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%ACCOUNTS Tables in "On Financing Retirement with an Aging Population"
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```
% Ellen McGrattan, 11-17-11
```

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% Revised, ERM, 9-4-12
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```

```
% Sample t0:t1
```

```
%
```

```
t0 = 2000;
```

```
t1 = 2010;
```

```
%
```

```
% NIPA Table 1.1.5 Gross domestic product (Annual, Bil$)
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%
```

```
load BEA/NIPA/table1_1_5A.dat
```

```
[n,m] = size(table1_1_5A);
```

```
t = table1_1_5A(1,:);
```

```
i = find(t==t0):find(t==t1);
```

```
table1_1_5A = table1_1_5A(2:n,i);
```

```
gdp = table1_1_5A(1,:);
```

```
pce = table1_1_5A(2,:);
```

```
pced = table1_1_5A(4,:);
```

```
pcend = table1_1_5A(5,:);
```

```
pces = table1_1_5A(6,:);
```

```
gpdii = table1_1_5A(7,:);
```

```
gpdif = table1_1_5A(8,:);
```

```
gpdii = table1_1_5A(13,:);
```

```
netxm = table1_1_5A(14,:);
```

```
netx = table1_1_5A(15,:);
```

```
netm = table1_1_5A(18,:);
```

```
gov = table1_1_5A(21,:);
```

```
%
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```
% NIPA Table 1.1.6 Real GDP, Chained 2005 Dollars
```

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%
```

```
load BEA/NIPA/table1_1_6A.dat
```

```
[n,m] = size(table1_1_6A);
```

```
t = table1_1_6A(1,:);
```

```
i = find(t==t0):find(t==t1);
```

```
table1_1_6A = table1_1_6A(2:n,i);
```

```
rgdp = table1_1_6A(1,:);
```

```
rpce = table1_1_6A(2,:);
```

```
rgpdi = table1_1_6A(7,:);
```

```
rnetxm = table1_1_6A(14,:);
```

```
rnetx = table1_1_6A(15,:);
```

```
rnetm = table1_1_6A(18,:);
```

```
%
```

```
% NIPA Table 1.7.5. Relation of GDP, GNP, NNP, NI, PI (Annual, Bil$)
```

```
%
```

```
load BEA/NIPA/table1_7_5A.dat
```

```
[n,m] = size(table1_7_5A);
```

```
t = table1_7_5A(1,:);
```

```
i = find(t==t0):find(t==t1);
```

```
table1_7_5A = table1_7_5A(2:n,i);
```

```
nfir = table1_7_5A(2,:);
```

```
nfip = table1_7_5A(3,:);
```

```
gnp = table1_7_5A(4,:);
```

```
row = nfir-nfip;
```

```
%
```

```
% NIPA Table 1.10 Gross domestic income (Annual, Bil$)
```

```
%
```

```
load BEA/NIPA/table1_10A.dat
```

```
[n,m] = size(table1_10A);
```

```
t = table1_10A(1,:);
```

```
i = find(t==t0):find(t==t1);
```

```
table1_10A = table1_10A(2:n,i);
```

```
gdi = table1_10A(1,:);
```

```
comp = table1_10A(2,:);
```

```
wage = table1_10A(3,:);
```

```
supp = table1_10A(8,:);
```

```
txpi = table1_10A(9,:);
```

```
subs = table1_10A(10,:);
```

```
bustr = table1_10A(14,:);
```

```
ibt = txpi-subs+bustr;
```

```
nint = table1_10A(13,:);
```

```
pinc = table1_10A(15,:);
```

```
rent = table1_10A(16,:);
```

```
prof = table1_10A(17,:);
```

```
ctax = table1_10A(18,:);
```

```
ddiv = table1_10A(20,:);
```

```
dre = table1_10A(21,:);
```

```
gprof = table1_10A(22,:);
```

```
dep = table1_10A(23,:);
```

```
desc = table1_10A(26,:);
```

```
labinc = comp+.7*pinc;
```

```
%
```

```
% NIPA Table 1.12 National Income by Type of Income (Annual, Bil$)
```

```
%
```

```
load BEA/NIPA/table1_12A.dat
```

```
[n,m] = size(table1_12A);
```

```
t = table1_12A(1,:);
```

```
i = find(t==t0):find(t==t1);
```

```
table1_12A = table1_12A(2:n,i);
```

```
ncomp = table1_12A(2,:);
```

```
nprof = table1_12A(13,:);
```

```
nctax = table1_12A(14,:);
```

```
ndiv = table1_12A(16,:);
```

```
nre = table1_12A(17,:);
```

```
nnint = table1_12A(18,:);
```

```
%
```

```
% NIPA Table 1.14 Gross VA of domestic corporate business (Annual, Bil$)
```

```
%
```

```

load BEA/NIPA/table1_14A.dat
[n,m] = size(table1_14A);
t = table1_14A(1,:);
i = find(t==t0):find(t==t1);
table1_14A = table1_14A(2:n,i);

cgdi = table1_14A(1,:);
cdep = table1_14A(2,:);
ocomp = table1_14A(4,:);
cibt = table1_14A(7,:)+table1_14A(10,:);
cnint = table1_14A(9,:);
cprof = table1_14A(11,:);
ctax = table1_14A(12,:);
ddiv2 = table1_14A(14,:);
rete = table1_14A(15,:);
pbtd = table1_14A(32,:);
patd = table1_14A(33,:);
ccadj = table1_14A(35,:);

%
