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```
% Draft for the Credit Imbalance model

clear all;
close all;
Parallel=0; % 1 for (parallel) CPUs, 2 for GPU, 0 for single CPU


rng('default') % For reproducibility
tic;
```

Some Toolkit options

```
vfoptions.parallel=Parallel;
simoptions.parallel=Parallel;
heteroagentoptions.verbose=1;
simoptions.agententryandexit=1;
```

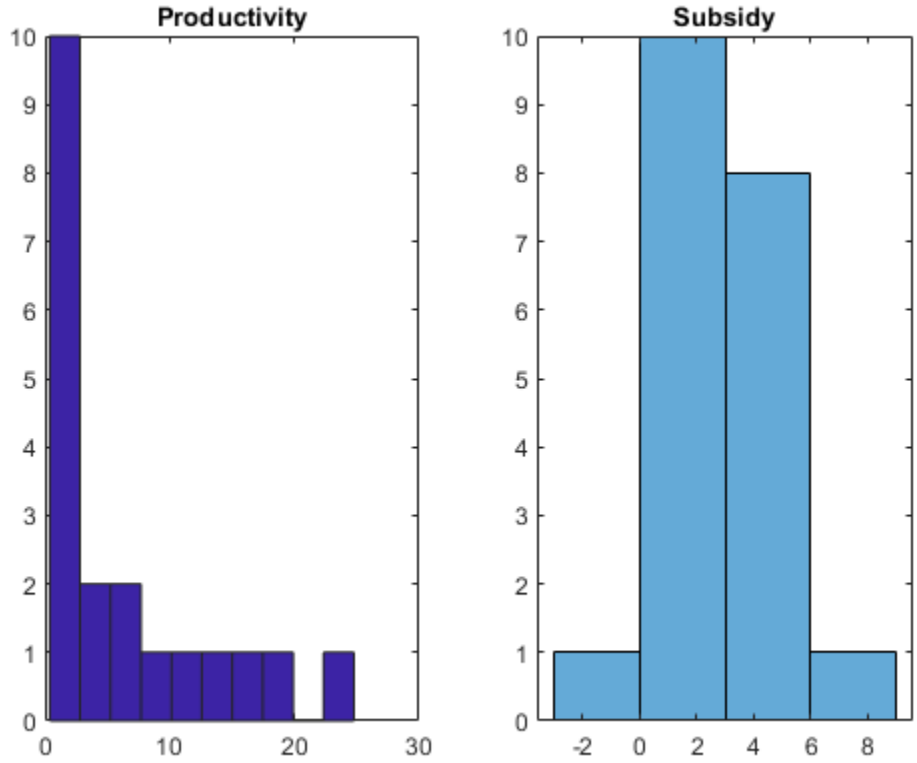
Parameters

```
% Preferences
Params.beta=0.96; % Discount rate

% Production fn
Params.alpha=0.3;  % Capital share
Params.gamma=0.5; % alpha + gamma must be ~= 1
Params.delta=0.05; % Depreciation rate of physical capital
Params.cf=0; % Fixed cost of production

% Firm entry and exit
Params.Ne=1; % mass of new potential new entrant distribution.
Params.ce=1; % Fixed cost of entry (this is a normalization)
Params.lambda=0.1; % Probability of firm exit

% The actual 'distortionary policy rate'
Params.taurate=0; % This is the rate for the tax.
Params.subsidyrate=0; % This is the rate for the subsidy.
```

Exogenous processes; productivity and subsidies

```
n_s=20; %Firm-specific Productivity level
n_sub = 20; %credit subsidy (must be an even number)


