Attributes of Trades and Stocks Tables

The "trades" table is in the hidden sheet "trades". The "stocks" table is in the "Portfolio Summary" sheet.

Exec Time: Date and time of trade execution

Symbol: Stock's ticker

Qty (trades table): The amount of shares traded. Positive value means bought shares. Negative value means sold shares.

Current Qty (stocks table): The number of shares held for each ticker. Value is always greater than or equal 0.

Price: Trade price

Capital or Gain: Total spending or gain of each trade

Avg Price or Average Price: Weighted average trade price of a stock. If all shares of a stock are sold, the value is empty (null).

$$Average\ Price = \frac{Total\ cost\ of\ purchases}{Total\ shares\ bought}$$

Current Price: Real-time stock price.

Open P&L: The profit or loss of a stock's open holdings.

$$Open\ P\&L = Current\ Qty \times (Current\ Price - Avg\ Price)$$

Realized P&L (trades table): The profit or loss of a sell transaction.

$$Realized\ P\&L_{trade} = Sell\ Qty \times (Sell\ Price - Avg\ Price)$$

$$= Sell\ Qty \times \left(Sell\ Price - \frac{Total\ cost\ of\ purchases}{Total\ shares\ bought}\right)$$

Realized P&L (stocks table): The total profit or loss from all sell transactions (fully or partially) for a specific stock.

$$Realized\ P\&L_{stock} = \sum_{y'=1}^{b'} Realized\ P\&L_{trade\ y'} = \sum_{y'=1}^{b'} \left(Sell\ Qty_{y'} \times \left(Sell\ Price_{y'} - Avg\ Price_{y'}\right)\right)$$

- b': total number of sell transactions for the stock
- y': index of each sell transactions for the stock

Net Spending: Net capital invested in a stock after accounting for sales. A negative number means a net amount spent, while a positive value indicates a net gain. When all shares of a stock have been sold, Net Spending equals the Realized P&L for that stock.

$$Net\ Spending = Total\ cost\ of\ purchases - Total\ gain\ of\ sales$$

Portfolio's Metrics

Holdings Value: Current market value of all open positions.

$$Holdings\ Value = \sum_{i=1}^{n} (Current\ Qty_i)(Current\ Price_i)$$

- n: total number of unique open positions
- i: index of each open position

Portfolio Value: The market value of all assets, including realized P&L.

$$Portfolio\ Value = Holdings\ Value + Realized\ P\&L$$

Total Spending: Total cost basis of all trades ever opened (sum of all buys, ignoring sells)

$$Total\ Spending = Closed\ Cost\ Basis - Open\ Cost\ Basis$$

Net Spending: Net capital still invested after accounting for sales.

$$\begin{aligned} Net\ Spending &= Total\ Spending - Total\ Sales \\ &= (Open\ Cost\ Basis + Closed\ Cost\ Basis) - (Closed\ Cost\ Basis + Realized\ P\&L) \\ &= Open\ Cost\ Basis - Realized\ P\&L \end{aligned}$$

Open Cost Basis: The original purchase cost of all currently open positions.

$$Open\ Cost\ Basis = \sum_{x=1}^{a} (Current\ Qty_x)(Avg\ Price_x)$$

- a: total number of open securities
- x: index of each open security in the portfolio

$$Open\ Cost\ Basis = Total\ Spending - Closed\ Cost\ Basis$$

$$Open\ Cost\ Basis = Net\ Spending + Realized\ P\&L$$

Closed Cost Basis: The original purchase cost of all shares that have been sold.

$$Closed\ Cost\ Basis = \sum_{y=1}^{b} \left(Sell\ Qty_y\right)\left(Avg\ Price_y\right)$$

- b: total number of different stocks for which shares have been sold (fully or partially)
- y: index of each stock for which shares have been sold

$$Closed\ Cost\ Basis = Total\ Spending - Open\ Cost\ Basis$$

Open P&L: The profit or loss on currently open positions.

