

L2.		-.4128686	.1220003	-3.38	0.001	-.6519848	-.1737523
L3.		-.0845194	.1123239	-0.75	0.452	-.3046703	.1356315
_cons		-.0005081	.0007741	-0.66	0.512	-.0020253	.0010091

Test the stability

. varstable, graph

Eigenvalue stability condition

Eigenvalue	Modulus
.05716836 + .5924961i	.595248
.05716836 - .5924961i	.595248
-.5535887	.553589
-.398608	.398608
.2235904 + .06073802i	.231693
.2235904 - .06073802i	.231693

All the eigenvalues lie inside the unit circle.
VAR satisfies stability condition.

it is stable since All the eigenvalues lie inside the unit circle.

Exogeneity test

. vargranger

Granger causality Wald tests

Equation	Excluded	chi2	df	Prob > chi2
rspot	rfuture	5.2358	3	0.155
rspot	ALL	5.2358	3	0.155
rfuture	rspot	24.14	3	0.000
rfuture	ALL	24.14	3	0.000

. irf create order1, order(rspot rfuture) step(5) set(irf01)
(file irf01.irf created)
(file irf01.irf now active)
(file irf01.irf updated)

From the exogeneity test rspot is exogenous variable but rfuture is endogenous variable

. irf table irf, impulse(rspot rfuture) response(rspot rfuture)

Results from order1

step	(1) irf	(1) Lower	(1) Upper	(2) irf	(2) Lower	(2) Upper
0	1	1	1	0	0	0
1	.115814	-.108666	.340294	.557553	.296261	.818844
2	.222502	.001797	.443207	.283402	.022833	.543972
3	-.167907	-.373383	.037569	-.134148	-.379675	.111379
4	.052468	-.024646	.129582	-.071623	-.18827	.045025
5	-.006796	-.044484	.030892	.025593	-.023228	.074415

step	(3) irf	(3) Lower	(3) Upper	(4) irf	(4) Lower	(4) Upper
0	0	0	0	1	1	1
1	-.04507	-.237987	.147847	-.506493	-.731046	-.28194
2	-.11848	-.307934	.070975	-.181462	-.405283	.042359

```
|3      | .174121   -.00119    .349431   | .127856   -.082049   .337761   |
|4      | -.04413   -.124463   .036203   | .088076   -.030991   .207142   |
|5      | .00795    -.024432   .040331   | -.026202  -.070762   .018358   |
```

-----+-----
95% lower and upper bounds reported

- (1) irfname = order1, impulse = rspot, and response = rspot
- (2) irfname = order1, impulse = rspot, and response = rfuture
- (3) irfname = order1, impulse = rfuture, and response = rspot
- (4) irfname = order1, impulse = rfuture, and response = rfuture

```
. irf graph irf, impulse(rspot rfuture) response(rspot rfuture)
```

```
. graph save Graph "/Users/jharit/Desktop/Graph irf.gph"
(file /Users/jharit/Desktop/Graph irf.gph saved)
```

```
. irf table oirf, impulse(rspot rfuture) response(rspot rfuture)
```

Results from order1

```
-----+-----
```

step	(1) oirf	(1) Lower	(1) Upper	(2) oirf	(2) Lower	(2) Upper
0	.018688	.017767	.019609	.020742	.019622	.021861
1	.00123	-.000073	.002532	-.000086	-.001618	.001446
2	.001701	.0004	.003001	.001532	5.5e-06	.003059
3	.000474	-.000829	.001776	.000145	-.001382	.001672
4	.000065	-.000365	.000496	.000488	2.6e-06	.000974
5	.000038	-.000256	.000332	-.000065	-.00035	.00022

```
-----+-----
```

```
-----+-----
```

step	(3) oirf	(3) Lower	(3) Upper	(4) oirf	(4) Lower	(4) Upper
0	0	0	0	.006555	.006232	.006878
1	-.000295	-.00156	.000969	-.00332	-.004801	-.001839
2	-.000777	-.002019	.000466	-.001189	-.002658	.000279
3	.001141	-9.2e-06	.002292	.000838	-.000538	.002215
4	-.000289	-.000816	.000238	.000577	-.000204	.001358
5	.000052	-.00016	.000264	-.000172	-.000464	.00012