% Exogenous AR(1) process on (log) productivity
% logz=a+rho*log(z)+epsilon, epsilon~N(0,sigma_epsilon^2)
Params.rho=0.93;
Params.sigma_logz=sqrt(0.53);
Params.sigma_epsilon=sqrt((1-Params.rho)*((Params.sigma_logz)^2));
Params.a=0.078;

tauchenoptions.parallel=Parallel;
Params.q=4; % Hopenhayn & Rogerson (1993) do not report (based on
 Table 4 is seems something around q=4 is used, otherwise don't get
 values of z anywhere near as high as 27.3. (HR1993 have typo and call
 the column 'log(s)' when it should be 's')
[s_grid,
 pi_s]=TauchenMethod(Params.a,Params.sigma_epsilon^2,Params.rho,n_s,Params.q,tauch
 transmatrix]=TauchenMethod_Param(mew,sigmasq,rho,znum,q,Parallel,Verbose),
 transmatix is (z,zprime)
s_grid=exp(s_grid);

% Exogenous process on subsidy
% Random number from a bimodal distribution
states = 2;
% Earmarked (a)
mu_a = 0.4;      % Mean (a).
sigma_a = 0.2;  % Standard deviation (a).
% Non-earmarked (b)
mu_b = 4;       % Mean (b).
sigma_b = 1;    % Standard deviation (b).
sz = [n_sub/states, 1];  % Size vector.
tau_grid = reshape([normrnd(mu_a, sigma_a, sz), normrnd(mu_b, sigma_b,
 sz)],[2*sz(1),1]);

figure(1)
subplot(1, 2, 1); hist(s_grid); title('Productivity');
subplot(1, 2, 2); histogram(tau_grid); title('Subsidy');

% Transition matrix (considering that productivity and subsidy are
 independent)
n_z=[n_s,length(tau_grid)];
z_grid=[s_grid; tau_grid];
% independent chains
pi_z=kron( pi_s,eye(prod(n_sub)))'; % transition matrix for the
 exogenous z variables
for ii = 1: length(pi_z)
A = round(sum(pi_z(:,ii)),5);
if A == 1
```

```
else
   error('transition matrix is wrong')
end
end
pi_z=pi_z';
```



Check endogenous, exogenous and decision variables

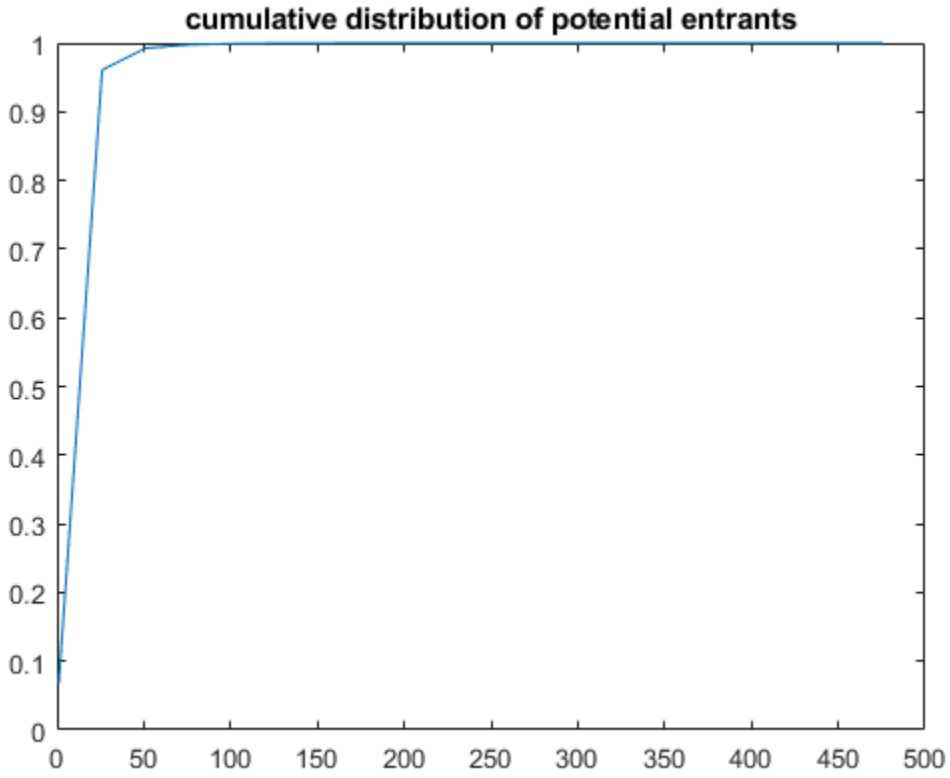
```
n_a=1; % number of endogenous state variables, if none na=1
a_grid=1;
n_d=0;
d_grid=[];

