CHARTA LEARNING · LESSON NOTES

Relative valuation: multiples and comparables

CFA Level I · Equity Investments

You will learn: Judge whether a share is cheap or dear using multiples: compare with peers or with the multiple the firm deserves, choose peers and earnings carefully, read the P/E, and build and use enterprise value multiples.

Running example: Examples follow a made-up food maker, Northwind Foods: price $30; reported earnings per share (EPS) last year $1.50, or $2.00 with a $0.50 one-off removed; forecast EPS next year $2.10 (growth 5%); payout 60%; required return 10%; 100 million shares. Figures are made-up round numbers.

1. Two ways to judge a multiple

- A multiple is a share price divided by something the company produces, such as earnings: how many dollars the market pays for one dollar of it.
- The method of comparables applies the multiple that similar companies trade on, often the median, and answers: cheap or dear compared with peers? It uses real prices and is easy to explain, but if the whole group is mispriced you inherit the error.
- The method of forecasted fundamentals works out the multiple the firm deserves from its payout ratio, required return r and steady growth g (r must exceed g). It ties the multiple to value but is very sensitive to the growth and return inputs.
- Use both and look at the gap. Cheap against peers does not mean cheap outright.

> **Justified forward P/E = payout ratio ÷ (r − g)**

NORTHWIND BOTH WAYS (EXAMPLE 1; PEERS' FORWARD P/E 16)

Northwind forward P/E	30 ÷ 2.10	**14.3**
Comparables value	16 × 2.10	**$33.60 (cheap vs peers)**
Justified forward P/E	0.60 ÷ (0.10 − 0.05)	**12.0**
Fundamentals value	12 × 2.10	**$25.20 (dear vs value)**
Growth forecast raised from 5% to 6%		**justified P/E 15**

Watch out: Treating cheap against peers as cheap outright; trusting a justified multiple that rests on neat but uncertain inputs.

2. Choosing peers and using the median

- A multiple is only as useful as the group it is compared with. A good peer has the same business mix and customers, similar growth, risk and size, and the same accounting basis. An industry code is only a starting point.
- Use the median multiple of the group, not the mean: the median is not dragged around by one odd company.

NORTHWIND'S FIVE PEERS' FORWARD P/E: 13, 15, 16, 17, 29 (EXAMPLE 2; FORECAST EPS $2.10)

Median	middle value	**16.0**
Mean	90 ÷ 5	**18.0**
Mean without Ember (29)	61 ÷ 4	**15.25**
Value at the median	16 × 2.10	**$33.60**
Value at the mean	18 × 2.10	**$37.80**

Watch out: Using the simple average when one peer is an outlier.

3. Which multiple and which earnings

- Price multiples: P/E (price ÷ EPS), P/B (price ÷ book value, handy for banks), P/S (price ÷ sales per share, handy when profits are negative). Enterprise value multiples compare the whole business with a pre-interest measure such as EBITDA (earnings before interest, tax, depreciation and amortisation).
- Use price multiples for similar financing, enterprise multiples when peers borrow differently.
- A trailing multiple uses the last twelve months or last reported year: factual but backward, and may include one-offs. A forward multiple uses forecast earnings: more relevant, but only as good as the forecast, which is often too hopeful.
- Adjust for one-offs; measure peers exactly the same way (trailing with trailing, forward with forward); compare with the company's own history too.

ONE $30 SHARE, THREE MULTIPLES (EXAMPLE 3; PEERS' TRAILING P/E 17, FORWARD 16)

Trailing, as reported	30 ÷ 1.50	**20.0 (dear)**
Trailing, one-off removed	30 ÷ 2.00	**15.0**
Forward	30 ÷ 2.10	**14.3**

Watch out: Using reported trailing earnings with one-offs left in; mixing bases, such as your forward multiple against peers' trailing.

