Relative valuation: multiples and comparables

Equity Investments

1 A story: pricing a house two ways

- Way 1: what did similar houses sell for?
- Way 2: what is this house itself worth?
- They can disagree, especially if the street is in a bubble
- Shares are priced the same two ways

IN THE LESSON

- Imagine you are selling your house and want to know what it is worth.
- One way is to look at what similar houses on your street sold for last month.
- If three similar houses sold at around three hundred thousand, that is a good guide.
- Another way is to ask what the house itself should be worth.
- You work out the rent it could earn, how fast rents are likely to grow, and how much return a buyer would demand.
- Both are sensible, and they can disagree.
- If the whole street is in a bubble, the neighbours tell you a price that is too high, while the rent calculation does not.
- Investors face the very same choice when they price a share.

2 Comparables and forecasted fundamentals

- Multiple = price ÷ a measure of the firm's output
- Comparables: the multiple peers trade on
- Fundamentals: the multiple the firm should have
- Comparables copy the market; fundamentals need forecasts

IN THE LESSON

- A multiple is a share price divided by something the company produces, such as earnings.
- It says how many dollars the market pays for one dollar of that thing.
- The first approach is the method of comparables.
- You take the multiple that similar companies trade on, often the median, and apply it to your company.
- It answers one question: is this share cheap or dear compared with its peers?
- The second is the method of forecasted fundamentals.
- Here you work out the multiple the company deserves from its own expected growth, payout and required return.
- Comparables use real market prices and are easy to explain, but if the whole group is mispriced, you inherit the error.
- Fundamentals tie the multiple to value, but depend on forecasts.

3 Meet Northwind Foods

Northwind Foods, per share (made-up figures)

Item	Value
Share price	$30.00
Last year's earnings, reported	$1.50
Last year's, one-off removed	$2.00
Next year's forecast earnings	$2.10

IN THE LESSON

- To make this concrete we will follow one company all the way through, a food maker called Northwind Foods.
- Every figure is a made-up round number for teaching.
- Its share price is thirty dollars.
- Last year it reported earnings of one dollar fifty a share, but that included a one-off restructuring cost of fifty cents a share that will not come back, so earnings without it were two dollars.
- Analysts forecast two dollars ten for next year, growth of five per cent.
- Northwind pays out sixty per cent of its earnings as dividends, and investors want a return of ten per cent a year.
- Hold on to these numbers, because we use them again and again.

4 The multiple a firm deserves

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

Payout ratio	Share of earnings paid out
Required return, r	Return investors require
Growth rate, g	Steady growth of dividends

IN THE LESSON

- Here is the formula for the second approach.
- It comes from the dividend discount model you may have met.
- A share is worth next year's dividend divided by the required return minus the growth rate.
- Divide both sides by next year's earnings, and you get the justified forward price to earnings ratio.
- It equals the payout ratio divided by the required return minus the growth rate.
- Take the terms in turn.
- The payout ratio is the share of earnings paid out as dividends.
- The required return, r, is what investors demand for holding the share.
- The growth rate, g, is the steady rate at which dividends are expected to grow for ever.
- The formula only works if r is bigger than g.

5 Example 1: Northwind both ways

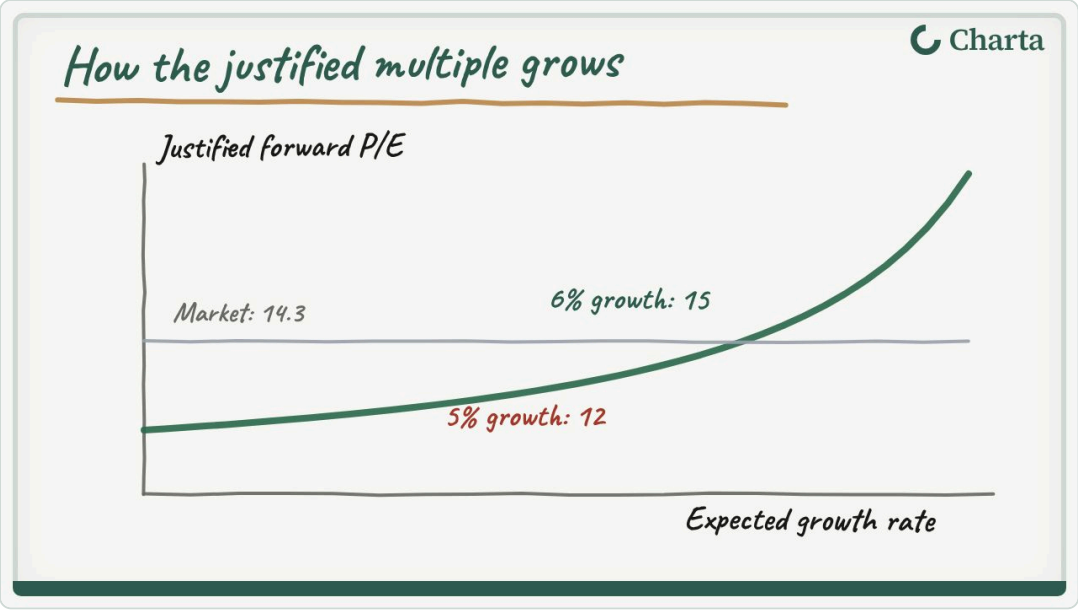
Price $30, forecast EPS $2.10, peers' forward P/E 16