disp('sizes')
disp('vector(s) of endogenous state variables')
disp(n_a)
disp('vector(s) of exogenous state variable')
disp(n_z)
disp('vector(s) of decision variabes')
disp(n_d)
```

```
sizes
vector(s) of endogenous state variables
     1
```

```
vector(s) of exogenous state variable
    20    20

vector(s) of decision variabes
     0
```

Distribution of potential entrants

```
entrantsdist = 1:round(500/n_s,1):500;
entrantsmean = 1.5;
entrantssigma = 1;
cumsum_pistar_s = logncdf(entrantsdist,entrantsmean,entrantssigma);
logncdf(10,entrantsmean,entrantssigma) %has to be close to 0.78
pistar_s=(cumsum_pistar_s-[0,cumsum_pistar_s(1:end-1)])';
figure;
plot(entrantsdist,cumsum_pistar_s)
title('cumulative distribution of potential entrants')
%xlim([1 50])


ans =

    0.7889
```



Return Function

The model extention would be an adjustment cost

```
% Exit is exogenous - include as another 'DiscountFactorParamNames'
Params.oneminuslambda=1-Params.lambda; % This is now the conditional
 probability of survival.
% lambda is the average observed exit percentage between 2007--2017
% (https://sidra.ibge.gov.br/Tabela/2718#resultado)
DiscountFactorParamNames={'beta','oneminuslambda'};


% Incumbents exit in the beginning of the period

ReturnFn=@(aprime_val, a_val,s_val, tau_val, p,r,
 alpha,gamma,taurate,subsidyrate, cf) RR2008p_ReturnFn(aprime_val,
 a_val,s_val, tau_val, p,r, alpha,gamma,taurate,subsidyrate, cf);
ReturnFnParamNames={'p','r','alpha','gamma','taurate','subsidyrate','cf'};
```

Aspects of entry/exit

Entry is endogenous and exit exogenous

```
% Both entry and exit matter for stationary distribution of agents
% Note: Because they are not a default part of agent simulation, you
 need
% to pass the entry/exit aspects as part of simoptions.


% upsilon has to be a PMF
pistar_tau = unidpdf(1:n_sub,n_sub);
EntryExitParamNames.DistOfNewAgents={'upsilon'};
% Probability of being in tau category
Params.upsilon=pistar_s.*(pistar_tau);

if (round(sum(sum(pistar_s.*(pistar_tau))),5) ~= 1)
    error('Upsilon is NOT a PMD.')
end

% Percentage of entering firms relative to existing agents
%Params.Ne=0.5;
EntryExitParamNames.MassOfNewAgents={'Ne'};

% Exogenous survival probability
EntryExitParamNames.CondlProbOfSurvival={'oneminuslambda'};
```

Descriptions of SS values as functions

```
FnsToEvaluateParamNames(1).Names={};
FnsToEvaluate={};

heteroagentoptions.specialgeneqmcondn={'entry'};
```

```
GEPriceParamNames={'p', 'Ne'};
FnsToEvaluateParamNames(1).Names={'alpha','gamma','r','w','taurate'};


GeneralEqmEqnParamNames(1).Names={'beta','ce'};
GeneralEqmEqn_Entry = @(EValueFn,p,beta,ce) beta*EValueFn-ce;



