Viz2

February 14, 2016

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```
In [1]: %matplotlib inline
        import matplotlib.pyplot as plt
        import pandas as pd
        import numpy as np
        from pylab import *
```

All CSV data are from: http://finance.yahoo.com/market-overview/
The data start on January 29, 2010 and end February 12, 2016.

```
In [2]: with open('./Code/readdata.py') as file:
            code = compile(file.read(), './Code/readdata.py', 'exec')
            exec(code)
```

On January 29, 2010, an investor buys $5,000 worth of stocks for each of the following companies: Apple, Bank of America, GE, Exxon, and Walmart.
On February 13, 2016, the investor decided to summarize his investments.
The variables that will be computed are: APY, Near Future Volatility (10 Day Estimate), and Profit.
The investor has chosen the S&P 500 prices to be representative of the Market Data.

```
In [8]: with open('./Code/sp500.py') as file:
            code = compile(file.read(), './Code/sp500.py', 'exec')
            exec(code)

        with open('./Code/apple.py') as file:
            code = compile(file.read(), './Code/apple.py', 'exec')
            exec(code)

        with open('./Code/boa.py') as file:
            code = compile(file.read(), './Code/boa.py', 'exec')
            exec(code)

        with open('./Code/ge.py') as file:
            code = compile(file.read(), './Code/ge.py', 'exec')
            exec(code)

        with open('./Code/exxon.py') as file:
            code = compile(file.read(), './Code/exxon.py', 'exec')
            exec(code)