% NIPA Table 3.1 Govt current receipts and expenditures (Annual, Bil$)
%

load BEA/NIPA/table3_1A.dat
[n,m] = size(table3_1A);
t = table3_1A(1,:);
i = find(t==t0):find(t==t1);
t3_1A = table3_1A(1,i);
table3_1A = table3_1A(2:n,i);

hhdt = table3_1A(3,:);
hhss = table3_1A(7,:);

govr = table3_1A(30,:);
govtax = table3_1A(2,:);
govtaxpc = table3_1A(3,:);
govtaxibt = table3_1A(4,:);
govtaxci = table3_1A(5,:);
govtaxrow = table3_1A(6,:);
govrss = table3_1A(7,:);
govrin = table3_1A(8,:);
govrge = table3_1A(14,:);
govrtrcur = table3_1A(11,:);
govrtrcap = table3_1A(32,:);
govrtr = govrtrcur+govrtrcap;

gove = table3_1A(33,:);
govc = table3_1A(16,:);
govi = table3_1A(35,:);
govetrcur = table3_1A(17,:);
govetrsub = table3_1A(25,:);
govetrcap = table3_1A(36,:);
govenp = table3_1A(37,:);
govetr = govetrcur+govetrsub;
govain = table3_1A(22,:);

govdep = table3_1A(38,:);
deficit = -table3_1A(39,:);

%

% NIPA Table 3.2 Federal govt current receipts and expenditures (Annual, Bil$)
%

load BEA/NIPA/table3_2A.dat
[n,m] = size(table3_2A);
t = table3_2A(1,:);
i = find(t==t0):find(t==t1);
table3_2A = table3_2A(2:n,i);

fedgove = table3_2A(40,:);
fedres = table3_2A(8,:);

%
% NIPA Table 3.3 S&Lgovt current receipts and expenditures (Annual, Bil$)
%

load BEA/NIPA/table3_3A.dat
[n,m] = size(table3_3A);
t = table3_3A(1,:);
i = find(t==t0):find(t==t1);
table3_3A = table3_3A(2:n,i);

slgove = table3_3A(33,:);

%
% NIPA Table 3.5 Taxes on production and imports (Annual, Bil$)
%

load BEA/NIPA/table3_5A.dat
[n,m] = size(table3_5A);
t = table3_5A(1,:);
i = find(t==t0):find(t==t1);
table3_5A = table3_5A(2:n,i);

stax = sum(table3_5A([3,11,12,14,28,29,30,31],:));
fedexcise = table3_5A(3,:);
fedcustom = table3_5A(11,:);
slsales = table3_5A(14,:);
slmvl = table3_5A(28,:);
slsev = table3_5A(29,:);
slspec = table3_5A(30,:);
txpioth = table3_5A(12,:)+table3_5A(31,:);
ptax = table3_5A(27,:);

%
% NIPA Table 3.9.5 Govt consumption exp. and gross investment (Annual, Bil$)
%

load BEA/NIPA/table3_9_5A.dat
[n,m] = size(table3_9_5A);
t = table3_9_5A(1,:);
i = find(t==t0):find(t==t1);
table3_9_5A = table3_9_5A(2:n,i);

govcdef = table3_9_5A(12,:);
govidef = table3_9_5A(13,:);
govdef = govcdef+govidef;

%
% NIPA Table 3.12 Govt social benefits (Annual, Bil$)
%
```

```

load BEA/NIPA/table3_12A.dat
[n,m] = size(table3_12A);
t = table3_12A(1,:);
i = find(t==t0):find(t==t1);
table3_12A = table3_12A(2:n,i);

govetrspb = table3_12A(1,:);
govetrspbss = table3_12A(5,:);
govetrspbmc = table3_12A(6,:);
govetrspbrc = sum(table3_12A([12,13,14,17,22,23,36],:));
govetrspbui = table3_12A(7,:);
govetrspbwc = table3_12A(15,:)+table3_12A(28,:);
govetrspbpa = sum(table3_12A([21,25,31],:))-table3_12A(36,:);
govetrspbbed = table3_12A(40,:)+table3_12A(41,:);
govetrspb = govetrspbcur-govetrspbss-govetrspbmc-govetrspbrc-govetrspbui- ...
govetrspbwc-govetrspbpa-govetrspbbed;
govetroth = govetrspbcur-govetrspbss-govetrspbmc;

%
% NIPA Table 3.13 Govt subsidies (Annual, Bil$)
%
load BEA/NIPA/table3_13A.dat
[n,m] = size(table3_13A);
t = table3_13A(1,:);
i = find(t==t0):find(t==t1);
table3_13A = table3_13A(2:n,i);

govetrspbsubag = table3_13A(3,:);
govetrspbsubhh = table3_13A(4,:);
govetrspbsubo = sum(table3_13A(5:8,:));

%
% NIPA Table 3.15.5 Govt consumption and gross inv. by function (Annual, Bil$)
%
load BEA/NIPA/table3_15_5A.dat
[n,m] = size(table3_15_5A);
t = table3_15_5A(1,:);
i = find(t==t0):find(t==t1);
table3_15_5A = table3_15_5A(2:n,i);

govtotal = table3_15_5A(1,:);
genpubser = table3_15_5A(2,:);
natdefense = table3_15_5A(6,:);
puborder = table3_15_5A(7,:);
econaffairs = table3_15_5A(12,:);
housing = table3_15_5A(26,:);
health = table3_15_5A(27,:);
recreation = table3_15_5A(28,:);
education = table3_15_5A(29,:);
welfare = table3_15_5A(35,:);

%
% NIPA Table 4.1 Foreign transactions in NIPA (Annual, Bil$)
%
load BEA/NIPA/table4_1A.dat
[n,m] = size(table4_1A);
t = table4_1A(1,:);
i = find(t==t0):find(t==t1);
table4_1A = table4_1A(2:n,i);

rowinvrec = table4_1A(9,:);
rowinvpay = table4_1A(21,:);

%
% NIPA Table 5.6.5A Change in private inventories by industry (Annual, Bil$)
%
load BEA/NIPA/table5_6_5AA.dat
