Contents

estimateMonthlyVAR.m

```
3: close all;
4: clear all;
```

Loading data from data folder.

```
7: D = load('data\Vintage2008M01_1.mat');
```

Creating database containing monthly data for VAR.

```
10: d = struct();
11: d.GROWTH_1_ = D.GDPH*400;
12: d.PIE_1_ = D.PCU*400;
13: d.RS_1_   = D.FFED;
14: d.UNR_1_ = D.LR;
15: d.BLT_1_ = 1/4*(D.FTCRE + D.FTCIL + D.FTCIS + D.FTCNMH);
16: d.IP = D.IP;
```

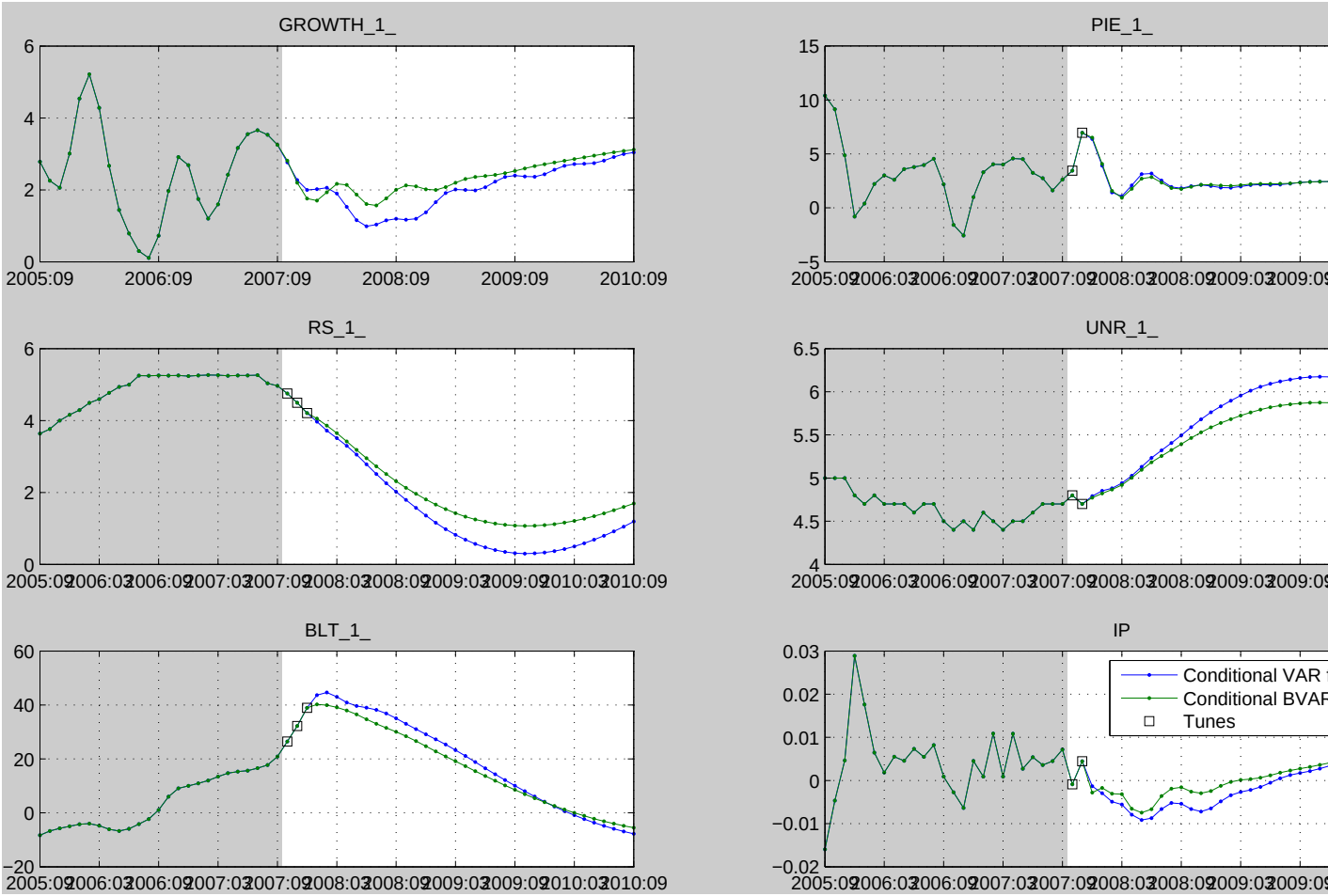
Prepare VAR.

```
20: % List of variables.
21: list = fieldnames(d);
22: ny = length(list);
23: % VAR order.
24: p = 4;
```

Construct dummy observations for BVAR.

```
% Estimate std devs of VAR variables.
x = db2tseries(d,list);


range = get(x,'nanstart') : get(x,'nanend');
nper = length(range);
stdevs = std(x(range));
% Create Litterman's priors.
% The BVAR.litterman(rho,mu,lambda,ny,p) has the following input arguments:
% * rho = 0 is a white noise prior, rho = 1 is a random walk prior,
% * mu is the weight on the prior (can be a vector of numbers in which case
% each variable gets different weight).
% * lambda between 0 and Inf: priors on the k-th lag coefficients get
% k^lambda times bigger weights. If lambda = 0, all lags are treated
% equally. The higher the lambda, the more the coefficients are pulled
% towards the prior (zero in this case).
dum1 = BVAR.litterman(1,1*stdevs,1,ny,p);



% Estimate a p-th order VAR and a p-th order BVAR.
w1 = VAR();
w2 = VAR();


[w1,data1] = estimate(w1,d,list,range,'order',p);
[w2,data2] = estimate(w2,d,list,range,'order',p,'bvar',dum1);

fcastrange = range(end) + (1:36);
% Unconditional forecasts (balanced panel).
uf1 = forecast(w1,d,fcastrange,[]);
uf1 = dbextend(d,uf1.mean);
uf2 = forecast(w2,d,fcastrange,[]);
uf2 = dbextend(d,uf2.mean);
% Conditional forecasts (unbalanced panel).
cf1 = forecast(w1,d,fcastrange,d);
cf1 = dbextend(d,cf1.mean);
cf2 = forecast(w2,d,fcastrange,d);
cf2 = dbextend(d,cf2.mean);

plotrange = range(end) + (-24:36);
figure();
nextplot([3,2]);
for i = 1 : ny
   nextplot();
   name = list{i};
   h = plot(plotrange,[cf1.(name),cf2.(name),d.(name){fcastrange}]);
   set(h(3),'lineStyle','none','marker','s','markerFaceColor','none','markerEdgeColor','black');
   set(h(1:2),'marker','.');
```

```
78:    grid('on');
79:    highlight(range(end)+(-24:0));
80:    title(list{i},'interpreter','none');
81:    set(gcf,'Position',get(0,'Screensize'));
82: end
83: legend('Conditional VAR forecast','Conditional BVAR forecast','Tunes');
```


GROWTH_1_
PIE_1_
RS_1_
UNR_1_
BLT_1_
IP
Conditional VAR
Conditional BVAR
Tunes