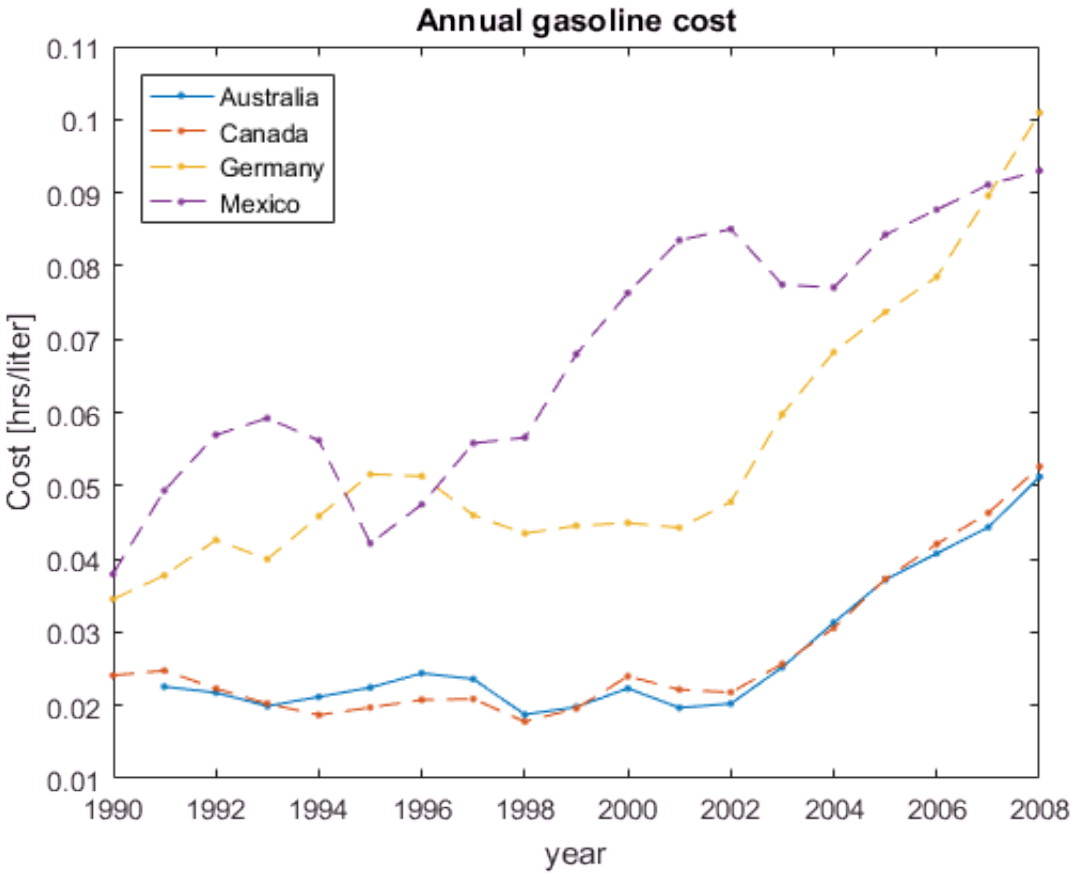
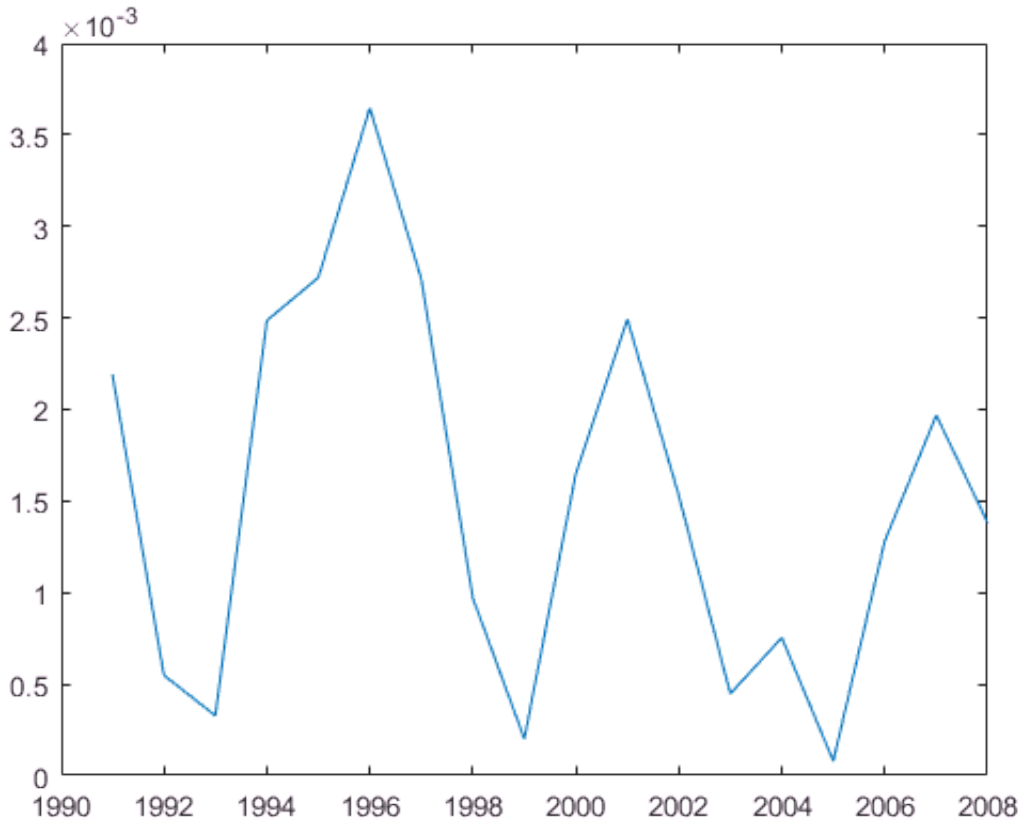
```
load gCosts.mat

Australia = gal2lit*Australia/hourlyAus;
Canada = gal2lit*Canada/hourlyCan;
Germany = gal2lit*Germany/hourlyGer;
Mexico = gal2lit*Mexico/hourlyMex;

plot(Year,Australia,'.-')
hold on
plot(Year,Canada,'.--')
plot(Year,Germany,'.--')
plot(Year,Mexico,'.--')
hold off

title('Annual gasoline cost')
xlabel('year')
ylabel('Cost [hrs/liter]')

legend(country,'Location','northwest')
```




```
```