Northwind forward P/E	30 ÷ 2.10	**14.3**
Comparables value	16 × 2.10	**$33.60**
Justified forward P/E	0.60 ÷ (0.10 − 0.05)	**12.0**
Fundamentals value	12 × 2.10	**$25.20**
Verdict	cheap vs peers, dear vs value	**mixed**

IN THE LESSON

- Example one, testing Northwind both ways.
- Its forward multiple is thirty divided by two dollars ten, which is fourteen point three.
- The peers trade on a median forward multiple of sixteen.
- Against its peers, Northwind looks cheap.
- Applying sixteen to its earnings gives a comparables value of thirty three dollars sixty.
- Now the fundamentals.
- The justified multiple is sixty per cent divided by ten per cent minus five per cent, which is twelve.
- Twelve times two dollars ten is twenty five dollars twenty.
- Against its own fundamentals Northwind looks dear.
- The two answers disagree.
- The discount to peers is a discount to a group that the market is pricing generously.

6 How the justified multiple grows



IN THE LESSON

- Here is the justified multiple drawn.
- Along the bottom is the growth rate you expect, from zero to eight per cent.
- Up the side is the justified forward multiple.
- The curve starts low, at six when there is no growth, and rises faster and faster, because growth gets closer to the required return.
- The grey line across is Northwind's actual multiple, fourteen point three.
- At five per cent growth the justified multiple is twelve, below the market's.
- Raise the growth forecast by just one point to six per cent and it jumps to fifteen, now above the market's.
- One point of growth turned dear into cheap.
- That is the danger of forecasted fundamentals: the answer is only as good as your growth and return inputs.

7 Which method, and the trap

- Comparables: market prices, easy to explain
- But a mispriced group passes its error on
- Fundamentals: tied to value, but forecast-sensitive
- Cheap against peers does not mean cheap outright

IN THE LESSON

- So which method should you trust?
- Neither on its own.
- Comparables are quick, grounded in prices people actually paid, and easy to explain to a client.
- But they only tell you cheap or dear relative to the group.
- If every peer is overpriced, a share can be the cheapest of an expensive bunch.
- Forecasted fundamentals link the multiple to what the business should be worth, but a small change in growth or required return moves the answer a lot, as we just saw.
- The smart habit is to use both and look at the gap.
- If they agree, you have more confidence.
- If they disagree, ask whether the problem lies with the company, or with how the market is pricing its whole sector.
- The trap: cheap against peers does not mean cheap.

8 A story: choosing who to race against

- Your race time means little without the right group
- A multiple means little without the right peers
- Wrong peers give a wrong verdict, however neat the maths
- Choosing peers is the first skill

IN THE LESSON

- Suppose you run a five kilometre race in twenty five minutes, and you want to know whether that is good.
- It matters a lot who you compare with.
- Against a group of club runners, it might be slow.
- Against a group of beginners, it is fast.
- Against a group of fifty year olds running in the rain, it is different again.
- Comparing a share's multiple works the same way.
- The multiple is only as useful as the group it is compared with.
- If you pick peers that are really quite different, the verdict is nonsense, however carefully you do the arithmetic.
- So the first skill in relative valuation is not maths.
- It is choosing the right peers.