%FnsToEvaluateFn_nbar =
 @(aprime_val,a_val,z1_val,z2_val,mass,alpha,gamma,r,w,taurate)((...
%(1-taurate*z2_val)*z1_val*gamma)/w)^(1/(1-gamma)) *((alpha/r)^((1-
gamma)/...
%(1-gamma-alpha)) *(gamma/w)^(gamma/(1-gamma-alpha...
%)) *(z1_val*(1-taurate*z2_val))^(1/(1-alpha-gamma))...
%     )^(alpha/(1-gamma)); % which evaluates to Nbar in the aggregate
%FnsToEvaluate={FnsToEvaluateFn_nbar};
%GeneralEqmEqnParamNames(2).Names={};
%GeneralEqmEqn_LabourMarket = @(AggVars,GEprices) AggVars-1;
```

Equilibrium conditions

```
% 1 - Euler Equations
% 2 - Free Entry
% 3 - Market Clearing
% 4 - Stationary Distribution
% 5 - Optimal Production
% 6 - Entry/Exit Policies

% 1/6 Euler Equation
% Consumer's problem - complete markets solution
Params.i=1/Params.beta-1; % This is standard general eqm result in
 complete market models, comes from consumption euler eqn together
 with requirements of stationary eqm.
% The net return to capital in equilibrium will thus be
Params.r=Params.i+Params.delta; % That the gross return is just 1/
beta-1 and equals i (that the gross return to capital equals the
 interest rate is a requirement of capital market clearance in model)


%2/6 Free entry and 3/5 Labor Market Clearing
GeneralEqmEqns={GeneralEqmEqn_Entry};

%Use the toolkit to find the equilibrium price index

%Set initial values for prices
Params.p=1;
Params.Ne=0.5;

if vfoptions.parallel==2
    V0=zeros([n_a,n_z],'gpuArray');
else
```

```
    V0=zeros([n_a,n_z]);
end
n_p=0;

% 4/6 Stationary Distribution
disp('Calculating price vector corresponding to the stationary eqm')
[p_eqm,p_eqm_index,
 GeneralEqmCondition]=HeteroAgentStationaryEqm_Case1(V0, 0,...
    n_a, n_z, 0, pi_z, [], a_grid, z_grid, ReturnFn, FnsToEvaluate,...
    GeneralEqmEqns, Params, DiscountFactorParamNames,
 ReturnFnParamNames,...
    FnsToEvaluateParamNames, GeneralEqmEqnParamNames,...
    GEPriceParamNames,heteroagentoptions, simoptions, vfoptions,
 EntryExitParamNames);

Params.p=p_eqm.p;
```

```
Calculating price vector corresponding to the stationary eqm
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    1.0000
    0.5000


GeneralEqmConditionsVec =

   10.8006

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    1.0500
    0.5000


GeneralEqmConditionsVec =

   14.0609
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    1.0000
    0.5250


