

dkng_ts

- Unit of observation is “day”
- This is a dataset of stock prices and volume of the DKNNG (DraftKings) stock from April 2020 to January 2025.

Column	Description	Example Data	Number of Observations
Index	Index of the data, where 1 is the first day of stock prices extracted	4	1199(0)
Date	Time series element of the stock price in year-month-day format	2020-04-02	1199
DKNNG.Open	Opening stock price of DraftKings, or the first price that the DKNNG stock is traded at on a given day. Unit of measurement is the US dollar.	11.75	1199(2)
DKNNG.High	The highest stock price of DKNNG on a given day. Unit of measurement is the US dollar.	12.72	1199(2)
DKNNG.Low	The lowest stock price DKNNG traded at on a given day. Unit of measurement is the US dollar.	11.45	1199(2)
DKNNG.Close	Closing stock price of DraftKings, or the last price that the DKNNG stock is traded at before the market closes. Unit of measurement is the US dollar.	12.25	1199(2)
DKNNG.Volume	Total number of DKNNG shares traded during that day. Unit of measurement is the number of shares.	1462000	1199(2)
DKNNG.Adjusted	Closing stock price of DraftKings, adjusted for any corporate actions such as stock splits and dividends, leading to more accurate data for historical analysis [3]. Unit of measurement is the US dollar.	12.25	1199(2)

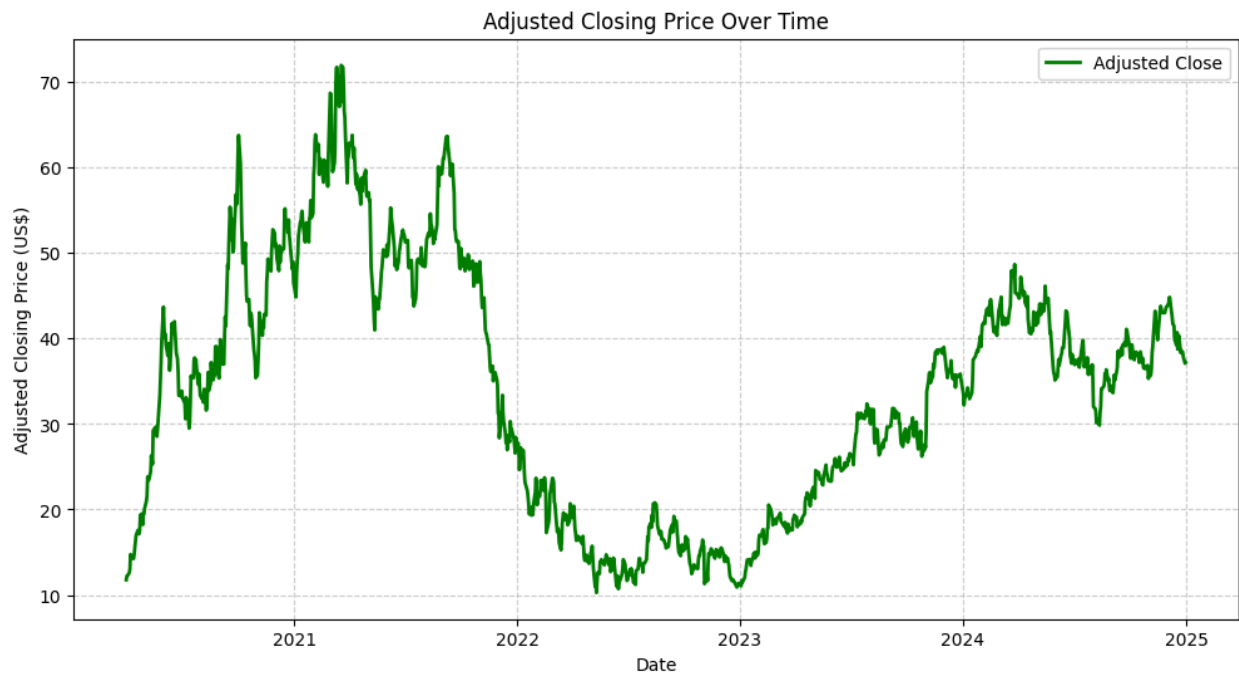
Descriptive Statistics:

- 1197 rows and 8 columns

Exploratory Data Analysis:

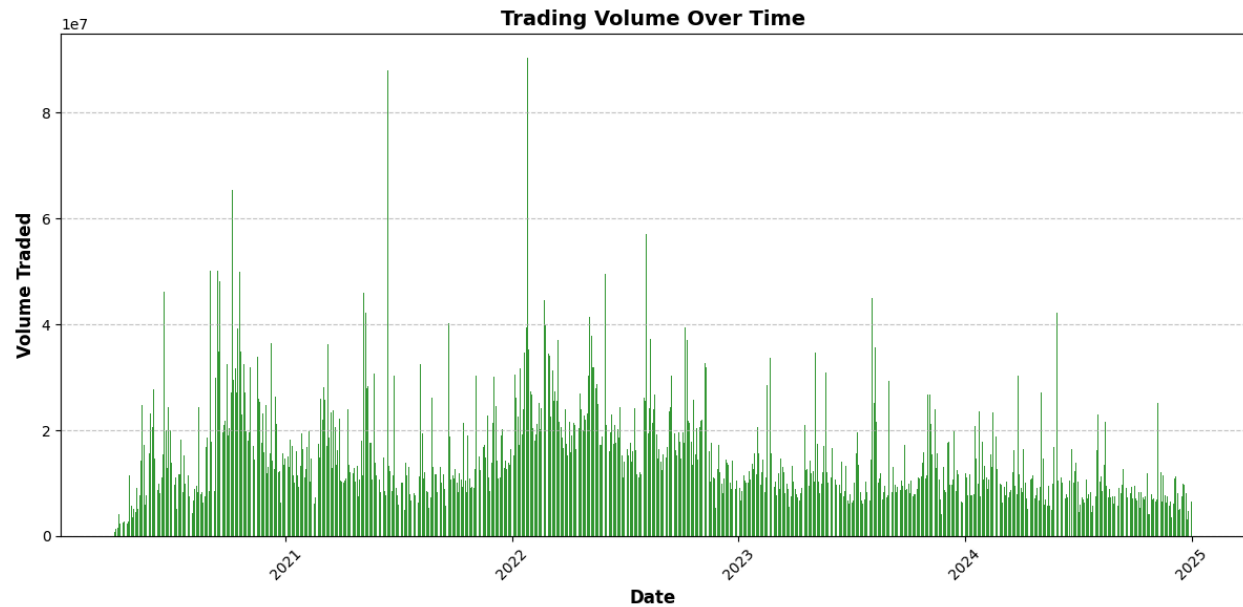
1. Time Series Line Chart of Adjusted Closing Price Over Time

- Tracks long-term price trends more accurately, as the number is adjusted for corporate-related actions, i.e. dividends, stock splits, and stock offerings [6]
- Quite useful for both investors and analysts when making data-backed decisions when it comes to investing in the stock market.