Fluctuation between australia and canada

```
AuCaDiff = abs(Canada - Australia);

plot(Year, AuCaDiff)
```




```
doc elfun
```

```
h = [1 2 3 4]
```

```
h =

     1     2     3     4
```

```
sin(h)
```

```
ans =

    0.8415    0.9093    0.1411   -0.7568
```

```

```

statistical functions

```
% mean absolute value of fluctuation
avgDiff = mean(AuCaDiff, 'omitnan')
```

```
avgDiff = 0.0015
```

```
nanmean(AuCaDiff)
```

```
ans = 0.0015
```

```
doc datafun
```

```
Australia(1) = Australia(2)
```

```
Australia =

    0.0226
    0.0226
    0.0218
    0.0199
    0.0212
    0.0224
    0.0244
    0.0236
    0.0188
    0.0198
```

```
Australia(1) = Australia(end-1)
```

```
Australia =

    0.0443
    0.0226
    0.0218
    0.0199
    0.0212
    0.0224
    0.0244
    0.0236
    0.0188
    0.0198
```

```
Aus90 = Australia(1)
```

```
Aus90 = 0.0443
```

```
```

Years from 1990-2008

```
x = 1990:2008
```

```
x =

        1990        1991        1992        1993        1994        1995
```

```
eox = 1990:2:2008
```

```
eox =

        1990        1992        1994        1996        1998        2000
```

```
partx = linspace(1990,2008,4)
```

```
partx =

        1990        1996        2002        2008
```

```
L = length(partx)
```

```
L = 4
```

```
% find when the biggest difference between canada and australia
% occured

[x,idx] = max(AuCaDiff)
```

```
x = 0.0036
idx = 7
```

```
Year(idx)
```

```
ans = 1996
```

```
% 1st, 4th, 7-9th year
Year(1)
```

```
ans = 1990
```

```
Year(4)
```

```
ans = 1993
```

```
Year([1 4 7:9])
```

```
ans =

        1990
        1993
        1996
        1997
        1998
```

```
Year(7:9)
```

```
ans =

        1996
        1997
        1998
```

```
Mex90s = Mexico(1:10);
Mex00s = Mexico(11:end);

d90s = mean(Mex90s)
```

```
d90s = 0.0530
```

```
d00s = mean(Mex00s)
```

```
d00s = 0.0839
```

```

