

DTL 2022 Equity Research Challenge Round 1: Report

There are 2 questions. Please **choose 1 out of the 2 questions** to answer.

Submission Deadline & Instructions

Deadline: **15 March 2022 at 2359 (GMT +8).**

Please submit your report (in **word doc or PDF** file) via <https://forms.gle/rX3NMfittTt5f8RRA> following the instructions below.

Save your **File Name** as:

- For **Group** participants: <Your Group Name> _ <Question Chosen>
- For **Individual** participants: <Your Full Name> _ <Question Chosen>
 - E.g. Jason Lee_Qn1

Note: Only **1 person from each group** is required to submit their final report.

Guideline for the Report

- a) In the beginning of the report, there should be an executive summary that summarizes your research process (ideally it can be divided into several parts) and your conclusions.
- b) In the body of the report, you may introduce what analysis you have done and what data/techniques you are using.
- c) For all the data/code that you use in the report, please submit them together with a README file that introduces each file. Please submit a zip file containing your report and the relevant files.

Information Source: Below are *some examples of resources* that might be useful for your research.

- a) Company Financial Data: Yahoo Finance
<https://sg.finance.yahoo.com/quote/ADS.DE/financials?p=ADS.DE>
- b) Company Financial Reports: Company's Investor Relations web page
<https://investors.nike.com/Home/default.aspx>
- c) Company Earnings Transcripts: Internet
<https://www.fool.com/earnings/call-transcripts/2021/06/24/nike-inc-nke-q4-2021-earnings-call-transcript/>
- d) Regulatory Filings (Important SEC filings include 10K, 10Q and 8K):
<https://www.sec.gov/edgar/searchedgar/companysearch.html>

Question 1

Below are the adjusted local prices as of 20201230 and 20211230 for following pairs (or triples) of companies.

| Pair | Ticker | Company Name | Exchange | 20201230 | 20211230 | Currency |
|------|--------|-----------------------|-----------|----------|----------|----------|
| A | PEP | PepsiCo, Inc. | Nasdaq GS | 143.13 | 172.67 | USD |
| A | KO | Coca-Cola | NYSE | 54.44 | 58.78 | USD |
| B | NKE | NIKE, Inc. | NYSE | 140.52 | 167.49 | USD |
| B | ADS.DE | Adidas AG | XETRA | 294.78 | 253.2 | EUR |
| C | GM | General Motors | NYSE | 41.84 | 58.13 | USD |
| C | VOW.DE | Volkswagen AG | XETRA | 167.18 | 258.4 | EUR |
| D | JPM | JPMorgan Chase & Co. | NYSE | 121.56 | 157.54 | USD |
| D | BAC | Bank of America Corp. | NYSE | 29.41 | 44.53 | USD |
| D | WFC | Wells Fargo & Co. | NYSE | 29.22 | 47.88 | USD |

Data Source: Yahoo Finance

Please **select one pair (or triple)** of companies from above table and address the following questions:

- Within the companies from the pair (or triple) you selected, which company outperforms the other and by what percentage?
- Looking through their financial results for the year 2021 and other market data, please identify key drivers for their price movements and estimate how much of the out-performance/ under-performance can be attributed to each of the drivers. Based on your analysis, spot any arbitrage opportunities and structure the pair trade to materialize the ideas (show the process with detailed calculations and visualizations).
- Based on your analysis, spot any trading opportunities and structure the trade to materialize the ideas.

Note: For the trade you proposed, at least five elements should be mentioned:

- When to start the trade? (It can be upon an event that triggers the trade or start at any time)
- When to exit the trade? (It can be a fixed period since trading starts or upon a triggering event)
- What will the position be like? (Buy/long: x dollar amount of X; Sell/short: y dollar amount of Y, where x, y are non-negative and X, Y are stocks within the pair or some ETF if you want to use that as hedging instrument)
- Why do you think the trade will be profitable?
- What are potential risks regarding the trade?

Question 2

Google (Alphabet, GOOGL), Amazon (AMZN), Facebook (Meta, FB), and Apple (AAPL), which are commonly referred to as Big Four or GAFA have become increasingly dominant in the recent years and when they are on the move, markets pay close attention. Although they are tech firms, the stock price movements are observed to be heterogeneous for multiple periods and show little common underlying drivers, hence the need for further in-depth analysis. The stellar performance of AAPL in the end of 2020 due to the “iPhone 11” success and decent reliance on the China consumer market is one example for the mentioned differentiation.

Please **select one company** from “The Four”, and estimate its earnings results for the **next fiscal quarter**, through detailed analysis of the underlying drivers and risk factors the company have exposure to.

The following questions serve as a guideline:

- a) What are the business segments of the company? How do you estimate its revenue for each of the segment?
- b) What are its components of costs and expenses? How do you estimate them?