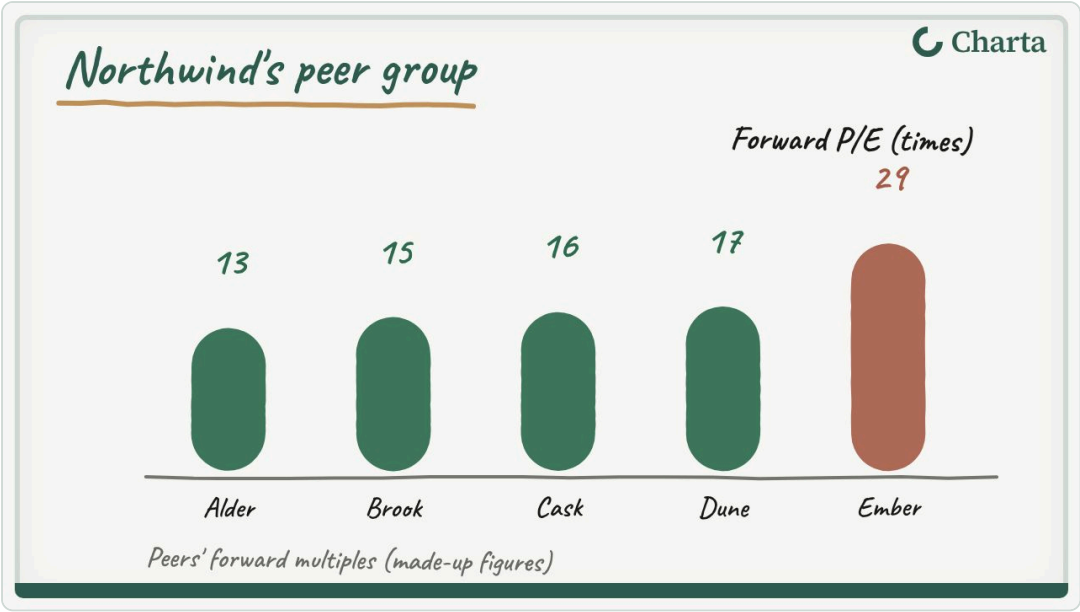
9 What makes a good peer

- Same business mix and customers
- Similar growth and risk
- Similar size
- Same accounting basis, so earnings compare
- Industry label is a start. Use the median of the group.

IN THE LESSON

- A good peer looks like the company in the ways that drive a multiple.
- First, the same business mix, the same products sold to the same kinds of customer.
- Second, similar growth prospects, because faster growers deserve higher multiples.
- Third, similar risk, such as how much profits swing and how much debt is carried.
- Fourth, similar size, as a giant and a small firm face different markets.
- And fifth, the same accounting basis, so earnings are measured in the same way.
- An industry classification code is only a starting point.
- Two firms with the same label can have very different mixes of business.
- Once you have a group, use the median multiple rather than the average, because the median is not dragged around by one odd company.

10 Northwind's peer group



IN THE LESSON

- Here are the five peers chosen for Northwind, drawn as bars.
- Their forward multiples, again made up, are Alder thirteen, Brook fifteen, Cask sixteen, Dune seventeen and Ember twenty nine.
- Look at the last bar, in red.
- Ember's multiple is far above the others.
- Perhaps its earnings are temporarily depressed, so the price looks big next to a small profit, or it has a growth story the others lack.
- Whatever the reason, Ember is not a clean comparison.
- Notice what it does to the numbers, which we will work out next.
- The middle value, the median, ignores Ember almost completely, while the simple average gets pulled up by it.

11 Example 2: median, mean and value

Forecast EPS $2.10; peers 13, 15, 16, 17, 29

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

IN THE LESSON

- Example two.
- Put the five multiples in order: thirteen, fifteen, sixteen, seventeen, twenty nine.
- The median is the middle one, sixteen.
- The mean is the sum, ninety, divided by five, which is eighteen.
- Ember has dragged the mean two points above the median.
- Remove Ember and the mean of the other four is sixty one divided by four, fifteen point two five.
- Now turn each into a value for Northwind by multiplying by forecast earnings of two dollars ten.
- The median gives thirty three dollars sixty.
- The mean gives thirty seven dollars eighty.
- The difference of four dollars twenty comes entirely from one odd peer.
- That is why we prefer the median.

12 Price multiples and enterprise multiples

- P/E: price ÷ earnings per share
- P/B: price ÷ book value. P/S: price ÷ sales per share
- EV/EBITDA: whole firm's value ÷ pre-interest profit
- Peers borrow differently? Prefer the enterprise multiple.

IN THE LESSON

- Now which multiple to use.
- Price multiples compare the value of the equity with something per share.
- The price to earnings ratio uses profit.
- The price to book ratio uses the accounting value of the equity, handy for banks.
- The price to sales ratio uses revenue, handy when profits are negative.
- Enterprise value multiples compare the value of the whole business, equity and debt together, with a measure taken before interest, such as E B I T D A, which is earnings before interest, tax, depreciation and amortisation.
- Because both sides are measured before the effect of borrowing, they suit companies with different amounts of debt.
- As a rule, use price multiples for similar financing, and enterprise multiples when peers borrow differently.
- We will see why shortly.

