  
 - 541   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.4089 0.020 20.660 0.000 0.370 0.448  
sigma2 4.7244 0.101 46.786 0.000 4.526 4.922  
===================================================================================  
Ljung-Box (L1) (Q): 4.53 Jarque-Bera (JB): 9006.93  
Prob(Q): 0.03 Prob(JB): 0.00  
Heteroskedasticity (H): 1.34 Skew: 2.42  
Prob(H) (two-sided): 0.05 Kurtosis: 22.41  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_8\_2020-03-17 - 2023-11-02

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 946  
Model: ARIMA(0, 1, 0) Log Likelihood -2541.179  
Date: Tue, 14 May 2024 AIC 5084.358  
Time: 18:59:51 BIC 5089.209  
Sample: 0 HQIC 5086.207  
 - 946   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 12.6832 0.079 161.302 0.000 12.529 12.837  
===================================================================================  
Ljung-Box (L1) (Q): 63.68 Jarque-Bera (JB): 469114.84  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.35 Skew: 5.16  
Prob(H) (two-sided): 0.00 Kurtosis: 111.66  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 946  
Model: ARIMA(1, 1, 0) Log Likelihood -2500.257  
Date: Tue, 14 May 2024 AIC 5004.513  
Time: 18:59:51 BIC 5014.216  
Sample: 0 HQIC 5008.211  
 - 946   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.3193 0.006 57.251 0.000 0.308 0.330  
sigma2 11.6296 0.095 122.078 0.000 11.443 11.816  
===================================================================================  
Ljung-Box (L1) (Q): 6.14 Jarque-Bera (JB): 238361.24  
Prob(Q): 0.01 Prob(JB): 0.00  
Heteroskedasticity (H): 0.47 Skew: 2.80  
Prob(H) (two-sided): 0.00 Kurtosis: 80.60  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_36\_2010-01-01 - 2012-05-31

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 628  
Model: ARIMA(0, 1, 0) Log Likelihood -2349.137  
Date: Tue, 14 May 2024 AIC 4700.274  
Time: 18:59:51 BIC 4704.715  
Sample: 0 HQIC 4702.000  
 - 628   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 105.1523 0.648 162.190 0.000 103.882 106.423  
===================================================================================  
Ljung-Box (L1) (Q): 0.75 Jarque-Bera (JB): 718478.81  
Prob(Q): 0.39 Prob(JB): 0.00  
Heteroskedasticity (H): 9.90 Skew: 9.33  
Prob(H) (two-sided): 0.00 Kurtosis: 167.78  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 628  
Model: ARIMA(1, 1, 0) Log Likelihood -2348.840  
Date: Tue, 14 May 2024 AIC 4701.681  
Time: 18:59:51 BIC 4710.563  
Sample: 0 HQIC 4705.132  
 - 628   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 -0.0307 0.047 -0.660 0.509 -0.122 0.061  
sigma2 105.0498 0.648 162.155 0.000 103.780 106.320  
===================================================================================  
Ljung-Box (L1) (Q): 0.02 Jarque-Bera (JB): 720729.82  
Prob(Q): 0.88 Prob(JB): 0.00  
Heteroskedasticity (H): 9.89 Skew: 9.35  
Prob(H) (two-sided): 0.00 Kurtosis: 168.04  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_36\_2012-05-31 - 2014-09-23

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 602  
Model: ARIMA(0, 1, 0) Log Likelihood -2067.649  
Date: Tue, 14 May 2024 AIC 4137.298  
Time: 18:59:51 BIC 4141.696  
Sample: 0 HQIC 4139.010  
 - 602   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 56.9894 1.435 39.707 0.000 54.176 59.802  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 1827.94  
Prob(Q): 1.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.05 Skew: -0.21  
Prob(H) (two-sided): 0.00 Kurtosis: 11.53  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 602  
Model: ARIMA(1, 1, 0) Log Likelihood -2067.636  
Date: Tue, 14 May 2024 AIC 4139.272  
Time: 18:59:51 BIC 4148.069  
Sample: 0 HQIC 4142.696  
 - 602   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.0066 0.031 0.210 0.834 -0.055 0.068  
sigma2 56.9842 1.465 38.887 0.000 54.112 59.856  
===================================================================================  
Ljung-Box (L1) (Q): 0.03 Jarque-Bera (JB): 1838.17  
Prob(Q): 0.87 Prob(JB): 0.00  
Heteroskedasticity (H): 0.05 Skew: -0.21  
Prob(H) (two-sided): 0.00 Kurtosis: 11.56  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_36\_2014-09-23 - 2023-06-07

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2270  
Model: ARIMA(0, 1, 0) Log Likelihood -6851.961  
Date: Tue, 14 May 2024 AIC 13705.922  
Time: 18:59:51 BIC 13711.649  
Sample: 0 HQIC 13708.011  
 - 2270   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 24.5762 0.127 194.200 0.000 24.328 24.824  
===================================================================================  
Ljung-Box (L1) (Q): 58.92 Jarque-Bera (JB): 397307.21  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.76 Skew: 3.08  
Prob(H) (two-sided): 0.00 Kurtosis: 67.53  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2270  
Model: ARIMA(1, 1, 0) Log Likelihood -6822.160  
Date: Tue, 14 May 2024 AIC 13648.319  
Time: 18:59:51 BIC 13659.774  
Sample: 0 HQIC 13652.498  
 - 2270   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.1610 0.005 30.694 0.000 0.151 0.171  
sigma2 23.9381 0.128 186.381 0.000 23.686 24.190  
===================================================================================  
Ljung-Box (L1) (Q): 1.85 Jarque-Bera (JB): 362346.09  
Prob(Q): 0.17 Prob(JB): 0.00  
Heteroskedasticity (H): 0.76 Skew: 2.80  
Prob(H) (two-sided): 0.00 Kurtosis: 64.66  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_40\_2010-01-01 - 2013-01-04