[n,m] = size(table5_6_5AA);
load BEA/NIPA/table5_6_5BA.dat
table5_6_5A = [table5_6_5AA(1:3,1:m-1),table5_6_5BA(1:3,:)];
t = table5_6_5A(1,:);
i = find(t==t0):find(t==t1);
table5_6_5A = table5_6_5A(2:3,i);

gpdiifarm = table5_6_5A(2,:);
gpdiifarm = gpdiifarm-gpdiifarm;
gpdiifarm = .13*gpdiifarm;
%Note: the fraction of farm inventories assigned to the
% corporate sector is 13% based on the ratio of corporate
% farmland and buildings to total values in the U.S.
% Statistical Abstract 2012

%
% NIPA Table 5.7.5A Private inventories and final sales (Quarterly, Bil$)
%
load BEA/NIPA/table5_7_5BQ.dat
load BEA/NIPA/table5_7_5AQ.dat
table5_7_5BQ = [table5_7_5BQ(1,:)+table5_7_5BQ(2,:)/10;
table5_7_5BQ(3:4,:)];
table5_7_5AQ = [table5_7_5AQ(1,:)+table5_7_5AQ(2,:)/10;
table5_7_5AQ(3:4,:)];
i = find(table5_7_5AQ(1,:)==table5_7_5BQ(1,1));
table5_7_5Q = [table5_7_5AQ(1:3,1:i-1),table5_7_5BQ(1:3,:)];
table5_7_5A = (qtr2ann(table5_7_5Q',1))';
[n,m] = size(table5_7_5A);
t = table5_7_5A(1,:);
i = find(t==t0):find(t==t1);
table5_7_5A = table5_7_5A(2:n,i);

kcin = table5_7_5A(1,:)-.87*table5_7_5A(2,:);
kncin = .87*table5_7_5A(2,:);

%
% NIPA Table 7.16 Relation of NIPA and IRS Corporate Statistics (Annual, Bil$)
%
load BEA/NIPA/table7_16A.dat
[n,m] = size(table7_16A);
t = table7_16A(1,:);
i = find(t==t0):find(t==t1);
table7_16A = table7_16A(2:n,i);

divirs = table7_16A(30,:);
divnipa = table7_16A(38,:);

%
% FA Table 1.1 Current-cost net stocks (Annual, Bil$, year-end)
%
```

```

load BEA/FA/table1_1A.dat
[n,m] = size(table1_1A);
t = table1_1A(1,:);
i = find(t==t0):find(t==t1);
table1_1A = table1_1A(2:n,i);

kfix = table1_1A(2,:);
kfixres = table1_1A(7,:);
kgfix = table1_1A(8,:);
kcd = table1_1A(13,:);

%
% FA Table 1.5 Historical-cost investments (Annual, Bil$, year-end)
%

load BEA/FA/table1_5A.dat
[n,m] = size(table1_5A);
t = table1_5A(1,:);
i = find(t==t0):find(t==t1);
table1_5A = table1_5A(2:n,i);

xfix = table1_5A(2,:);
xgfix = table1_5A(8,:);
xcd = table1_5A(13,:);
xpfix = xfix-xgfix;

%
% FA Tables 6.1 Current-cost net stocks by owner (Annual, Bil$, year-end)
%

load BEA/FA/table6_1A.dat
[n,m] = size(table6_1A);
t = table6_1A(1,:);
i = find(t==t0):find(t==t1);
table6_1A = table6_1A(2:n,i);

kcfix = table6_1A(2,:);
kppfix = table6_1A(6,:)+table6_1A(7,:);
khhfix = table6_1A(9,:);
knpfix = table6_1A(8,:);
ktefix = table6_1A(10,:);
kncfix = kppfix+khhfix+knpfix+ktefix;

%
% FA Table 6.7 Historical-cost investments by owner (Annual, Bil$, year-end)
%

load BEA/FA/table6_7A.dat
[n,m] = size(table6_7A);
t = table6_7A(1,:);
i = find(t==t0):find(t==t1);
table6_7A = table6_7A(2:n,i);

xcfix = table6_7A(2,:);
xppfix = table6_7A(6,:)+table6_7A(7,:);
xhhfix = table6_7A(9,:);
xnpfix = table6_7A(8,:);
xtfix = table6_7A(10,:);
xncfix = xppfix+xhhfix+xnpfix+xtfix;

%

% FA Table 8.4 Current-cost Depreciation of Durables (Annual, Bil$, year-end)
%

load BEA/FA/table8_4A.dat
[n,m] = size(table8_4A);
t = table8_4A(1,:);
i = find(t==t0):find(t==t1);
table8_4A = table8_4A(2:n,i);

dcddep = table8_4A(1,:);

%
% ICI Defined contribution plan holdings (Annual, Bil$)
%

load ICI/dc_mf_type.dat
[n,m] = size(dc_mf_type);
t = dc_mf_type(:,1);
i = find(t==t0):find(t==t1);
dcmftype = dc_mf_type(i,2:m);

dcmfdomeq = dcmftype(:,1);
dcmfforeq = dcmftype(:,3);
dcmfhybrid = dcmftype(:,5);
dcforeqrat = dcmfforeq./(dcmfdomeq+dcmfforeq+.5*dcmfhybrid);

%
% ICI IRA plan holdings (Annual, Bil$)
%

load ICI/ira_mf_type.dat
[n,m] = size(ira_mf_type);
t = ira_mf_type(:,1);
i = find(t==t0):find(t==t1);
iramftype = ira_mf_type(i,2:m);

iramfdomeq = iramftype(:,1);
iramfforeq = iramftype(:,3);
iramfhybrid = iramftype(:,5);
iramftotal = iramftype(:,11);
iraforeqrat = iramfforeq./(iramfdomeq+iramfforeq+.5*iramfhybrid);

%
% FOF/ICI IRA equity share (%)
%

load ICI/ira_eq_share.dat
[n,m] = size(ira_eq_share);
t = ira_eq_share(:,1);
i = find(t==t0):find(t==t1);
ira_eq_share = ira_eq_share(i,2);

%
% FOF Table F6 Gross domestic product (Quarterly, Mil$, Averaged)
%

load FOF/atabs/atab6d.dat
atab6dA = (qtr2ann(atab6d))';
[n,m] = size(atab6dA);
t = atab6dA(1,:);
i = find(t==t0):find(t==t1);
atab6dA = atab6dA(2:n,i)/1000;

