

# Stock\_Kurtosis\_Chart

September 29, 2021

## 1 Stock Kurtosis Chart

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

import warnings
warnings.filterwarnings("ignore")

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

[2]: start = '2016-01-01' #input
end = '2020-07-01' #input
symbol = 'AMD'

[3]: df = yf.download("AMD", start, end)

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

[4]: returns = df['Adj Close'].pct_change()[1:].dropna()

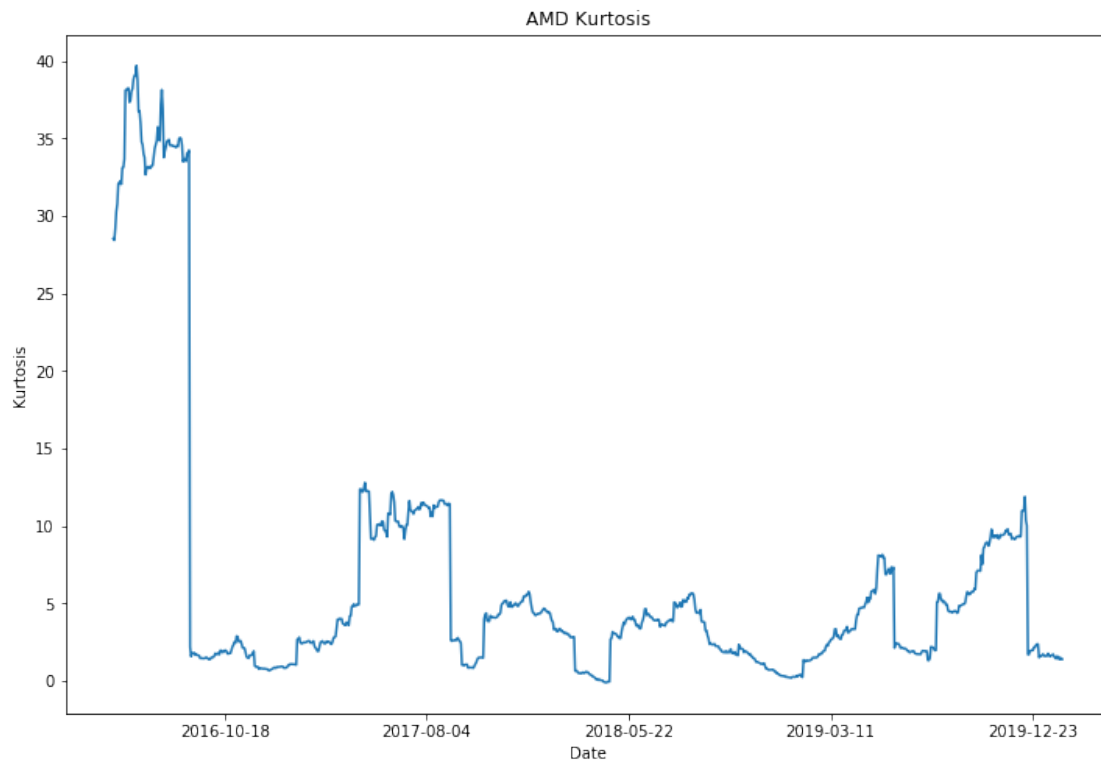
[5]: def kurtosis(returns):
    stock_kurtosis = returns.kurtosis()
    return stock_kurtosis

[6]: # Compute the running kurtosis
running = [kurtosis(returns[i-90:i]) for i in range(90, len(returns))]

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

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

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



```
[7]: kt = kurtosis(returns)
kt
```

```
[7]: 23.49501986703233
```

```
[8]: running = [kurtosis(returns[i-90:i]) for i in range(90, len(returns))]
running
```

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