Stock_Upside_Risk_Chart

September 29, 2021

1 Stock Upside Risk Chart

[1]:
```
# Library
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt

import warnings
warnings.filterwarnings("ignore")

from pandas_datareader import data as pdr
import yfinance as yf
yf.pdr_override()
```

[2]:
```
start = '2019-01-01' #input
end = '2020-07-01' #input
symbol = 'AMD' #input
```

[3]:
```
stocks = yf.download(symbol, start=start, end=end)['Adj Close']
```

```
[**********100%**********]  1 of 1 completed
```

[4]:
```
stocks_returns = stocks.pct_change().dropna()
```

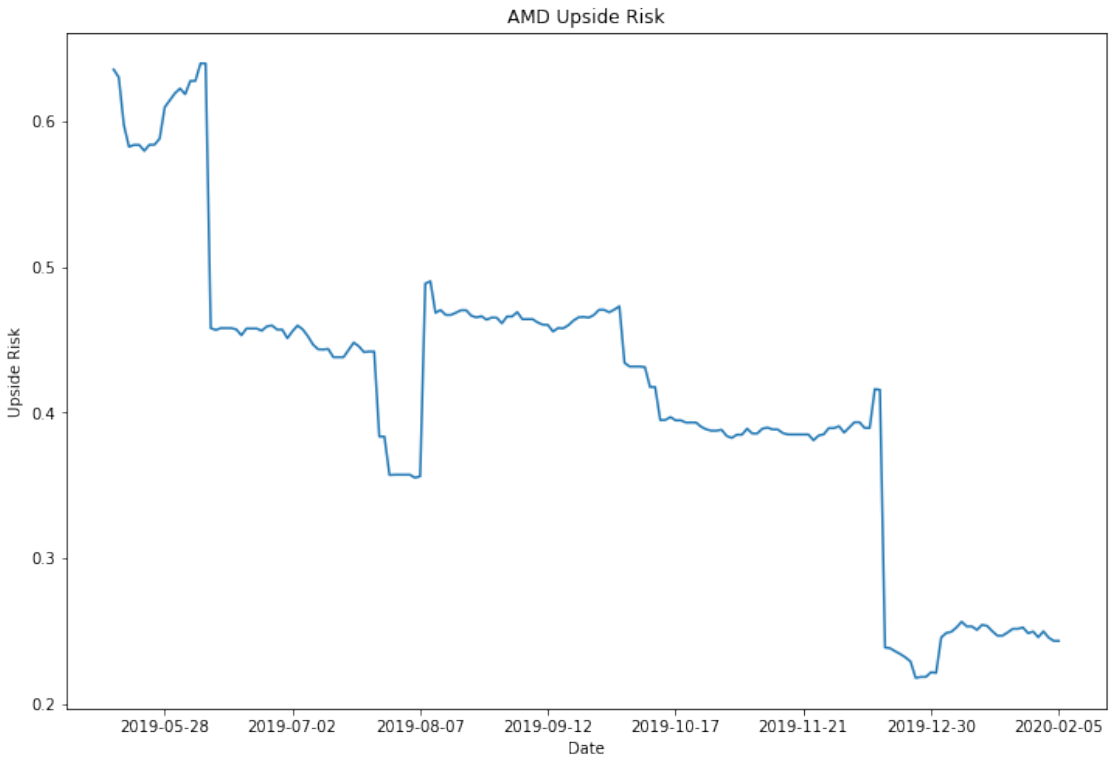
[5]:
```
def upside_risk(stock_returns):
    ur = stock_returns[stock_returns > stock_returns.mean()].std(skipna = True)␣
 ↪* np.sqrt(252)
    return ur
```

[6]:
```
# Compute the running Upside Risk
running = [upside_risk(stocks_returns[i-90:i]) for i in range(90,␣
 ↪len(stocks_returns))]

# Plot running Upside Risk up to 100 days before the end of the data set
_, ax1 = plt.subplots(figsize=(12,8))
ax1.plot(range(90, len(stocks_returns)-100), running[:-100])
ticks = ax1.get_xticks()
```

```
ax1.set_xticklabels([stocks.index[int(i)].date() for i in ticks[:-1]]) # Label␣
↪x-axis with dates
plt.title(symbol + ' Upside Risk')
plt.xlabel('Date')
plt.ylabel('Upside Risk')
```

[6]:
```
Text(0, 0.5, 'Upside Risk')
```



[7]:
```
stock_ur = upside_risk(stocks_returns)
stock_ur
```

[7]:
```
0.4713703918934197
```

[8]:
```
running = [upside_risk(stocks_returns[i-90:i]) for i in range(90,␣
↪len(stocks_returns))]
running
```

[8]:
```
[0.6355152817553196,
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