        with open('./Code/walmart.py') as file:
            code = compile(file.read(), './Code/walmart.py', 'exec')
            exec(code)
```
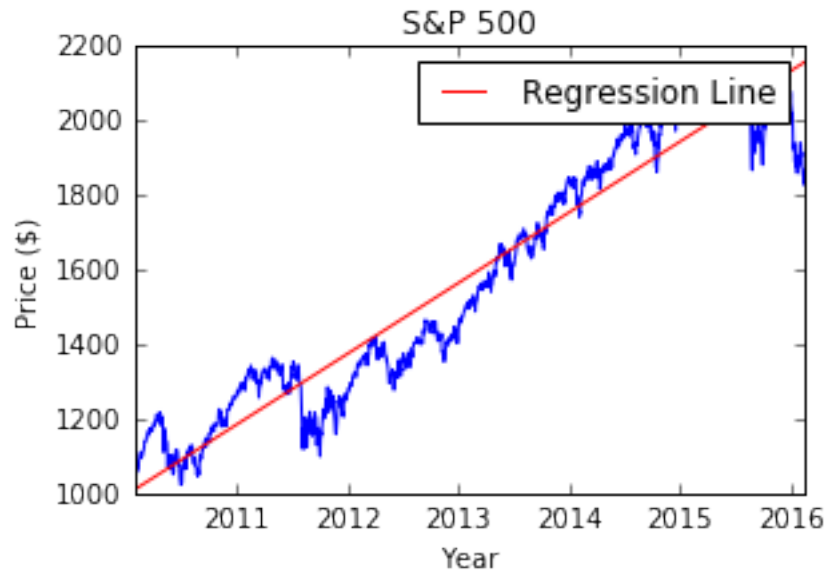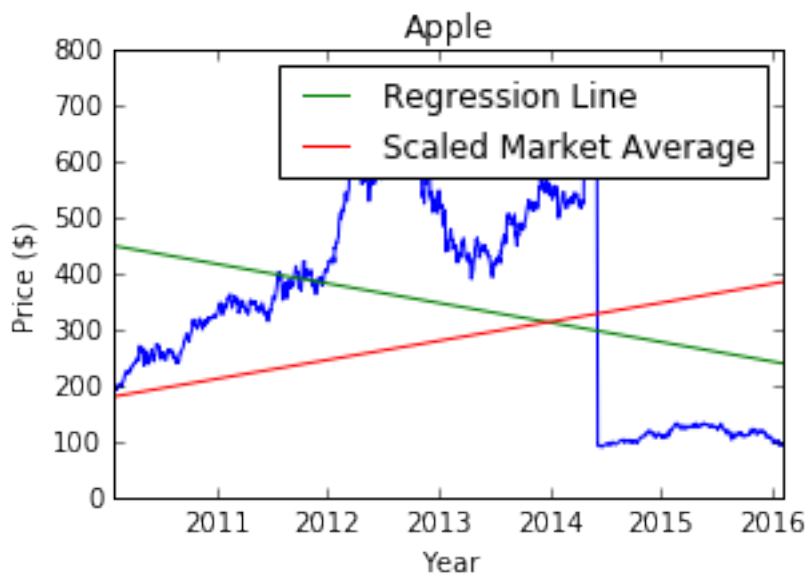
S&P 500

Market APY: 9.6 %
Average Market APY: 13.4 %
Projected Market Volatility (Next 10 Days): 230.3 %
Nominal Market Profit: $ 3682.52
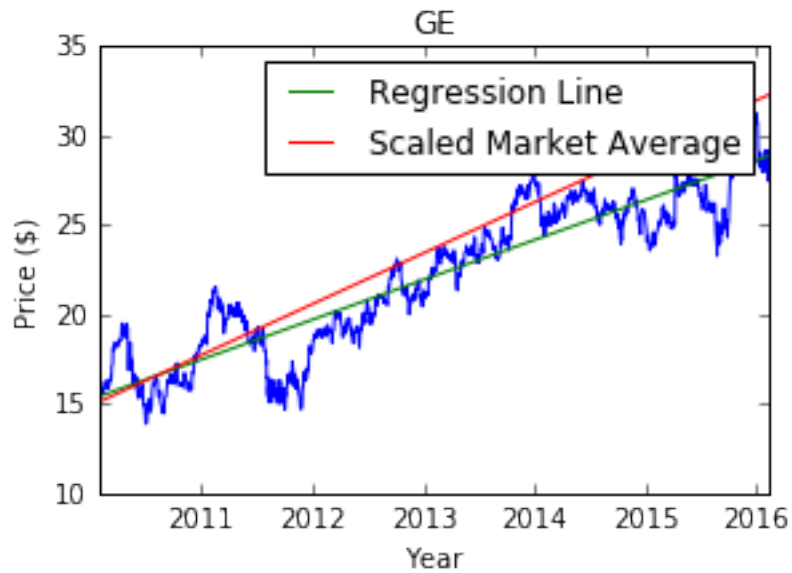Real Market Profit: $ 3332.60

Apple

Absolute APY: -11.2 %
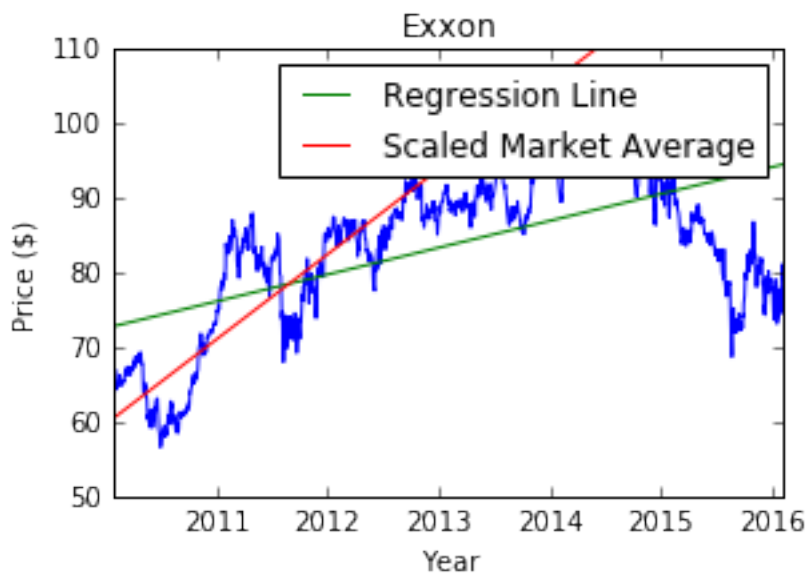Absolute Average APY: -9.9 %
Relative APY: -20.7 %

Relative Average APY: -23.3 %
Projected Volatility (Next 10 Days): 35.8 %
Percentage of Market Volatility: 15.5 %
Nominal Market Profit: $ -2546.27
Real Market Profit: $ -2304.32
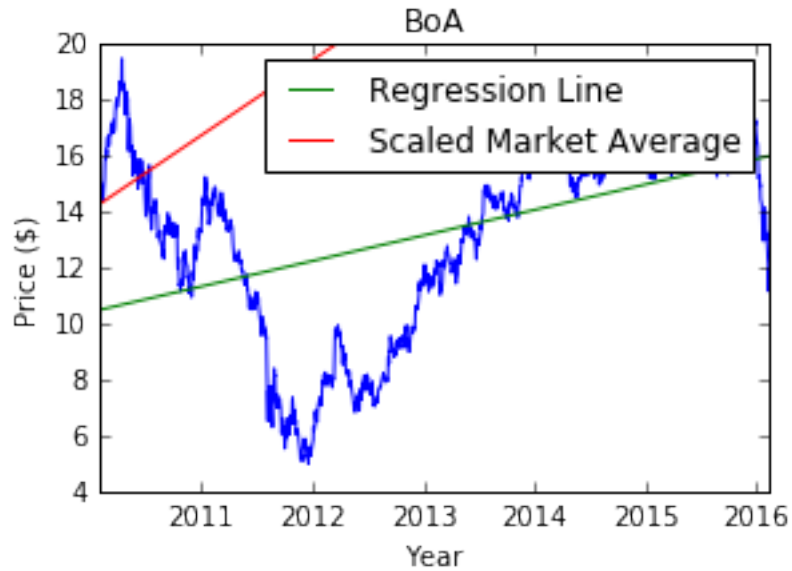
Absolute APY: -3.9 %
Absolute Average APY: 7.2 %
Relative APY: -13.4 %
Relative Average APY: -6.2 %
Projected Volatility (Next 10 Days): 6.5 %
Percentage of Market Volatility: 2.8 %
Nominal Market Profit: $ -1063.42
Real Market Profit: $ -962.37

GE