```

```
h = [1 2 3 7 16];
diff(h)
```

```
ans =

     1     1     4     9
```

```

d90s = mean(diff(Mex90s))
```

```
d90s = 0.0033
```

```
d00s = mean(diff(Mex00s))
```

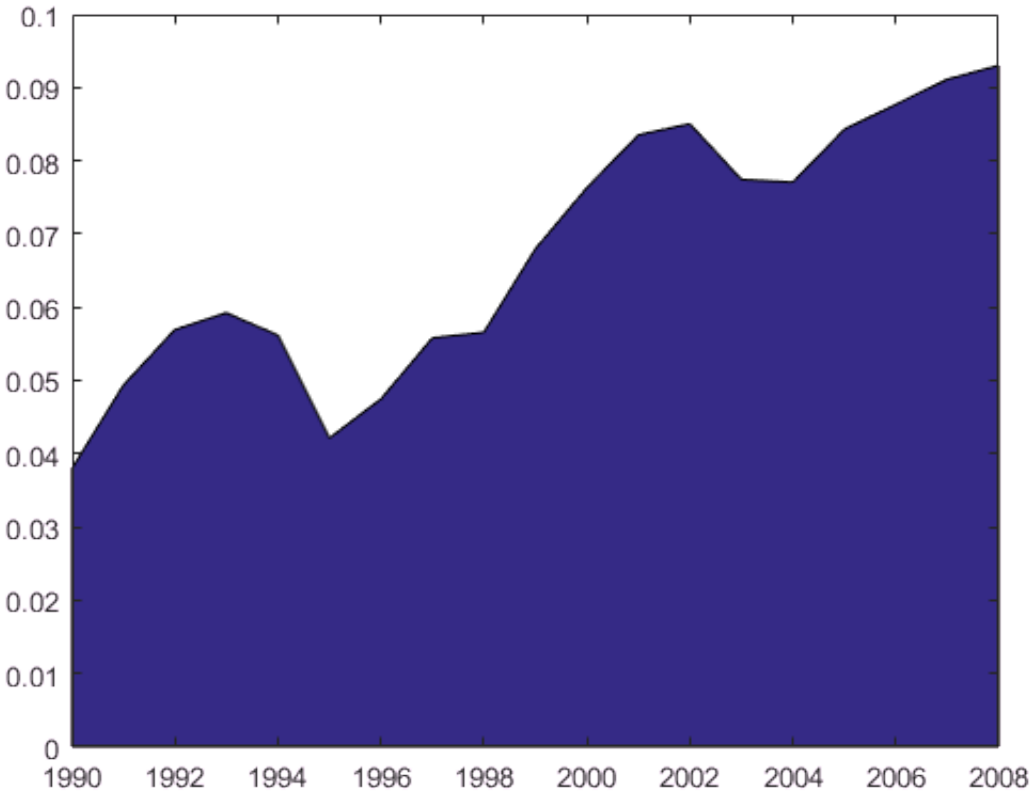
```
d00s = 0.0021
```

```

```

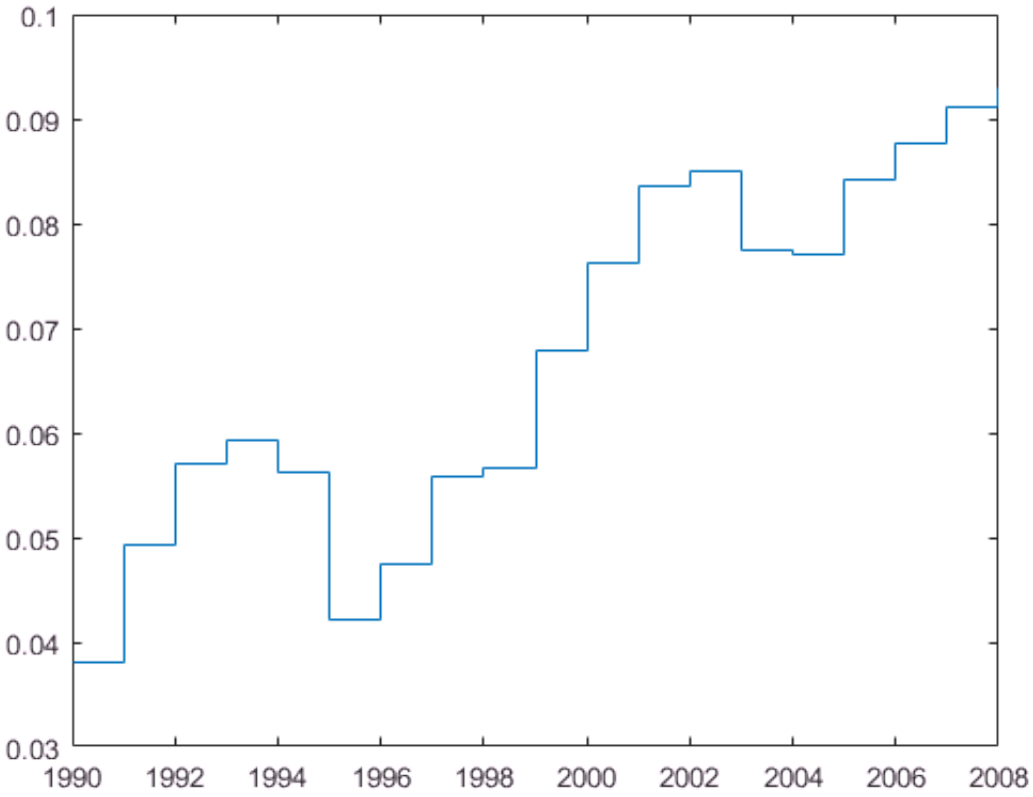
```
[MexicoSorted,Midx] = sort(Mexico);
SortedYears = Year(Midx)
```

```
SortedYears =

        1990
        1995
        1996
        1991
        1997
        1994
        1998
        1992
        1993
        1999
```