GeneralEqmConditionsVec =

   10.8006

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.9500
    0.5250


GeneralEqmConditionsVec =

    8.1311

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.9000
    0.5375


GeneralEqmConditionsVec =

    5.9681
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.9000
    0.5125


GeneralEqmConditionsVec =

    5.9681

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.8000
    0.5500


GeneralEqmConditionsVec =

    2.8668

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.7000
    0.5750


GeneralEqmConditionsVec =

    0.9833
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.7000
    0.6000


GeneralEqmConditionsVec =

    0.9833

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.5000
    0.6375


GeneralEqmConditionsVec =

   -0.6312

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.3000
    0.6875


GeneralEqmConditionsVec =

   -0.9713
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.5000
    0.6125


GeneralEqmConditionsVec =

   -0.6312

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.3000
    0.6750


GeneralEqmConditionsVec =

   -0.9713

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.4000
    0.6500


GeneralEqmConditionsVec =

   -0.8792
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6000
    0.6000


GeneralEqmConditionsVec =

   -0.0824

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.7000
    0.5750


GeneralEqmConditionsVec =

    0.9833

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6000
    0.6250


GeneralEqmConditionsVec =

   -0.0824
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.7000
    0.5875


GeneralEqmConditionsVec =

    0.9833

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.5500
    0.6250


GeneralEqmConditionsVec =

   -0.4061

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6500
    0.6000


GeneralEqmConditionsVec =

    0.3692
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6250
    0.6062


GeneralEqmConditionsVec =

    0.1254

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.5750
    0.6187


GeneralEqmConditionsVec =

   -0.2583

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6125
    0.6094


GeneralEqmConditionsVec =

    0.0173
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6125
    0.5844


GeneralEqmConditionsVec =

    0.0173

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6250
    0.5937


GeneralEqmConditionsVec =

    0.1254

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6062
    0.5984


GeneralEqmConditionsVec =

   -0.0336
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6187
    0.5953


GeneralEqmConditionsVec =

    0.0702

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6094
    0.5977


GeneralEqmConditionsVec =

   -0.0084

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6094
    0.6227


GeneralEqmConditionsVec =

   -0.0084
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6062
    0.6109


GeneralEqmConditionsVec =

   -0.0336

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6109
    0.6098


GeneralEqmConditionsVec =

    0.0044

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6109
    0.5848


GeneralEqmConditionsVec =

    0.0044
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6117
    0.5658


GeneralEqmConditionsVec =

    0.0108

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6125
    0.5969


GeneralEqmConditionsVec =

    0.0173

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6102
    0.5975


GeneralEqmConditionsVec =

   -0.0020
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6102
    0.5725


GeneralEqmConditionsVec =

   -0.0020

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6094
    0.5852


GeneralEqmConditionsVec =

   -0.0084

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6105
    0.5849


GeneralEqmConditionsVec =

    0.0011
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6105
    0.6099


GeneralEqmConditionsVec =

    0.0011

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6109
    0.5973


GeneralEqmConditionsVec =

    0.0044

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -4.5124e-04
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5724


GeneralEqmConditionsVec =

  -4.5124e-04

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6102
    0.5850


GeneralEqmConditionsVec =

   -0.0020

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   3.4866e-04
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.6099


GeneralEqmConditionsVec =

   3.4866e-04

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6105
    0.5974


GeneralEqmConditionsVec =

    0.0011

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -5.1354e-05
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5724


GeneralEqmConditionsVec =

  -5.1354e-05

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -4.5124e-04

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   1.4864e-04
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -2.5131e-04

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   4.8637e-05

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.6099


GeneralEqmConditionsVec =

   4.8637e-05
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   1.4864e-04

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -1.3599e-06

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5724


GeneralEqmConditionsVec =

  -1.3599e-06
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -5.1354e-05

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   2.3638e-05

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -2.6357e-05
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   1.1139e-05

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -1.3859e-05

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   4.8896e-06
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -7.6093e-06

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   1.7648e-06

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -4.4846e-06
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   2.0247e-07

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.6099


GeneralEqmConditionsVec =

   2.0247e-07

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   1.7648e-06
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -5.7871e-07

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   9.8365e-07

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -1.8812e-07
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5724


GeneralEqmConditionsVec =

  -1.8812e-07

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -5.7871e-07

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   7.1706e-09
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.6099


GeneralEqmConditionsVec =

   7.1706e-09

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   2.0247e-07

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -9.0477e-08
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   1.0482e-07

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -4.1653e-08

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   5.5994e-08
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -1.7241e-08

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   3.1582e-08

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -5.0353e-09
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5724


GeneralEqmConditionsVec =

  -5.0353e-09

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -1.7241e-08

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   1.0676e-09
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.6099


GeneralEqmConditionsVec =

   1.0676e-09

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   7.1706e-09

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -1.9838e-09
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   4.1191e-09

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -4.5810e-10

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5724


GeneralEqmConditionsVec =

  -4.5811e-10
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -1.9838e-09

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   3.0477e-10

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.6099


GeneralEqmConditionsVec =

   3.0477e-10
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   1.0676e-09

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -7.6669e-11

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5724


GeneralEqmConditionsVec =

  -7.6674e-11
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -4.5811e-10

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   1.1405e-10

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -2.6739e-10
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   1.8687e-11