```

```

cgpdif      = sum(atab6dA([10,12,15,17],:));
npgpdif     = atab6dA(9,:);
hhgpdif     = atab6dA(14,:);
ncbgpdif    = sum(atab6dA([11,16],:));
ncgpdif     = npgpdif+hhgpdif+ncbgpdif;
fofgpdif    = cgpdif+ncgpdif;

cgpdi       = atab6dA(19,:);
ncbgpdii    = atab6dA(20,:);
fofgpdii    = cgpdi+ncbgpdii;
fofgpdi     = fofgpdif+fofgpdii;
cgpdi       = cgpdi+cgpdi;

fofgdp      = atab6dA(1,:);
fofpce      = atab6dA(2,:);
fofpced     = atab6dA(3,:);
fofpced     = atab6dA(4,:);
fofpces     = atab6dA(5,:);
fofnx       = atab6dA(21,:);
fofgovc     = atab6dA(25,:);
fofgovi     = atab6dA(28,:);

%
% FOF Table F10 Measures of personal saving (Quarterly, Mil$)
%
load FOF/atabs/atab10d.dat
atab10dA    = (qtr2ann(atab10d));
[n,m]       = size(atab10dA);
t           = atab10dA(1,:);
i           = find(t==t0):find(t==t1);
atab10dA    = atab10dA(2:n,i)/1000;

cddep       = atab10dA(27,:);

%
% FOF Table B100 Balance sheet of households (Quarterly, Mil$)
%
load FOF/gtabs/gtab3d.dat
gtab3dA     = (qtr2ann(gtab3d,1));
[n,m]       = size(gtab3dA);
t           = gtab3dA(1,:);
i           = find(t==t0):find(t==t1);
gtab3dA     = gtab3dA(2:n,i)/1000;

govdebt     = gtab3dA(7,:)+gtab3dA(8,:);

%
% FOF Table B100 Balance sheet of households (Quarterly, Mil$)
%
load FOF/btabs/btab100d.dat
btab100dA   = (qtr2ann(btab100d,1));
[n,m]       = size(btab100dA);
t           = btab100dA(1,:);
i           = find(t==t0):find(t==t1);
btab100dA   = btab100dA(2:n,i)/1000;

vhha        = btab100dA(1,:);

vhhtang     = btab100dA(2,:);
vhhfa       = btab100dA(8,:);
vhhli       = btab100dA(31,:);
hhland      = btab100dA(3,:)-btab100dA(43,:)-btab100dA(46,:);
nwhh        = btab100dA(42,:);

%
% FOF Table B102 Balance sheet of nonfarm nonfin. corporate (Quarterly, Mil$)
%
load FOF/btabs/btab102d.dat
btab102dA   = (qtr2ann(btab102d,1));
[n,m]       = size(btab102dA);
t           = btab102dA(1,:);
i           = find(t==t0):find(t==t1);
btab102dA   = btab102dA(2:n,i)/1000;

vnfctang    = btab102dA(2,:);
nfcland     = btab102dA(3,:)-btab102dA(33,:)-btab102dA(34,:);

%
% FOF Table B103 Balance sheet of nonfarm noncorporate (Quarterly, Mil$)
%
load FOF/btabs/btab103d.dat
btab103dA   = (qtr2ann(btab103d,1));
[n,m]       = size(btab103dA);
t           = btab103dA(1,:);
i           = find(t==t0):find(t==t1);
btab103dA   = btab103dA(2:n,i)/1000;

vnfctang    = btab103dA(2,:);
nfcncland   = btab103dA(3,:)-btab103dA(33,:)-btab103dA(34,:);
vbustang    = vnfctang+vnfctang;

land        = hhland+nfcncland+nfcncland;
kinv        = kcin+kcin;
k           = kfix+kinv+kcd+land;
kc          = kfix+kcin+nfcncland;

%
% FOF Table L104 State and Local Governments (Quarterly, Mil$)
%
load FOF/ltabs/ltab104d.dat
ltab104dA   = (qtr2ann(ltab104d,1));
[n,m]       = size(ltab104dA);
t           = ltab104dA(1,:);
i           = find(t==t0):find(t==t1);
ltab104dA   = ltab104dA(2:n,i)/1000;

slmuni      = ltab104dA(20,:);
sla         = ltab104dA(1,:);
slli        = ltab104dA(18,:);

%
% FOF Table L105 Federal Government (Quarterly, Mil$)
%
load FOF/ltabs/ltab105d.dat
ltab105dA   = (qtr2ann(ltab105d,1));
[n,m]       = size(ltab105dA);
t           = ltab105dA(1,:);