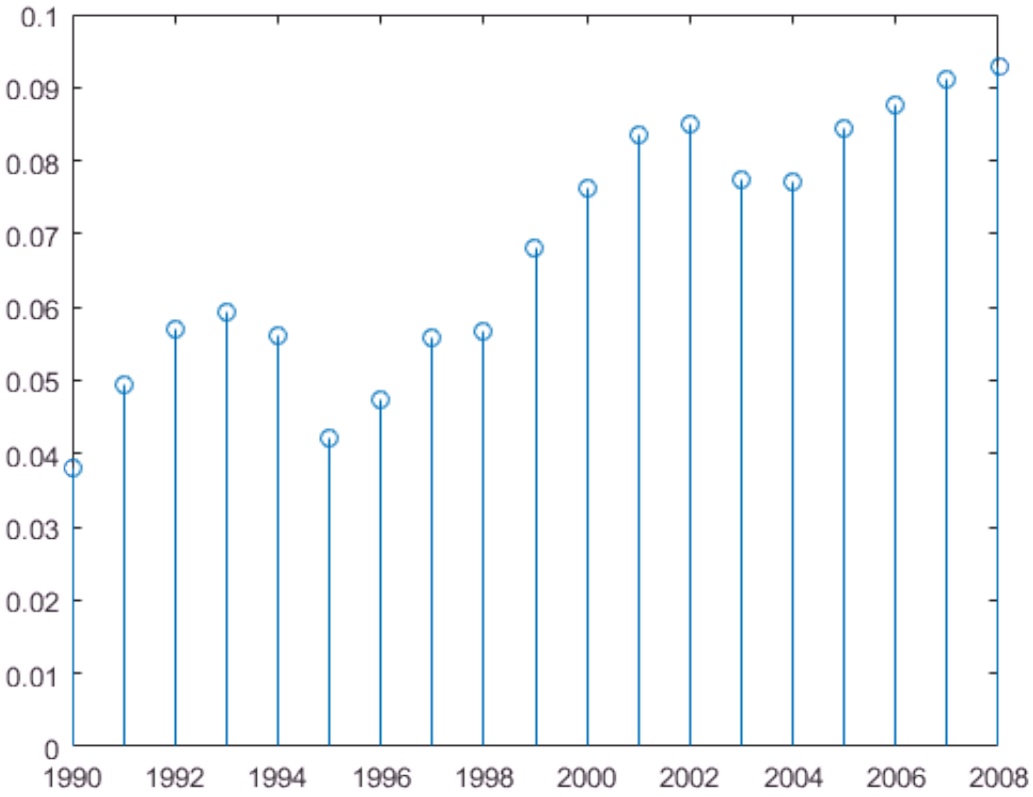
```

area(Year,Mexico)
```



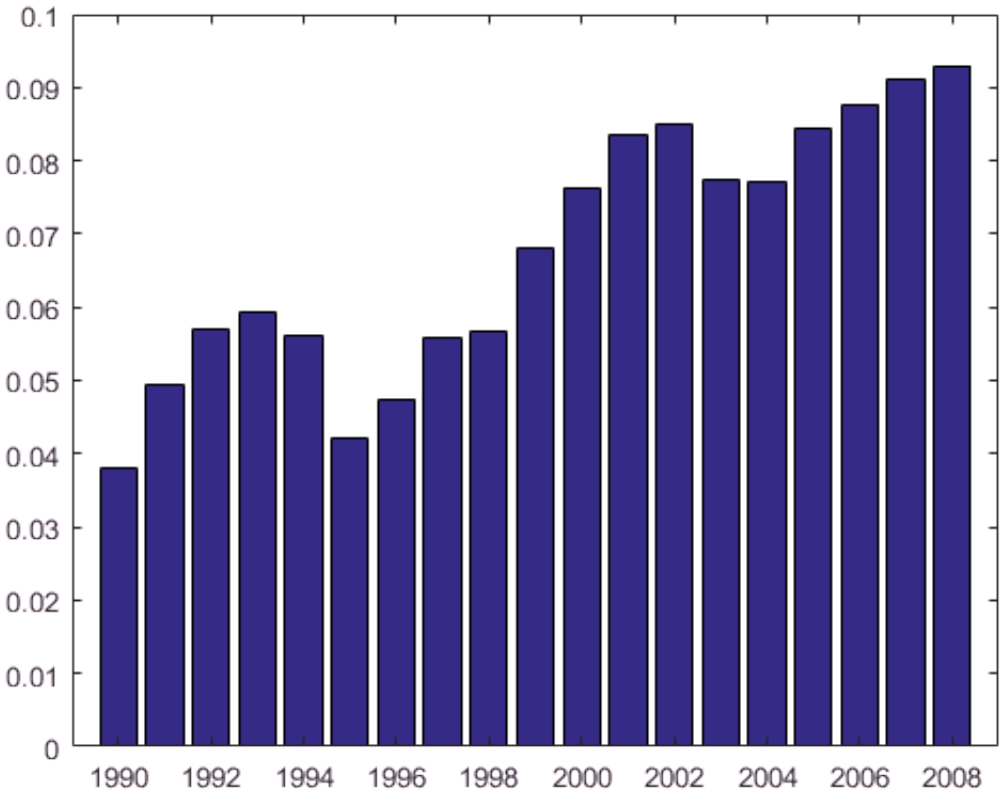

```
stairs(Year,Mexico)