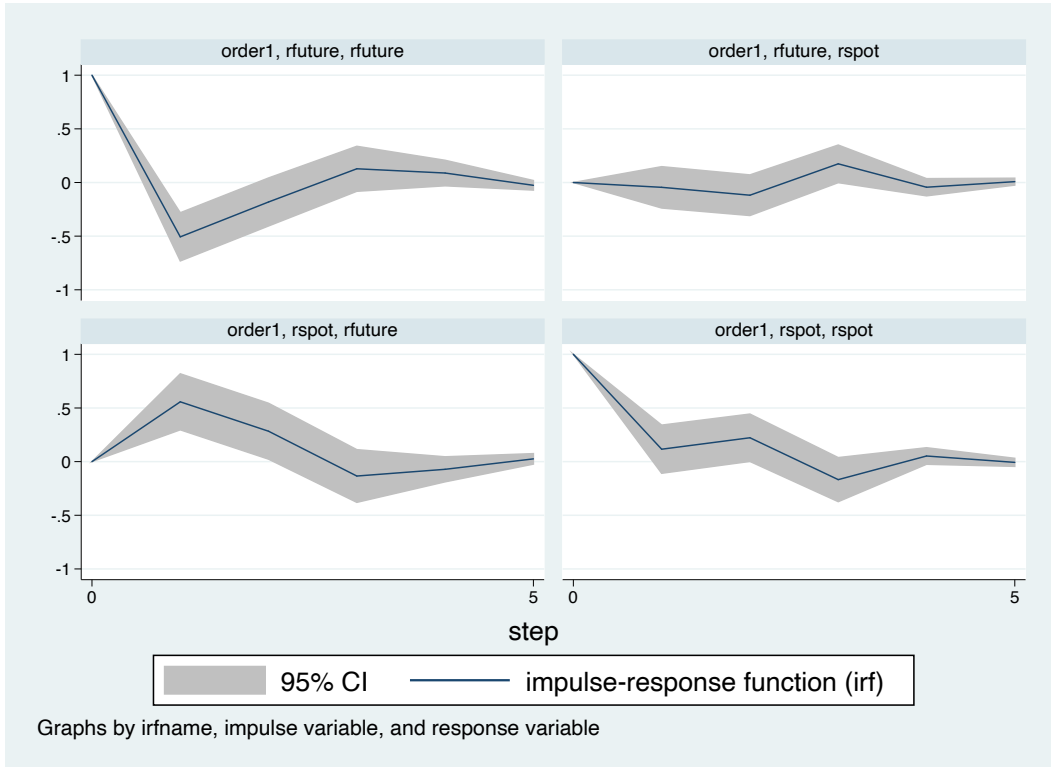
```
-----+-----
```

95% lower and upper bounds reported

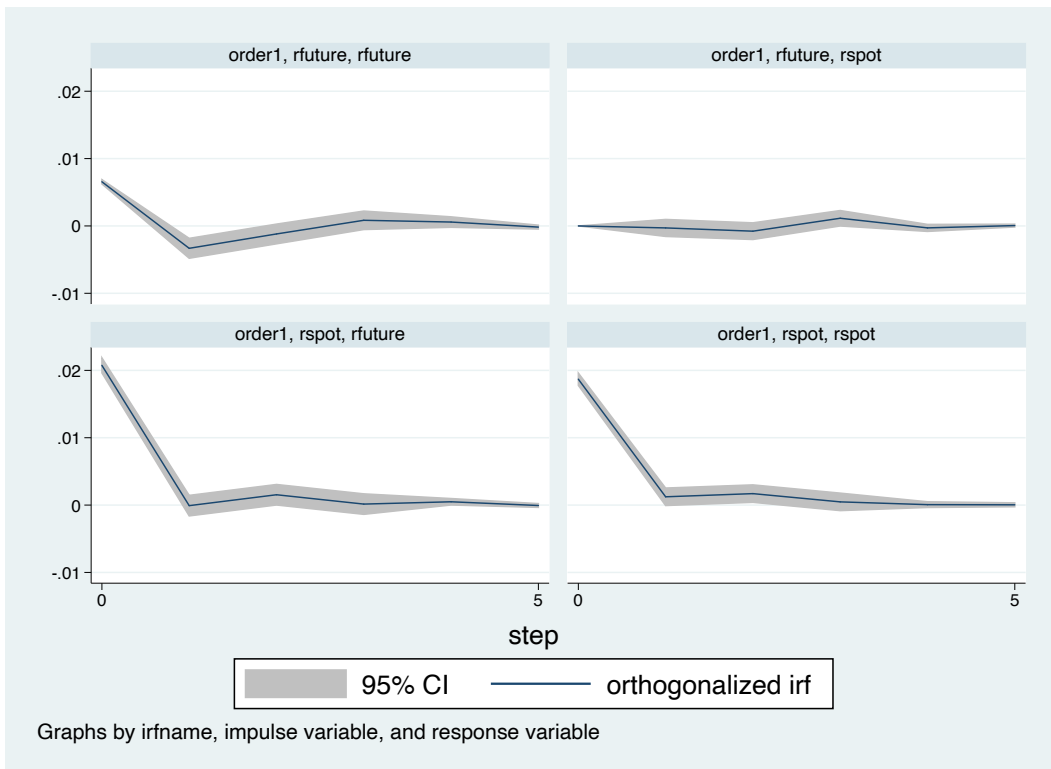
- (1) irfname = order1, impulse = rspot, and response = rspot
- (2) irfname = order1, impulse = rspot, and response = rfuture
- (3) irfname = order1, impulse = rfuture, and response = rspot
- (4) irfname = order1, impulse = rfuture, and response = rfuture

```
. irf graph oirf, impulse(rspot rfuture) response(rspot rfuture)
```

