243 Module3 Asset

针对（2）Stock和（4）Currency & Macroeconomic Assets,选择prophet和LSTM。

使用的历史数据2020.4.9-2025.4.10.之后再做的时候可以更新数据。

但是由于LSTM不能预测过长时间（因为误差积累），所以在prophet结果可以的情况下都选了prophet（往后预测39天），否则选择LSTM（往后预测21天）。

（1）ETF

原油类：

1. USO

2025-04-09 80.365377

2025-04-10 80.482025

2025-04-11 80.632938

2025-04-12 83.088437

2025-04-13 83.060197

2025-04-14 80.562828

2025-04-15 80.471037

2025-04-16 80.172977

2025-04-17 79.971279

2025-04-18 79.812499

2025-04-19 81.972884

2025-04-20 81.669693

2025-04-21 78.922647

2025-04-22 78.610985

2025-04-23 78.126714

2025-04-24 77.775565

2025-04-25 77.506376

2025-04-26 79.596826

2025-04-27 79.264730

2025-04-28 76.529500

2025-04-29 76.269216

2025-04-30 75.873930

2025-05-01 75.646674

2025-05-02 75.532931

2025-05-03 77.806453

2025-05-04 77.680670

2025-05-05 75.170255

2025-05-06 75.148323

2025-05-07 74.999849

2025-05-08 75.022803

2025-05-09 75.157735

2025-05-10 77.673704

2025-05-11 77.779789

2025-05-12 75.486745

2025-05-13 75.664277

2025-05-14 75.694515

2025-05-15 75.873200

2025-05-16 76.139289

corr: 0.3262047650847174,

Gas\_Price USO\_Price

Gas\_Price 1.000000 0.326205

USO\_Price 0.326205 1.000000

1. OILK

2025-04-09 46.804481

2025-04-10 46.884966

2025-04-11 47.042971

2025-04-12 49.495939

2025-04-13 49.516994

2025-04-14 47.099320

2025-04-15 47.046269

2025-04-16 46.943276

2025-04-17 46.800007

2025-04-18 46.734649

2025-04-19 48.969188

2025-04-20 48.781167

2025-04-21 46.167967

2025-04-22 45.936820

2025-04-23 45.676633

2025-04-24 45.400061

2025-04-25 45.227739

2025-04-26 47.383500

2025-04-27 47.146111

2025-04-28 44.513523

2025-04-29 44.292891

2025-04-30 44.072406

2025-05-01 43.863403

2025-05-02 43.784627

2025-05-03 46.057514

2025-05-04 45.957995

2025-05-05 43.480818

2025-05-06 43.429655

2025-05-07 43.389026

2025-05-08 43.366491

2025-05-09 43.477016

2025-05-10 45.938341

2025-05-11 46.022860

2025-05-12 43.722036

2025-05-13 43.836568

2025-05-14 43.948372

2025-05-15 44.062829

2025-05-16 44.293178

2025-05-17 46.855909

corr: 0.332468629708601,

Gas\_Price OILK\_Price

Gas\_Price 1.000000 0.332469

OILK\_Price 0.332469 1.000000

1. BNO

2025-04-09 31.344369

2025-04-10 31.373608

2025-04-11 31.432563

2025-04-12 31.687798

2025-04-13 31.672506

2025-04-14 31.389826

2025-04-15 31.316197

2025-04-16 31.239132

2025-04-17 31.200026

2025-04-18 31.192908

2025-04-19 31.385695

2025-04-20 31.312838

2025-04-21 30.978615

2025-04-22 30.860454

2025-04-23 30.746691

2025-04-24 30.679363

2025-04-25 30.652943

2025-04-26 30.835591

2025-04-27 30.761800

2025-04-28 30.435690

2025-04-29 30.334342

2025-04-30 30.245568

2025-05-01 30.210722

2025-05-02 30.223455

