```
detailIDdr = {{AL, AK, AZ, AR, CA, CO, CT, DC, DE, FL, GA, HI, ID, IL,
    IN, IA, KS, KY, LA, ME, MD, MA, MI, MN, MS, MO, MT, NE, NV, NH, NJ, NM, NY,
    NC, ND, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VT, VA, WA, WV, WI, WY},
   {416468, 416471, 416484, 416491, 416498, 416505, 416508, 416623,
    416511, 417861, 416514, 416520, 416523, 416532, 416542, 416545, 416554,
    416557, 416560, 416569, 416584, 416593, 416599, 416602, 416612, 416619,
    416487, 416490, 416496, 416502, 416516, 416526, 416529, 416534, 416539,
    416548, 416551, 416590, 416595, 416605, 416608, 416611, 416617,
    416632, 416636, 416639, 416642, 416645, 416648, 416653, 416654},
   {416469, 416472, 416485, 416493, 416500, 416506, 416509, 416624, 416512,
    417866, 416515, 416521, 416524, 416537, 416543, 416546, 416555, 416558,
    416561, 416570, 416585, 416594, 416600, 416603, 416614, 416621, 416488,
    416492, 416497, 416503, 416518, 416527, 416530, 416535, 416540,
    416549, 416552, 416591, 416597, 416606, 416609, 416613, 416618,
    416634, 416637, 416640, 416643, 416646, 416649, 416651, 416655}};

Dimensions[detailIDdr]

{3, 51}

ev = Import["http://www.electoral-vote.com/evp2008/Pres/Excel/today.csv"];

ev[[1]]

{State, EV, D, R, I, Date, D>9, D5-9, D<5, Tie, R<5, R5-9, R>9, Pollster-len}

ev[[2 ;; -2, 1]]

{Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, D.C.,
 Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas,
 Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota,
 Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey,
 New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon,
 Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas,
 Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming}

ev[[2 ;; -2, 2]]

{9, 3, 10, 6, 55, 9, 7, 3, 3, 27, 15, 4, 4, 21, 11, 7, 6, 8, 9, 4, 10, 12, 17, 10, 6, 11,
 3, 5, 5, 4, 15, 5, 31, 15, 3, 20, 7, 7, 21, 4, 8, 3, 11, 34, 5, 3, 13, 11, 5, 10, 3}

datad = Table[Drop[Import[
      "http://data.intrade.com/graphing/jsp/downloadClosingPrice.jsp?contractId="
       <> ToString[detailIDdr[[2, i]] ]], 1], {i, 51}];

datar = Table[Drop[Import[
      "http://data.intrade.com/graphing/jsp/downloadClosingPrice.jsp?contractId="
       <> ToString[detailIDdr[[3, i]] ]], 1], {i, 51}];

datad[[1, -1, 1]]

Nov 5, 2008

datad[[5, 662 ;; 666]]

{{Sep 9, 2008, 91.2, 91.2, 91.2, 91.2, 40},
 {Sep 10, 2008, 91.2, 91.2, 91.2, 91.2, 0}, {Sep 11, 2008, 91, 91, 91, 91, 0},
 {Sep 12, 2008, 92, 91, 92, 91, 34}, {Sep 13, 2008, 90.5, 90.5, 90.5, 90, 10}}
```

```
(*datad[[5,664,2;;-1]]=datad[[5,663,2;;-1]]
   data error: CA price on 9.11=3 instead of 91.2*)

(*another error Sep 15 R price in MI is 98*)
datar[[23, 655 ;; 660]]
```

```
{{Sep 13, 2008, 36.1, 36.1, 36.1, 38.9, 1}, {Sep 14, 2008, 38.5, 36.2, 40, 39.9, 35},
 {Sep 15, 2008, 98, 98, 98, 98, 0}, {Sep 16, 2008, 36.2, 36.2, 39.9, 36.2, 9},
 {Sep 17, 2008, 38, 35, 38, 35, 31}, {Sep 18, 2008, 35.1, 35.1, 35.1, 35, 11}}
```

```
datar[[23, 657, 2 ;; -1]] = datar[[23, 656, 2 ;; -1]]
```

```
{38.5, 36.2, 40, 39.9, 35}
```

```
closed = datad[[All, All, 5]];
closer = datar[[All, All, 5]];

window = 90; window1 = window + 1;

returnsd = Table[Log[closed[[i, j - 1]] / closed[[i, j]]], {i, 51}, {j, -window, -1}];

returnsr = Table[Log[closer[[i, j - 1]] / closer[[i, j]]], {i, 51}, {j, -window, -1}];

chanced = Table[closed[[i, -window1 ;; -1]] /
    (closed[[i, -window1 ;; -1]] + closer[[i, -window1 ;; -1]]), {i, 51}];

returnsc = Table[Log[chanced[[i, j - 1]] / chanced[[i, j]]], {i, 51}, {j, -window, -1}];

chanced[[All, -1]] // N
```

```
{0.03, 0.072, 0.0882353, 0.145473, 0.96, 0.84465, 0.938, 0.97, 0.955,
 0.654582, 0.214145, 0.977, 0.03, 0.971, 0.352381, 0.904523, 0.103314,
 0.1, 0.154786, 0.929142, 0.96, 0.974, 0.935961, 0.917422, 0.112, 0.675944,
 0.242718, 0.045, 0.727723, 0.873016, 0.944444, 0.878514, 0.971, 0.576355,
 0.423077, 0.611111, 0.025, 0.935452, 0.847716, 0.95, 0.11, 0.144231,
 0.16, 0.0797244, 0.02, 0.95, 0.782178, 0.952859, 0.285714, 0.92087, 0.05}
```