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.6099


GeneralEqmConditionsVec =

   1.8693e-11

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   1.1405e-10
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -2.8991e-11

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   6.6368e-11

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -5.1489e-12
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5724


GeneralEqmConditionsVec =

  -5.1544e-12

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -2.8992e-11

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   6.7708e-12
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -1.7072e-11

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   8.0735e-13

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.6099


GeneralEqmConditionsVec =

   8.1246e-13
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   6.7732e-12

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -2.1697e-12

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   3.7905e-12
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -6.7868e-13

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5724


GeneralEqmConditionsVec =

  -6.8523e-13

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -2.1702e-12
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   6.3283e-14

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.6099


GeneralEqmConditionsVec =

   6.6835e-14

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   8.0957e-13
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -3.0631e-13

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   4.3743e-13

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -1.2168e-13
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   2.5091e-13

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -2.8755e-14

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5724


GeneralEqmConditionsVec =

  -3.2530e-14
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -1.2446e-13

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   1.7097e-14

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.6099


GeneralEqmConditionsVec =

   2.1316e-14
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

   6.5059e-14

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5974


GeneralEqmConditionsVec =

  -5.8842e-15

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5724


GeneralEqmConditionsVec =

  -9.5479e-15
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

  -3.0642e-14

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5849


GeneralEqmConditionsVec =

   5.3291e-15

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.6099


GeneralEqmConditionsVec =

   1.0658e-14
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5818


GeneralEqmConditionsVec =

  -5.8842e-15

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.6005


GeneralEqmConditionsVec =

   5.5511e-15

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5880


GeneralEqmConditionsVec =

   1.7097e-14
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5951


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5794


GeneralEqmConditionsVec =

  -1.8874e-15

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5896


GeneralEqmConditionsVec =

  -5.8842e-15
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5861


GeneralEqmConditionsVec =

   2.2204e-15

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5884


GeneralEqmConditionsVec =

  -3.3307e-15

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5867


GeneralEqmConditionsVec =

  -4.4409e-16
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.6023


GeneralEqmConditionsVec =

   2.2204e-15

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5851


GeneralEqmConditionsVec =

  -1.2212e-15

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5966


GeneralEqmConditionsVec =

   1.1102e-15
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5937


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5880


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5923


GeneralEqmConditionsVec =

  -4.4409e-16
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5909


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5944


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5915


GeneralEqmConditionsVec =

  -4.4409e-16
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5937


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5930


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5947


GeneralEqmConditionsVec =

  -4.4409e-16
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5933


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5944


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5940


GeneralEqmConditionsVec =

  -4.4409e-16
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5949


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5942


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5947


GeneralEqmConditionsVec =

  -4.4409e-16
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5945


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5950


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5946


GeneralEqmConditionsVec =

  -4.4409e-16
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5949


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5948


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5950


GeneralEqmConditionsVec =

  -4.4409e-16
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5948


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5950


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5949


GeneralEqmConditionsVec =

  -4.4409e-16
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5950


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5949


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5950


GeneralEqmConditionsVec =

  -4.4409e-16
```

```
Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5950


GeneralEqmConditionsVec =

  -4.4409e-16

Current Aggregates:

AggVars =

  0×1 empty double column vector

Current GE prices and GeneralEqmConditionsVec:

p =

    0.6104
    0.5950


GeneralEqmConditionsVec =

  -4.4409e-16


%Now that we have the GE price, let's calculate the optimal deciosions

% 5/6 Optimal production 6/6 Entry/Exit Policies
[V,Policy]=ValueFnIter_Case1(V0, n_d,n_a,n_z,[],a_grid,z_grid, pi_z,
 ReturnFn,...
    Params, DiscountFactorParamNames, ReturnFnParamNames, vfoptions);
StationaryDist=StationaryDist_Case1(Policy,n_d,n_a,n_z,pi_z,
 simoptions, Params, EntryExitParamNames);