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 784  
Model: ARIMA(0, 1, 0) Log Likelihood -2487.358  
Date: Tue, 14 May 2024 AIC 4976.715  
Time: 18:59:51 BIC 4981.378  
Sample: 0 HQIC 4978.508  
 - 784   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 33.6336 0.630 53.354 0.000 32.398 34.869  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 5264.30  
Prob(Q): 0.96 Prob(JB): 0.00  
Heteroskedasticity (H): 1.89 Skew: -0.68  
Prob(H) (two-sided): 0.00 Kurtosis: 15.63  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 784  
Model: ARIMA(1, 1, 0) Log Likelihood -2487.357  
Date: Tue, 14 May 2024 AIC 4978.714  
Time: 18:59:51 BIC 4988.041  
Sample: 0 HQIC 4982.301  
 - 784   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 -0.0009 0.032 -0.029 0.977 -0.064 0.062  
sigma2 33.6365 0.630 53.350 0.000 32.401 34.872  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 5264.25  
Prob(Q): 0.99 Prob(JB): 0.00  
Heteroskedasticity (H): 1.89 Skew: -0.68  
Prob(H) (two-sided): 0.00 Kurtosis: 15.63  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_40\_2013-01-04 - 2021-04-15

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2158  
Model: ARIMA(0, 1, 0) Log Likelihood -5505.261  
Date: Tue, 14 May 2024 AIC 11012.522  
Time: 18:59:51 BIC 11018.199  
Sample: 0 HQIC 11014.598  
 - 2158   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 9.6473 0.046 210.941 0.000 9.558 9.737  
===================================================================================  
Ljung-Box (L1) (Q): 47.29 Jarque-Bera (JB): 591968.72  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.80 Skew: 3.33  
Prob(H) (two-sided): 0.00 Kurtosis: 83.88  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2158  
Model: ARIMA(1, 1, 0) Log Likelihood -5481.263  
Date: Tue, 14 May 2024 AIC 10966.527  
Time: 18:59:51 BIC 10977.880  
Sample: 0 HQIC 10970.680  
 - 2158   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.1483 0.010 14.178 0.000 0.128 0.169  
sigma2 9.4349 0.046 205.289 0.000 9.345 9.525  
===================================================================================  
Ljung-Box (L1) (Q): 3.40 Jarque-Bera (JB): 597411.90  
Prob(Q): 0.07 Prob(JB): 0.00  
Heteroskedasticity (H): 0.77 Skew: 3.24  
Prob(H) (two-sided): 0.00 Kurtosis: 84.27  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_40\_2021-04-15 - 2024-01-18

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 719  
Model: ARIMA(0, 1, 0) Log Likelihood -1661.366  
Date: Tue, 14 May 2024 AIC 3324.732  
Time: 18:59:51 BIC 3329.309  
Sample: 0 HQIC 3326.499  
 - 719   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 5.9887 0.092 65.259 0.000 5.809 6.169  
===================================================================================  
Ljung-Box (L1) (Q): 20.17 Jarque-Bera (JB): 14262.86  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.54 Skew: 0.70  
Prob(H) (two-sided): 0.00 Kurtosis: 24.79  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 719  
Model: ARIMA(1, 1, 0) Log Likelihood -1651.159  
Date: Tue, 14 May 2024 AIC 3306.317  
Time: 18:59:51 BIC 3315.470  
Sample: 0 HQIC 3309.851  
 - 719   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.1673 0.022 7.620 0.000 0.124 0.210  
sigma2 5.8206 0.089 65.201 0.000 5.646 5.996  
===================================================================================  
Ljung-Box (L1) (Q): 0.05 Jarque-Bera (JB): 14568.18  
Prob(Q): 0.83 Prob(JB): 0.00  
Heteroskedasticity (H): 0.60 Skew: 0.64  
Prob(H) (two-sided): 0.00 Kurtosis: 25.03  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_67\_2010-01-01 - 2012-05-30

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 627  
Model: ARIMA(0, 1, 0) Log Likelihood -2059.547  
Date: Tue, 14 May 2024 AIC 4121.094  
Time: 18:59:51 BIC 4125.534  
Sample: 0 HQIC 4122.819  
 - 627   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 42.1909 1.313 32.127 0.000 39.617 44.765  
===================================================================================  
Ljung-Box (L1) (Q): 1.19 Jarque-Bera (JB): 551.03  
Prob(Q): 0.28 Prob(JB): 0.00  
Heteroskedasticity (H): 1.15 Skew: 0.31  
Prob(H) (two-sided): 0.32 Kurtosis: 7.55  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 627  
Model: ARIMA(1, 1, 0) Log Likelihood -2059.075  
Date: Tue, 14 May 2024 AIC 4122.151  
Time: 18:59:51 BIC 4131.029  
Sample: 0 HQIC 4125.600  
 - 627   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 -0.0388 0.028 -1.366 0.172 -0.094 0.017  
sigma2 42.1247 1.333 31.606 0.000 39.512 44.737  
===================================================================================  
Ljung-Box (L1) (Q): 0.01 Jarque-Bera (JB): 532.77  
Prob(Q): 0.92 Prob(JB): 0.00  
Heteroskedasticity (H): 1.17 Skew: 0.31  
Prob(H) (two-sided): 0.25 Kurtosis: 7.48  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_67\_2012-05-30 - 2020-03-10

