```
// updated on 00:30 MSK May, 06 2016,
// fixed bug in sigma-s, initial version missed sqrt,
// added comments
//
//See http://code.kx.com/wiki/Reference
//load data from csv files
oil:("SFF"; enlist ",")0: `:oil.csv; oil: select from oil
where not null return;
rub:("SFF"; enlist ",")0: `:rub.csv; rub: select from rub
where not null return;
int:("SF"; enlist ",")0: `:intervention.csv; int: select from
int where not null intervention;

//filter by days in case timeseries are different
dates: oil[`date] inter rub[`date] inter int[`date] ;
o:exec return from oil where date in dates;
r:exec return from rub where date in dates;
//signum is used to "normalize" intervention volumes
// actually it's a discrete variable:
// 1/-1 buy/sell and 0 – no actions
it:exec `float$signum intervention from int where date in
dates;

//m is the matrix with factors timeseries
// mmu – matrix multiplication, flip – transpose, inv –
//inverse matrix
m: (o;it);
hat: mmu[m; flip m];
beta: (inv hat) mmu (m mmu r);
rh:(flip[m] mmu beta);
r2:({sum x*x}rh - avg[r])%({sum x*x}r - avg[r]);
e:r - rh;
s: sqrt(sum[e*e]%-1+count e)*hat;
c0:beta[0] + s[0;0]*(-2 2);
c1:beta[1] + s[1;1]*(-2 2);
```

Answer

```
c0 -0.3740065 -0.3392654
c1 -0.4207154 0.4188825
```

Confidence interval c0 means that the first factor (**oil**) is **statistically significant** (confidence interval does not include 0)

Confidence interval c1 means that the second factor (**interventions**) is **not statistically significant** (confidence interval include 0)