Column: India\_172

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 3349  
Model: ARIMA(0, 1, 0) Log Likelihood -9230.060  
Date: Sat, 18 May 2024 AIC 18462.120  
Time: 13:23:38 BIC 18468.237  
Sample: 0 HQIC 18464.308  
 - 3349   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 14.5258 0.079 182.771 0.000 14.370 14.682  
===================================================================================  
Ljung-Box (L1) (Q): 97.80 Jarque-Bera (JB): 200655.36  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.40 Skew: 0.11  
Prob(H) (two-sided): 0.00 Kurtosis: 40.93  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(4,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 3349  
Model: ARIMA(4, 1, 0) Log Likelihood -9083.726  
Date: Sat, 18 May 2024 AIC 18187.452  
Time: 13:23:38 BIC 18248.613  
Sample: 0 HQIC 18209.329  
 - 3349   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 2.8188 0.848 3.324 0.001 1.157 4.481  
x2 0.0534 0.036 1.474 0.140 -0.018 0.124  
x3 -0.0027 0.000 -7.131 0.000 -0.003 -0.002  
x4 -0.0092 0.148 -0.062 0.951 -0.298 0.280  
x5 1.0922 0.235 4.638 0.000 0.631 1.554  
ar.L1 0.1260 0.011 11.944 0.000 0.105 0.147  
ar.L2 0.1321 0.011 12.451 0.000 0.111 0.153  
ar.L3 -0.0047 0.012 -0.404 0.686 -0.028 0.018  
ar.L4 0.0872 0.010 8.896 0.000 0.068 0.106  
sigma2 13.3293 0.096 139.334 0.000 13.142 13.517  
===================================================================================  
Ljung-Box (L1) (Q): 0.02 Jarque-Bera (JB): 172401.26  
Prob(Q): 0.88 Prob(JB): 0.00  
Heteroskedasticity (H): 0.35 Skew: -0.50  
Prob(H) (two-sided): 0.00 Kurtosis: 38.14  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_199

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2422  
Model: ARIMA(0, 1, 0) Log Likelihood -8229.179  
Date: Sat, 18 May 2024 AIC 16460.357  
Time: 13:23:38 BIC 16466.149  
Sample: 0 HQIC 16462.463  
 - 2422   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 52.4730 0.250 209.824 0.000 51.983 52.963  
===================================================================================  
Ljung-Box (L1) (Q): 8.64 Jarque-Bera (JB): 507914.37  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 1.47 Skew: 2.58  
Prob(H) (two-sided): 0.00 Kurtosis: 73.77  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(6,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2422  
Model: ARIMA(6, 1, 0) Log Likelihood -8130.067  
Date: Sat, 18 May 2024 AIC 16280.135  
Time: 13:23:38 BIC 16338.054  
Sample: 0 HQIC 16301.196  
 - 2422   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.0102 0.001 -14.415 0.000 -0.012 -0.009  
x2 1.6577 0.631 2.627 0.009 0.421 2.894  
x3 -0.0011 0.006 -0.177 0.859 -0.013 0.011  
ar.L1 -0.0644 0.010 -6.214 0.000 -0.085 -0.044  
ar.L2 0.0406 0.018 2.310 0.021 0.006 0.075  
ar.L3 0.0417 0.011 3.823 0.000 0.020 0.063  
ar.L4 -0.0616 0.008 -7.537 0.000 -0.078 -0.046  
ar.L5 0.0110 0.013 0.818 0.413 -0.015 0.037  
ar.L6 0.0023 0.015 0.148 0.882 -0.028 0.032  
sigma2 48.4190 0.333 145.249 0.000 47.766 49.072  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 498086.43  
Prob(Q): 0.97 Prob(JB): 0.00  
Heteroskedasticity (H): 1.63 Skew: 2.30  
Prob(H) (two-sided): 0.00 Kurtosis: 73.12  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_206

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 3074  
Model: ARIMA(0, 1, 0) Log Likelihood -12418.049  
Date: Sat, 18 May 2024 AIC 24838.098  
Time: 13:23:38 BIC 24844.128  
Sample: 0 HQIC 24840.264  
 - 3074   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 189.4570 1.631 116.147 0.000 186.260 192.654  
===================================================================================  
Ljung-Box (L1) (Q): 16.98 Jarque-Bera (JB): 31003.93  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.23 Skew: -0.01  
Prob(H) (two-sided): 0.00 Kurtosis: 18.56  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(3,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 3074  
Model: ARIMA(3, 1, 0) Log Likelihood -12135.037  
Date: Sat, 18 May 2024 AIC 24288.073  
Time: 13:23:38 BIC 24342.347  
Sample: 0 HQIC 24307.572  
 - 3074   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -1.8609 0.132 -14.122 0.000 -2.119 -1.603  
x2 -0.0246 0.001 -18.542 0.000 -0.027 -0.022  
x3 -2.1814 0.526 -4.146 0.000 -3.213 -1.150  
x4 11.5418 0.882 13.079 0.000 9.812 13.271  
x5 0.0035 0.010 0.345 0.730 -0.017 0.024  
ar.L1 0.0321 0.010 3.217 0.001 0.013 0.052  
ar.L2 -0.0446 0.009 -5.117 0.000 -0.062 -0.027  
ar.L3 -0.0194 0.009 -2.140 0.032 -0.037 -0.002  
sigma2 157.6865 1.485 106.169 0.000 154.776 160.598  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 28305.90  
Prob(Q): 0.98 Prob(JB): 0.00  
Heteroskedasticity (H): 0.23 Skew: -0.61  
Prob(H) (two-sided): 0.00 Kurtosis: 17.82  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_220

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 3503  
Model: ARIMA(0, 1, 0) Log Likelihood -10669.279  
Date: Sat, 18 May 2024 AIC 21340.558  
Time: 13:23:38 BIC 21346.719  
Sample: 0 HQIC 21342.756  
 - 3503   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 25.9296 0.196 132.602 0.000 25.546 26.313  
===================================================================================  
Ljung-Box (L1) (Q): 13.56 Jarque-Bera (JB): 47727.70  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.24 Skew: -0.01  
Prob(H) (two-sided): 0.00 Kurtosis: 21.09  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(3,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 3503  
Model: ARIMA(3, 1, 0) Log Likelihood -10414.298  
Date: Sat, 18 May 2024 AIC 20846.597  
Time: 13:23:38 BIC 20902.047  
Sample: 0 HQIC 20866.386  
 - 3503   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.5063 0.043 -11.909 0.000 -0.590 -0.423  
x2 -0.0069 0.000 -15.452 0.000 -0.008 -0.006  
x3 -0.3717 0.178 -2.087 0.037 -0.721 -0.023  
x4 4.1852 0.307 13.634 0.000 3.584 4.787  
x5 0.0028 0.003 0.804 0.422 -0.004 0.010  
ar.L1 0.0308 0.008 3.640 0.000 0.014 0.047  
ar.L2 -0.0227 0.008 -2.964 0.003 -0.038 -0.008  
ar.L3 0.0010 0.008 0.124 0.901 -0.015 0.017  
sigma2 22.4175 0.192 117.020 0.000 22.042 22.793  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 42653.35  
Prob(Q): 0.99 Prob(JB): 0.00  
Heteroskedasticity (H): 0.26 Skew: -0.56  
Prob(H) (two-sided): 0.00 Kurtosis: 20.06  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).