13 Trailing and forward multiples

- Trailing: last twelve months, factual but backward
- Forward: forecast earnings, relevant but uncertain
- Adjust for one-offs before comparing
- Treat peers the same way: trailing with trailing

IN THE LESSON

- Next, which earnings?
- A trailing multiple divides the price by earnings from the last twelve months, or the last reported year.
- Those earnings are fact, audited and known.
- But they may include one-offs, like a restructuring charge or the sale of a building, and they describe the past rather than the business you are buying.
- A forward multiple divides the price by forecast earnings for the next year.
- It is more relevant to a buyer, who is buying the future, but it is only as good as the forecast, and forecasts are often too hopeful.
- Three rules follow.
- Adjust for one-offs.
- Measure the peers exactly the same way, trailing against trailing and forward against forward.
- And compare with the company's own history too.

14 Example 3: one share, three multiples

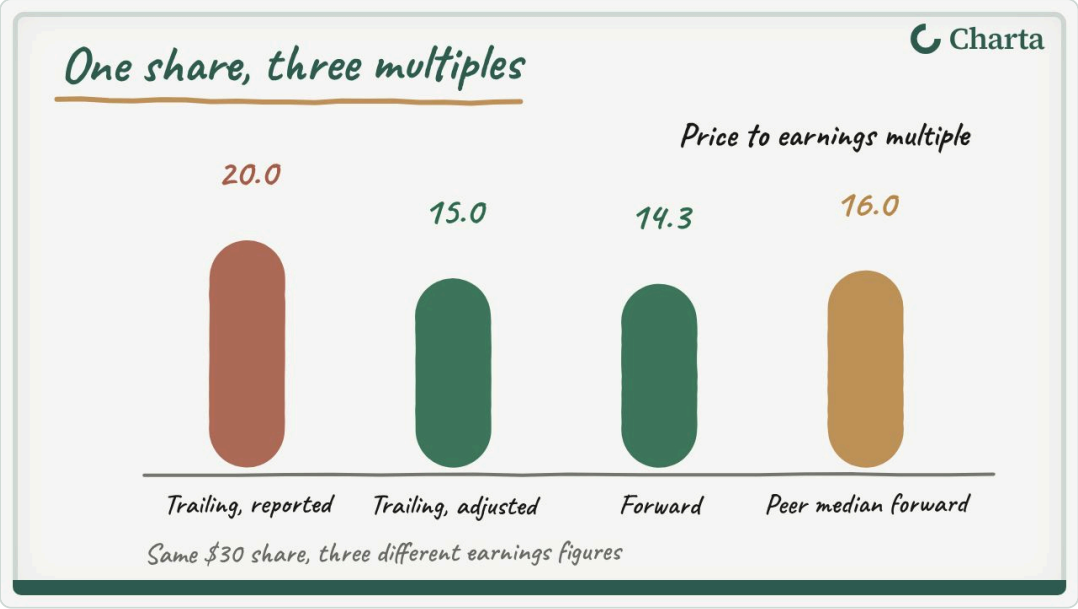
Price $30; peers' trailing P/E 17 (one-offs removed)

Trailing, as reported	30 ÷ 1.50	**20.0**
Trailing, one-off removed	30 ÷ 2.00	**15.0**
Forward	30 ÷ 2.10	**14.3**
Peer median, trailing	given	**17.0**

IN THE LESSON

- Example three, back to Northwind at thirty dollars.
- First, the trailing multiple on reported earnings of one dollar fifty.
- Thirty divided by one fifty is twenty.
- Against peers on a trailing multiple of seventeen, Northwind looks dear.
- But those earnings had a one-off charge in them.
- Remove it, and earnings are two dollars.
- Thirty divided by two is fifteen, now cheaper than the peers.
- Last, the forward multiple, thirty divided by two dollars ten, is fourteen point three, cheaper again, if the forecast holds.
- One share, one price, three multiples from fourteen to twenty.
- The reported trailing figure was factual, and the least informative of the three.

15 One share, three multiples



IN THE LESSON

- Here are the multiples as bars.
- Each bar is the same thirty dollar share, divided by a different kind of earnings.
- The first bar, in red, is the reported trailing multiple, twenty.
- It looks dear next to the peers.
- The second is the trailing multiple with the one-off charge taken out, fifteen.
- The third is the forward multiple, fourteen point three.
- The last bar is the peers' median forward multiple, sixteen, for comparison.
- Notice that the first bar is the only one above the peers.
- A reader who uses reported earnings without thinking would call Northwind dear.
- A careful analyst, who adjusts for the one-off and compares like with like, sees a share on a lower multiple than its peers.

