Model 1: China's economic slowdown and commodity prices

OLS

```
Modelling LExport by OLS
The dataset is: C:\Users\Ejer\Desktop\TZN Work\Data\China Slowdown.in7
The estimation sample is: 1990 - 2014

                  Coefficient  Std.Error  t-value  t-prob Part.R^2
Constant             -106.538      45.47    -2.34  0.0296   0.2154
LCDI                 0.873745     0.2780     3.14  0.0051   0.3305
LPrice               0.422241     0.1062     3.98  0.0007   0.4416
LWorld_GDP            3.32528      1.375     2.42  0.0253   0.2262
Trend                -0.0985383    0.06091    -1.62  0.1214   0.1157
Trend_02              0.0527758    0.02493     2.12  0.0476   0.1909

sigma                  0.10289  RSS               0.211726374
R^2                   0.988367  F(4,20) =     424.8 [0.000]**
Adj.R^2                0.98604  log-likelihood        24.1682
no. of observations         25  no. of parameters           5
mean(LExport)          21.3817  se(LExport)           0.870817

AR 1-2 test:      F(2,18)    =   7.5863 [0.0041]**
ARCH 1-1 test:    F(1,23)    = 0.078180 [0.7823]
Normality test:   Chi^2(2)   =   2.1788 [0.3364]
Hetero test:      F(8,16)    =   4.7073 [0.0041]**
Hetero-X test:    F(14,10)   =   3.0127 [0.0427]*
RESET23 test:     F(2,18)    =   2.0264 [0.1608]
```

Cointegrated VAR model

```
Cointegrated VAR
The dataset is: C:\Users\Ejer\Desktop\TZN Work\Data\China Slowdown.in7
The estimation sample is: 1991 - 2014

Cointegrated VAR (1) in:
[0] = LExport
[1] = LCDI
[2] = LPricewb
Unrestricted variables:
[0] = Constant
[1] = Dp09
[2] = Dp90
[3] = Dp97
[4] = DLWorld
[5] = DLWorld_1
Restricted variables:
[0] = LWorld
[1] = Trend
[2] = T02
Number of lags used in the analysis: 1

General cointegration restrictions:
&6 = 1;  &9 = 0; &11 = 0; &10= 0;
&14 = 1; &12 = 0;
```

```
beta
LExport             1.0000      0.00000
LCDI               -0.57215     -0.96559
LPricewb           -0.61168       1.0000
LWorld              0.00000      -7.2279
Trend               0.00000      0.30193
T02                 0.00000     -0.11123

Standard errors of beta
LExport             0.00000      0.00000
LCDI               0.090063      0.31630
LPricewb            0.17414      0.00000
LWorld              0.00000       1.8819
Trend               0.00000     0.082525
T02                 0.00000     0.021593

alpha
LExport            -0.77567     -0.74849
LCDI               -0.10669     0.010745
LPricewb           -0.12216     -0.45428

Standard errors of alpha
LExport             0.16508      0.16527
LCDI                0.11896      0.11910
LPricewb            0.27406      0.27438

Restricted long-run matrix, rank 2
                   LExport         LCDI     LPricewb       LWorld        Trend          T02
LExport           -0.77567       1.1665     -0.27403       5.4100     -0.22599     0.083253
LCDI              -0.10669     0.050668     0.076005    -0.077662    0.0032442   -0.0011951
LPricewb          -0.12216      0.50854     -0.37955       3.2835     -0.13716     0.050528

Standard errors of long-run matrix
LExport             0.16508      0.24501     0.095495       1.1946     0.049901     0.018383
LCDI                0.11896      0.17656     0.068816      0.86082     0.035960     0.013247
LPricewb            0.27406      0.40676      0.15854       1.9832     0.082846     0.030519

Moving-average impact matrix
     -0.20084       1.0527      0.35581
     -0.17272      0.90537      0.30600
     -0.16678      0.87421      0.29547

log-likelihood       107.0462  -T/2log|Omega|     209.209774
no. of observations        24  no. of parameters          30
rank of long-run matrix     2  no. long-run restrictions   2
beta is identified

LR test of restrictions: Chi^2(2)  =  0.60058 [0.7406]

Switching (scaled linear) using analytical derivatives (eps1=0.0001; eps2=0.005):
Weak convergence

Single-equation diagnostics using reduced-form residuals:
LExport     : ARCH 1-1 test:    F(1,22)   =   1.5196 [0.2307]
LExport     : Normality test:   Chi^2(2)  =   1.0979 [0.5776]
LExport     : Hetero test:      F(16,5)   =  0.62012 [0.7867]
LExport     : Hetero-X test: not enough observations
LCDI        : ARCH 1-1 test:    F(1,22)   =  0.12473 [0.7273]
LCDI        : Normality test:   Chi^2(2)  =   5.6971 [0.0712]
```

```
LCDI        : Hetero test:      F(16,5)    =  0.83915 [0.6433]
LCDI        : Hetero-X test: not enough observations
LPricewb    : ARCH 1-1 test:    F(1,22)    =  0.15540 [0.6972]
LPricewb    : Normality test:   Chi^2(2)   =   1.2270 [0.5415]
LPricewb    : Hetero test:      F(16,5)    =   1.4185 [0.3720]
LPricewb    : Hetero-X test: not enough observations

Vector Normality test:   Chi^2(6)  =   14.890 [0.0211]*
Hetero test: not enough observations
Hetero-X test: not enough observations
```

