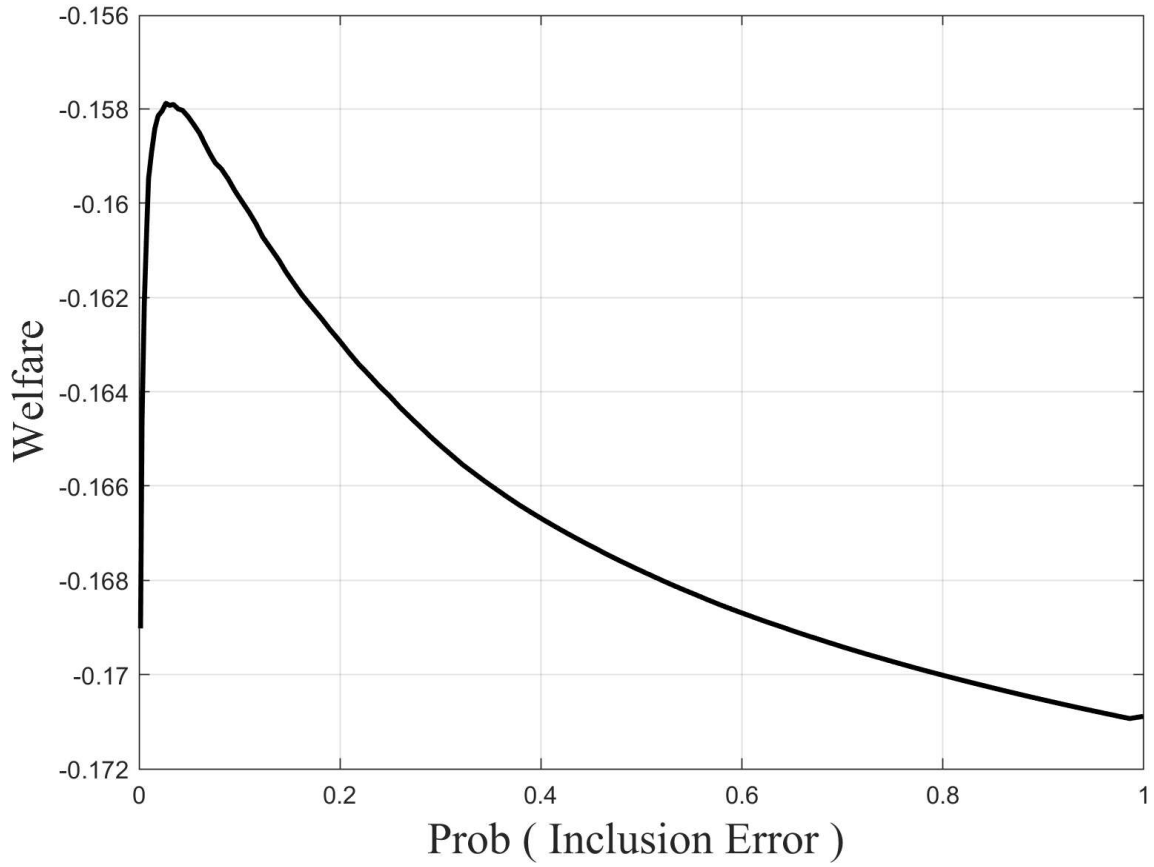
```
datastart = readtable('figure5_pred.csv');
ds = datastart;

%Welfare analysis

%Initialize
national_num_households = 6750000;
program_budget_monthly = 880000000/12;
bonus_perhh = 2.235/12;
samplesize = sum(ds.training == 0);
CRRA_RF = zeros(100,1);
INC_ERR_RF = zeros(100,1);

%Loop over inclusion errors - Training sample
for i = 1:100

   c = quantile(ds.lnpercapitaconsumption( ds.training == 0), i/100);
   incl_c = ds.lnpercapitaconsumption < c;
   num_incl = incl_c.*ds.h_hhsize;
   incl_error_normal = (incl_c == 1 & ds.poor ==0);
   households_incl = sum(incl_c( ds.training == 0));
   pct_households_incl = households_incl / samplesize;
   national_hh_incl = national_num_households*pct_households_incl;
   per_hh_benefits = program_budget_monthly/national_hh_incl;
   benefits_received = incl_c * per_hh_benefits + bonus_perhh*(i==100);
   percapita_benefits_received = benefits_received./ ds.h_hhsize;
   income_RF = ds.percapitaconsumption + percapita_benefits_received;

   CRRA_RF(i) = sum((income_RF( ds.training == 0)).^(-2) /(-2));
   INC_ERR_RF(i) = sum(incl_error_normal( ds.training == 0))/sum(1-ds.poor((ds.training==0)));

end

i_hat_RF = find(CRRA_RF == max(CRRA_RF),1,'first');
c_hat_RF = quantile(ds.lnpercapitaconsumption(ds.training == 0), i_hat_RF/100);

i_hat_RF_20 = find(CRRA_RF(20:end)== max(CRRA_RF(20:end)),1,'first')+19;
c_hat_RF_20 = quantile(ds.lnpercapitaconsumption(ds.training == 0), i_hat_RF_20/100);

%plot welfare analysis
figure('Position',[400,400,700,500])
set(gca, 'FontName', 'Times New Roman')
plot(INC_ERR_RF, CRRA_RF, 'k-','LineWidth',2)
%ylim([-.27,-.23])
%yticks(-.27:.01:-.23)
%set(gca,'fontsize',12,'FontName','Times New Roman')
xlim([0,1])
xticks(0:.2:1)
xticklabels(0:.2:1)
xlabel({'Prob ( Inclusion Error ) '},'fontsize',18,'FontName','Times New Roman' )
ylabel({' Welfare '}, 'fontsize', 18, 'FontName','Times New Roman')
set(gcf, 'color','w');
grid
```



INC_ERR_RF

```
INC_ERR_RF = 100×1
    0.0016
    0.0031
    0.0053
    0.0077
    0.0095
    0.0127
    0.0158
    0.0190
    0.0228
    0.0267
```

incl_c

```
incl_c = 23152×1 logical array
   1
   1
   1
   1
   1
   1
   1
   1
   1
   1
```

i_hat_RF

```
i_hat_RF = 10
```