16 Four mistakes to avoid so far

- 1. Cheap vs peers is not cheap outright
- 2. Remove one-offs from trailing earnings
- 3. Forward with forward, trailing with trailing
- 4. Outlier in the group? Use the median.
- 5. Justified multiple: very sensitive to growth and r

IN THE LESSON

- Before we move on, four mistakes that cost marks.
- One.
- Treating cheap against peers as cheap outright.
- The peers may all be overpriced, so check against fundamentals too.
- Two.
- Using reported trailing earnings with one-offs left in.
- Adjust first, then compare.
- Three.
- Mixing bases, for instance comparing your forward multiple with the peers' trailing multiple.
- Always compare like with like.
- Four.
- Taking the simple average of peers when one of them is an outlier.
- The median is steadier.
- And remember that a justified multiple is very sensitive to the growth and required return you feed in, so a neat answer is not the same as a reliable one.

17 A story: the lemonade stand

- Stand costs $1,000 and earns $100 a year
- Price ÷ profit = 10: ten years of profit
- A $2,000 stand with the same profit = 20
- That ratio is the P/E: price paid per $1 of profit

IN THE LESSON

- Let us go back to basics.
- A neighbour offers to sell you her lemonade stand for one thousand dollars.
- It earns a profit of one hundred dollars a year.
- If profits stay the same, you get your money back in ten years.
- You are paying ten times the yearly profit.
- A second stand, also earning a hundred a year, costs two thousand.
- That is twenty times profit, twenty years to get back what you paid.
- Unless that second stand is growing very fast, or is much safer, it is the worse deal.
- That number, price divided by yearly profit, is the price to earnings ratio.
- It is the most widely quoted multiple in investing, and it simply says how much the market pays for a dollar of profit.

18 The price to earnings ratio

P/E = price ÷ EPS
EPS = (net income − preferred dividends) ÷ average shares

Price per share	What you pay for one share
EPS	Profit per ordinary share
Net income	Profit after interest and tax
Average shares	Weighted average in the year

IN THE LESSON

- Here is the formula.
- The price to earnings ratio, or P E, equals the price per share divided by earnings per share.
- Earnings per share, often called E P S, is the profit that belongs to ordinary shareholders, divided by the average number of shares in issue during the year.
- To be exact, you take net income, subtract any dividends owed to preferred shareholders, who are paid first, and divide by the weighted average number of ordinary shares.
- Price is on top because it is what you pay.
- Earnings is on the bottom because it is what you get.
- The inverse, earnings divided by price, is called the earnings yield.
- It tells you the profit you receive for each dollar you pay, as a percentage.

19 Example 4: Northwind's P/E

Net income $150m, one-off charge $50m, 100m shares, price $30

Reported EPS	150 ÷ 100	**$1.50**
Underlying net income	150 + 50	**$200m**
Underlying EPS	200 ÷ 100	**$2.00**
Underlying P/E	30 ÷ 2.00	**15.0**
Earnings yield	2.00 ÷ 30	**6.67%**

IN THE LESSON

- Example four, building the ratio from the start.
- Northwind reported net income of one hundred and fifty million, with one hundred million shares.
- Earnings per share are one dollar fifty.
- But recall the one-off charge, fifty million after tax.
- Add it back and underlying net income is two hundred million, so underlying earnings per share are two dollars.
- Now the ratio.
- The price of thirty divided by two dollars is fifteen.
- The market pays fifteen dollars for each dollar of underlying profit.
- Flip it over for the earnings yield: two divided by thirty is six point six seven per cent.
- If Northwind paid out all its profit, that is the cash return you would receive each year on the price.