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2028  
Model: ARIMA(0, 1, 0) Log Likelihood -5004.926  
Date: Tue, 14 May 2024 AIC 10011.853  
Time: 18:59:51 BIC 10017.467  
Sample: 0 HQIC 10013.913  
 - 2028   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 8.1693 0.048 169.663 0.000 8.075 8.264  
===================================================================================  
Ljung-Box (L1) (Q): 22.64 Jarque-Bera (JB): 260842.21  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.11 Skew: 1.24  
Prob(H) (two-sided): 0.00 Kurtosis: 58.52  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2028  
Model: ARIMA(1, 1, 0) Log Likelihood -4992.292  
Date: Tue, 14 May 2024 AIC 9988.584  
Time: 18:59:51 BIC 9999.813  
Sample: 0 HQIC 9992.704  
 - 2028   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.1134 0.011 9.949 0.000 0.091 0.136  
sigma2 8.0681 0.051 157.559 0.000 7.968 8.168  
===================================================================================  
Ljung-Box (L1) (Q): 1.21 Jarque-Bera (JB): 248013.67  
Prob(Q): 0.27 Prob(JB): 0.00  
Heteroskedasticity (H): 0.11 Skew: 1.08  
Prob(H) (two-sided): 0.00 Kurtosis: 57.15  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_67\_2020-03-10 - 2024-01-18

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1006  
Model: ARIMA(0, 1, 0) Log Likelihood -2935.915  
Date: Tue, 14 May 2024 AIC 5873.829  
Time: 18:59:51 BIC 5878.742  
Sample: 0 HQIC 5875.696  
 - 1006   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 20.1809 0.109 184.456 0.000 19.966 20.395  
===================================================================================  
Ljung-Box (L1) (Q): 34.42 Jarque-Bera (JB): 757558.31  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.15 Skew: 6.95  
Prob(H) (two-sided): 0.00 Kurtosis: 136.78  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1006  
Model: ARIMA(1, 1, 0) Log Likelihood -2917.729  
Date: Tue, 14 May 2024 AIC 5839.458  
Time: 18:59:51 BIC 5849.284  
Sample: 0 HQIC 5843.192  
 - 1006   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.1922 0.020 9.448 0.000 0.152 0.232  
sigma2 19.4627 0.103 189.577 0.000 19.262 19.664  
===================================================================================  
Ljung-Box (L1) (Q): 1.51 Jarque-Bera (JB): 857581.28  
Prob(Q): 0.22 Prob(JB): 0.00  
Heteroskedasticity (H): 0.17 Skew: 7.47  
Prob(H) (two-sided): 0.00 Kurtosis: 145.32  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_69\_2010-01-01 - 2012-01-23

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 535  
Model: ARIMA(0, 1, 0) Log Likelihood -1755.613  
Date: Tue, 14 May 2024 AIC 3513.225  
Time: 18:59:51 BIC 3517.506  
Sample: 0 HQIC 3514.900  
 - 535   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 41.9908 1.405 29.878 0.000 39.236 44.745  
===================================================================================  
Ljung-Box (L1) (Q): 2.92 Jarque-Bera (JB): 489.37  
Prob(Q): 0.09 Prob(JB): 0.00  
Heteroskedasticity (H): 0.93 Skew: 0.44  
Prob(H) (two-sided): 0.64 Kurtosis: 7.61  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 535  
Model: ARIMA(1, 1, 0) Log Likelihood -1754.421  
Date: Tue, 14 May 2024 AIC 3512.843  
Time: 18:59:51 BIC 3521.404  
Sample: 0 HQIC 3516.192  
 - 535   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 -0.0667 0.031 -2.179 0.029 -0.127 -0.007  
sigma2 41.8035 1.434 29.156 0.000 38.993 44.614  
===================================================================================  
Ljung-Box (L1) (Q): 0.02 Jarque-Bera (JB): 459.36  
Prob(Q): 0.89 Prob(JB): 0.00  
Heteroskedasticity (H): 0.97 Skew: 0.45  
Prob(H) (two-sided): 0.83 Kurtosis: 7.45  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_69\_2012-01-23 - 2020-03-10

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2120  
Model: ARIMA(0, 1, 0) Log Likelihood -5425.582  
Date: Tue, 14 May 2024 AIC 10853.163  
Time: 18:59:51 BIC 10858.822  
Sample: 0 HQIC 10855.235  
 - 2120   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 9.8061 0.065 151.969 0.000 9.680 9.933  
===================================================================================  
Ljung-Box (L1) (Q): 22.26 Jarque-Bera (JB): 156017.71  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.09 Skew: 0.72  
Prob(H) (two-sided): 0.00 Kurtosis: 45.01  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2120  
Model: ARIMA(1, 1, 0) Log Likelihood -5413.777  
Date: Tue, 14 May 2024 AIC 10831.554  
Time: 18:59:51 BIC 10842.871  
Sample: 0 HQIC 10835.697  
 - 2120   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.1053 0.011 9.477 0.000 0.084 0.127  
sigma2 9.6974 0.067 145.441 0.000 9.567 9.828  
===================================================================================  
Ljung-Box (L1) (Q): 0.94 Jarque-Bera (JB): 149957.37  
Prob(Q): 0.33 Prob(JB): 0.00  
Heteroskedasticity (H): 0.09 Skew: 0.61  
Prob(H) (two-sided): 0.00 Kurtosis: 44.19  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_69\_2020-03-10 - 2023-10-10