```




```
stem(Year,Mexico)
```



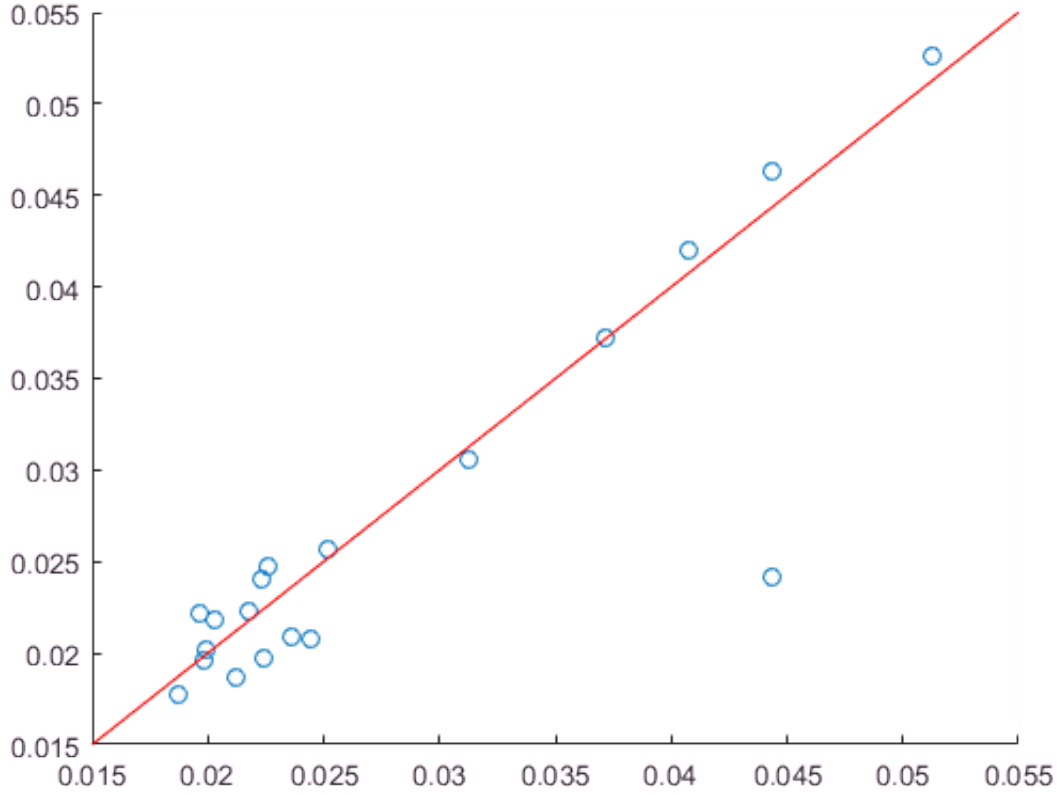

```
bar(Year,Mexico)

xlim([1989 2009])
```



