$rh

######################

# Johansen-Procedure #

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Test type: trace statistic , with linear trend in cointegration

Eigenvalues (lambda):

[1] 1.128115e-01 7.940060e-02 2.345141e-02 3.469447e-18

Values of teststatistic and critical values of test:

test 10pct 5pct 1pct

r <= 2 | 4.86 10.49 12.25 16.26

r <= 1 | 21.82 22.76 25.32 30.45

r = 0 | 46.36 39.06 42.44 48.45

Eigenvectors, normalised to first column:

(These are the cointegration relations)

RHFG.l1 RHWS.l1 RHXB.l1 trend.l1

RHFG.l1 1.000000000 1.0000000000 1.00000000 1.00000000

RHWS.l1 -2.790655568 -0.1200511727 -4.25402632 -0.06922186

RHXB.l1 1.593474891 -0.8084959062 -6.61879018 -0.36271786

trend.l1 0.001361309 0.0004787167 0.02966762 -0.01090255

Weights W:

(This is the loading matrix)

RHFG.l1 RHWS.l1 RHXB.l1 trend.l1

RHFG.d -0.02048203 -0.1101282851 0.002550517 -1.009245e-15

RHWS.d 0.02211338 -0.0006403358 0.003317889 3.935739e-15

RHXB.d -0.06219097 0.0283253837 0.002782611 -1.265826e-14

$rw

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# Johansen-Procedure #

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Test type: trace statistic , with linear trend in cointegration

Eigenvalues (lambda):

[1] 1.720717e-01 1.205676e-01 2.882167e-02 2.127780e-17

Values of teststatistic and critical values of test:

test 10pct 5pct 1pct

r <= 2 | 6.00 10.49 12.25 16.26

r <= 1 | 32.33 22.76 25.32 30.45

r = 0 | 71.04 39.06 42.44 48.45

Eigenvectors, normalised to first column:

(These are the cointegration relations)

RWFG.l1 RWWS.l1 RWXB.l1 trend.l1

RWFG.l1 1.000000000 1.0000000000 1.000000000 1.0000000000

RWWS.l1 -1.673682458 1.3563503167 -4.197750781 -0.0003651884

RWXB.l1 0.635635522 -1.8989376902 4.625149495 -0.6110600006

trend.l1 -0.001082199 0.0002265453 -0.003706105 -0.0054614327

Weights W:

(This is the loading matrix)

RWFG.l1 RWWS.l1 RWXB.l1 trend.l1

RWFG.d -0.06429698 -0.16560434 -0.01115718 -6.178811e-14

RWWS.d 0.23616948 -0.10473005 -0.01497427 -2.094245e-13

RWXB.d 0.11906510 -0.03229331 -0.01781605 -6.670639e-14

$rg

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# Johansen-Procedure #

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Test type: trace statistic , with linear trend in cointegration

Eigenvalues (lambda):

[1] 1.308203e-01 9.358010e-02 3.449224e-02 -6.938894e-18

Values of teststatistic and critical values of test:

test 10pct 5pct 1pct

r <= 2 | 7.20 10.49 12.25 16.26

r <= 1 | 27.34 22.76 25.32 30.45

r = 0 | 56.08 39.06 42.44 48.45

Eigenvectors, normalised to first column:

(These are the cointegration relations)

RGFG.l1 RGWS.l1 RGXB.l1 trend.l1

RGFG.l1 1.000000000 1.000000000 1.000000000 1.00000000

RGWS.l1 0.085338601 -2.167190540 0.232741011 -1.93779951

RGXB.l1 -1.232969096 0.997482139 -0.040888512 1.23721538

trend.l1 0.001037827 0.001849325 -0.003799954 -0.01979896

Weights W:

(This is the loading matrix)

RGFG.l1 RGWS.l1 RGXB.l1 trend.l1

RGFG.d -0.011922867 -0.03733076 -0.03307182 1.487936e-15

RGWS.d 0.008964655 0.06832934 -0.03451346 -3.187506e-15

RGXB.d 0.195520189 0.02025015 -0.02804471 -5.809326e-16

$rhfg

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# Johansen-Procedure #

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Test type: trace statistic , with linear trend in cointegration

Eigenvalues (lambda):

[1] 0.28130122 0.19955490 0.18200446 0.12022210 0.02174485 0.00000000

Values of teststatistic and critical values of test:

test 10pct 5pct 1pct

r <= 4 | 7.15 10.49 12.25 16.26

r <= 3 | 48.77 22.76 25.32 30.45

r <= 2 | 114.06 39.06 42.44 48.45

r <= 1 | 186.41 59.14 62.99 70.05

r = 0 | 293.76 83.20 87.31 96.58

Eigenvectors, normalised to first column:

(These are the cointegration relations)

RHFG\_NR.l1 RHFG\_BR.l1 RHFG\_SI.l1 RHFG\_SU.l1 RHFG\_UR.l1

RHFG\_NR.l1 1.0000000000 1.0000000000 1.0000000000 1.0000000000 1.000000000

RHFG\_BR.l1 -0.6386684403 3.0101162511 1.1462591106 -2.8138731514 2.241989124

RHFG\_SI.l1 0.3182149651 -3.5633560727 1.0274372801 -0.3188433634 -2.517307769

RHFG\_SU.l1 -1.0962333642 -1.0683445745 -1.8263793572 2.6446158838 -0.339480759

RHFG\_UR.l1 0.4576162716 0.4872866234 -1.3376549891 -0.4432725962 2.509964079

trend.l1 -0.0001851303 0.0003644795 -0.0001023442 -0.0002055978 -0.009888564

trend.l1

RHFG\_NR.l1 1.00000000

RHFG\_BR.l1 0.77333298

RHFG\_SI.l1 -1.00342507

RHFG\_SU.l1 -0.08696995

RHFG\_UR.l1 0.10261322

trend.l1 -0.01337259

Weights W:

(This is the loading matrix)

RHFG\_NR.l1 RHFG\_BR.l1 RHFG\_SI.l1 RHFG\_SU.l1 RHFG\_UR.l1

RHFG\_NR.d -0.08515079 -0.037740481 -0.15559855 -0.0869356162 -0.008579228

RHFG\_BR.d 0.27971019 -0.007689328 -0.14298097 0.0001500787 -0.010750445

RHFG\_SI.d 0.06890440 0.117303977 -0.14729664 -0.0194273842 -0.010310408

RHFG\_SU.d 0.33134289 0.018772449 -0.10332680 -0.0810207360 -0.009859383

RHFG\_UR.d -0.09945005 0.044098120 0.07096044 -0.0267125485 -0.011337549

trend.l1

RHFG\_NR.d 1.720347e-14

RHFG\_BR.d 2.165097e-14

RHFG\_SI.d -1.837903e-14

RHFG\_SU.d 3.354570e-15

RHFG\_UR.d -2.310487e-14

$rwfg

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# Johansen-Procedure #

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Test type: trace statistic , with linear trend in cointegration

Eigenvalues (lambda):

[1] 2.478694e-01 2.106992e-01 1.841446e-01 1.551023e-01 7.953393e-02

[6] 1.387779e-17

Values of teststatistic and critical values of test:

test 10pct 5pct 1pct

r <= 4 | 13.09 10.49 12.25 16.26

r <= 3 | 39.72 22.76 25.32 30.45

r <= 2 | 71.88 39.06 42.44 48.45

r <= 1 | 109.26 59.14 62.99 70.05

r = 0 | 154.27 83.20 87.31 96.58

Eigenvectors, normalised to first column:

(These are the cointegration relations)

RWFG\_NS.l1 RWFG\_KP.l1 RWFG\_PC.l1 RWFG\_PS.l1 RWFG\_SH.l1

RWFG\_NS.l1 1.0000000000 1.0000000000 1.0000000000 1.0000000000 1.000000000

RWFG\_KP.l1 5.3230200122 -0.2879689852 -0.6076355967 -3.2927452686 -0.258593604

RWFG\_PC.l1 -6.5584643053 -0.3893550488 -0.3126141151 0.3647317055 -0.380877058

RWFG\_PS.l1 0.2245672046 -0.3340899723 0.3792262690 0.9181430402 0.283593795

RWFG\_SH.l1 -0.0511295849 0.0169943422 -0.5128398643 1.0240019794 0.114049179

trend.l1 -0.0001898299 0.0001770252 0.0001324118 0.0000311639 0.001380843

trend.l1

RWFG\_NS.l1 1.000000000

RWFG\_KP.l1 -0.485439038

RWFG\_PC.l1 -0.434514467

RWFG\_PS.l1 0.312726989

RWFG\_SH.l1 -0.044094541

trend.l1 -0.005734815

Weights W:

(This is the loading matrix)