Model 2: Volatility in global financial markets

OLS

```
Modelling LGDP by OLS
The dataset is: C:\Users\Ejer\Desktop\TZN Work\Data\Financial Volatility and US
FFR.in7
        The estimation sample is: 1980 - 2014

                  Coefficient  Std.Error  t-value  t-prob Part.R^2
Constant              21.6587      1.454     14.9  0.0000   0.8809
LNCI                0.0148878    0.01825    0.816  0.4211   0.0217
LInv                 0.210186    0.05338     3.94  0.0005   0.3407
LExp                -0.186176    0.08346    -2.23  0.0333   0.1423
Trend                0.0452782   0.007336     6.17  0.0000   0.5594
Trend_01             0.0347809   0.001685     20.6  0.0000   0.9363


sigma                0.0790735  RSS               0.187578448
R^2                   0.974728  F(4,30) =     289.3 [0.000]**
Adj.R^2               0.971359  log-likelihood         41.843
no. of observations         35  no. of parameters           5
mean(LGDP)            23.1971  se(LGDP)             0.467235

AR 1-2 test:      F(2,28)    =   41.448 [0.0000]**
ARCH 1-1 test:    F(1,33)    =   12.635 [0.0012]**
Normality test:   Chi^2(2)   =   2.0178 [0.3646]
Hetero test:      F(8,26)    =   2.2509 [0.0563]
Hetero-X test:    F(14,20)   =   1.9191 [0.0891]
RESET23 test:     F(2,28)    =   189.14 [0.0000]**
```