```

```

i = find(t==t0):find(t==t1);
ltab105dA = ltab105dA(2:n,i)/1000;

fedtrs = ltab105dA(20,:)+ltab105dA(21,:)+ltab105dA(22,:);
fedagcy = ltab105dA(23,:);
feda = ltab105dA(1,:);
fedli = ltab105dA(15,:);
govsec = slmuni+fedtrs+fedagcy;

%
% FOF Table L213 Corporate Equities (Quarterly, Mil$)
%
load FOF/ltabs/ltab213d.dat
ltab213dA = (qtr2ann(ltab213d,1))';
[n,m] = size(ltab213dA);
t = ltab213dA(1,:);
i = find(t==t0):find(t==t1);
ltab213dA = ltab213dA(2:n,i)/1000;

dommktval = ltab213dA(23,:);

%
% FOF Table L225 Life Insurance and Pension Fund Reserves (Quarterly, Mil$)
%
load FOF/ltabs/ltab225d.dat
ltab225dA = (qtr2ann(ltab225d,1))';
[n,m] = size(ltab225dA);
t = ltab225dA(1,:);
i = find(t==t0):find(t==t1);
ltab225dA = ltab225dA(2:n,i)/1000;

liannuity = ltab225dA(3,:);

%
% FOF Table L225i Individual Retirement Accounts (Annual, Mil$)
%
load FOF/stabs/ltab225i.dat
[n,m] = size(ltab225i);
t = ltab225i(:,1);
i = find(t==t0):find(t==t1);
ltab225iA = ltab225i(i,2:m)/1000;

ira = ltab225iA(:,1);
irali = ltab225iA(:,4);

%
% FOF Table B100e Balance sheet of households with equity detail (Annual, Mil$)
%
load FOF/stabs/btab100e.dat
[n,m] = size(btab100e);
t = btab100e(:,1);
i = find(t==t0):find(t==t1);
btab100eA = btab100e(i,2:m)/1000;

hhequity = btab100eA(:,6);
ppequity = btab100eA(:,10);
gpequity = btab100eA(:,13)+btab100eA(:,14);
iraequity = ira_eq_share.*(ira-irali)/100;
ppequityd = ppequity.*(1-dcforeqrat);