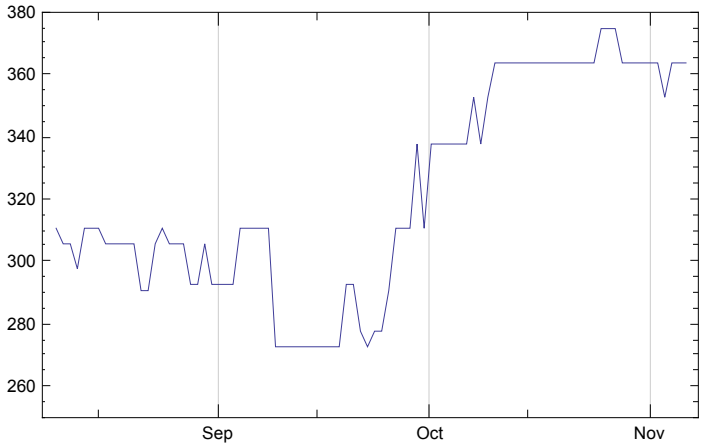
```
datad[[1, -window, 1]]
```

```
Aug 9, 2008
```

```
winning = Table[Total[
   Table[If[chanced[[i, -j]] > .5, ev[[2 ;; -2, 2]][[i]], 0], {i, 51}]], {j, window}]
```

```
{364, 364, 364, 353, 364, 364, 364, 364, 364, 364, 375, 375, 375, 364, 364,
 364, 364, 364, 364, 364, 364, 364, 364, 364, 364, 364, 353, 338,
 353, 338, 338, 338, 338, 338, 338, 311, 338, 311, 311, 311, 291, 278, 278,
 273, 278, 293, 293, 273, 273, 273, 273, 273, 273, 273, 273, 273, 311,
 311, 311, 311, 311, 293, 293, 293, 293, 306, 293, 293, 306, 306, 306, 311,
 306, 291, 291, 306, 306, 306, 306, 306, 311, 311, 311, 298, 306, 306, 311}
```

```
DateListPlot[Reverse[winning], {2008, 8, 9},
 Joined → True, PlotRange → {Automatic, {250, 380}}]
```




```
timeleft = DateDifference[DateList[][[1 ;; 3]], {2008, 11, 4}]
```

```
13
```

```
liquidityd = Table[Count[returnsd[[i, -window ;; -1]], n_ /; n != 0], {i, 51}]
```

```
{10, 30, 25, 25, 47, 57, 27, 1, 19, 64, 48, 61, 18, 26, 57, 49,
 37, 40, 50, 33, 29, 13, 54, 52, 38, 61, 49, 23, 65, 54, 43, 48, 28,
 51, 38, 60, 18, 46, 58, 12, 26, 33, 18, 37, 2, 25, 59, 31, 43, 53, 16}
```

```
liquidityr = Table[Count[returnsr[[i, -window ;; -1]], n_ /; n != 0], {i, 51}]
```

```
{14, 34, 19, 33, 46, 58, 34, 41, 15, 65, 38, 7, 9, 16, 52, 42,
 31, 19, 32, 42, 28, 21, 53, 61, 35, 61, 42, 19, 59, 52, 48, 45, 27,
 49, 33, 61, 19, 47, 59, 13, 23, 26, 21, 34, 4, 27, 59, 31, 35, 50, 5}
```

```
{Mean[liquidityd], Mean[liquidityr]} // N
```

```
{37.3922, 35.1765}
```

```
Needs["Histograms`"]
```

```
<< MultivariateStatistics`
```

```
cvard = Table[, {51}, {51}];
For[j = 1, j ≤ 51, j ++,
 For[i = 1, i ≤ 51, i ++, cvard[[j, i]] = Covariance[returnsd[[i]], returnsd[[j]] ]]]
```

```
cvarr = Table[, {51}, {51}];
For[j = 1, j ≤ 51, j ++,
 For[i = 1, i ≤ 51, i ++, cvarr[[j, i]] = Covariance[returnsr[[i]], returnsr[[j]] ]]]
```

```
closed = Table[closed[[i, -window ;; -1]], {i, 51}];
```

```
closer = Table[closer[[i, -window ;; -1]], {i, 51}];
```

```
nowd = closed[[All, -1]]; nowr = closer[[All, -1]];
endprices = Table[
    ds = Exp[Transpose[
        RandomReal[MultinormalDistribution[Table[0, {51}], cvard], timeleft]]];
    rs = Exp[Transpose[RandomReal[MultinormalDistribution[
          Table[0, {51}], cvarr], timeleft]]];
    endd = nowd * Times @@@ ds;
    endr = nowr * Times @@@ rs;
    endd / (endd + endr), {5000}
   ];

simsdet = Table[Table[t = endprices[[sim, i]];
     v = ev[[2 ;; -2, 2]][[i]];
     Which[t < .3, 0, .3 < t < .7, If[RandomReal[] < t, 0, v], t > .7, v], {i, 51}],
    {sim, Length[endprices]}];

sims = Map[Total, simsdet];

Count[sims, n_ /; n > 268] / Length[sims] // N
```

```
0.9998
```

```
{Mean[sims], StandardDeviation[sims]} // N
```

```
{337.426, 22.5451}
```

```
counts = Table[Count[sims, n_ /; n == i], {i, 538}];

counts[[269]] / 5000.
```

```
0
```

```
mode = Position[counts, Max[counts]][[1, 1]]
```

```
340
```

```
chanced = Table[closed[[i, -window ;; -1]] /
    (closed[[i, -window ;; -1]] + closer[[i, -window ;; -1]]), {i, 51}];
today = Total[Table[If[chanced[[i, -1]] > .5, ev[[2 ;; -2, 2]][[i]], 0], {i, 51}]]
```

```
364
```

