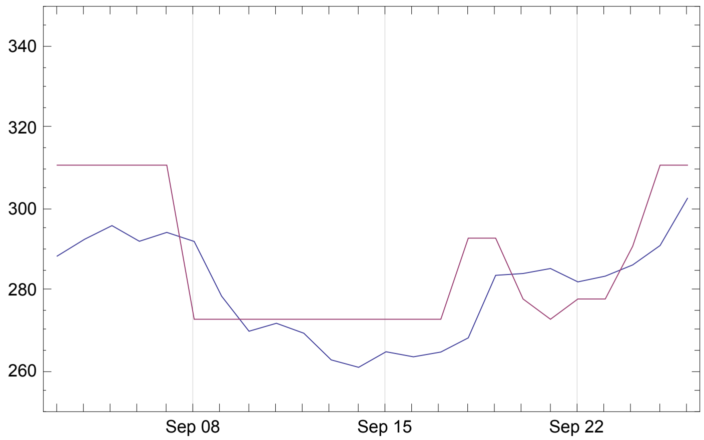
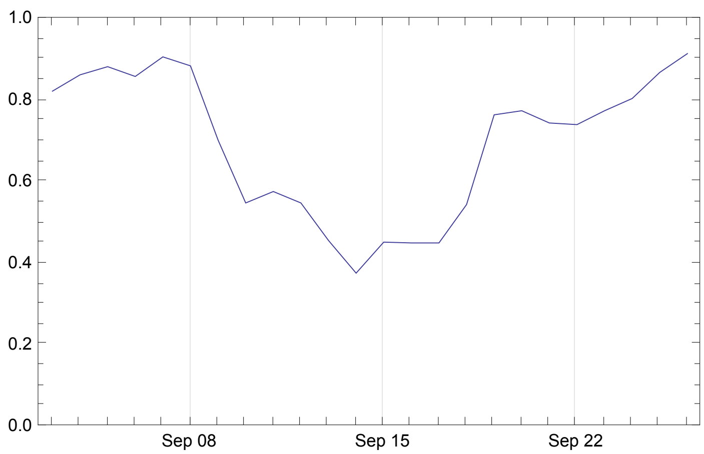
```
<< MultivariateStatistics`

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},
    {416 468, 416 471, 416 484, 416 491, 416 498, 416 505, 416 508, 416 623,
     416 511, 417 861, 416 514, 416 520, 416 523, 416 532, 416 542, 416 545, 416 554,
     416 557, 416 560, 416 569, 416 584, 416 593, 416 599, 416 602, 416 612, 416 619,
     416 487, 416 490, 416 496, 416 502, 416 516, 416 526, 416 529, 416 534, 416 539,
     416 548, 416 551, 416 590, 416 595, 416 605, 416 608, 416 611, 416 617,
     416 632, 416 636, 416 639, 416 642, 416 645, 416 648, 416 653, 416 654},
    {416 469, 416 472, 416 485, 416 493, 416 500, 416 506, 416 509, 416 624, 416 512,
     417 866, 416 515, 416 521, 416 524, 416 537, 416 543, 416 546, 416 555, 416 558,
     416 561, 416 570, 416 585, 416 594, 416 600, 416 603, 416 614, 416 621, 416 488,
     416 492, 416 497, 416 503, 416 518, 416 527, 416 530, 416 535, 416 540,
     416 549, 416 552, 416 591, 416 597, 416 606, 416 609, 416 613, 416 618,
     416 634, 416 637, 416 640, 416 643, 416 646, 416 649, 416 651, 416 655}};

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

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

{91.2, 91.2, 91.2, 91.2, 0}

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

{38.5, 36.2, 40, 39.9, 35}

history = Table[, {2}, {30}];

closed = datad[[All, All, 5]];
closer = datar[[All, All, 5]];
window = 90;
window1 = window + 1;
```

```
For[h = 1, h ≤ 24, h++,
 daysago = h;

returnsd = Table[Log[closed[[i, j - 1]] / closed[[i, j]]],
   {i, 51}, {j, -window - daysago, -1 - daysago}];
returnsr = Table[Log[closer[[a, b - 1]] / closer[[a, b]]],
   {a, 51}, {b, -window - daysago, -1 - daysago}];
cvard = Table[, {51}, {51}]; cvarr = Table[, {51}, {51}];
 For[d = 1, d ≤ 51, d++,
  For[c = 1, c ≤ 51, c++, cvard[[d, c]] = Covariance[returnsd[[c]], returnsd[[d]] ];
   cvarr[[d, c]] = Covariance[returnsr[[c]], returnsr[[d]] ]
  ]];
timeleft = DateDifference[DateList[][[1 ;; 3]], {2008, 11, 4}] + daysago;
closed2 = Table[closed[[e, -window - daysago ;; -1 - daysago]], {e, 51}];
closer2 = Table[closer[[f, -window - daysago ;; -1 - daysago]], {f, 51}];
simsdet = Table[
   ds = Exp[Transpose[
       RandomReal[MultinormalDistribution[Table[0, {51}], cvard], timeleft]]];