```

```

iraequityd = iraequity.*(1-iraforeqrat);
equntaxed = (ppequity+gpequity+liannuity+iraequity)/hhequity;
equntaxedd = (ppequityd+gpequity+liannuity+iraequityd)/dommktval;

%
% SCB BEA dividend income vs. IRS dividend income (Annual, Bil$)
%
load BEA/SCB/nipadiv.dat
[n,m] = size(nipadiv);
t = nipadiv(:,1);
i = find(t==t0):find(t==t1);
nipadiv = nipadiv(i,2:m);

divtaxed = nipadiv(:,13)-nipadiv(:,10);
divuntaxed = sum(nipadiv(:,5:8))';
divtotal = divtaxed+divuntaxed;
divtaxed = divtaxed./divtotal;
divuntaxed = divuntaxed./divtotal;

%
% IRS Business net income less deficit (Annual, Thous$)
%
load IRS/bustax.dat
[n,m] = size(bustax);
t = bustax(:,1);
i = find(t==t0):find(t==t1);
bustax = bustax(i,2:m)/10^9;

ni_corp = bustax(:,3);
ni_ccorp = bustax(:,7);
ni_scorp = bustax(:,3)-bustax(:,7); % includes S, RIC, REIT
da_corp = bustax(:,1)-bustax(:,2);
da_ccorp = bustax(:,5)-bustax(:,6);
da_scorp = da_corp-da_ccorp;
ni_sshare = ni_scorp./ni_corp;
ni_cshare = ni_ccorp./ni_corp;
kc_sshare = da_scorp./da_corp;
kc_cshare = da_ccorp./da_corp;

%
% IRS Ordinary and qualified dividends (Annual starting 2003, $bil)
%
load IRS/qualdiv.dat
[n,m] = size(qualdiv);
t = qualdiv(:,1);
i = find(t==t0):find(t==t1);
qualdiv = qualdiv(i,2:m);

qualdivrat = qualdiv(:,2)./qualdiv(:,1);

%
% IRS Wage-like tax rates of Barro-Redlick using SOI data
%
load IRS/barro.dat
[n,m] = size(barro);
t = barro(:,1);
i = find(t==t0):find(t==t1);
barro = barro(i,2:m)/100;

taulfed = barro(:,2);
tauls1 = barro(:,3)-barro(:,2);

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```

taulfica = barro(:,4);
taul = taulfed+tauls1+taulfica;

%
% CPS Hours
%
load CPS/avghrsa.dat
[n,m] = size(avghrsa);
t = avghrsa(:,1);
i = find(t==t0):find(t==t1);
avghrsa = avghrsa(i,8);

%
% CPS Employment
%
load CPS/employed.dat
[n,m] = size(employed);
t = employed(:,1);
i = find(t==t0):find(t==t1);
employed = employed(i,2);

%
% BEA Full-time equivalent employees
%
load BEA/NIPA/fteemp.dat
[n,m] = size(fteemp);
t = fteemp(:,1);
i = find(t==t0):find(t==t1);
fteemp = fteemp(i,2);

%
% Census Population by age
%
load CPS/popbyage.dat
[n,m] = size(popbyage);
t = popbyage(:,1);
i = find(t==t0):find(t==t1);
grp = [NaN;popbyage(2:n,2)./popbyage(1:n-1,2)];
grp = grp(i);
grp16_64 = [NaN;sum(popbyage(2:n,5:8))'./sum(popbyage(1:n-1,5:8))'];
grp16_64 = grp16_64(i);
poptot = popbyage(i,2);
popunder5 = popbyage(i,3);
pop5_15 = popbyage(i,4);
pop16_19 = popbyage(i,5);
pop20_24 = popbyage(i,6);
pop25_44 = popbyage(i,7);
pop45_64 = popbyage(i,8);
pop65plus = popbyage(i,9);
empratio = employed./(employed+pop65plus);
fteratio = fteemp./(fteemp+pop65plus);
pop25_64 = pop25_44+pop45_64;
pop20_64 = pop20_24+pop25_64;
pop16_64 = pop16_19+pop20_64;
popratio = pop20_64./(pop20_64+pop65plus);

%
% Measures relevant for model
%
irate = .041;

tem = stax./(pce+irate*kcd+cddep);
tauc = tem./(1-tem);
staxd = tauc.*pced;
impcd = irate*kcd;
impgc = irate*kgfix;
impc = impcd+impgc;
contax = tauc.*(pce-pced);
contaxd = stax-staxd;
con = pce-pced-contax+cddep+impc+govc-govcdef;
agdi = gdi+cddep-stax+impc;
agdp = gdp+cddep-stax+impc;
agnp = gnp+cddep-stax+impc;
inve = gpdi+pced-staxd+govi-govidef+netxm+row;
capinc = prof+.3*pinc+rent+gprof+nint+ibt-stax+irate*(kgfix+kcd)+ ...
desc+row;
capincdep = capinc+dep+cddep;

disp('=====')
fprintf(' US DATA MEASURES TO COMPARE TO MODEL, AVGERAGED %g:%g\n',t0,t1)
disp('=====')
disp(' ')
disp(' TOTAL ADJUSTED INCOME:')
disp(' ')
disp(sprintf(' Labor Income %7.4f',mean(la
binc./agnp)))
disp(sprintf(' Compensation of employees %7.4f',mean(co
mp./agnp)))
disp(sprintf(' Wage and salary accruals %7.4f',mean(wa
ge./agnp)))
disp(sprintf(' Supplements to W&S %7.4f',mean(su
pp./agnp)))
disp(sprintf(' 70%% Proprietors'' income with IVA,CCAdj %7.4f',mean(
.7*pinc./agnp)))
disp(sprintf(' Capital Income %7.4f',mean(ca
pincdep./agnp)))
disp(sprintf(' Corporate profits %7.4f',mean(pr
of./agnp)))
disp(sprintf(' 30%% Proprietors'' income with IVA,CCAdj %7.4f',mean(
.3*pinc./agnp)))
disp(sprintf(' Rental income of persons with CCAdj %7.4f',mean(re
nt./agnp)))
disp(sprintf(' Surplus of govt. enterprises %7.4f',mean(gp
rof./agnp)))
disp(sprintf(' Net interest and misc payments, domestic ind. %7.4f',mean(ni
nt./agnp)))
disp(sprintf(' Indirect business tax %7.4f',mean(ib
t./agnp)))
disp(sprintf(' Taxes on production and imports %7.4f',mean(tx
pi./agnp)))
disp(sprintf(' Business current transfer payments %7.4f',mean(bu
stra./agnp)))
disp(sprintf(' Less: Subsidies %7.4f',mean(su
bs./agnp)))
disp(sprintf(' Less: sales tax %7.4f',mean(st
ax./agnp)))
disp(sprintf(' Federal excise taxes %7.4f',mean(fe
dexcise./agnp)))
disp(sprintf(' Federal customs duties %7.4f',mean(fe
dcustom./agnp)))
disp(sprintf(' S&L sales taxes %7.4f',mean(sl

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sales./agnp))
disp(sprintf('      Motor vehicle licenses          %7.4f',mean(sl videf./agnp))
mvl./agnp))
disp(sprintf('      Severance taxes                %7.4f',mean(sl videf./agnp))
sev./agnp))
disp(sprintf('      Special assessments            %7.4f',mean(sl videf./agnp))
spec./agnp))
disp(sprintf('      Other taxes on production and imports %7.4f',mean(tx videf./agnp))
pioth./agnp))
disp(sprintf('      Income from ROW                  %7.4f',mean(ro videf./agnp))
w./agnp))
disp(sprintf('      Receipts                          %7.4f',mean(nf videf./agnp))
ir./agnp))
disp(sprintf('      Payments                          %7.4f',mean(nf videf./agnp))
ip./agnp))
disp(sprintf('      Tangible depreciation                %7.4f',mean((d videf./agnp))
ep+cddep)/agnp))
disp(sprintf('      Consumption of fixed capital (NIPA)      %7.4f',mean(de videf./agnp))
p./agnp))
disp(sprintf('      Consumer durable depreciation (FOF)       %7.4f',mean(cd videf./agnp))
dep./agnp))