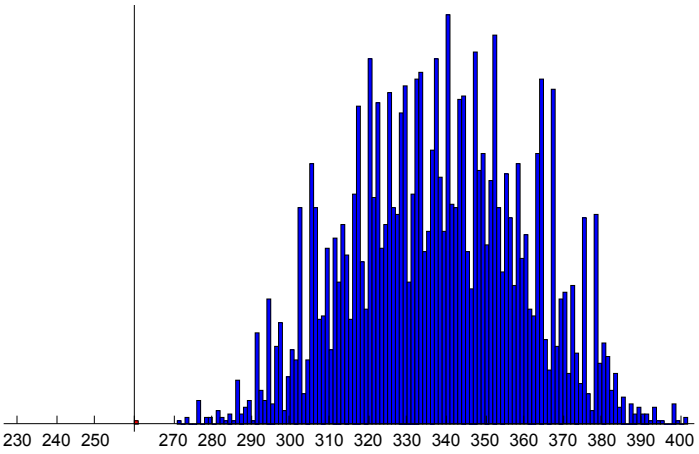
```
counts[[today]] == mode
 (*Everything breaking exactly like today is the mode of the distribution*)
```

```
False
```

```
hr = Histogram[Select[sims, # < 269 &], Ticks → {Table[10 x, {x, 21, 41}], None},
    HistogramCategories → Table[x, {x, 538}], BarStyle → Red];

hd = Histogram[Select[sims, # > 268 &], Ticks → {Table[10 x, {x, 21, 41}], None},
    HistogramCategories → Table[x, {x, 538}], BarStyle → Blue];
```

```
Show[hr, hd, PlotRange → {{230, 400}, {0, Max[counts]}}]
```




```
{Table[i, {i, 250, 310}],
   Table[Count[sims, n_ /; n == i], {i, 250, 310}]} // MatrixForm // N
```