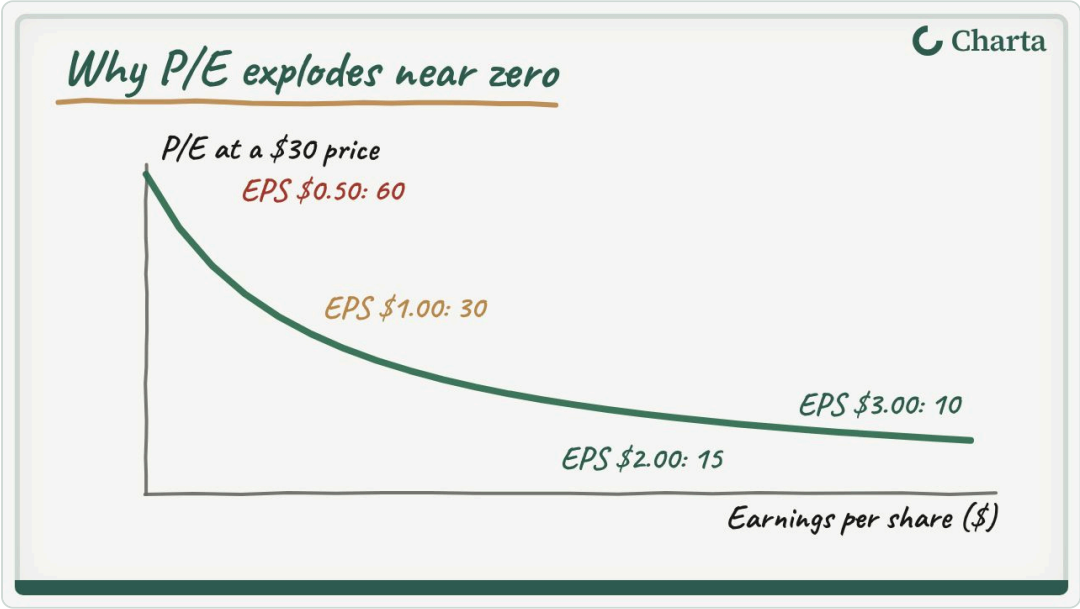
20 What a P/E tells you

- P/E = dollars paid per dollar of current profit
- High P/E: growth, low risk, or temporarily low profit
- Earnings near zero: P/E huge and meaningless
- Negative earnings: P/E not meaningful, use another

IN THE LESSON

- So what does a P E tell you?
- A fifteen means investors pay fifteen dollars for each dollar of current profit.
- Three things can justify a high number.
- Higher expected growth, lower risk, or earnings that are temporarily depressed.
- The last is the trap.
- When profits dip, the price does not fall as far, because investors look through the dip, so the ratio shoots up.
- It does not mean the share is expensive.
- The same logic shows why the ratio breaks down near zero.
- A tiny profit gives an enormous ratio, and a loss gives a negative ratio, which has no useful meaning.
- In that case use another multiple.
- And remember, a multiple only means something against a peer, a history, or a justified value.

21 Why P/E explodes near zero



IN THE LESSON

- Here is that trap drawn.
- Along the bottom is Northwind's earnings per share, from fifty cents to three dollars.
- Up the side is the price to earnings ratio at a share price of thirty dollars.
- The curve slopes down from left to right.
- With earnings of three dollars the ratio is only ten.
- At two dollars it is fifteen, our familiar figure.
- Halve earnings to one dollar and the ratio doubles to thirty.
- At fifty cents it is sixty.
- The price has not changed, only the denominator has shrunk.
- As earnings approach zero the ratio runs off the top of the chart, and once they turn negative there is no sensible number at all.
- A very high ratio can simply mean a very low profit.

22 Example 5: adjusting for growth

Forward P/E and expected growth

Northwind: 14.3 ÷ 5	P/E ÷ growth	**2.86**
Peer: 16 ÷ 8	P/E ÷ growth	**2.00**
Cheaper once growth counts	lower PEG	**Peer**

A lower P/E is not automatically cheaper

IN THE LESSON

- Example five.
- Is a lower multiple always better?
- Compare Northwind with a similar peer.
- Northwind has a forward multiple of fourteen point three and expected growth of five per cent.
- The peer has a forward multiple of sixteen and expected growth of eight per cent.
- A quick way to allow for growth is to divide the multiple by the growth rate in percentage points.
- This is called the P E G ratio.
- Northwind's is fourteen point three divided by five, which is two point eight six.
- The peer's is sixteen divided by eight, which is two.
- So despite its lower multiple, Northwind is the dearer of the two once growth is allowed for.
- This is a first check, not the last word, because growth may be riskier at one firm.

23 A story: buying a house with a mortgage

- Cash paid + mortgage taken over = cost of the house
- A bank balance that comes with it lowers the cost
- A company: share price alone misses its debt and cash
- Whole-business value = equity + debt − cash

IN THE LESSON

- Imagine two identical houses, each worth five hundred thousand.
- You buy the first with your own money.
- For the second, a previous owner has a mortgage of two hundred thousand, and you agree to take it over, paying only three hundred thousand in cash.
- Which cost more?
- Neither.
- Either way, you took on a five hundred thousand dollar house.
- The cost of the whole thing includes the debt.
- If the house also comes with fifty thousand sitting in a bank account, the true cost is lower by that amount, because the cash is yours too.
- Buying a company works the same way.
- The price tag of the shares alone is not what it costs to own the whole business.
- We need a measure that counts the debt and subtracts the cash.