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 934  
Model: ARIMA(0, 1, 0) Log Likelihood -2817.026  
Date: Tue, 14 May 2024 AIC 5636.052  
Time: 18:59:51 BIC 5640.891  
Sample: 0 HQIC 5637.897  
 - 934   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 24.5512 0.147 167.393 0.000 24.264 24.839  
===================================================================================  
Ljung-Box (L1) (Q): 14.65 Jarque-Bera (JB): 549967.22  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.33 Skew: 6.17  
Prob(H) (two-sided): 0.00 Kurtosis: 121.30  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 934  
Model: ARIMA(1, 1, 0) Log Likelihood -2809.670  
Date: Tue, 14 May 2024 AIC 5623.339  
Time: 18:59:51 BIC 5633.016  
Sample: 0 HQIC 5627.030  
 - 934   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.1250 0.026 4.854 0.000 0.075 0.175  
sigma2 24.1667 0.143 169.459 0.000 23.887 24.446  
===================================================================================  
Ljung-Box (L1) (Q): 0.74 Jarque-Bera (JB): 581077.63  
Prob(Q): 0.39 Prob(JB): 0.00  
Heteroskedasticity (H): 0.36 Skew: 6.31  
Prob(H) (two-sided): 0.00 Kurtosis: 124.61  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_124\_2010-01-01 - 2018-02-20

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2121  
Model: ARIMA(0, 1, 0) Log Likelihood -3986.296  
Date: Tue, 14 May 2024 AIC 7974.591  
Time: 18:59:51 BIC 7980.250  
Sample: 0 HQIC 7976.663  
 - 2121   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 2.5163 0.025 100.638 0.000 2.467 2.565  
===================================================================================  
Ljung-Box (L1) (Q): 13.52 Jarque-Bera (JB): 25910.89  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.14 Skew: -0.53  
Prob(H) (two-sided): 0.00 Kurtosis: 20.09  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2121  
Model: ARIMA(1, 1, 0) Log Likelihood -3979.514  
Date: Tue, 14 May 2024 AIC 7963.028  
Time: 18:59:51 BIC 7974.346  
Sample: 0 HQIC 7967.172  
 - 2121   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.0799 0.010 8.297 0.000 0.061 0.099  
sigma2 2.5002 0.027 91.397 0.000 2.447 2.554  
===================================================================================  
Ljung-Box (L1) (Q): 0.01 Jarque-Bera (JB): 32084.30  
Prob(Q): 0.92 Prob(JB): 0.00  
Heteroskedasticity (H): 0.13 Skew: -0.72  
Prob(H) (two-sided): 0.00 Kurtosis: 22.00  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_124\_2018-02-20 - 2020-03-05

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 531  
Model: ARIMA(0, 1, 0) Log Likelihood -604.301  
Date: Tue, 14 May 2024 AIC 1210.602  
Time: 18:59:51 BIC 1214.875  
Sample: 0 HQIC 1212.275  
 - 531   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 0.5726 0.017 34.680 0.000 0.540 0.605  
===================================================================================  
Ljung-Box (L1) (Q): 14.60 Jarque-Bera (JB): 1308.28  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.88 Skew: 1.55  
Prob(H) (two-sided): 0.41 Kurtosis: 10.05  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 531  
Model: ARIMA(1, 1, 0) Log Likelihood -596.850  
Date: Tue, 14 May 2024 AIC 1197.700  
Time: 18:59:51 BIC 1206.245  
Sample: 0 HQIC 1201.044  
 - 531   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.1675 0.039 4.311 0.000 0.091 0.244  
sigma2 0.5567 0.016 34.958 0.000 0.526 0.588  
===================================================================================  
Ljung-Box (L1) (Q): 0.03 Jarque-Bera (JB): 1369.08  
Prob(Q): 0.87 Prob(JB): 0.00  
Heteroskedasticity (H): 0.82 Skew: 1.53  
Prob(H) (two-sided): 0.18 Kurtosis: 10.25  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_124\_2020-03-05 - 2023-06-05

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 846  
Model: ARIMA(0, 1, 0) Log Likelihood -1439.280  
Date: Tue, 14 May 2024 AIC 2880.561  
Time: 18:59:51 BIC 2885.300  
Sample: 0 HQIC 2882.377  
 - 846   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 1.7660 0.017 101.154 0.000 1.732 1.800  
===================================================================================  
Ljung-Box (L1) (Q): 0.58 Jarque-Bera (JB): 77869.01  
Prob(Q): 0.44 Prob(JB): 0.00  
Heteroskedasticity (H): 0.21 Skew: 3.33  
Prob(H) (two-sided): 0.00 Kurtosis: 49.55  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 846  
Model: ARIMA(1, 1, 0) Log Likelihood -1438.985  
Date: Tue, 14 May 2024 AIC 2881.970  
Time: 18:59:51 BIC 2891.449  
Sample: 0 HQIC 2885.602  
 - 846   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 -0.0267 0.010 -2.668 0.008 -0.046 -0.007  
sigma2 1.7647 0.018 96.124 0.000 1.729 1.801  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 81087.78  
Prob(Q): 0.96 Prob(JB): 0.00  
Heteroskedasticity (H): 0.21 Skew: 3.43  
Prob(H) (two-sided): 0.00 Kurtosis: 50.50  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_136\_2010-01-01 - 2013-11-14