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 250. | 251. | 252. | 253. | 254. | 255. | 256. | 257. | 258. | 259. | 260. | 261. | 262. | 263. | 264. | 265 |
| 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 1. | 0. | 0. | 0. | 0. | 0. |

```
Table[Count[sims, n_ /; n > i] / Length[sims], {i, 209, 399, 10}] // N
```

```
{1., 1., 1., 1., 1., 1., 0.9998, 0.997, 0.9892, 0.9574, 0.8796,
 0.779, 0.6196, 0.471, 0.3112, 0.181, 0.0802, 0.0238, 0.0046, 0.0004}
```

```
Table[Count[sims, n_ /; n - 10 < i < n] / Length[sims], {i, 209, 399, 10}] // N
```

```
{0., 0., 0., 0., 0., 0.0002, 0.0024, 0.0064, 0.029, 0.0674, 0.0938,
 0.1394, 0.1372, 0.1438, 0.1204, 0.0934, 0.0528, 0.0182, 0.004, 0.0004}
```

```
chanced = Table[closed[[i, -window ;; -1]] /
    (closed[[i, -window ;; -1]] + closer[[i, -window ;; -1]]), {i, 51}];
```

```
{Extract[chanced[[All, -1]], Position[chanced[[All, -1]], n_ /; .2 < n < .8]] // N,
  Extract[detailIDdr[[1]], Position[chanced[[All, -1]], n_ /; .2 < n < .8]],
  swingev = Extract[ev[[2 ;; -2, 2]],
    Position[chanced[[All, -1]], n_ /; .2 < n < .80]]} // MatrixForm
```

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0.654582 | 0.214145 | 0.352381 | 0.675944 | 0.242718 | 0.727723 | 0.576355 | 0.423077 | 0.611111 |
| FL | GA | IN | MO | MT | NV | NC | ND | OH |
| 27 | 15 | 11 | 11 | 3 | 5 | 15 | 3 | 20 |

```
Total[swingev]
swingevD =
 Total[Extract[ev[[2 ;; -2, 2]], Position[chanced[[All, -1]], n_ /; .5 < n < .8]]]
swingevD / Total[swingev] // N
```

```
128
```

```
91
```

```
0.710938
```

```
today - swingevD
```

```
273
```

```
detailIDdr[[1, {36, 39}]]
chanced[[{36, 39}, -1]] // N
ev[[2 ;; -2, 2]][[{36, 39}]]
```

```
{OH, PA}
```

```
{0.611111, 0.847716}
```

```
{20, 21}
```

```
Correlation[returnsc[[36]], returnsc[[39]]]
```

```
0.358944
```

```
ohpa = Table[Switch[Total[simsdet[[i, {36, 39}]]],
    0, "Neither", 20, "OH", 21, "PA", 41, "Both"], {i, 5000}];
```

```
Count[ohpa, "PA"] / 50.
100 chanced[[39, -1]] ( 1 - chanced[[36, -1]])
```

```
52.56
```

```
32.9667
```

```
Count[ohpa, "OH"] / 50.
100 chanced[[36, -1]] ( 1 - chanced[[39, -1]])
```

```
0.62
```

```
9.30626
```

```
Count[ohpa, "Both"] / 50.
100 chanced[[39, -1]] chanced[[36, -1]]
```

```
46.16
```

```
51.8049
```

```
Count[ohpa, "Neither"] / 50.
100 ( 1 - chanced[[39, -1]]) ( 1 - chanced[[36, -1]])
```

```
0.66
```

```
5.92217
```

```
(*Very little chance of winning Ohio but not Pennsylvania.  Probabilities
   very different from if OH & PA were independent*)
```

```
chanced = Table[closed[[i, -window ;; -1]] /
    (closed[[i, -window ;; -1]] + closer[[i, -window ;; -1]]), {i, 51}];
```