RWFG\_NS.l1 RWFG\_KP.l1 RWFG\_PC.l1 RWFG\_PS.l1 RWFG\_SH.l1

RWFG\_NS.d -0.0009659532 -0.1400547 0.02929248 0.04058552 -0.10707294

RWFG\_KP.d -0.0189499155 0.2247335 0.08142686 0.07985746 -0.10681214

RWFG\_PC.d 0.0750323659 0.1185168 0.07726754 0.05663826 -0.10754777

RWFG\_PS.d -0.0160911360 0.3647770 -0.14389518 -0.01328402 -0.10990574

RWFG\_SH.d -0.0433501632 0.2120137 0.42495818 -0.11989181 -0.09595877

trend.l1

RWFG\_NS.d 1.575266e-14

RWFG\_KP.d 3.457390e-14

RWFG\_PC.d -9.003360e-14

RWFG\_PS.d 7.567970e-14

RWFG\_SH.d -1.852611e-13

$rgfg

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# Johansen-Procedure #

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Test type: trace statistic , with linear trend in cointegration

Eigenvalues (lambda):

[1] 0.26999539 0.22872473 0.15596300 0.13251352 0.02757966 0.00000000

Values of teststatistic and critical values of test:

test 10pct 5pct 1pct

r <= 4 | 7.75 10.49 12.25 16.26

r <= 3 | 47.12 22.76 25.32 30.45

r <= 2 | 94.09 39.06 42.44 48.45

r <= 1 | 166.03 59.14 62.99 70.05

r = 0 | 253.20 83.20 87.31 96.58

Eigenvectors, normalised to first column:

(These are the cointegration relations)

RGFG\_UN.l1 RGFG\_SN.l1 RGFG\_KK.l1 RGFG\_MS.l1 RGFG\_KL.l1

RGFG\_UN.l1 1.0000000000 1.0000000000 1.0000000000 1.000000000 1.00000000

RGFG\_SN.l1 -1.5332476282 0.9453376576 -0.2015463329 7.840580099 0.50349753

RGFG\_KK.l1 0.3039007749 9.2879779539 -0.9074701021 -12.623038076 0.39013216

RGFG\_MS.l1 -2.1344732913 -6.8504392041 1.1981284494 -14.211203523 1.82213201

RGFG\_KL.l1 2.4630976397 -4.3233683014 -1.1176625030 18.221037485 -1.29077170

trend.l1 0.0002899089 0.0004631392 -0.0001178225 -0.001586409 -0.01068733

trend.l1

RGFG\_UN.l1 1.00000000

RGFG\_SN.l1 -3.17333869

RGFG\_KK.l1 2.72320472

RGFG\_MS.l1 6.55791507

RGFG\_KL.l1 -5.21065965

trend.l1 0.03109247

Weights W:

(This is the loading matrix)

RGFG\_UN.l1 RGFG\_SN.l1 RGFG\_KK.l1 RGFG\_MS.l1 RGFG\_KL.l1

RGFG\_UN.d -0.16536246 0.01516210 -0.04867562 -0.002399065 -0.015609236

RGFG\_SN.d 0.06720936 0.01755232 0.14620617 -0.011199866 -0.015294258

RGFG\_KK.d -0.12316282 0.01856506 0.22257804 0.007322936 -0.010416131

RGFG\_MS.d -0.04788108 0.06733106 0.16725061 0.007336638 -0.010111683

RGFG\_KL.d -0.16592146 0.05617794 0.20765323 -0.001057090 -0.008356906

trend.l1

RGFG\_UN.d 1.021059e-14

RGFG\_SN.d 3.516986e-15

RGFG\_KK.d 1.174075e-14

RGFG\_MS.d 4.586252e-15

RGFG\_KL.d 1.751019e-14

$rfg

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# Johansen-Procedure #

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Test type: trace statistic , with linear trend in cointegration

Eigenvalues (lambda):

[1] 5.670245e-02 3.855866e-02 2.606428e-02 6.938894e-18

Values of teststatistic and critical values of test:

test 10pct 5pct 1pct

r <= 2 | 9.85 10.49 12.25 16.26

r <= 1 | 24.52 22.76 25.32 30.45

r = 0 | 46.29 39.06 42.44 48.45

Eigenvectors, normalised to first column:

(These are the cointegration relations)

RHFG.l1 RWFG.l1 RGFG.l1 trend.l1

RHFG.l1 1.000000000 1.000000000 1.000000000 1.00000000

RWFG.l1 -1.227654888 -0.062417220 0.979221829 0.56614423

RGFG.l1 0.193379160 -1.875638391 -0.300577400 -0.89574298

trend.l1 -0.001525016 0.004166077 -0.004960422 -0.03204091

Weights W:

(This is the loading matrix)

RHFG.l1 RWFG.l1 RGFG.l1 trend.l1

RHFG.d -0.042591622 0.002521320 -0.02019450 -2.605985e-17

RWFG.d 0.033623696 -0.002070721 -0.02142711 4.607389e-17

RGFG.d 0.004420992 0.025608083 -0.01326440 -1.272507e-16