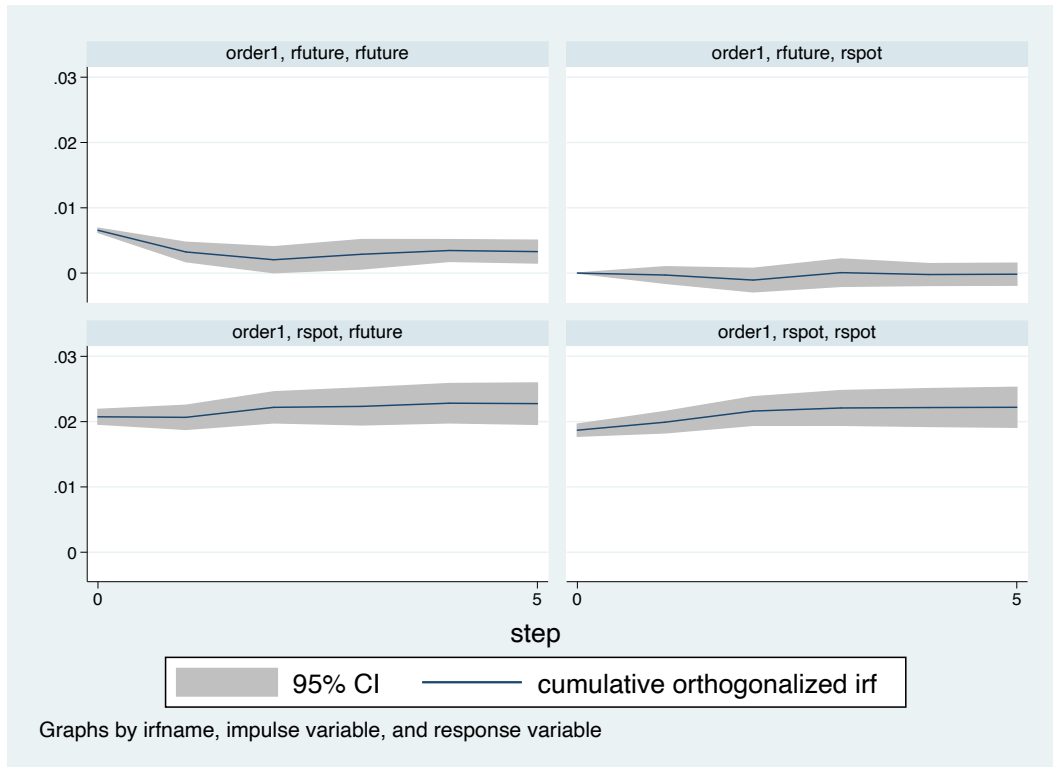
```
. irf graph coirf, impulse(rspot rfuture) response(rspot rfuture)
```



OIRF



COIRF



From OIRF and CIRF

- 1.) The directions are all positive
- 2.) Magnitude of rfuture on rfure is the greater that rspot and the magnitude of rspot on rfuture is greater than rfuture
- 3.) The duration is seem to be definite

Forecasted error variance decomposition

```
. irf table fevd, impulse(rspot rfuture) response(rspot)
```

Results from order1

step	(1) fevd	(1) Lower	(1) Upper	(2) fevd	(2) Lower	(2) Upper
0	0	0	0	0	0	0
1	1	1	1	0	0	0
2	.999751	.997622	1.00188	.000249	-.001881	.002378
3	.998051	.992176	1.00393	.001949	-.003927	.007824
4	.994399	.984782	1.00402	.005601	-.004016	.015218
5	.994165	.984191	1.00414	.005835	-.00414	.015809

95% lower and upper bounds reported

(1) irfname = order1, impulse = rspot, and response = rspot

(2) irfname = order1, impulse = rfuture, and response = rspot

.

Rspot is the most impact variable to the variance of rspot

irf table fevd, impulse(rspot rfuture) response(rfuture)

Results from order1

step	(1) fevd	(1) Lower	(1) Upper	(2) fevd	(2) Lower	(2) Upper
0	0	0	0	0	0	0
1	.909191	.897123	.921259	.090809	.078741	.102877
2	.888495	.865442	.911548	.111505	.088452	.134558
3	.886455	.862984	.909926	.113545	.090074	.137016
4	.885186	.86101	.909362	.114814	.090638	.13899
5	.884639	.860187	.909091	.115361	.090909	.139813

95% lower and upper bounds reported

(1) irfname = order1, impulse = rspot, and response = rfuture

(2) irfname = order1, impulse = rfuture, and response = rfuture

Rspot is the most impact variable to the variance of rfuture

Q5) If we change the order the result would be change