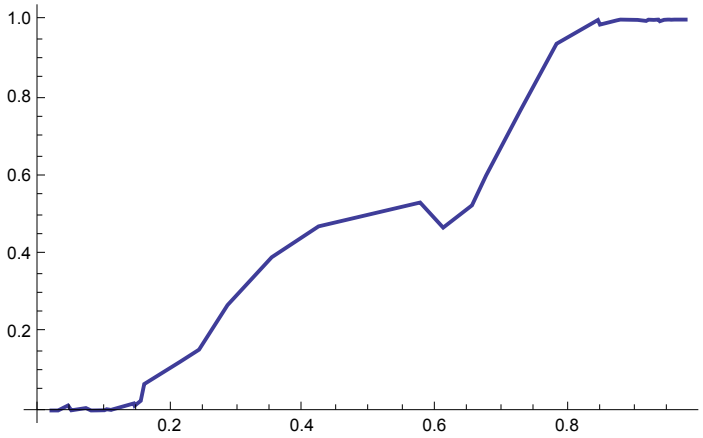
```
sbys = {Table[Count[simsdet[[All, i]], n_ /; n > 0] / Length[simsdet], {i, 51}] // N,
   detailIDdr[[1]], chanced[[All, -1]] // N} // MatrixForm
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0. | 0.0062 | 0.0002 | 0.0122 | 1. | 0.999 | 0.9958 | 1. | 0.9996 | 0.5248 | 0.1246 |
| AL | AK | AZ | AR | CA | CO | CT | DC | DE | FL | GA |
| 0.03 | 0.072 | 0.0882353 | 0.145473 | 0.96 | 0.84465 | 0.938 | 0.97 | 0.955 | 0.654582 | 0.21414 |

```
Table[Extract[sbys[[1, i]], Position[sbys[[1, 1]], n_ /; .02 < n < .98]], {i, 3}] //
 MatrixForm
```

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0.5248 | 0.1246 | 0.392 | 0.0248 | 0.6014 | 0.1556 | 0.7678 | 0.532 | 0.471 |
| FL | GA | IN | LA | MO | MT | NV | NC | ND |
| 0.654582 | 0.214145 | 0.352381 | 0.154786 | 0.675944 | 0.242718 | 0.727723 | 0.576355 | 0.423077 |

```
ListPlot[Sort[Transpose[{sbys[[1, 3]], sbys[[1, 1]]}]],
 Joined → True, PlotStyle → Thick]
```




```
(*180 to 380*)
RepECID = {648 314, 648 313, 648 312, 613 052, 613 053,
    613 054, 613 055, 613 056, 613 057, 613 058, 613 059, 613 060, 613 061,
    613 062, 613 777, 613 778, 613 779, 613 780, 613 781, 613 782, 613 783};
(*210 to 400*)
DemECID = {613 041, 613 042, 613 043, 613 044, 613 045,
    613 046, 613 047, 613 048, 613 049, 613 050, 613 051, 613 770, 613 771,
    613 772, 613 773, 613 774, 613 775, 613 776, 649 913, 649 914};

datadEC = Table[Drop[Import[
      "http://data.intrade.com/graphing/jsp/downloadClosingPrice.jsp?contractId="
       <> ToString[DemECID[[i]] ] ]], {i, Length[DemECID]}];

datarEC = Table[Drop[Import[
      "http://data.intrade.com/graphing/jsp/downloadClosingPrice.jsp?contractId="
       <> ToString[RepECID[[i]] ] ]], {i, Length[RepECID]}];

datadEC[[All, -1, 5]]
```

```
{95.4, 94.5, 94, 93.3, 90, 86.2, 86, 85, 82.5,
 78.9, 72.3, 66.5, 63, 60, 43, 39.9, 35.2, 27.8, 17.2, 10}
```