% Impose the labour market clearance, which involves calculating Ne.
% Find mass of entry that clears the labor market.
%%%%%% CHANGE HR 1993
FnsToEvaluateParamNames(1).Names={'alpha','gamma','r','p','taurate','subsidyrate'}
FnsToEvaluateFn_nbar =
 @(aprime_val,a_val,z1_val,z2_val,mass,alpha,gamma,r,p,taurate,subsidyrate)
 (p*(1-((z2_val>=0)*taurate
+(z2_val<0)*subsidyrate)*z2_val)*z1_val)^(1/(1-alpha-gamma)) *(alpha/
```

```
r)^(alpha/(1-gamma-alpha)) *(gamma)^((1-alpha)/(1-gamma-alpha)); %
 which evaluates to Nbar in the aggregate
FnsToEvaluate={FnsToEvaluateFn_nbar};
AggValues=EvalFnOnAgentDist_AggVars_Case1(StationaryDist,
 Policy, FnsToEvaluate, Params, FnsToEvaluateParamNames,
 n_d, n_a, n_z, d_grid, a_grid, z_grid,
 simoptions.parallel,simoptions,EntryExitParamNames);
InitialNe=Params.Ne;
Params.Ne=1/AggValues; % AggValues is presently equal to Nbar. This
 line is imposing/satisfying the labour market clearance condition.
StationaryDist.mass=StationaryDist.mass*(Params.Ne/InitialNe); % Take
 advantage of linearity of the stationary distribution in new entrants
 distribution.
```

Tables

```
FnsToEvaluateParamNames(1).Names={'alpha','gamma','r','p','taurate','subsidyrate'}
FnsToEvaluateFn_kbar =
 @(aprime_val,a_val,z1_val,z2_val,mass,alpha,gamma,r,w,taurate,subsidyrate)
 (alpha/r)^((1-gamma)/(1-gamma-alpha)) *(gamma/w)^(gamma/
(1-gamma-alpha)) *(z1_val*(1-((z2_val>=0)*taurate
+(z2_val<0)*subsidyrate)*z2_val))^(1/(1-alpha-gamma));
FnsToEvaluateParamNames(2).Names={'alpha','gamma','r','p','taurate','subsidyrate'}
FnsToEvaluateFn_nbar =
 @(aprime_val,a_val,z1_val,z2_val,mass,alpha,gamma,r,w,taurate,subsidyrate)
 ((1-((z2_val>=0)*taurate+(z2_val<0)*subsidyrate)*z2_val)*z1_val)^(1/
(1-alpha-gamma)) *(alpha/r)^(alpha/(1-gamma-alpha)) *(gamma/w)^((1-
alpha)/(1-gamma-alpha)); % which evaluates to Nbar in the aggregate
FnsToEvaluateParamNames(3).Names={'alpha','gamma','r','p','taurate','subsidyrate'}
FnsToEvaluateFn_output = @(aprime_val,a_val,z1_val,z2_val,mass,
 alpha,gamma,r,w,taurate,subsidyrate) ((1-((z2_val>=0)*taurate
+(z2_val<0)*subsidyrate)*z2_val))^((alpha+gamma)/(1-gamma-
alpha))*z1_val^(1/(1-gamma-alpha)) *(alpha/r)^(alpha/(1-gamma-alpha))
 *(gamma/w)^(gamma/(1-gamma-alpha));
FnsToEvaluate={FnsToEvaluateFn_kbar, FnsToEvaluateFn_nbar,
 FnsToEvaluateFn_output};

ValuesOnGrid=EvalFnOnAgentDist_ValuesOnGrid_Case1_Mass(StationaryDist.pdf,Stationa
 Policy, FnsToEvaluate, Params,
 FnsToEvaluateParamNames,EntryExitParamNames, n_d, n_a, n_z, [],
 a_grid, z_grid, Parallel,simoptions);

ProbDensityFns=EvalFnOnAgentDist_pdf_Case1(StationaryDist, Policy,
 FnsToEvaluate, Params, FnsToEvaluateParamNames, n_d, n_a, n_z, [],
 a_grid, z_grid, simoptions.parallel,simoptions,EntryExitParamNames);