$$Open\ P\&L = \sum_{x=1}^{a} \left(Current\ Qty_x \times (Current\ Price_x - Avg\ Price_x)\right)$$

- a: total number of open securities
- x: index of each open security in the portfolio

Open ROI: Return on investment in open positions.

$$Open\ ROI = \frac{Open\ P\&L}{Open\ Cost\ Basis}$$

Realized P&L: Total profit or loss from shares sold.

$$Realized\ P\&L_{portfolio} = \sum_{y=1}^{b} Realized\ P\&L_{stock\ y}$$

$$= \sum_{y'=1}^{b'} Realized\ P\&L_{trade\ y'} = \sum_{y'=1}^{b'} \left(Sell\ Qty_{y'} \times \left(Sell\ Price_{y'} - Avg\ Price_{y'}\right)\right)$$

- b: total number of different stocks for which shares have been sold (fully or partially)
- y: index of each stock for which shares have been sold
- b': total number of sell transactions
- y': index of each sell transactions

Realized ROI: Return on capital invested in sold shares.

$$Realized\ ROI = \frac{Realized\ P\&L}{Closed\ Cost\ Basis}$$

Treemaps

Open P&L Weight: Shows how much a stock's P&L (absolute value) contributes to the portfolio's performance (the combined magnitude of the winning and losing positions). A higher percentage suggests that this stock has a larger influence on the overall performance, which could mean higher reward or risk, depending on whether it's a winner or loser.

$$Open\ P\&L\ Weight = \frac{|Stock's\ Open\ P\&L|}{Total\ Open\ Profit + |Total\ Open\ Loss|}$$

Open P&L Weight treemap uses data from the "open_pl_weight" table in the hidden "value_weight" sheet.

Investment Weight: Refers to how much of the portfolio's current capital is allocated to each active stock. A higher investment weight means a higher exposure to that stock's performance.

$$Investment\ Weight = \frac{|Net\ Investment\ in\ Active\ Stock|}{|Portfolio's\ Net\ Spending|}$$

Investment Weight treemap uses data from the "investment_weight" table in the "value_weight" sheet.

Attributes of Pivot Tables

PivotTable1 (source: trades)

Hierarchical Row Labels Structure:

1. Symbol: Data is aggregated by each symbol.
2. Year: Under each symbol, data is further categorized by year.
3. Month: Within each year, data is grouped by month.
4. Exec Time: Within each month, the data is organized by the execution time of each trade.

Columns:

- Total Qty: Sum of Qty
    - Highest level: Net share quantity of the stock
    - Lowest level: Amount of shares traded in each transaction
- Max Trade Price: Max of Price
    - Highest level: Highest trade price (regardless of buy or sell) for the stock
    - Lowest level: Trade price in each transaction
- Average Price: Max of Avg Price
    - Highest level: Average purchase price for the respective stock
    - Lowest level: Average purchase price for the respective stock
- Capital & Gain: Sum of Capital or Gain
    - Highest level: Net spending or P&L for the respective stock
    - Lowest level: Expenditure or gain from each transaction
- Open PL: Max of Open P&L
    - Highest level: Open P&L for the respective stock
    - Lowest level: Open P&L for the respective stock
- Realized PL: Max of Realized P&L
    - Highest level: Realized P&L for the respective stock
    - Lowest level: Realized P&L for the respective stock

PivotTable2 (source: trades)

Hierarchical Row Labels Structure:

1. Year: Data is grouped by year
2. Month: Data is grouped by month

Columns:

- Trade Count: The total number of trades per month or year
- Stock Count: The total number of stocks traded per month or year
- Net Spending: Net capital or gain from trades every month or year

Monthly P&L Tables

Each table summarizes the monthly P&L for each year.

- Month: Each month of the year
- Gross P&L: P&L for each month
- Cumulative P&L: The total profit or loss accumulated from the start of the portfolio up to the respective month.