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1008  
Model: ARIMA(0, 1, 0) Log Likelihood -2906.756  
Date: Tue, 14 May 2024 AIC 5815.513  
Time: 18:59:51 BIC 5820.428  
Sample: 0 HQIC 5817.380  
 - 1008   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 18.8257 0.480 39.228 0.000 17.885 19.766  
===================================================================================  
Ljung-Box (L1) (Q): 1.02 Jarque-Bera (JB): 727.31  
Prob(Q): 0.31 Prob(JB): 0.00  
Heteroskedasticity (H): 1.36 Skew: -0.33  
Prob(H) (two-sided): 0.00 Kurtosis: 7.11  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1008  
Model: ARIMA(1, 1, 0) Log Likelihood -2906.250  
Date: Tue, 14 May 2024 AIC 5816.499  
Time: 18:59:51 BIC 5826.329  
Sample: 0 HQIC 5820.234  
 - 1008   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 -0.0317 0.022 -1.459 0.145 -0.074 0.011  
sigma2 18.8070 0.506 37.180 0.000 17.816 19.798  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 679.04  
Prob(Q): 0.97 Prob(JB): 0.00  
Heteroskedasticity (H): 1.36 Skew: -0.30  
Prob(H) (two-sided): 0.00 Kurtosis: 6.98  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_136\_2013-11-14 - 2016-01-01

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 555  
Model: ARIMA(0, 1, 0) Log Likelihood -1438.623  
Date: Tue, 14 May 2024 AIC 2879.245  
Time: 18:59:51 BIC 2883.563  
Sample: 0 HQIC 2880.932  
 - 555   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 10.5456 0.072 147.242 0.000 10.405 10.686  
===================================================================================  
Ljung-Box (L1) (Q): 80.28 Jarque-Bera (JB): 551560.24  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 1.43 Skew: 1.59  
Prob(H) (two-sided): 0.02 Kurtosis: 157.55  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 555  
Model: ARIMA(1, 1, 0) Log Likelihood -1395.580  
Date: Tue, 14 May 2024 AIC 2795.160  
Time: 18:59:51 BIC 2803.794  
Sample: 0 HQIC 2798.533  
 - 555   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 -0.3790 0.006 -64.416 0.000 -0.391 -0.367  
sigma2 9.0253 0.066 137.132 0.000 8.896 9.154  
===================================================================================  
Ljung-Box (L1) (Q): 2.62 Jarque-Bera (JB): 434951.18  
Prob(Q): 0.11 Prob(JB): 0.00  
Heteroskedasticity (H): 1.59 Skew: 6.12  
Prob(H) (two-sided): 0.00 Kurtosis: 139.72  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_136\_2016-01-01 - 2024-01-18

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2098  
Model: ARIMA(0, 1, 0) Log Likelihood -4832.578  
Date: Tue, 14 May 2024 AIC 9667.156  
Time: 18:59:51 BIC 9672.804  
Sample: 0 HQIC 9669.225  
 - 2098   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 5.8777 0.025 236.194 0.000 5.829 5.926  
===================================================================================  
Ljung-Box (L1) (Q): 68.89 Jarque-Bera (JB): 954047.66  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.23 Skew: 0.61  
Prob(H) (two-sided): 0.00 Kurtosis: 107.49  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2098  
Model: ARIMA(1, 1, 0) Log Likelihood -4791.661  
Date: Tue, 14 May 2024 AIC 9587.322  
Time: 18:59:51 BIC 9598.618  
Sample: 0 HQIC 9591.460  
 - 2098   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 -0.2117 0.004 -50.581 0.000 -0.220 -0.203  
sigma2 5.6526 0.031 183.940 0.000 5.592 5.713  
===================================================================================  
Ljung-Box (L1) (Q): 1.98 Jarque-Bera (JB): 612491.93  
Prob(Q): 0.16 Prob(JB): 0.00  
Heteroskedasticity (H): 0.27 Skew: 2.04  
Prob(H) (two-sided): 0.00 Kurtosis: 86.63  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_153\_2010-01-01 - 2013-11-18

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1010  
Model: ARIMA(0, 1, 0) Log Likelihood -2962.732  
Date: Tue, 14 May 2024 AIC 5927.465  
Time: 18:59:51 BIC 5932.382  
Sample: 0 HQIC 5929.333  
 - 1010   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 20.7954 0.314 66.143 0.000 20.179 21.412  
===================================================================================  
Ljung-Box (L1) (Q): 6.96 Jarque-Bera (JB): 9954.85  
Prob(Q): 0.01 Prob(JB): 0.00  
Heteroskedasticity (H): 1.20 Skew: 0.95  
Prob(H) (two-sided): 0.10 Kurtosis: 18.27  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1010  
Model: ARIMA(1, 1, 0) Log Likelihood -2959.209  
Date: Tue, 14 May 2024 AIC 5922.418  
Time: 18:59:51 BIC 5932.251  
Sample: 0 HQIC 5926.154  
 - 1010   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.0834 0.017 4.772 0.000 0.049 0.118  
sigma2 20.6505 0.310 66.553 0.000 20.042 21.259  
===================================================================================  
Ljung-Box (L1) (Q): 0.52 Jarque-Bera (JB): 10300.69  
Prob(Q): 0.47 Prob(JB): 0.00  
Heteroskedasticity (H): 1.13 Skew: 0.89  
Prob(H) (two-sided): 0.26 Kurtosis: 18.55  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_153\_2013-11-18 - 2015-12-28

