

# Stock\_Downside\_Risk\_Chart

September 29, 2021

## 1 Stock Downside Risk Chart

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[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 downside_risk(stock_returns):
    dr = stock_returns[stock_returns < stock_returns.mean()].std(skipna = True)
    ↪ * np.sqrt(252)
    return dr

[6]: # Compute the running Downside Risk
running = [downside_risk(stocks_returns[i-90:i]) for i in range(90,
    ↪ len(stocks_returns))]

# Plot running Downside 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()
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