% s_grid.^(1/(1-Params.gamma-Params.alpha))
nbarValues=shiftdim(ValuesOnGrid(2,:,:,:),1);
nbarValues=shiftdim(ValuesOnGrid(2,:,:,:),1);
normalize_employment=nbarValues(1,1,2); % Normalize so that smallest
 occouring value of nbar in the baseline is equal to 1.
nbarValues=nbarValues./normalize_employment;
```

```
Partion1Indicator=logical(nbarValues<10);
Partion2Indicator=logical((nbarValues>=10).*(nbarValues<500));
Partion3Indicator=logical(nbarValues>=500);

% Check that the following is equal to prod(n_z), so 300
 if sum(sum(Partion1Indicator+Partion2Indicator+Partion3Indicator)) ~=
 prod(n_z)
     error('error')
 end

ShareOfEstablishments(1)=sum(sum(StationaryDist.pdf(Partion1Indicator)));
ShareOfEstablishments(2)=sum(sum(StationaryDist.pdf(Partion2Indicator)));
ShareOfEstablishments(3)=sum(sum(StationaryDist.pdf(Partion3Indicator)));

Output_pdf=shiftdim(ProbDensityFns(3,:,:,:),1);
ShareOfOutput(1)=sum(sum(sum(Output_pdf(Partion1Indicator))));
ShareOfOutput(2)=sum(sum(sum(Output_pdf(Partion2Indicator))));
ShareOfOutput(3)=sum(sum(sum(Output_pdf(Partion3Indicator))));

Labour_pdf=shiftdim(ProbDensityFns(2,:,:,:),1);
ShareOfLabour(1)=sum(sum(sum(Labour_pdf(Partion1Indicator))));
ShareOfLabour(2)=sum(sum(sum(Labour_pdf(Partion2Indicator))));
ShareOfLabour(3)=sum(sum(sum(Labour_pdf(Partion3Indicator))));

Capital_pdf=shiftdim(ProbDensityFns(1,:,:,:),1);
ShareOfCapital(1)=sum(sum(sum(Capital_pdf(Partion1Indicator))));
ShareOfCapital(2)=sum(sum(sum(Capital_pdf(Partion2Indicator))));
ShareOfCapital(3)=sum(sum(sum(Capital_pdf(Partion3Indicator))));

AverageEmployment(1)=sum(sum(nbarValues(Partion1Indicator).*StationaryDist.pdf(Par
sum(sum(StationaryDist.pdf(Partion1Indicator)));
AverageEmployment(2)=sum(sum(nbarValues(Partion2Indicator).*StationaryDist.pdf(Par
sum(sum(StationaryDist.pdf(Partion2Indicator)));
AverageEmployment(3)=sum(sum(nbarValues(Partion3Indicator).*StationaryDist.pdf(Par
sum(sum(StationaryDist.pdf(Partion3Indicator)));


disp('Share of establishments');
disp('       <10       10 to 490    >=500');
disp(ShareOfEstablishments);
disp('Share of output');
disp('       <10       10 to 490    >=500');
disp( ShareOfOutput);
disp('Share of labour');
disp('       <10       10 to 490    >=500');
disp(ShareOfLabour);
disp('Share of capital ');
disp('       <10       10 to 490    >=500');
disp(ShareOfCapital);
disp('Average employment');
disp('       <10       10 to 490    >=500');
disp(AverageEmployment);
```

Share of establishments

```
       <10       10 to 490    >=500
    0.9925    0.0071    0.0004

Share of output
       <10       10 to 490    >=500
    0.0028    0.0004    0.9968

Share of labour
       <10       10 to 490    >=500
    0.0028    0.0004    0.9968

Share of capital
       <10       10 to 490    >=500
    0.0028    0.0004    0.9968

Average employment
       <10       10 to 490    >=500
   1.0e+06 *

    0.0000    0.0001    2.5509
```

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