Cointegrated VAR results

```
Cointegrated VAR
The dataset is: C:\Users\Ejer\Desktop\TZN Work\Data\Financial Volatility and US
FFR.in7
         The estimation sample is: 1981 - 2014

Cointegrated VAR (1) in:
```

```
[0] = LGDP
[1] = LNCI I
[2] = LInv
[3] = LExp
Unrestricted variables:
[0] = Constant
[1] = Dp83
[2] = Dp85
[3] = Dp90
[4] = Dp87
Restricted variables:
[0] = Trend
[1] = T01
Number of lags used in the analysis: 1

General cointegration restrictions:
&8=1; &11=0; &12 = 0;
&17= 1; &14 = 0;  &19 = 0; &16 = 0;

beta
LGDP                1.0000      0.00000
LNCI I           -0.039141     -0.11643
LInv              -0.26073      0.00000
LExp               0.00000       1.0000
Trend              0.00000    -0.070738
T01              -0.030097      0.00000

Standard errors of beta
LGDP               0.00000      0.00000
LNCI I           0.0056224     0.033678
LInv              0.017440      0.00000
LExp               0.00000      0.00000
Trend              0.00000    0.0064125
T01              0.0025281      0.00000

alpha
LGDP               0.24466     0.034034
LNCI I             -1.3019       2.7410
LInv                1.2239   -0.0070324
LExp               0.74061     -0.31685

Standard errors of alpha
LGDP              0.027822     0.010724
LNCI I              1.2913      0.49777
LInv               0.16933     0.065270
LExp               0.30840      0.11888

Restricted long-run matrix, rank 2
                     LGDP       LNCI I         LInv         LExp        Trend          T01
LGDP              0.24466    -0.013539    -0.063792     0.034034   -0.0024075   -0.0073637
LNCI I            -1.3019     -0.26819      0.33946       2.7410     -0.19389     0.039185
LInv               1.2239    -0.047086     -0.31911   -0.0070324   0.00049746    -0.036836
LExp              0.74061    0.0079041     -0.19310     -0.31685     0.022413    -0.022290

Standard errors of long-run matrix
```

```
LGDP             0.027822    0.0016040    0.0072540     0.010724   0.00075862   0.00083735
LNCI I             1.2913     0.074451      0.33669      0.49777     0.035211     0.038866
LInv              0.16933    0.0097625     0.044149     0.065270    0.0046171    0.0050963
LExp              0.30840     0.017780     0.080408      0.11888    0.0084091    0.0092819

Moving-average impact matrix
       3.3643    -0.067858     -0.61645     -0.21198
       20.564    -0.037822      -5.3616       2.0006
       9.8163     -0.25458      -1.5594      -1.1134
       2.3943   -0.0044038     -0.62428      0.23294

log-likelihood     161.448792  -T/2log|Omega|     354.424433
no. of observations        34  no. of parameters          33
rank of long-run matrix     2  no. long-run restrictions   3
beta is identified

LR test of restrictions: Chi^2(3)  =  0.24120 [0.9707]

Switching (scaled linear) using analytical derivatives (eps1=0.0001; eps2=0.005):
Weak convergence

Single-equation diagnostics using reduced-form residuals:
LGDP        : ARCH 1-1 test:    F(1,32)   =   1.4164 [0.2428]
LGDP        : Normality test:   Chi^2(2)  =   1.1245 [0.5699]
LGDP        : Hetero test:      F(12,17)  =   1.1374 [0.3939]
LGDP        : Hetero-X test: not enough observations
LNCI I      : ARCH 1-1 test:    F(1,32)   =0.00013685 [0.9907]
LNCI I      : Normality test:   Chi^2(2)  =   3.6776 [0.1590]
LNCI I      : Hetero test:      F(12,17)  =  0.49300 [0.8916]
LNCI I      : Hetero-X test: not enough observations
LInv        : ARCH 1-1 test:    F(1,32)   =   1.4158 [0.2429]
LInv        : Normality test:   Chi^2(2)  =   3.9035 [0.1420]
LInv        : Hetero test:      F(12,17)  =   1.2434 [0.3320]
LInv        : Hetero-X test: not enough observations
LExp        : ARCH 1-1 test:    F(1,32)   =  0.49198 [0.4881]
LExp        : Normality test:   Chi^2(2)  =   7.8265 [0.0800]
LExp        : Hetero test:      F(12,17)  =   2.8287 [0.0249]*
LExp        : Hetero-X test: not enough observations

Vector Normality test:   Chi^2(8)  =   17.998 [0.0712]
Vector ZHetero test:     F(48,55)  =   1.0250 [0.4624]
ZHetero-X test: not enough observations
```

Model 3: Currency movements and inflation

OLS

```
The dataset is: C:\Users\Ejer\Desktop\TZN Work\Data\NEER-Inflation.in7
The estimation sample is: 2013(1) - 2015(9)

                 Coefficient  Std.Error  t-value  t-prob Part.R^2
```

```
Constant              1.92517     0.6826     2.82  0.0093   0.2414
LNEER                -0.324469    0.1407    -2.31  0.0297   0.1755
LM2                  -0.158978   0.04048    -3.93  0.0006   0.3815
DLOil               -0.00487991   0.02309   -0.211  0.8343   0.0018
DLFood               -0.0955434   0.08520    -1.12  0.2728   0.0479
Trend               -0.00204409 0.0004581    -4.46  0.0002   0.4433
T13(7)               -0.0121841  0.006976    -1.75  0.0930   0.1087
T14(8)               -0.0149339  0.006009    -2.49  0.0200   0.1981

sigma                0.00812425  RSS             0.00165008776
R^2                    0.817977  F(7,25) =     16.05 [0.000]**
Adj.R^2                0.767011  log-likelihood       116.582
no. of observations          33  no. of parameters           8
mean(INF)            0.0645879  se(INF)             0.0168312

AR 1-3 test:      F(3,22)   =   7.4692 [0.0013]**
ARCH 1-3 test:    F(3,27)   =  0.19163 [0.9012]
Normality test:   Chi^2(2)  =   1.4115 [0.4937]
Hetero test:      F(12,20)  =   1.6105 [0.1671]
Hetero-X test:    F(22,10)  =   1.1206 [0.4451]
RESET23 test:     F(2,23)   =   3.6067 [0.0434]*
```