disp(sprintf('      Imputed capital services                 %7.4f',mean(im videf./agnp))
pc./agnp))
disp(sprintf('      Consumer durables services              %7.4f',mean(im videf./agnp))
pcd./agnp))
disp(sprintf('      Government capital services              %7.4f',mean(im videf./agnp))
pgc./agnp))
disp(sprintf('      Statistical discrepancy                   %7.4f',mean(de videf./agnp))
sc./agnp))
disp('      '
disp(sprintf('      Adjusted GNP                    %7.4f',1.))
disp(sprintf('      NIPA GDP                                %7.4f',mean(gd videf./agnp))
p./agnp))
disp(sprintf('      ROW income                              %7.4f',mean(ro videf./agnp))
w./agnp))
disp(sprintf('      Adjustments to GDP                      %7.4f',mean((a videf./agnp))
gdp-gdp)/agnp))
disp('      '
disp(' TOTAL ADJUSTED PRODUCT:')
disp('      '
disp(sprintf('      Consumption                          %7.4f',1-mean(
(govdef+inve)/agnp))
disp(sprintf('      Personal consumption expenditures      %7.4f',mean(pc
e./agnp))
disp(sprintf('      Less: Consumer durable goods            %7.4f',mean(pc
ed./agnp))
disp(sprintf('      Less: Imputed sales tax, nondurables and services %7.4f',mean(co
ntax./agnp))
disp(sprintf('      Plus: Imputed capital services, durables %7.4f',mean(im
pcd./agnp))
disp(sprintf('      Govt consumption expenditures, nondefense %7.4f',mean((g
ovc-govcdef)/agnp))
disp(sprintf('      Plus: Imputed capital services, govt capital %7.4f',mean(im
pgc./agnp))
disp(sprintf('      Consumer durable depreciation (FOF) %7.4f',mean(cd
dep./agnp))
disp(sprintf('      Defense spending                    %7.4f',mean(go
vdef./agnp))
disp(sprintf('      Govt consumption expenditures, natl defense %7.4f',mean(go
vdef./agnp))
disp(sprintf('      Govt gross investment, natl defense %7.4f',mean(go
videf./agnp))
videf./agnp))
disp(sprintf('      Tangible investment                    %7.4f',mean(in
ve./agnp))
disp(sprintf('      Gross private domestic investment %7.4f',mean(gp
di./agnp))
disp(sprintf('      Schedule C corporation          %7.4f',mean(kc
_cshare.*cgpdi./agnp))
disp(sprintf('      Other private business          %7.4f',mean((g
pdi-kc_cshare.*cgpdi)/agnp))
disp(sprintf('      Consumer durable goods          %7.4f',mean(pc
ed./agnp))
disp(sprintf('      Less: Imputed sales tax, durables %7.4f',mean(st
axd./agnp))
disp(sprintf('      Govt investment expenditures, nondefense %7.4f',mean((g
ovi-govidef)/agnp))
disp(sprintf('      Net exports of goods and services %7.4f',mean(ne
txm./agnp))
disp(sprintf('      Income from ROW                    %7.4f',mean(ro
w./agnp))
disp('      '
disp(sprintf('      GNP                                %7.4f',1.))
disp('      '
disp('      CAPITAL STOCKS (End of period):')
disp('      '
disp(sprintf('      Tangible capital                    %7.4f',mean(k.
/agnp))
disp(sprintf('      Fixed assets, private              %7.4f',mean((k
fix-kgfix)/agnp))
disp(sprintf('      Schedule C corporations          %7.4f',mean(kc
_cshare.*kcfix./agnp))
disp(sprintf('      Other private business          %7.4f',mean((k
fix-kgfix-kc_cshare.*kcfix)/agnp))
disp(sprintf('      Residential                    %7.4f',mean(kf
ixres./agnp))
disp(sprintf('      Fixed assets, public              %7.4f',mean(kg
fix./agnp))
disp(sprintf('      Consumer durables                    %7.4f',mean(kc
d./agnp))
disp(sprintf('      Inventories                          %7.4f',mean(ki
nv./agnp))
disp(sprintf('      Schedule C corporations          %7.4f',mean(kc
_cshare.*kcinv./agnp))
disp(sprintf('      Other private business          %7.4f',mean((k
inv-kc_cshare.*kcinv)/agnp))
disp(sprintf('      Land                            %7.4f',mean(la
nd./agnp))
disp(sprintf('      Schedule C corporations          %7.4f',mean(kc
_cshare.*nfcland./agnp))
disp(sprintf('      Other private business          %7.4f',mean((l
and-kc_cshare.*nfcland)/agnp))
disp(sprintf('      Nonfinancial corporate          %7.4f',mean(kc
_sshare.*nfcland./agnp))
disp(sprintf('      Nonfinancial noncorporate        %7.4f',mean(nf
ncland./agnp))
disp(sprintf('      Households and nonprofits          %7.4f',mean(hh
land./agnp))
disp('      '
disp(sprintf('      Intangible capital                    %7.4f',1.718))
disp(sprintf('      Plant-specific (McGrattan-Prescott 2010) %7.4f',1.198))
disp(sprintf('      Technology capital (McGrattan-Prescott 2010) %7.4f',.519))

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disp(' ')
disp(sprintf(' Total %7.4f',mean(k. vtaxrow./agnp)))
/agnp)+1.718))
disp(' ')
disp(' GOVERNMENT EXPENDITURES, RECEIPTS, AND DEFICIT:')
disp(' ')
disp(sprintf(' Govt consumption expenditures and gross investment %7.4f',mean(go
vtotal./agnp)))
disp(sprintf(' National defense %7.4f',mean(na
tdefense./agnp)))
disp(sprintf(' Nondefense spending %7.4f',mean((g
ovtotal-natdefense)./agnp)))
disp(sprintf(' General public service %7.4f',mean(ge
npubser./agnp)))
disp(sprintf(' Public order and safety %7.4f',mean(pu
border./agnp)))
disp(sprintf(' Economic affairs %7.4f',mean(ec
onaffairs./agnp)))
disp(sprintf(' Housing and community services %7.4f',mean(ho
using./agnp)))
disp(sprintf(' Health %7.4f',mean(he
alth./agnp)))
disp(sprintf(' Recreation and culture %7.4f',mean(re
creation./agnp)))
disp(sprintf(' Education %7.4f',mean(ed
ucation./agnp)))
disp(sprintf(' Income security %7.4f',mean(we
lfare./agnp)))
disp(sprintf(' Govt transfers %7.4f',mean(go
vetr./agnp)))
disp(sprintf(' Current transfers %7.4f',mean(go
vetrcur./agnp)))
disp(sprintf(' Social security %7.4f',mean(go
vetrsbss./agnp)))
disp(sprintf(' Medicare %7.4f',mean(go
vetrsbmc./agnp)))
disp(sprintf(' Other %7.4f',mean(go
vetroth./agnp)))
disp(sprintf(' Subsidies %7.4f',mean(go
vetrsub./agnp)))
disp(sprintf(' Capital transfers %7.4f',mean(go
vetrcap./agnp)))
