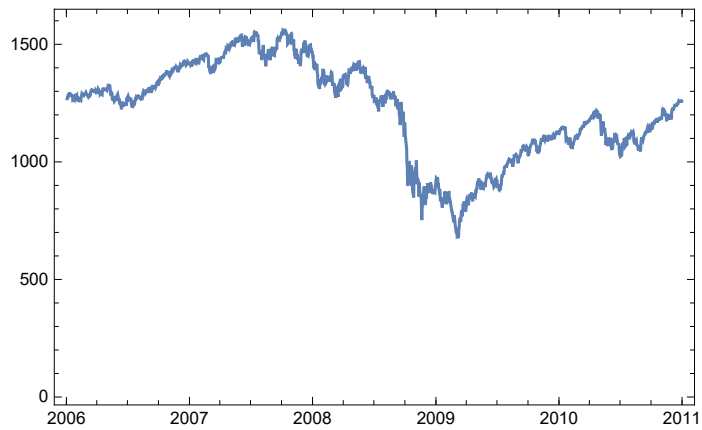


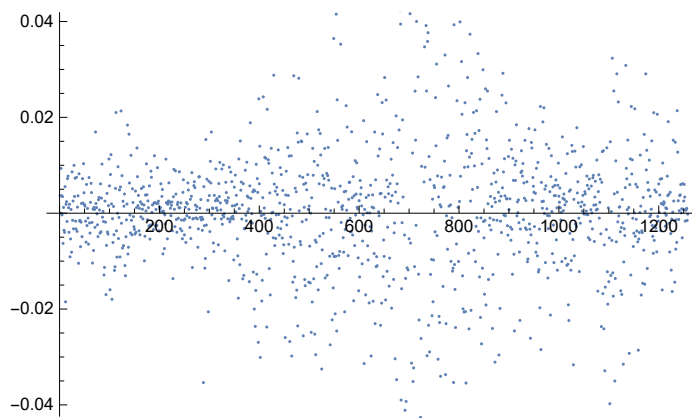
(*1*)

```
DateListPlot[FinancialData["SP500", {{2006}, {2010}}]]
```

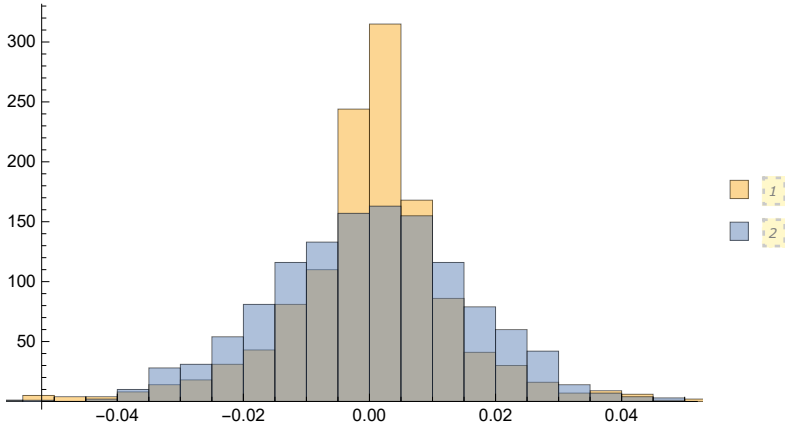


(*2*)

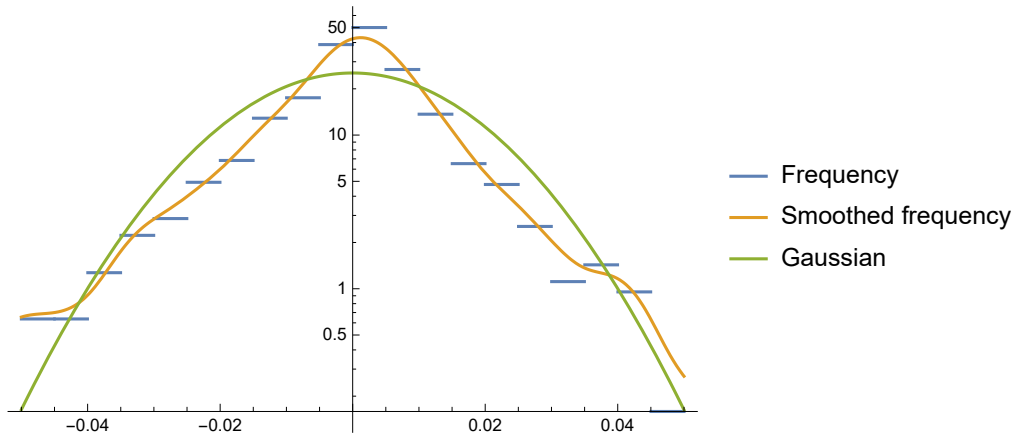
```
returns = Differences[Log[FinancialData["SP500", {{2006}, {2010}}], "Value"]];  
ListPlot[returns, PlotLegends -> Automatic]
```



```
(*3*)
n = Length[returns];
μ = Mean@returns
σ = StandardDeviation@returns
fitDist = NormalDistribution[μ, σ];
fitReturns = RandomVariate[fitDist, n];
Histogram[{returns, fitReturns}, ChartLegends → Automatic]
-7.02275 × 10-6
0.0157392
```

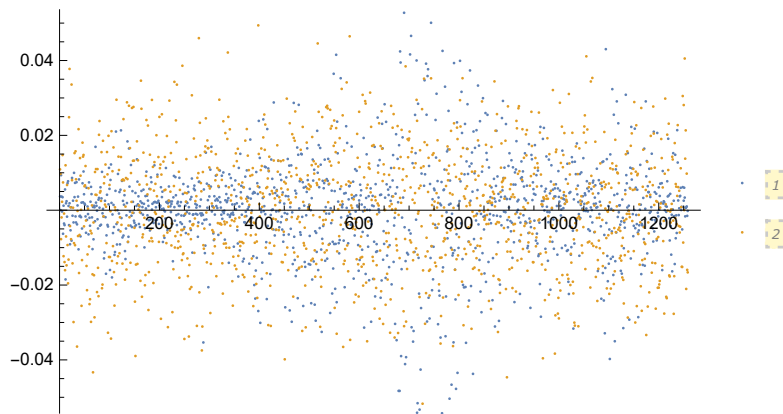


```
dist = HistogramDistribution[returns];
smoothDist = SmoothKernelDistribution[returns, "Scott"];
LogPlot[{PDF[dist, x], PDF[smoothDist, x], PDF[fitDist, x]},
{x, -0.05, 0.05}, PlotLegends → {"Frequency", "Smoothed frequency", "Gaussian"}]
```



(*4*)

```
ListPlot[{returns, fitReturns}, PlotLegends → Automatic]
```



(*5*)

```
ListPlot[Accumulate[fitReturns]]
```