```
simdEC = Table[Count[sims, n_ /; n > i] / Length[sims], {i, 209, 399, 10}] * 100.
```

```
{100., 100., 100., 100., 100., 100., 99.98, 99.7, 98.92,
 95.74, 87.96, 77.9, 61.96, 47.1, 31.12, 18.1, 8.02, 2.38, 0.46, 0.04}
```

```
simrEC = Table[Count[538 - sims, n_ /; n > i] / Length[sims], {i, 179, 379, 10}] * 100.
```

```
{80.92, 67.28, 51.76, 36.04, 21.42, 11.,
 3.98, 0.94, 0.26, 0.02, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0}
```

```
datarEC[[All, -1, 5]]
```

```
{55, 39, 44.8, 37.5, 34, 28.7, 20, 17, 20,
 17.4, 15.7, 11.5, 8, 10.1, 5, 5, 4.5, 4, 3.5, 2.5, 2}
```

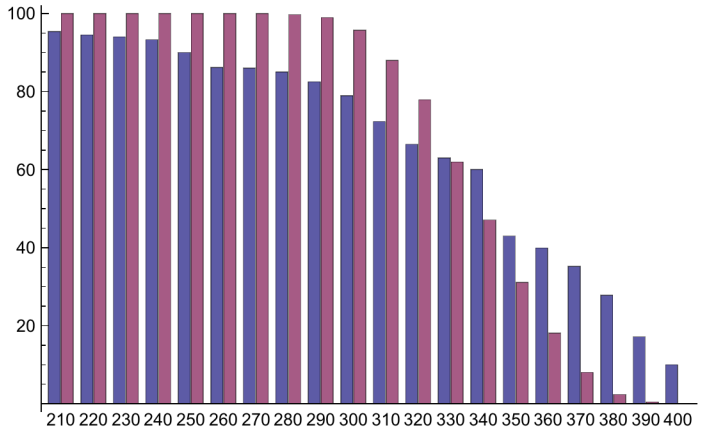
```
{Table[i, {i, 210, 400, 10}], datadEC[[All, -1, 5]], simdEC} // MatrixForm
```

| 210 | 220 | 230 | 240 | 250 | 260 | 270 | 280 | 290 | 300 | 310 | 320 | 330 | 340 | 35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 95.4 | 94.5 | 94 | 93.3 | 90 | 86.2 | 86 | 85 | 82.5 | 78.9 | 72.3 | 66.5 | 63 | 60 | 4 |
| 100. | 100. | 100. | 100. | 100. | 100. | 99.98 | 99.7 | 98.92 | 95.74 | 87.96 | 77.9 | 61.96 | 47.1 | 31. |

```
{Table[i, {i, 180, 380, 10}], datarEC[[All, -1, 5]], simrEC} // MatrixForm
```

| 180 | 190 | 200 | 210 | 220 | 230 | 240 | 250 | 260 | 270 | 280 | 290 | 300 | 310 | 320 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 55 | 39 | 44.8 | 37.5 | 34 | 28.7 | 20 | 17 | 20 | 17.4 | 15.7 | 11.5 | 8 | 10.1 | 5 |
| 80.92 | 67.28 | 51.76 | 36.04 | 21.42 | 11. | 3.98 | 0.94 | 0.26 | 0.02 | 0 | 0 | 0 | 0 | 0 |

```
BarChart[datadEC[[All, -1, 5]], simdEC, BarLabels → Table[i, {i, 210, 400, 10}]]
```




```
BarChart[datarEC[[All, -1, 5]], simrEC, BarLabels → Table[i, {i, 180, 380, 10}]]
```