disp(sprintf(' Interest payments %7.4f',mean(go
vein./agnp)))
disp(sprintf(' Net purchases of nonproductive assets %7.4f',mean(go
venp./agnp)))
disp(sprintf(' Less: Consumption of fixed capital %7.4f',mean(go
vdep./agnp)))
disp(' ')
disp(sprintf(' Total expenditures %7.4f',mean(go
ve./agnp)))
disp(' ')
disp(sprintf(' Taxes %7.4f',mean(go
vtax./agnp)))
disp(sprintf(' Personal current taxes %7.4f',mean(go
vtaxpc./agnp)))
disp(sprintf(' Taxes on production and imports %7.4f',mean(go
vtaxibt./agnp)))
disp(sprintf(' Taxes on corporate income %7.4f',mean(go
vtaxci./agnp)))

disp(sprintf(' Taxes from ROW %7.4f',mean(go
vtaxrow./agnp)))
disp(sprintf(' Contributions for govt social insurance %7.4f',mean(go
vrss./agnp)))
disp(sprintf(' Other %7.4f',mean((g
ovrtr+govrin+govrge)./agnp)))
disp(sprintf(' Income receipts from assets %7.4f',mean(go
vrin./agnp)))
disp(sprintf(' Current transfer receipts %7.4f',mean(go
vrtrcur./agnp)))
disp(sprintf(' Capital transfer receipts %7.4f',mean(go
vrtrcap./agnp)))
disp(sprintf(' Surplus of govt. enterprises %7.4f',mean(go
vrge./agnp)))
disp(' ')
disp(sprintf(' Total receipts %7.4f',mean(go
vr./agnp)))
disp(' ')
disp(sprintf(' Deficit %7.4f',mean(de
ficit./agnp)))
disp(' ')
disp(' BALANCE SHEET ITEMS:')
disp(' ')
disp(sprintf(' Household Net Worth: %7.4f',mean(nw
hh./agnp)))
disp(sprintf(' Assets %7.4f',mean(vh
ha./agnp)))
disp(sprintf(' Tangible %7.4f',mean(vh
htang./agnp)))
disp(sprintf(' Financial %7.4f',mean(vh
hfa./agnp)))
disp(sprintf(' Liabilities %7.4f',mean(vh
hli./agnp)))
disp(' ')
disp(sprintf(' Government debt: %7.4f',mean(go
vsec./agnp)))
disp(sprintf(' State and local municipal securities %7.4f',mean(sl
muni./agnp)))
disp(sprintf(' Federal treasury securities %7.4f',mean(fe
dtrs./agnp)))
disp(sprintf(' Federal budget agency securities %7.4f',mean(fe
dagcy./agnp)))
disp(' ')
disp(' POPULATION, HOURS, AND EMPLOYMENT:')
disp(' ')
disp(sprintf(' Population, all ages (mil) %7.2f',mean(po
ptot/1000)))
disp(sprintf(' Population, 16-64 (mil) %7.2f',mean(po
pl6_64/1000)))
disp(sprintf(' Average growth in population, 16-64 (%) %7.4f',mean((
grppl6_64-1)*100)))
disp(sprintf(' Average growth in population (%) %7.4f',mean((
grppl-1)*100)))
disp(sprintf(' Average growth in population, 16-64 (%) %7.4f',mean((
grppl6_64-1)*100)))
disp(sprintf(' Average hours worked (rel. to 5200) %7.4f',mean(av
ghrsa)))
disp(sprintf(' # employed/(# employed+population 65+) %7.4f',mean(em
pratio)))

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disp(sprintf(' # FTEs/(# FTEs+population 65+) %7.4f',mean(ft
eratio)))
disp(sprintf(' Popuation 20-64/Population >=20 %7.4f',mean(po
pratio)))
disp(' ')
disp(' TAX RATES ON WAGE-LIKE INCOMES (Barro-Redlick)')
disp(' ')
disp(sprintf(' Federal %7.2f',mean(ta
ulfed)*100))
disp(sprintf(' State and Local %7.2f',mean(ta
ulsl)*100))
disp(sprintf(' FICA %7.2f',mean(ta
ulfica)*100))
disp(' ')
disp(sprintf(' Average Marginal (fed+sl+fica) %7.2f',mean(ta
ul)*100))
disp(' ')
disp(' TAX RATE ON CORPORATE DISTRIBUTIONS ')
disp(' ')
mqualdiv = avgnan(qualdivrat);
mequntax = avgnan(equntaxedd);
mdivuntax = avgnan(divuntaxed);
taud = (1-mequntax)*(mqualdiv*.2353+(1-mqualdiv)*.3198);
disp(' TAXSIM tax rates (only 2013): ')
disp(sprintf(' Ordinary dividends %7.2f',31.98))
;
disp(sprintf(' Qualified dividends %7.2f',23.53))
;

disp(sprintf(' Fraction of dividends qualified (after 2002) %7.2f',mqualdi
v*100));

disp(sprintf(' Domestic equity in Pensions/LI/NP (Source: FOF,ICI) %7.2f',mequunt
ax*100));
disp(sprintf(' NIPA dividends to Pensions/LI/NP (Source: NIPA,IRS) %7.2f',mdivunt
ax*100));
disp(' ')
disp(sprintf(' Estimate of tax rate on dividends %7.2f',taud*10
0));
disp('=====')
disp(' NOTE: NIPA and FOF values all relative to adjusted GNP')

return
disp(' ')
disp(' ')
disp('=====')
disp('Check consistency (values relative to adjusted GNP)')
disp('=====')
disp(' GDP')
disp(sprintf(' * NIPA %7.4f',mean(gdp./agnp)))
disp(sprintf(' * FOF %7.4f',mean(fofgdp./agnp)))
disp(' ')
disp(' PCE, Total')
disp(sprintf(' * NIPA %7.4f',mean(pce./agnp)))
disp(sprintf(' * FOF %7.4f',mean(fofpce./agnp)))
disp(' o Durables')
disp(sprintf(' * NIPA %7.4f',mean(pced./agnp)))
disp(sprintf(' * FOF %7.4f',mean(fofpced./agnp)))
disp(sprintf(' * FA %7.4f',mean(xcd./agnp)))

disp(' o Nondurables')
disp(sprintf(' * NIPA %7.4f',mean(pced./agnp)))
disp(sprintf(' * FOF %7.4f',mean(fofpced./agnp)))
)
disp(' o Services')
disp(sprintf(' * NIPA %7.4f',mean(pces./agnp)))
disp(sprintf(' * FOF %7.4f',mean(fofpces./agnp)))
disp(' ')
disp(' GPMI, Total')
disp(sprintf(' * NIPA %7.4f',mean(gpmi./agnp)))
disp(sprintf(' * FOF %7.4f',mean(fofgpmi./agnp)))
disp(' o Fixed investment')
disp(sprintf(' * NIPA %7.4f',mean(gpmif./agnp)))
disp(sprintf(' * FOF %7.4f',mean(fofgpmif./agnp)))
)
disp(' * FA %7.4f',mean(xpfix./agnp)))
disp(' - Corporate ')
disp(sprintf(' * FOF %7.4f',mean(cgpdif./agnp)))
disp(sprintf(' * FA %7.4f',mean(xcfix./agnp)))
disp(' - Noncorporate ')
disp(sprintf(' * FOF %7.4f',mean(ncgpdif./agnp)))
disp(sprintf(' * FA %7.4f',mean(xncfix./agnp)))
disp(' o Change in private inventories')
disp(sprintf(' * NIPA %7.4f',mean(gpdii./agnp)))
disp(sprintf(' * FOF %7.4f',mean(fofgpdii./agnp)))
)
disp(' - Corporate ')
disp(sprintf(' * FOF %7.4f',mean(cgpdii./agnp)))
disp(' - Noncorporate ')
disp(sprintf(' * FOF %7.4f',mean(ncbgpdii./agnp)))
)
disp(' ')
disp(' Govt. spending, Total')
disp(sprintf(' * NIPA %7.4f',mean((govi+govc)./agn
p)))
disp(sprintf(' * FOF %7.4f',mean((fofgovi+fofgovc
)./agnp)))
disp(' o Consumption')
disp(sprintf(' * NIPA %7.4f',mean(govc./agnp)))
disp(sprintf(' * FOF %7.4f',mean(fofgovc./agnp)))
disp(' o Investment')
disp(sprintf(' * NIPA %7.4f',mean(govi./agnp)))
disp(sprintf(' * FOF %7.4f',mean(fofgovi./agnp)))
disp(sprintf(' * FA %7.4f',mean(xgfix./agnp)))

t = [t0:t1]';
lt = length(t);

```