24 Enterprise value and the multiple

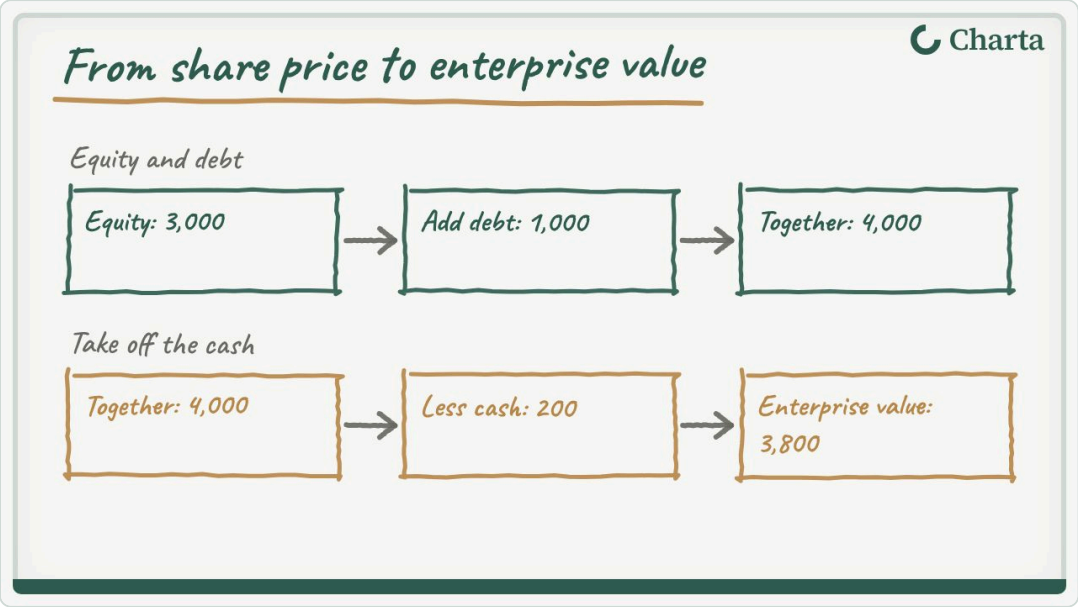
EV = equity value + debt − cash
EV/EBITDA = EV ÷ EBITDA

Equity value	Share price × shares
Debt	Added: the buyer inherits it
Cash	Subtracted: it pays debt down
Enterprise value	Cost of the whole business
EBITDA	Profit before interest and tax

IN THE LESSON

- Here are the formulas.
- Enterprise value, or E V, is the market value of the equity, plus debt, minus cash.
- In full, the calculation also adds the value of preferred shares and of minority interests, which are other owners' share of subsidiaries, but we keep it simple.
- Debt is added because whoever buys the business takes on the debt.
- Cash is subtracted because it can be used to pay that debt down, so it lowers the net cost.
- Then the multiple.
- E V divided by E B I T D A, earnings before interest, tax, depreciation and amortisation.
- The pairing is deliberate.
- E V covers every provider of money, shareholders and lenders, so we pair it with a profit measure taken before interest goes to the lenders.

25 From share price to enterprise value



IN THE LESSON

- Here is the build up, in two rows, using Northwind.
- The top row starts with the equity.
- A share price of thirty dollars times one hundred million shares gives an equity value of three thousand million.
- Add Northwind's debt of one thousand million.
- Together that is four thousand million, the amount to buy the shares and repay everyone who lent money.
- The bottom row finishes the job.
- Start from that four thousand and subtract the cash Northwind holds, two hundred million, because that cash comes with the business and could repay some of the debt.
- What remains is the enterprise value, three thousand eight hundred million.
- Think of it as the net price of the whole business.

26 Example 6: Northwind's EV/EBITDA

EBITDA $500m; peers' EV/EBITDA 8.0; $ millions

Enterprise value	3,000 + 1,000 − 200	**3,800**
EV/EBITDA	3,800 ÷ 500	**7.6**
Implied EV at peers' 8.0	8.0 × 500	**4,000**
Implied equity	4,000 − 1,000 + 200	**3,200**
Implied price per share	3,200 ÷ 100	**$32.00**

IN THE LESSON

- Example six.
- Northwind's enterprise value is three thousand eight hundred million, and its E B I T D A is five hundred million.
- Divide, and the multiple is seven point six.
- Peers in the same line of business trade on a median of eight.
- What does that suggest?
- Apply eight to Northwind's five hundred million, and the implied enterprise value is four thousand million.
- Now work back to the shares.
- Subtract the debt of one thousand, add back the cash of two hundred, and the implied equity is three thousand two hundred million.
- Divide by one hundred million shares and the implied price is thirty two dollars.
- That is a little above thirty, and in line with the earlier comparables answer of about thirty three.