   rs = Exp[Transpose[RandomReal[MultinormalDistribution[
         Table[0, {51}], cvarr], timeleft]]];
   endd = closed2[[All, -1]];
   endr = closer2[[All, -1]];
   For[g = 1, g ≤ 51, g++, Do[endd[[g]] = endd[[g]] ds[[g, z]];
     endr[[g]] = endr[[g]] rs[[g, z]], {z, timeleft}]];
   chanced = endd / (endd + endr);
   Table[If[chanced[[y]] > .5, ev[[2 ;; -2, 2]][[y]], 0], {y, 51}], {500}
  ];
sims = Map[Total, simsdet];
 history[[1, h]] = Count[sims, n_ /; n > 268] / Length[sims] // N;
 history[[2, h]] = Mean[sims] // N;
 Print[h]
]

history

{{0.914, 0.868, 0.804, 0.774, 0.74, 0.744, 0.774, 0.764, 0.544,
  0.45, 0.45, 0.452, 0.376, 0.456, 0.548, 0.576, 0.548, 0.702, 0.884,
  0.906, 0.858, 0.882, 0.862, 0.822, Null, Null, Null, Null, Null, Null},
 {302.822, 291.182, 286.398, 283.634, 282.214, 285.512, 284.28,
  283.832, 268.406, 264.916, 263.736, 264.984, 261.148, 262.976,
  269.556, 272.008, 270.046, 278.7, 292.188, 294.422, 292.228,
  296.092, 292.724, 288.576, Null, Null, Null, Null, Null, Null}}
```

```
DateListPlot[{Reverse[Take[history[[2]], 24]], Reverse[Take[winning, 24]]},
 {2008, 9, 3}, Joined → True, PlotRange → {Automatic, {250, 350}}]
```




```
DateListPlot[Reverse[Take[history[[1]], 24]],
 {2008, 9, 3}, Joined → True, PlotRange → {Automatic, {0, 1}}]
```




```
(*For some reason, covariance matrix is problematic 25 days ago & more*)

hist2 = Table[, {2}, {60}]; hist2[[All, 1 ;; 30]] = history;
```

```
For[h = 25, h ≤ Length[hist2[[1]]], h++,
 daysago = h;

returnsd = Table[Log[closed[[i, j - 1]] / closed[[i, j]]],
   {i, 51}, {j, -window - daysago, -1 - daysago}];
returnsr = Table[Log[closer[[a, b - 1]] / closer[[a, b]]],
   {a, 51}, {b, -window - daysago, -1 - daysago}];
cvard = Table[, {51}, {51}]; cvarr = Table[, {51}, {51}];
 For[d = 1, d ≤ 51, d++,
  For[c = 1, c ≤ 51, c++, cvard[[d, c]] = Covariance[returnsd[[c]], returnsd[[d]] ];
   cvarr[[d, c]] = Covariance[returnsr[[c]], returnsr[[d]] ]
  ]];
timeleft = DateDifference[DateList[][[1 ;; 3]], {2008, 11, 4}] + daysago;
closed2 = Table[closed[[e, -window - daysago ;; -1 - daysago]], {e, 51}];
closer2 = Table[closer[[f, -window - daysago ;; -1 - daysago]], {f, 51}];
simsdet = Table[
   ds = Exp[Transpose[RandomReal[
        MultinormalDistribution[Table[0, {51}], cvard + .000001], timeleft]]];
   rs = Exp[Transpose[RandomReal[MultinormalDistribution[
