Initial Setup

Do the following steps when opening a .pbix file for the first time in a local machine:

- Go to File → Click Options and settings → Options → Click on Privacy under GLOBAL → Make sure to choose "Always ignore Privacy Level settings"
- Copy the folder path of Undervalued Stock Scanner project folder
- Open Undervalued Stocks Dashboard.pbix
- Home tab → Transform data drop-down → Edit parameters → Click on the FolderPath parameter → Paste the current folder path to replace the default folder path → Click OK → Click Apply changes in the popup at the top.

Data may not be loaded correctly the first time. Try to refresh data again if there's an error.

Interpreting Data

Evaluating undervalued stocks

Preliminary criteria: All undervalued stocks must meet the following criteria to appear in the Underavalued Stocks Dashboard.

- P/FCF > 0
- P/FCF < Mean P/FCF within industry group
- P/B > 0
- P/B < Mean P/B within industry group
- ROE > 10
- ROA > 5
- A/E > 1
- A/E < Mean A/E within industry group

Additional criteria: These criteria are used to compare between stocks that meet the preliminary criteria. For each criterion met, a stock gets 1 point. The highest score a stock can get is 5 points.

- P/B < (0.7 * Mean P/B within industry group)
- ROE > Mean ROE within industry group
- ROA > Mean ROA within industry group
- P/E < Mean P/E within industry group
- 1 < P/E < 25

Z-score ranking: This method is applied to each fundamental metric (P/FCF, P/B, ROE, ROA, A/E, P/E) to compare a stock's performance against the industry average. The further a z-score deviates from 0, the higher the stock's ranking.

- For **P/FCF**, **P/B**, **A/E**, and **P/E**, a **negative z-score** indicates the stock is undervalued. For **ROE** and **ROA**, a **positive z-score** is preferred, as it signifies better performance relative to the industry average.
- A z-score further from 0 is typically seen as a sign of stronger performance relative to the industry, making stocks with higher absolute z-scores more attractive.
- However, if a z-score is greater than 3 or less than -3, the data point is likely an outlier and should be treated with caution.

<u>Evaluating industries within a sector using average fundamental metrics:</u>

Using key financial metrics like price-to-free cash flow (P/FCF), price-to-book (P/B), return on equity (ROE), return on assets (ROA), asset-to-equity (A/E), and price-to-earnings (P/E) can help evaluate industries and identify potentially overvalued or trending industries.

- **Price-to-Free Cash Flow (P/FCF):** A high average price-to-free cash flow (P/FCF) ratio in an industry indicates that, on average, companies within that sector are trading at a high price relative to the amount of free cash flow they generate, potentially suggesting that investors are paying a premium for those stocks, which could be due to high growth expectations or a perception of future value, even if current cash flow is not proportionally high compared to the stock price; essentially, the market is valuing the industry's potential more than its current cash generation.
- **Price-to-Book (P/B):** If an industry has a high average price-to-book (P/B) ratio, it means that, on average, companies within that industry are considered to be trading at a high market valuation relative to their book value, potentially indicating that investors have high expectations for future growth and profitability within that sector, even if it could also suggest potential overvaluation depending on other factors.
- **Return on Equity (ROE):** If an industry has a high average ROE (Return on Equity), it means that, on average, companies within that industry are very efficient at generating profits relative to the amount of shareholder equity they use, indicating strong profitability and effective capital management across the sector as a whole; essentially, companies in that industry are generating high returns from the money invested by shareholders.
- **Return on Assets (ROA):** If an industry has a high average ROA (Return on Assets), it means that companies within that sector are generally very efficient at generating profits from their assets, indicating they are able to produce a significant amount of profit relative to the total value of their assets invested, making it a relatively profitable industry overall; essentially, companies in that industry are effectively utilizing their resources to generate earnings.
- **Asset-to-Equity (A/E) Ratio:** A high average asset to equity ratio within an industry indicates that companies within that sector are heavily reliant on debt financing to fund their operations, meaning they have a large amount of assets compared to the amount of shareholder equity they hold, potentially signifying higher financial risk but also potentially indicating effective leverage if the returns on borrowed capital exceed the cost of debt.
- **Price-to-Earnings (P/E) Ratio:** If an industry has a high average P/E ratio, it means that investors are generally willing to pay a higher price per dollar of earnings for companies within that industry, often because they expect significant future growth potential from those companies, indicating a high level of investor optimism about the industry's future earnings prospects.

Keep in mind that while the averages of fundamental metrics like P/FCF, P/B, ROE, ROA, A/E, and P/E are useful tools to evaluate industries and individual companies, they are not exhaustive by themselves. To conduct a comprehensive industry analysis, you need to consider a wider array of factors, both quantitative and qualitative, as well as macroeconomic and market conditions.