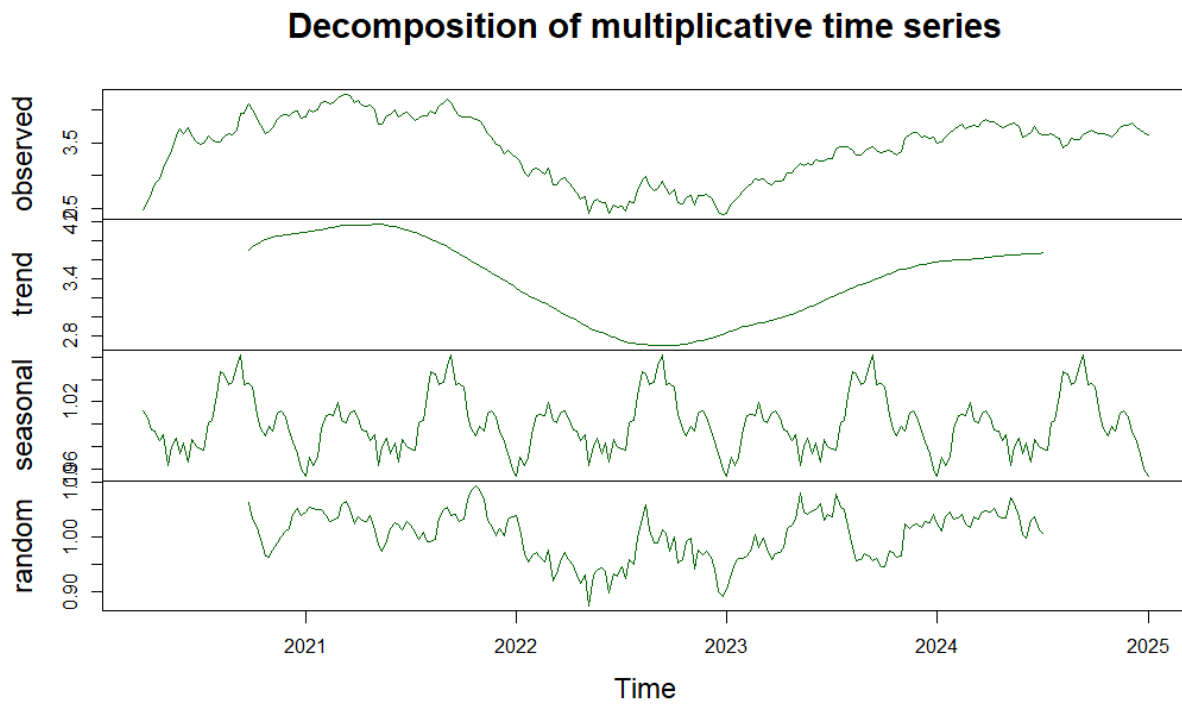


2. Bar Chart of DraftKings Trading Volume Trends Over Time

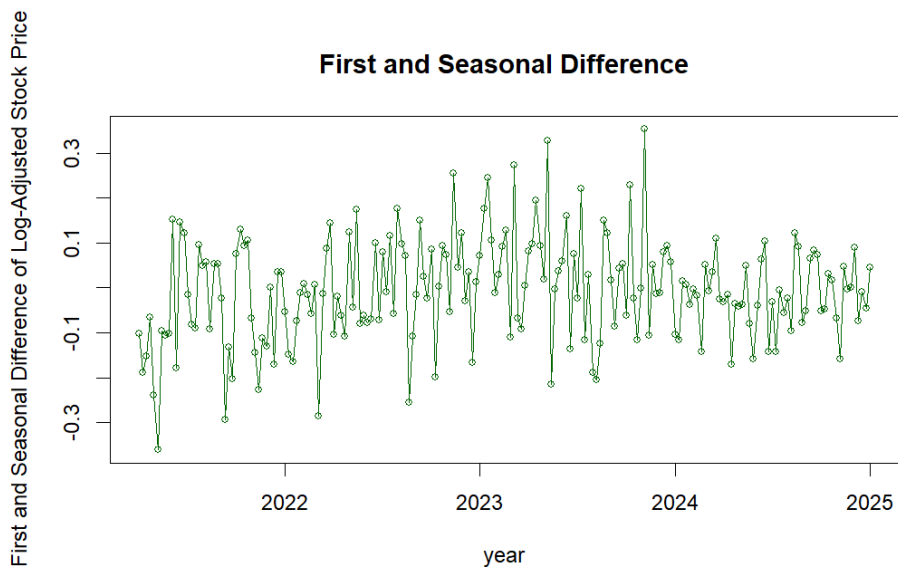
- Shows fluctuations in DraftKings' trading activity over time.
 - Helps identify trends linked to major events or sports seasons.
 - Reveals market interest and potential stock volatility.
- *1e7 dictates millions, thus y-axis is in millions*



3. Decomposition plot of the Log of Average Adjusted Weekly Price
 - a. Plot gives us a breakdown of line charts showing the time series, the trend, and the seasonality.
 - b. Gives us information about what transformations need to be made to our data.
 - c. Our plots show both a trend and seasonal element to the data.



4. Line Plot of First and Seasonal Difference of Log of Average Weekly Adjusted DraftKings Stock Price
 - a. Plot shows the stock prices after transformations for both trend and seasonality are considered.
 - b. Gives us stationary financial data which we are able to build a model from.



weekly_ts

- Unit of observation is “week”
- This is a dataset of weekly adjusted stock prices of the DKNNG stock from April 2020 to January 2025

Column	Description	Example Data	Number of Observations
Index	Index of the data, where 1 is the first week of stock prices extracted	4	249(0)
Week	Time series element of the stock price in year-month-day format, where the data is the first day of the week	2020-04-05	249(0)
Adjusted	Average of the closing stock price of DraftKings over the course of the week, adjusted for any corporate actions such as stock splits and dividends, leading to more accurate data for historical analysis [3].	12.09	249(0)

Descriptive statistics:

- 749 rows with 3 columns
- As this is the same data from dkng_ts just adjusted for week, much of the time series data looks the same. This data set was created by averaging the adjusted stock price over each week in the dkng_ts dataset.
- Time series:

DKNG Adjusted Stock Price over time



Histogram of distribution of weekly adjusted stock prices

Histogram of Adjusted Weekly Stock Prices