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 549  
Model: ARIMA(0, 1, 0) Log Likelihood -1518.076  
Date: Tue, 14 May 2024 AIC 3038.152  
Time: 18:59:51 BIC 3042.458  
Sample: 0 HQIC 3039.835  
 - 549   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 14.9176 0.332 44.914 0.000 14.267 15.569  
===================================================================================  
Ljung-Box (L1) (Q): 101.76 Jarque-Bera (JB): 3697.30  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.19 Skew: -0.38  
Prob(H) (two-sided): 0.00 Kurtosis: 15.70  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 549  
Model: ARIMA(1, 1, 0) Log Likelihood -1462.745  
Date: Tue, 14 May 2024 AIC 2929.489  
Time: 18:59:51 BIC 2938.102  
Sample: 0 HQIC 2932.855  
 - 549   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 -0.4272 0.018 -23.653 0.000 -0.463 -0.392  
sigma2 12.1854 0.280 43.530 0.000 11.637 12.734  
===================================================================================  
Ljung-Box (L1) (Q): 2.57 Jarque-Bera (JB): 3276.86  
Prob(Q): 0.11 Prob(JB): 0.00  
Heteroskedasticity (H): 0.24 Skew: -1.15  
Prob(H) (two-sided): 0.00 Kurtosis: 14.76  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_153\_2015-12-28 - 2018-02-06

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 550  
Model: ARIMA(0, 1, 0) Log Likelihood -947.178  
Date: Tue, 14 May 2024 AIC 1896.357  
Time: 18:59:51 BIC 1900.665  
Sample: 0 HQIC 1898.040  
 - 550   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 1.8454 0.026 71.423 0.000 1.795 1.896  
===================================================================================  
Ljung-Box (L1) (Q): 2.76 Jarque-Bera (JB): 29784.47  
Prob(Q): 0.10 Prob(JB): 0.00  
Heteroskedasticity (H): 0.53 Skew: 0.34  
Prob(H) (two-sided): 0.00 Kurtosis: 39.08  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 550  
Model: ARIMA(1, 1, 0) Log Likelihood -945.387  
Date: Tue, 14 May 2024 AIC 1894.773  
Time: 18:59:51 BIC 1903.389  
Sample: 0 HQIC 1898.141  
 - 550   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.0806 0.052 1.552 0.121 -0.021 0.182  
sigma2 1.8333 0.026 71.791 0.000 1.783 1.883  
===================================================================================  
Ljung-Box (L1) (Q): 0.19 Jarque-Bera (JB): 30296.21  
Prob(Q): 0.67 Prob(JB): 0.00  
Heteroskedasticity (H): 0.54 Skew: 0.35  
Prob(H) (two-sided): 0.00 Kurtosis: 39.39  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_153\_2018-02-06 - 2020-03-17

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 549  
Model: ARIMA(0, 1, 0) Log Likelihood -1179.794  
Date: Tue, 14 May 2024 AIC 2361.589  
Time: 18:59:51 BIC 2365.895  
Sample: 0 HQIC 2363.272  
 - 549   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 4.3403 0.047 91.536 0.000 4.247 4.433  
===================================================================================  
Ljung-Box (L1) (Q): 121.02 Jarque-Bera (JB): 80311.04  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 4.04 Skew: 5.87  
Prob(H) (two-sided): 0.00 Kurtosis: 61.13  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 549  
Model: ARIMA(1, 1, 0) Log Likelihood -1106.728  
Date: Tue, 14 May 2024 AIC 2217.457  
Time: 18:59:51 BIC 2226.069  
Sample: 0 HQIC 2220.823  
 - 549   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.4976 0.019 25.821 0.000 0.460 0.535  
sigma2 3.3226 0.088 37.848 0.000 3.151 3.495  
===================================================================================  
Ljung-Box (L1) (Q): 2.94 Jarque-Bera (JB): 24883.28  
Prob(Q): 0.09 Prob(JB): 0.00  
Heteroskedasticity (H): 2.05 Skew: 3.93  
Prob(H) (two-sided): 0.00 Kurtosis: 35.06  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_153\_2020-03-17 - 2024-01-18

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1001  
Model: ARIMA(0, 1, 0) Log Likelihood -2676.633  
Date: Tue, 14 May 2024 AIC 5355.265  
Time: 18:59:51 BIC 5360.173  
Sample: 0 HQIC 5357.130  
 - 1001   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 12.3714 0.067 184.473 0.000 12.240 12.503  
===================================================================================  
Ljung-Box (L1) (Q): 72.48 Jarque-Bera (JB): 773906.00  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.20 Skew: 7.03  
Prob(H) (two-sided): 0.00 Kurtosis: 138.56  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1001  
Model: ARIMA(1, 1, 0) Log Likelihood -2637.761  
Date: Tue, 14 May 2024 AIC 5279.522  
Time: 18:59:51 BIC 5289.337  
Sample: 0 HQIC 5283.252  
 - 1001   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.2770 0.011 25.542 0.000 0.256 0.298  
sigma2 11.4451 0.093 122.882 0.000 11.263 11.628  
===================================================================================  
Ljung-Box (L1) (Q): 1.68 Jarque-Bera (JB): 580968.72  
Prob(Q): 0.19 Prob(JB): 0.00  
Heteroskedasticity (H): 0.25 Skew: 6.22  
Prob(H) (two-sided): 0.00 Kurtosis: 120.42  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_160\_2010-01-01 - 2015-04-16