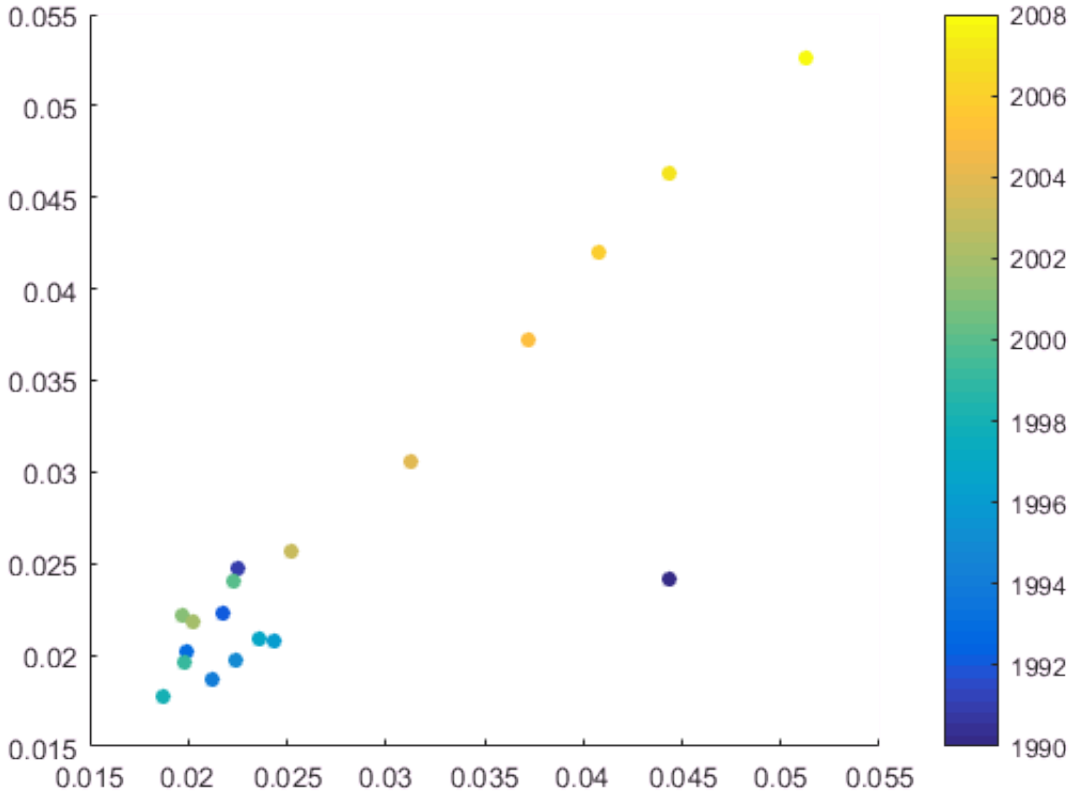

```
scatter(Australia,Canada)
AuLimits = xlim
```

```
AuLimits =

    0.0150    0.0550
```

```
hold on
plot(AuLimits,AuLimits,'r')
hold off
```




```
scatter(Australia,Canada,30,Year,'Filled')
colorbar
```


0.055
0.05
0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.015
0.02
0.025
0.03
0.035
0.04
0.045
0.05
0.055
2008
2006
2004
2002
2000
1998
1996
1994
1992
1990