Stock_Skewness_Chart

September 29, 2021

1 Stock Skewness Chart

```python
[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()
```

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

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

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

```python
[4]: returns = df['Adj Close'].pct_change()[1:].dropna()
```
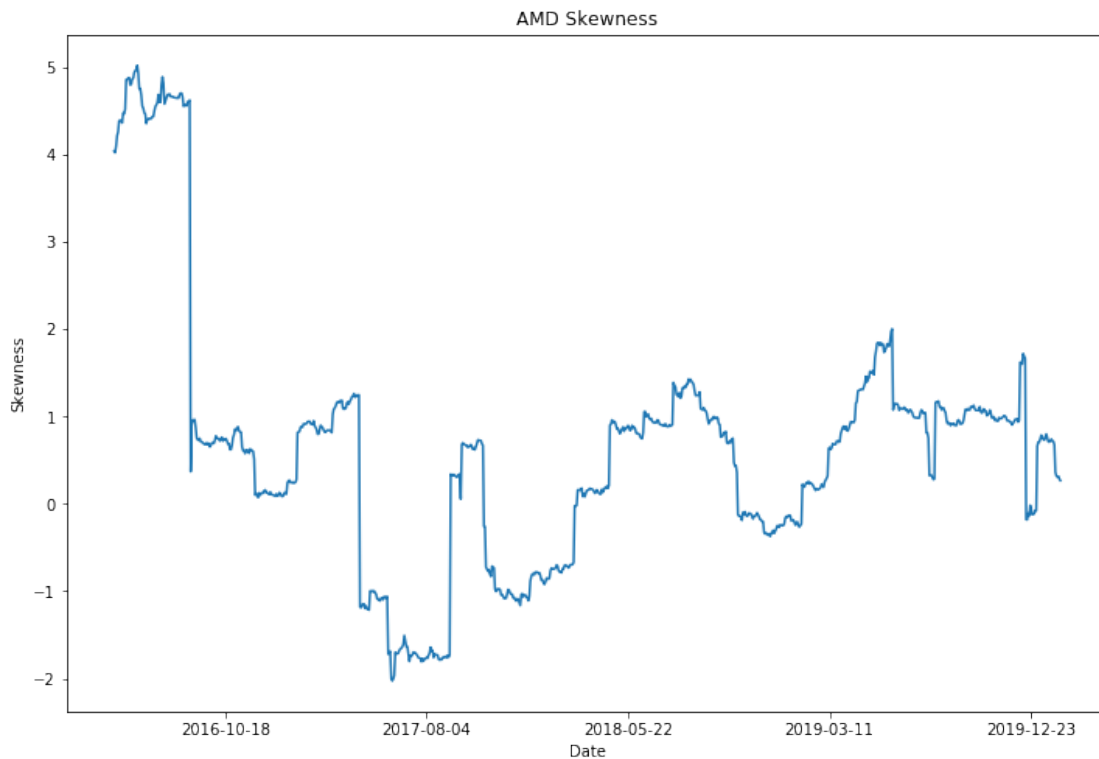
```python
[5]: def skewness(returns):
         stock_skewness = scs.skew(returns)
         return stock_skewness
```

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

     # Plot running skewness 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()
```

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

[6]: Text(0, 0.5, 'Skewness')

[7]:
```python
sk = skewness(returns)
sk
```

[7]: 1.7694206134300705

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

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