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1378  
Model: ARIMA(0, 1, 0) Log Likelihood -4358.788  
Date: Tue, 14 May 2024 AIC 8719.575  
Time: 18:59:51 BIC 8724.803  
Sample: 0 HQIC 8721.531  
 - 1378   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 32.8845 0.314 104.785 0.000 32.269 33.500  
===================================================================================  
Ljung-Box (L1) (Q): 16.05 Jarque-Bera (JB): 51296.07  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.33 Skew: 0.26  
Prob(H) (two-sided): 0.00 Kurtosis: 32.90  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1378  
Model: ARIMA(1, 1, 0) Log Likelihood -4350.738  
Date: Tue, 14 May 2024 AIC 8705.477  
Time: 18:59:51 BIC 8715.932  
Sample: 0 HQIC 8709.388  
 - 1378   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.1078 0.016 6.759 0.000 0.077 0.139  
sigma2 32.5009 0.315 103.261 0.000 31.884 33.118  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 50931.97  
Prob(Q): 0.95 Prob(JB): 0.00  
Heteroskedasticity (H): 0.34 Skew: 0.13  
Prob(H) (two-sided): 0.00 Kurtosis: 32.79  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_160\_2015-04-16 - 2020-03-05

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1274  
Model: ARIMA(0, 1, 0) Log Likelihood -3323.528  
Date: Tue, 14 May 2024 AIC 6649.056  
Time: 18:59:51 BIC 6654.205  
Sample: 0 HQIC 6650.990  
 - 1274   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 10.8448 0.121 89.783 0.000 10.608 11.082  
===================================================================================  
Ljung-Box (L1) (Q): 12.39 Jarque-Bera (JB): 29058.88  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.60 Skew: 0.70  
Prob(H) (two-sided): 0.00 Kurtosis: 26.36  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1274  
Model: ARIMA(1, 1, 0) Log Likelihood -3317.300  
Date: Tue, 14 May 2024 AIC 6638.599  
Time: 18:59:51 BIC 6648.897  
Sample: 0 HQIC 6642.467  
 - 1274   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.0988 0.022 4.487 0.000 0.056 0.142  
sigma2 10.7384 0.120 89.733 0.000 10.504 10.973  
===================================================================================  
Ljung-Box (L1) (Q): 0.02 Jarque-Bera (JB): 29547.64  
Prob(Q): 0.89 Prob(JB): 0.00  
Heteroskedasticity (H): 0.61 Skew: 0.76  
Prob(H) (two-sided): 0.00 Kurtosis: 26.55  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_160\_2020-03-05 - 2023-06-05

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 846  
Model: ARIMA(0, 1, 0) Log Likelihood -2759.879  
Date: Tue, 14 May 2024 AIC 5521.759  
Time: 18:59:51 BIC 5526.498  
Sample: 0 HQIC 5523.575  
 - 846   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 40.2226 0.147 274.079 0.000 39.935 40.510  
===================================================================================  
Ljung-Box (L1) (Q): 2.38 Jarque-Bera (JB): 4432750.77  
Prob(Q): 0.12 Prob(JB): 0.00  
Heteroskedasticity (H): 0.09 Skew: 14.70  
Prob(H) (two-sided): 0.00 Kurtosis: 356.60  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 846  
Model: ARIMA(1, 1, 0) Log Likelihood -2758.686  
Date: Tue, 14 May 2024 AIC 5521.372  
Time: 18:59:51 BIC 5530.851  
Sample: 0 HQIC 5525.004  
 - 846   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 -0.0533 0.047 -1.129 0.259 -0.146 0.039  
sigma2 40.1067 0.163 245.551 0.000 39.787 40.427  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 4446577.68  
Prob(Q): 0.96 Prob(JB): 0.00  
Heteroskedasticity (H): 0.09 Skew: 14.73  
Prob(H) (two-sided): 0.00 Kurtosis: 357.15  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_172\_2011-03-18 - 2018-02-28

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1812  
Model: ARIMA(0, 1, 0) Log Likelihood -5233.586  
Date: Tue, 14 May 2024 AIC 10469.172  
Time: 18:59:51 BIC 10474.673  
Sample: 0 HQIC 10471.202  
 - 1812   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 18.9525 0.154 123.131 0.000 18.651 19.254  
===================================================================================  
Ljung-Box (L1) (Q): 13.74 Jarque-Bera (JB): 74887.67  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.03 Skew: -0.82  
Prob(H) (two-sided): 0.00 Kurtosis: 34.46  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1812  
Model: ARIMA(1, 1, 0) Log Likelihood -5226.688  
Date: Tue, 14 May 2024 AIC 10457.377  
Time: 18:59:51 BIC 10468.380  
Sample: 0 HQIC 10461.437  
 - 1812   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.0871 0.018 4.903 0.000 0.052 0.122  
sigma2 18.8080 0.157 120.105 0.000 18.501 19.115  
===================================================================================  
Ljung-Box (L1) (Q): 0.31 Jarque-Bera (JB): 74292.47  
Prob(Q): 0.58 Prob(JB): 0.00  
Heteroskedasticity (H): 0.03 Skew: -0.87  
Prob(H) (two-sided): 0.00 Kurtosis: 34.33  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_172\_2018-02-28 - 2020-02-03