         Table[0, {51}], cvarr + .000001], timeleft]]];
   endd = closed2[[All, -1]];
   endr = closer2[[All, -1]];
   For[g = 1, g ≤ 51, g++, Do[endd[[g]] = endd[[g]] ds[[g, z]];
     endr[[g]] = endr[[g]] rs[[g, z]], {z, timeleft}]];
   chanced = endd / (endd + endr);
   Table[If[chanced[[y]] > .5, ev[[2 ;; -2, 2]][[y]], 0], {y, 51}], {500}
  ];
sims = Map[Total, simsdet];
 hist2[[1, h]] = Count[sims, n_ /; n > 268] / Length[sims] // N;
 hist2[[2, h]] = Mean[sims] // N;
 Print[h]
]
```

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

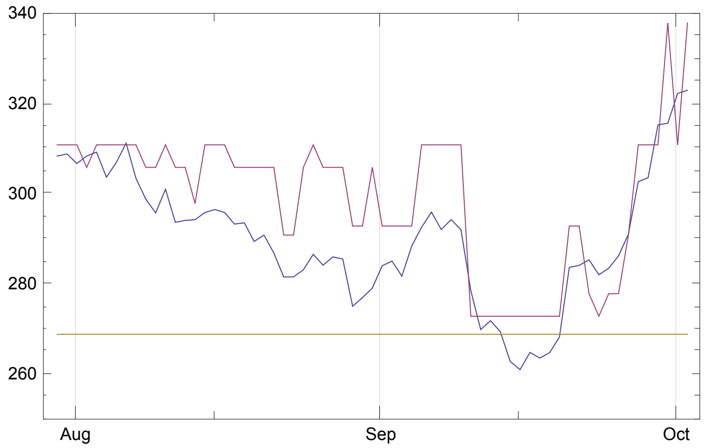
```
Oct 1, 2008
```

```
hist2[[1]] = Prepend[hist2[[1]], .985]
hist2[[2]] = Prepend[hist2[[2]], 323.1]
```

```
{0.985, 0.988, 0.968, 0.974, 0.938, 0.914, 0.868, 0.804, 0.774, 0.74,
 0.744, 0.774, 0.764, 0.544, 0.45, 0.45, 0.452, 0.376, 0.456, 0.548, 0.576,
 0.548, 0.702, 0.884, 0.906, 0.858, 0.882, 0.862, 0.822, 0.784, 0.794, 0.81,
 0.736, 0.688, 0.676, 0.814, 0.822, 0.788, 0.816, 0.792, 0.742, 0.76, 0.82,
 0.854, 0.836, 0.868, 0.87, 0.888, 0.896, 0.902, 0.866, 0.858, 0.866, 0.904,
 0.88, 0.89, 0.91, 0.924, 0.932, 0.878, 0.94, 0.916, 0.912, 0.912, 0.92}
```

```
{323.1, 322.4, 315.8, 315.4, 303.72, 302.822, 291.182, 286.398, 283.634, 282.214,
 285.512, 284.28, 283.832, 268.406, 264.916, 263.736, 264.984, 261.148, 262.976,
 269.556, 272.008, 270.046, 278.7, 292.188, 294.422, 292.228, 296.092, 292.724,
 288.576, 281.896, 285.224, 284.198, 279.236, 277.14, 275.216, 285.68, 286.162,
 284.318, 286.728, 283.296, 281.724, 281.71, 287.018, 290.998, 289.57, 293.712,
 293.438, 296.008, 296.652, 295.996, 294.398, 294.248, 293.816, 301.154, 295.912,
 298.954, 303.58, 311.372, 307.07, 303.828, 309.386, 308.52, 306.87, 308.974, 308.52}
```

```
DateListPlot[{Reverse[hist2[[2]]], Reverse[Take[winning, 65]], Table[269, {65}]},
 {2008, 7, 30}, Joined → True, PlotRange → {Automatic, {250, 340}}]
```




```
natr = Import[
   "http://data.intrade.com/graphing/jsp/downloadClosingPrice.jsp?contractId=
     376101"];
natd =
  Import[
   "http://data.intrade.com/graphing/jsp/downloadClosingPrice.jsp?contractId=
     409933"];

chancend = Take[natd[[All, 5]], -300] /
   (Take[natd[[All, 5]], -300] + Take[natr[[All, 5]], -300]);

DateListPlot[{Table[.5, {65}], chancend[[-65 ;; -1]], Reverse[hist2[[1]]]},
 {2008, 7, 30}, Joined → True, PlotRange → {Automatic, {.3, 1}}]
```