2025-05-03 30.450991

2025-05-04 30.426800

2025-05-05 30.153915

2025-05-06 30.108301

2025-05-07 30.076646

2025-05-08 30.099204

2025-05-09 30.168576

2025-05-10 30.451006

2025-05-11 30.479075

2025-05-12 30.255041

2025-05-13 30.254213

2025-05-14 30.262763

2025-05-15 30.320562

2025-05-16 30.419972

2025-05-17 30.727137

corr: 0.3373215711068502,

Gas\_Price BNO\_Price

Gas\_Price 1.000000 0.337322

BNO\_Price 0.337322 1.000000

+

1. 标普500(SPX)

2025-04-09 5858.291963

2025-04-10 5856.918220

2025-04-11 5858.431411

2025-04-12 5823.278426

2025-04-13 5824.201225

2025-04-14 5861.802318

2025-04-15 5860.177724

2025-04-16 5864.564796

2025-04-17 5863.396362

2025-04-18 5864.988979

2025-04-19 5829.756277

2025-04-20 5830.413974

2025-04-21 5867.546482

2025-04-22 5865.240711

2025-04-23 5868.734443

2025-04-24 5866.470708

2025-04-25 5866.785954

2025-04-26 5830.122974

2025-04-27 5829.235205

2025-04-28 5864.752317

2025-04-29 5860.812747

2025-04-30 5862.710571

2025-05-01 5858.948205

2025-05-02 5857.922759

2025-05-03 5820.137084

2025-05-04 5818.402146

2025-05-05 5853.400750

2025-05-06 5849.318282

2025-05-07 5851.487939

2025-05-08 5848.441987

2025-05-09 5848.596902

2025-05-10 5812.463485

2025-05-11 5812.848625

2025-05-12 5850.418719

2025-05-13 5849.330470

2025-05-14 5854.876515

2025-05-15 5855.537413

2025-05-16 5859.667852

2025-05-17 5827.708121

corr: -0.1287933667222031,

Gas\_Price SPX\_Price

Gas\_Price 1.000000 -0.128793

SPX\_Price -0.128793 1.000000)

（2）stock

**Positive：**

1. Chevron

**Prophet** → MAE: 7.00, RMSE: 7.33, MAPE: 4.49%

LSTM → MAE: 2.00, RMSE: 2.62, MAPE: 1.30%

Chevron Future 39-day Predictions:

ds yhat

2025-04-11 153.077434

2025-04-12 153.033822

2025-04-13 153.126358

2025-04-14 153.287284

2025-04-15 153.525952

2025-04-16 153.426800

2025-04-17 153.489361

2025-04-18 153.583408

2025-04-19 153.471430

2025-04-20 153.497596

2025-04-21 153.595306

2025-04-22 153.774878

2025-04-23 153.621510

2025-04-24 153.635280

2025-04-25 153.686281

2025-04-26 153.537106

2025-04-27 153.531821

2025-04-28 153.603530

2025-04-29 153.762091

2025-04-30 153.592099

2025-05-01 153.592920

2025-05-02 153.633862

2025-05-03 153.476691

2025-05-04 153.464646

2025-05-05 153.530029

2025-05-06 153.681963

2025-05-07 153.504395

2025-05-08 153.496163

2025-05-09 153.526177

2025-05-10 153.355956

2025-05-11 153.328644

2025-05-12 153.376608

2025-05-13 153.509180

2025-05-14 153.310658

2025-05-15 153.280347

2025-05-16 153.287724

2025-05-17 153.094941

2025-05-18 153.045816

1. ExxonMobil，股票代码：XOM

**Prophet** → MAE: 8.46, RMSE: 10.10, MAPE: 7.82%

LSTM → MAE: 4.45, RMSE: 5.33, MAPE: 4.03%

XOM Future 39-day Predictions:

ds yhat

2025-04-10 117.472427

2025-04-11 117.672309

2025-04-12 117.759561

2025-04-13 117.868058

2025-04-14 118.119609

2025-04-15 118.146002

2025-04-16 118.165589

2025-04-17 118.158254

2025-04-18 118.293858

2025-04-19 118.309682

2025-04-20 118.340443

2025-04-21 118.508948

2025-04-22 118.448128

2025-04-23 118.377593

2025-04-24 118.278586

2025-04-25 118.322396

2025-04-26 118.247775

2025-04-27 118.190927

2025-04-28 118.276130

2025-04-29 118.137735

2025-04-30 117.996703

2025-05-01 117.835519

2025-05-02 117.826588

2025-05-03 117.709624

2025-05-04 117.621616

2025-05-05 117.687437

2025-05-06 117.541827

2025-05-07 117.405923

2025-05-08 117.262163

2025-05-09 117.282684

2025-05-10 117.206714

2025-05-11 117.170548

2025-05-12 117.298161

2025-05-13 117.223217

2025-05-14 117.165607

2025-05-15 117.106382

2025-05-16 117.216175

2025-05-17 117.232615

2025-05-18 117.290334

2025-05-19 117.511609

1. ConocoPhillips，COP

**Prophet** → MAE: 7.36, RMSE: 10.05, MAPE: 8.16%

LSTM → MAE: 4.29, RMSE: 5.90, MAPE: 4.65%

COP Future 39-day Predictions:

ds yhat

2025-04-10 97.333579

2025-04-11 97.209755

2025-04-12 96.090547

2025-04-13 95.831455

2025-04-14 96.422298

2025-04-15 96.146340

2025-04-16 95.907217

2025-04-17 95.556897

2025-04-18 95.451738

2025-04-19 94.366768

2025-04-20 94.156450

2025-04-21 94.809339

2025-04-22 94.607251

2025-04-23 94.452223

2025-04-24 94.194516

2025-04-25 94.188719

2025-04-26 93.208068

2025-04-27 93.105257

2025-04-28 93.867138

2025-04-29 93.773922

2025-04-30 93.726180

2025-05-01 93.572866

2025-05-02 93.667451

2025-05-03 92.782254

2025-05-04 92.769263

2025-05-05 93.614838

2025-05-06 93.598907

2025-05-07 93.621953

2025-05-08 93.533024

2025-05-09 93.685838

2025-05-10 92.853089

2025-05-11 92.887237

2025-05-12 93.775170

2025-05-13 93.797371

2025-05-14 93.854864

2025-05-15 93.797187

2025-05-16 93.978468

2025-05-17 93.171698

2025-05-18 93.229492

2025-05-19 94.138741

**Negative：**

1. UPS

**Prophet** → MAE: 4.31, RMSE: 5.16, MAPE: 3.72%

LSTM → MAE: 2.99, RMSE: 4.99, MAPE: 2.55%

UPS Future 39-day Predictions:

ds yhat

2025-04-11 111.358592

2025-04-12 111.417703

2025-04-13 111.394419

2025-04-14 111.256303

2025-04-15 111.249389

2025-04-16 111.124735

2025-04-17 111.235306

2025-04-18 111.342622

2025-04-19 111.464094

2025-04-20 111.484724

2025-04-21 111.371209

2025-04-22 111.369232

2025-04-23 111.230016

2025-04-24 111.307195

2025-04-25 111.363425

2025-04-26 111.417688

2025-04-27 111.356938

2025-04-28 111.150144

2025-04-29 111.045514

2025-04-30 110.796976

2025-05-01 110.760970

2025-05-02 110.702988

2025-05-03 110.644794

2025-05-04 110.476003

2025-05-05 110.168051

2025-05-06 109.971361

2025-05-07 109.641769

2025-05-08 109.537275

2025-05-09 109.424549

2025-05-10 109.326132

2025-05-11 109.132003

2025-05-12 108.813553

2025-05-13 108.620769

2025-05-14 108.308679

2025-05-15 108.234142

2025-05-16 108.162394

2025-05-17 108.114304

2025-05-18 107.977994

1. Delta Air Lines，DAL

Prophet → MAE: 21.32, RMSE: 21.80, MAPE: 48.76%

**LSTM**  → MAE: 2.33, RMSE: 2.78, MAPE: 5.00%

DAL 21-day LSTM Future Predictions:

ds yhat

2025-04-11 37.705456

2025-04-12 37.777588

2025-04-13 37.761265

2025-04-14 37.702728

2025-04-15 37.627602

2025-04-16 37.546326

2025-04-17 37.463497

2025-04-18 37.379787

2025-04-19 37.294033

2025-04-20 37.205013

2025-04-21 37.111485

2025-04-22 37.013401

2025-04-23 36.910503

2025-04-24 36.802277

2025-04-25 36.689144

2025-04-26 36.571579

2025-04-27 36.450035

2025-04-28 36.325642

2025-04-29 36.199459

2025-04-30 36.072098

2025-05-01 35.944103

1. American Airlines，AAL

Prophet → MAE: 5.38, RMSE: 5.48, MAPE: 50.16%

**LSTM**  → MAE: 0.57, RMSE: 0.72, MAPE: 5.00%

AAL 21-day LSTM Future Predictions:

ds yhat

2025-04-11 10.011425

2025-04-12 10.115051

2025-04-13 10.202882

2025-04-14 10.283250

2025-04-15 10.359745

2025-04-16 10.432564

2025-04-17 10.501922

2025-04-18 10.567385

2025-04-19 10.628444

2025-04-20 10.685095

2025-04-21 10.737378

2025-04-22 10.785559

2025-04-23 10.829942

2025-04-24 10.870547

2025-04-25 10.907980

2025-04-26 10.942340

2025-04-27 10.974117

2025-04-28 11.003774

2025-04-29 11.031317

2025-04-30 11.057115

2025-05-01 11.081293

1. Tesla（TSLA）

Prophet → MAE: 107.74, RMSE: 110.11, MAPE: 43.49%

**LSTM**  → MAE: 17.70, RMSE: 22.44, MAPE: 6.56%

TSLA 21-day LSTM Future Predictions:

ds yhat

2025-04-11 235.755692

2025-04-12 235.103928

2025-04-13 234.119202

2025-04-14 232.933197

2025-04-15 231.681259

2025-04-16 230.392715

2025-04-17 229.134842

2025-04-18 227.861618

2025-04-19 226.663483

2025-04-20 225.544785

2025-04-21 224.454636

2025-04-22 223.413635

2025-04-23 222.378174

2025-04-24 221.342758

2025-04-25 220.339493

2025-04-26 219.344711

2025-04-27 218.374924

2025-04-28 217.454544

2025-04-29 216.550507

2025-04-30 215.626526

2025-05-01 214.717392

1. NIO（NIO）

Prophet → MAE: 4.71, RMSE: 4.90, MAPE: 114.87%

**LSTM** → MAE: 0.36, RMSE: 0.45, MAPE: 9.01%

NIO 21-day LSTM Future Predictions:

ds yhat

2025-04-11 3.816052

2025-04-12 3.805434

2025-04-13 3.837480

2025-04-14 3.896002

2025-04-15 3.970794

2025-04-16 4.055541

2025-04-17 4.146241

2025-04-18 4.240535

2025-04-19 4.336818

2025-04-20 4.434381

2025-04-21 4.532716

2025-04-22 4.631379

2025-04-23 4.730187

2025-04-24 4.829011

2025-04-25 4.927811

2025-04-26 5.026612

2025-04-27 5.125317

2025-04-28 5.223887

2025-04-29 5.322287

2025-04-30 5.420546

2025-05-01 5.518668

（3）能源option

没有找到option数据，先用能源类ETF

1. QCLN

2025-04-09 94.059010

2025-04-10 94.002517

2025-04-11 94.082457

2025-04-12 94.025368

2025-04-13 94.029044

2025-04-14 94.104127

2025-04-15 94.080241

2025-04-16 94.085160

2025-04-17 93.978613

2025-04-18 94.009398

2025-04-19 93.904730

2025-04-20 93.863073

2025-04-21 93.895721

2025-04-22 93.832923

2025-04-23 93.803050

2025-04-24 93.666382

2025-04-25 93.672225

2025-04-26 93.548248

2025-04-27 93.493313

2025-04-28 93.519044

2025-04-29 93.455955

2025-04-30 93.432607

2025-05-01 93.309397

2025-05-02 93.335665

2025-05-03 93.239034

2025-05-04 93.218234

2025-05-05 93.284672

2025-05-06 93.268557

2025-05-07 93.298057

2025-05-08 93.233088

2025-05-09 93.322424

2025-05-10 93.293036

2025-05-11 93.342920

2025-05-12 93.482673

2025-05-13 93.541618

2025-05-14 93.646975

2025-05-15 93.657649

2025-05-16 93.821357

2025-05-17 93.863969

corr: -0.05189093627747855,

Gas\_Price QCLN\_Price

Gas\_Price 1.000000 -0.051891

QCLN\_Price -0.051891 1.000000

1. XLE

2025-04-09 29.393273

2025-04-10 29.195715

2025-04-11 29.056792

2025-04-12 29.087265

2025-04-13 28.986029

2025-04-14 28.910770

2025-04-15 28.784185

2025-04-16 28.680776

2025-04-17 28.460893

2025-04-18 28.297201

2025-04-19 28.299896

2025-04-20 28.167536

2025-04-21 28.057724

2025-04-22 27.893350

2025-04-23 27.749386

2025-04-24 27.486927

2025-04-25 27.279647

2025-04-26 27.238987

2025-04-27 27.064961

2025-04-28 26.916788

2025-04-29 26.719093

2025-04-30 26.548648

2025-05-01 26.268351

2025-05-02 26.053626

2025-05-03 26.017549

2025-05-04 25.861592

2025-05-05 25.746204

2025-05-06 25.596959

2025-05-07 25.491251

2025-05-08 25.292238

2025-05-09 25.175218

2025-05-10 25.252734

2025-05-11 25.225315

2025-05-12 25.252067

2025-05-13 25.256831

2025-05-14 25.314913

2025-05-15 25.287067

2025-05-16 25.345915

2025-05-17 25.601118

coor: 0.18746643055973947,

Gas\_Price XLE\_Price

Gas\_Price 1.000000 0.187466

XLE\_Price 0.187466 1.000000

（4）Currency & Macroeconomic Assets

**Positive：**

（石油出口国）

1. RUB 俄罗斯卢布

Prophet → MAE: 23.46, RMSE: 24.09, MAPE: 27.68%

**LSTM**  → MAE: 3.85, RMSE: 4.35, MAPE: 4.46%

urrencyRUB 21-day LSTM Future Predictions:

ds yhat

2025-04-11 84.285095

2025-04-12 84.363075

2025-04-13 84.382095

2025-04-14 84.354866

2025-04-15 84.300133

2025-04-16 84.224731

2025-04-17 84.139610

2025-04-18 84.047554

2025-04-19 83.949516

2025-04-20 83.851952

2025-04-21 83.747398

2025-04-22 83.643852

2025-04-23 83.544205

2025-04-24 83.447464

2025-04-25 83.355888

2025-04-26 83.259972

2025-04-27 83.164001

2025-04-28 83.072327

2025-04-29 82.984367

2025-04-30 82.897026

2025-05-01 82.813728

1. CAD（加拿大加元）

**Prophet** → MAE: 0.03, RMSE: 0.03, MAPE: 2.02%

LSTM → MAE: 0.01, RMSE: 0.01, MAPE: 0.46%

CAD Future 39-day Predictions:

ds yhat

2025-04-10 1.438406

2025-04-11 1.439251

2025-04-12 1.439771

2025-04-13 1.440600

2025-04-14 1.442245

2025-04-15 1.442538

2025-04-16 1.443482

2025-04-17 1.444223

2025-04-18 1.445156

2025-04-19 1.445696

2025-04-20 1.446480

2025-04-21 1.448018

2025-04-22 1.448147

2025-04-23 1.448876

2025-04-24 1.449358

2025-04-25 1.449994

2025-04-26 1.450206

2025-04-27 1.450637

2025-04-28 1.451806

2025-04-29 1.451554

2025-04-30 1.451897

2025-05-01 1.451993

2025-05-02 1.452247

2025-05-03 1.452086

2025-05-04 1.452154

2025-05-05 1.452974

2025-05-06 1.452386

2025-05-07 1.452410

2025-05-08 1.452201

2025-05-09 1.452165

2025-05-10 1.451725

2025-05-11 1.451528

2025-05-12 1.452091

2025-05-13 1.451255

2025-05-14 1.451037

2025-05-15 1.450589

2025-05-16 1.450318

2025-05-17 1.449645

2025-05-18 1.449216

2025-05-19 1.449549

**Negative：**

（石油进口国）

1. JPY（日本日元）

Prophet → MAE: 9.07, RMSE: 9.25, MAPE: 6.12%

**LSTM**  → MAE: 1.31, RMSE: 1.57, MAPE: 0.88%

CurrencyJPY 21-day LSTM Future Predictions:

ds yhat

2025-04-11 148.296860

2025-04-12 147.919113

2025-04-13 147.680252

2025-04-14 147.544540

2025-04-15 147.486786

2025-04-16 147.484604

2025-04-17 147.522415

2025-04-18 147.589111

2025-04-19 147.676498

2025-04-20 147.780045

2025-04-21 147.894897

2025-04-22 148.018066

2025-04-23 148.148560

2025-04-24 148.284988

2025-04-25 148.425751

2025-04-26 148.569580

2025-04-27 148.717041

2025-04-28 148.868118

2025-04-29 149.021988

2025-04-30 149.176682

2025-05-01 149.333328

1. INR（印度卢比）

**Prophet** → MAE: 0.84, RMSE: 1.00, MAPE: 0.98%

LSTM → MAE: 0.40, RMSE: 0.48, MAPE: 0.46%

INR Future 39-day Predictions:

ds yhat

2025-04-10 86.893656

2025-04-11 86.932388

2025-04-12 86.958441

2025-04-13 87.002097

2025-04-14 87.031159

2025-04-15 87.111550

2025-04-16 87.151712

2025-04-17 87.174045

2025-04-18 87.192656

2025-04-19 87.194906

2025-04-20 87.211581

2025-04-21 87.211052

2025-04-22 87.259863

2025-04-23 87.267111

2025-04-24 87.255875

2025-04-25 87.240946

2025-04-26 87.210354

2025-04-27 87.195529

2025-04-28 87.165445

2025-04-29 87.187190

2025-04-30 87.170340

2025-05-01 87.138373

2025-05-02 87.106393

2025-05-03 87.062650

2025-05-04 87.038698

2025-05-05 87.003536

2025-05-06 87.024185

2025-05-07 87.010059

2025-05-08 86.984388

2025-05-09 86.961948

2025-05-10 86.930597

2025-05-11 86.921440

2025-05-12 86.902981

2025-05-13 86.941718

2025-05-14 86.946526

2025-05-15 86.940097

2025-05-16 86.936683

2025-05-17 86.923643

2025-05-18 86.931621

2025-05-19 86.928718

**Other：**

1. VIX（波动率指数）

Prophet → MAE: 7.66, RMSE: 11.94, MAPE: 23.38%

**LSTM**  → MAE: 2.80, RMSE: 4.83, MAPE: 9.70%

VIX 21-day LSTM Future Predictions:

ds yhat

2025-04-11 31.456064

2025-04-12 30.241131

2025-04-13 30.067713

2025-04-14 30.468369

2025-04-15 31.088736

2025-04-16 31.722168

2025-04-17 32.261543

2025-04-18 32.661488

2025-04-19 32.921757

2025-04-20 33.068680

2025-04-21 33.139748

2025-04-22 33.173145

2025-04-23 33.198082

2025-04-24 33.232204

2025-04-25 33.283558

2025-04-26 33.351933

2025-04-27 33.433128

2025-04-28 33.521645

2025-04-29 33.611961

2025-04-30 33.699780

2025-05-01 33.782665

Stock &Currency

**Correlation matrix：**

correlation matrix：

Oil Chevron XOM COP UPS DAL AAL \

Oil 1.000000 0.807201 0.671652 0.769080 0.412251 0.128151 0.044038

Chevron 0.807201 1.000000 0.931968 0.960219 0.052760 0.261538 -0.221483

XOM 0.671652 0.931968 1.000000 0.958086 -0.147463 0.406480 -0.308717

COP 0.769080 0.960219 0.958086 1.000000 -0.016710 0.292641 -0.275543

UPS 0.412251 0.052760 -0.147463 -0.016710 1.000000 -0.120668 0.564328

DAL 0.128151 0.261538 0.406480 0.292641 -0.120668 1.000000 0.361461

AAL 0.044038 -0.221483 -0.308717 -0.275543 0.564328 0.361461 1.000000

TSLA 0.446324 0.298531 0.256814 0.290023 0.350855 0.562020 0.382427

NIO -0.242988 -0.608039 -0.685883 -0.627048 0.559376 -0.046653 0.639143

RUB 0.169778 0.317595 0.443616 0.377539 -0.287326 0.483662 -0.186364

CAD -0.083387 0.369222 0.530546 0.414013 -0.777367 0.167622 -0.677087

JPY 0.567697 0.829703 0.934972 0.898213 -0.322326 0.431213 -0.405430

INR 0.441070 0.794014 0.921501 0.844791 -0.410570 0.382820 -0.480246

VIX -0.236089 -0.348667 -0.489648 -0.439568 -0.073577 -0.565283 -0.183242

TSLA NIO RUB CAD JPY INR VIX

Oil 0.446324 -0.242988 0.169778 -0.083387 0.567697 0.441070 -0.236089

Chevron 0.298531 -0.608039 0.317595 0.369222 0.829703 0.794014 -0.348667

XOM 0.256814 -0.685883 0.443616 0.530546 0.934972 0.921501 -0.489648

COP 0.290023 -0.627048 0.377539 0.414013 0.898213 0.844791 -0.439568

UPS 0.350855 0.559376 -0.287326 -0.777367 -0.322326 -0.410570 -0.073577

DAL 0.562020 -0.046653 0.483662 0.167622 0.431213 0.382820 -0.565283

AAL 0.382427 0.639143 -0.186364 -0.677087 -0.405430 -0.480246 -0.183242

TSLA 1.000000 0.185554 0.264845 -0.153120 0.256922 0.155192 -0.319755

NIO 0.185554 1.000000 -0.395635 -0.812183 -0.731501 -0.795525 0.119744

RUB 0.264845 -0.395635 1.000000 0.380798 0.488348 0.488071 -0.393947

CAD -0.153120 -0.812183 0.380798 1.000000 0.657807 0.773960 -0.068491

JPY 0.256922 -0.731501 0.488348 0.657807 1.000000 0.954450 -0.488854

INR 0.155192 -0.795525 0.488071 0.773960 0.954450 1.000000 -0.440871

VIX -0.319755 0.119744 -0.393947 -0.068491 -0.488854 -0.440871 1.000000

