# Analysis of a Company

## Financial Parameter Analysis

When a pension house evaluates a prospective

### P/E Ratio

The Price-to-Earnings (P/E) Ratio is a financial metric that measures a company's current share price relative to its per-share earnings. The formula for calculating the P/E Ratio is:

P/E Ratio=Market Price per ShareEarnings per Share (EPS)\text{P/E Ratio} = \frac{\text{Market Price per Share}}{\text{Earnings per Share (EPS)}}P/E Ratio=Earnings per Share (EPS)Market Price per Share​

* **Market Price per Share**: The current market price of one share of the company's stock.
* **Earnings per Share (EPS)**: The company's earnings divided by the number of outstanding shares. EPS can be found in financial statements or calculated using net income and outstanding shares.

### **Interpretation**

* **High P/E Ratio**: A high P/E ratio might indicate that the stock is overvalued, or investors are expecting high growth rates in the future.
* **Low P/E Ratio**: A low P/E ratio might suggest that the stock is undervalued, or the company is experiencing difficulties. It could also indicate a mature company with stable earnings and slower growth prospects.

Python Code

import yfinance as yf

import pandas as pd

from datetime import datetime

# Fetch Microsoft stock data for the past 5 years

msft = yf.Ticker("MSFT")

prices = msft.history(period="5y")

# Fetch the quarterly earnings (net income) data from SEC filings or Yahoo Finance

earnings = msft.earnings

# Calculate annual EPS (Earnings per Share)

# Yahoo Finance gives annual earnings, we divide by number of shares to get EPS

annual\_earnings = msft.financials.loc['Net Income']

shares\_outstanding = msft.info['sharesOutstanding']

eps = annual\_earnings / shares\_outstanding

# Prepare a DataFrame with the relevant data

pe\_ratios = pd.DataFrame({

'Year': annual\_earnings.index,

'Net Income': annual\_earnings.values,

'Shares Outstanding': shares\_outstanding,

'EPS': eps.values,

'Price per Share': prices['Close'].resample('Y').last().values, # Get the last closing price of each year

})

# Calculate the P/E Ratio

pe\_ratios['P/E Ratio'] = pe\_ratios['Price per Share'] / pe\_ratios['EPS']

# Display the P/E Ratios

import ace\_tools as tools; tools.display\_dataframe\_to\_user(name="Microsoft P/E Ratios Over 5 Years", dataframe=pe\_ratios)