Cointegrated VAR results

```
SYS(323) Cointegrated VAR
         The dataset is: C:\Users\Ejer\Desktop\TZN Work\Data\NEER-Inflation.in7
         The estimation sample is: 2013(1) - 2015(9)

Cointegrated VAR (2) in:
[0] = INF
[1] = LNEER
[2] = LM2
Unrestricted variables:
[0] = Constant
[1] = DDLOil
[2] = DDLFood
[3] = Dp13(1)
[4] = Dp13(4)
[5] = Dtr13(4)
Restricted variables:
[0] = DLOil
[1] = DLFood
[2] = Trend
[3] = Trend_13(7)
[4] = Trend_14(8)

Number of lags used in the analysis: 2
```

General cointegration restrictions:
&6 = 1; &11 = 0; &8 = 0; &13 = 0;
&16 = 1; &15 = 0; &17 = 0; &18 = 0; &14 = 0; &20 = 0;

beta

INF	1.0000	0.00000
LNEER	0.57779	0.00000
LM2	0.00000	1.0000
DLOil	-0.21409	0.00000
DLFood	-0.50780	0.00000
Trend	0.00000	-0.012990
Trend_13(7)	-0.00096580	0.00000
Trend_14(8)	0.00000	0.030922

Standard errors of beta

INF	0.00000	0.00000
LNEER	0.23126	0.00000
LM2	0.00000	0.00000
DLOil	0.039497	0.00000
DLFood	0.20197	0.00000
Trend	0.00000	0.0016335
Trend_13(7)	0.00041935	0.00000
Trend_14(8)	0.00000	0.0030135

alpha

INF	-0.23740	-0.025278
LNEER	0.30975	0.058348
LM2	0.51582	-0.32447

Standard errors of alpha

INF	0.046446	0.015693
LNEER	0.084562	0.028571
LM2	0.21390	0.072273

Restricted long-run matrix, rank 2

	INF	LNEER	LM2	DLOil	DLFood	Trend	Trend_13(8)	Trend_14(8)
INF	-0.23740	-0.13717	-0.025278	0.050824	0.12055	0.00032837	0.00022928	-0.00078162
LNEER	0.30975	0.17897	0.058348	-0.066314	-0.15729	-0.00075797	-0.00029916	0.0018042
LM2	0.51582	0.29803	-0.32447	-0.11043	-0.26193	0.0042150	-0.00049818	-0.010033

Standard errors of long-run matrix

	// [][0]...					// [][6]	// [][7]...	// [][7]
INF	0.046446	0.026836	0.015693	0.0099434	0.023585	0.00020386	4.4857e-005	0.00048525
LNEER	0.084562	0.048859	0.028571	0.018103	0.042941	0.00037116	8.1670e-005	0.00088347
LM2	0.21390	0.12359	0.072273	0.045794	0.10862	0.00093886	0.00020659	0.0022348

```
Moving-average impact matrix
      -2.2965      -1.5837     -0.10589
       3.9747       2.7410      0.18327
     -0.00000     -0.00000     -0.00000

log-likelihood     385.924784  -T/2log|Omega|     526.399699
no. of observations        33  no. of parameters          39
rank of long-run matrix     2  no. long-run restrictions   6
beta is identified

LR test of restrictions: Chi^2(6)  =   4.4410 [0.6172]

Switching (scaled linear) using analytical derivatives (eps1=0.0001; eps2=0.005):
Strong convergence

Single-equation diagnostics using reduced-form residuals:
INF         : ARCH 1-3 test:    F(3,27)   = 0.075539 [0.9726]
INF         : Normality test:   Chi^2(2)  =   1.8684 [0.3929]
INF         : Hetero test: not enough observations
INF         : Hetero-X test: not enough observations
LNEER       : ARCH 1-3 test:    F(3,27)   =  0.54982 [0.6526]
LNEER       : Normality test:   Chi^2(2)  =  0.65400 [0.7211]
LNEER       : Hetero test: not enough observations
LNEER       : Hetero-X test: not enough observations
LM2         : ARCH 1-3 test:    F(3,27)   =   2.2390 [0.1066]
LM2         : Normality test:   Chi^2(2)  =   13.231 [0.1253]
LM2         : Hetero test: not enough observations
LM2         : Hetero-X test: not enough observations

Vector Normality test:   Chi^2(6)  =   12.991 [0.04932]*
Hetero test: not enough observations
Hetero-X test: not enough observations
```