4. The price to earnings ratio

- P/E = price per share ÷ EPS, where EPS = (net income − preferred dividends) ÷ weighted average ordinary shares. The inverse, EPS ÷ price, is the earnings yield.
- A high P/E can be justified by higher expected growth, lower risk, or temporarily depressed earnings (the price does not fall as far as profit, so the ratio shoots up).
- Near zero earnings the P/E is huge and meaningless; with a loss it is negative and not meaningful, so use another multiple.
- A lower P/E is not automatically cheaper. The PEG ratio divides the forward P/E by the growth rate in percentage points, as a first check; growth may be riskier at one firm.

P/E = price ÷ EPS; PEG = forward P/E ÷ growth rate (in points)

NORTHWIND P/E AND PEG (EXAMPLES 4 AND 5)

Underlying net income	150 + 50 one-off charge	**$200m**
Underlying EPS	200 ÷ 100 shares	**$2.00 (reported $1.50)**
Underlying P/E; earnings yield	30 ÷ 2.00; 2.00 ÷ 30	**15.0; 6.67%**
P/E at EPS $3.00 / $1.00 / $0.50 (price $30)	30 ÷ EPS	**10 / 30 / 60**
PEG: Northwind (growth 5%), peer (P/E 16, growth 8%)	14.3 ÷ 5; 16 ÷ 8	**2.86; 2.00 (peer cheaper)**

5. Enterprise value and EV/EBITDA

- Enterprise value (EV) = equity value + debt − cash. Debt is added because a buyer inherits it; cash is subtracted because it can pay debt down. The full curriculum also adds preferred shares and minority interests (other owners' share of subsidiaries).
- EV covers all providers of money, so pair it with a profit measure before interest: EBITDA. Match top and bottom: EV with EBITDA, price with EPS. Never divide EV by net income or equity value by EBITDA.
- Strengths: compares firms with different debt, works when net income is negative (if EBITDA is positive), and speaks the language of an acquirer. Limits: EBITDA ignores the spending needed to replace assets and working capital, so the same multiple can hide very different cash conversion.
- Leverage bends the P/E but not EV/EBITDA: the more indebted firm shows a lower P/E that reflects its extra risk, not a bargain.

> **EV = equity value + debt − cash; EV/EBITDA = EV ÷ EBITDA**

NORTHWIND EV/EBITDA (EXAMPLE 6, $ MILLIONS; PEERS' MEDIAN 8.0) AND LEVERAGE (EXAMPLE 7)

Enterprise value	3,000 + 1,000 − 200	**3,800**
EV/EBITDA (EBITDA 500)	3,800 ÷ 500	**7.6**
Implied EV, then equity, at 8.0	8.0 × 500 = 4,000; 4,000 − 1,000 + 200	**4,000; 3,200**
Implied price per share	3,200 ÷ 100	**$32.00**
Identical A (debt 200) and B (debt 500), cash 50: EV/EBITDA	950 ÷ 100	**9.5 for both**
P/E: A and B (net income 45 and 33.75)	800 ÷ 45; 500 ÷ 33.75	**17.8; 14.8**

Key takeaways

- Compare with peers (comparables) or with the multiple the firm deserves (fundamentals), and look at the gap.
- Justified forward P/E = payout ÷ (r − g), very sensitive to its inputs.
- Choose peers that match in business, growth, risk, size and accounting; use the median.
- Adjust trailing earnings for one-offs and compare like with like.
- P/E breaks down near zero or negative earnings; a lower P/E is not automatically cheaper.
- EV = equity + debt − cash; EV/EBITDA is fairer when firms borrow differently.

Quick check

1. Equity 600, debt 200, cash 50, EBITDA 100. EV/EBITDA?
   Answer: EV = 750, so 7.5.
2. Payout 50%, r = 9%, g = 5%. Justified forward P/E?
   Answer: 0.50 ÷ 0.04 = 12.5.
3. Why is EV/EBITDA fairer than P/E when debt differs?
   Answer: Both parts are measured before financing.