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 502  
Model: ARIMA(0, 1, 0) Log Likelihood -926.659  
Date: Tue, 14 May 2024 AIC 1855.319  
Time: 18:59:51 BIC 1859.535  
Sample: 0 HQIC 1856.973  
 - 502   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 2.3664 0.058 40.729 0.000 2.252 2.480  
===================================================================================  
Ljung-Box (L1) (Q): 0.56 Jarque-Bera (JB): 2783.85  
Prob(Q): 0.45 Prob(JB): 0.00  
Heteroskedasticity (H): 0.58 Skew: 1.12  
Prob(H) (two-sided): 0.00 Kurtosis: 14.33  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 502  
Model: ARIMA(1, 1, 0) Log Likelihood -926.372  
Date: Tue, 14 May 2024 AIC 1856.745  
Time: 18:59:51 BIC 1865.178  
Sample: 0 HQIC 1860.053  
 - 502   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.0340 0.039 0.877 0.381 -0.042 0.110  
sigma2 2.3637 0.058 40.713 0.000 2.250 2.477  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 2786.62  
Prob(Q): 0.96 Prob(JB): 0.00  
Heteroskedasticity (H): 0.58 Skew: 1.13  
Prob(H) (two-sided): 0.00 Kurtosis: 14.33  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_172\_2020-02-03 - 2024-01-18

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1032  
Model: ARIMA(0, 1, 0) Log Likelihood -2774.245  
Date: Tue, 14 May 2024 AIC 5550.491  
Time: 18:59:51 BIC 5555.429  
Sample: 0 HQIC 5552.365  
 - 1032   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 12.7277 0.130 98.282 0.000 12.474 12.982  
===================================================================================  
Ljung-Box (L1) (Q): 167.36 Jarque-Bera (JB): 55956.66  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.27 Skew: 3.01  
Prob(H) (two-sided): 0.00 Kurtosis: 38.59  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1032  
Model: ARIMA(1, 1, 0) Log Likelihood -2683.274  
Date: Tue, 14 May 2024 AIC 5370.548  
Time: 18:59:51 BIC 5380.425  
Sample: 0 HQIC 5374.297  
 - 1032   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 0.4020 0.012 32.922 0.000 0.378 0.426  
sigma2 10.6668 0.150 70.988 0.000 10.372 10.961  
===================================================================================  
Ljung-Box (L1) (Q): 3.08 Jarque-Bera (JB): 30754.78  
Prob(Q): 0.08 Prob(JB): 0.00  
Heteroskedasticity (H): 0.43 Skew: 2.02  
Prob(H) (two-sided): 0.00 Kurtosis: 29.45  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_199\_2014-10-07 - 2015-06-25

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 186  
Model: ARIMA(0, 1, 0) Log Likelihood -565.941  
Date: Tue, 14 May 2024 AIC 1133.882  
Time: 18:59:51 BIC 1137.102  
Sample: 0 HQIC 1135.187  
 - 186   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 26.5865 1.665 15.969 0.000 23.323 29.850  
===================================================================================  
Ljung-Box (L1) (Q): 3.13 Jarque-Bera (JB): 95.92  
Prob(Q): 0.08 Prob(JB): 0.00  
Heteroskedasticity (H): 0.20 Skew: -0.19  
Prob(H) (two-sided): 0.00 Kurtosis: 6.51  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 186  
Model: ARIMA(1, 1, 0) Log Likelihood -564.394  
Date: Tue, 14 May 2024 AIC 1132.788  
Time: 18:59:51 BIC 1139.228  
Sample: 0 HQIC 1135.398  
 - 186   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 -0.1286 0.053 -2.434 0.015 -0.232 -0.025  
sigma2 26.1433 1.713 15.258 0.000 22.785 29.501  
===================================================================================  
Ljung-Box (L1) (Q): 0.03 Jarque-Bera (JB): 79.87  
Prob(Q): 0.86 Prob(JB): 0.00  
Heteroskedasticity (H): 0.20 Skew: -0.03  
Prob(H) (two-sided): 0.00 Kurtosis: 6.22  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_199\_2015-06-25 - 2024-01-18

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2234  
Model: ARIMA(0, 1, 0) Log Likelihood -7636.270  
Date: Tue, 14 May 2024 AIC 15274.541  
Time: 18:59:51 BIC 15280.252  
Sample: 0 HQIC 15276.626  
 - 2234   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 54.6860 0.272 201.154 0.000 54.153 55.219  
===================================================================================  
Ljung-Box (L1) (Q): 7.21 Jarque-Bera (JB): 465138.26  
Prob(Q): 0.01 Prob(JB): 0.00  
Heteroskedasticity (H): 1.47 Skew: 2.64  
Prob(H) (two-sided): 0.00 Kurtosis: 73.51  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2234  
Model: ARIMA(1, 1, 0) Log Likelihood -7632.663  
Date: Tue, 14 May 2024 AIC 15269.326  
Time: 18:59:51 BIC 15280.748  
Sample: 0 HQIC 15273.497  
 - 2234   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
ar.L1 -0.0568 0.010 -5.859 0.000 -0.076 -0.038  
sigma2 54.5163 0.307 177.497 0.000 53.914 55.118  
===================================================================================  
Ljung-Box (L1) (Q): 0.03 Jarque-Bera (JB): 442595.00  
Prob(Q): 0.86 Prob(JB): 0.00  
Heteroskedasticity (H): 1.47 Skew: 2.62  
Prob(H) (two-sided): 0.00 Kurtosis: 71.77  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).