```
Absolute APY: 9.8 %
Absolute Average APY: 10.9 %
Relative APY:  0.2 %
Relative Average APY: -2.5 %
Projected Volatility (Next 10 Days): 6.7 %
Percentage of Market Volatility: 2.9 %
Nominal Market Profit: $ 3791.74
Real Market Profit: $ 3431.44
```


Exxon

```
Absolute APY: 3.9 %
Absolute Average APY: 4.4 %
Relative APY:  -5.7 %
Relative Average APY: -9.0 %
Projected Volatility (Next 10 Days): 13.9 %
Percentage of Market Volatility: 6.0 %
Nominal Market Profit: $ 1302.76
Real Market Profit: $ 1178.97
```


Walmart

```
Absolute APY: 3.6 %
Absolute Average APY: 7.2 %
Relative APY:  -9.5 %
Relative Average APY: -6.2 %
Projected Volatility (Next 10 Days): 5.8 %
Percentage of Market Volatility: 2.5 %
Nominal Market Profit: $ 1203.17
Real Market Profit: $ 1088.85
```

Interesting Facts:

Apple was beating the market for almost 5 years before it plummeted and became the worst investment of the 5.

All companies did, on average, worse than the market.

GE was the only company to (slightly) beat the market.

Ranking:

```
1. GE
2. Exxon
3. Walmart
4. Bank of America
5. Apple
```