27 Example 7: same business, different debt

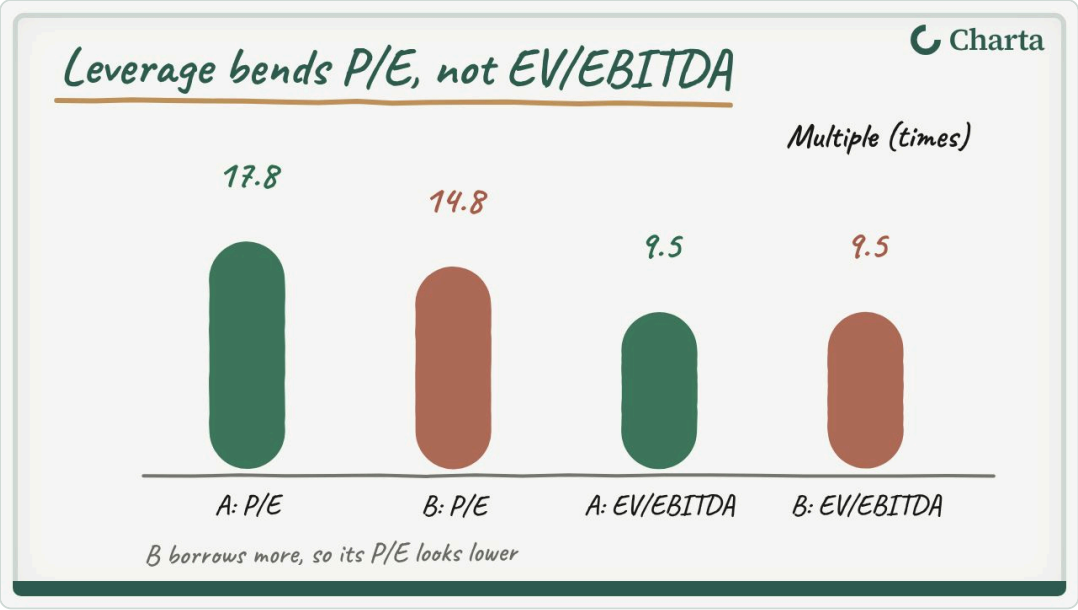
Identical businesses; A has 200 of debt, B has 500

Both: EV/EBITDA	950 ÷ 100	**9.5**
A net income	(70 − 10) × 0.75	**45.00**
B net income	(70 − 25) × 0.75	**33.75**
A: price to earnings	800 ÷ 45	**17.8**
B: price to earnings	500 ÷ 33.75	**14.8**

IN THE LESSON

- Example seven shows why enterprise multiples are fairer.
- Take two identical businesses, A and B.
- Each earns E B I T D A of one hundred, has depreciation of thirty, borrows at five per cent and pays tax at twenty five per cent.
- Both hold fifty of cash.
- A is financed with eight hundred of equity and two hundred of debt.
- B has five hundred of each.
- Both have an enterprise value of nine hundred and fifty, so both trade on nine point five times E B I T D A.
- Now the earnings.
- A pays ten of interest, so net income is forty five.
- B pays twenty five, so net income is thirty three point seven five.
- Price to earnings is seventeen point eight for A but only fourteen point eight for B.

28 Leverage bends P/E, not EV/EBITDA



IN THE LESSON

- Here are those four multiples as bars.
- The first two are the price to earnings ratios.
- A, with little debt, is seventeen point eight.
- B, with a lot, is fourteen point eight, so B looks about seventeen per cent cheaper.
- The last two bars are the enterprise multiples, and they are the same, nine point five each.
- The businesses are identical and cost the same to buy, so that is the true picture.
- B's lower price to earnings ratio is not a bargain.
- It reflects the extra risk that the debt brings, which the equity market has already priced in.
- Reading it as value is a common mistake when screening, and the enterprise multiple removes the distortion.

29 Strengths, limits and the trap

- Strengths: ignores leverage, works with losses
- Limits: EBITDA ignores capex and working capital
- Same multiple, very different cash conversion
- Match top and bottom: EV with EBITDA, price with EPS

IN THE LESSON

- Enterprise multiples have three strengths.
- They compare firms with different debt.
- They still work when net income is negative, as long as E B I T D A is positive.
- And they speak the language of an acquirer, who buys the whole capital structure.
- They also have limits.
- E B I T D A ignores the spending needed to replace assets, so a business that must rebuild its machines every five years looks the same as one that does not.
- It also ignores working capital, so profit tied up in unpaid invoices counts the same as cash in the bank.
- Two firms on the same multiple can turn profit into cash at very different rates.
- The traps: never divide E V by net income, nor equity value by E B I T D A.
- Match the top to the bottom.

30 Recap: the formulas to remember

P/E = price ÷ EPS Justified P/E = payout ÷ (r − g)
EV = equity + debt − cash EV/EBITDA = EV ÷ EBITDA

P/E	Price per dollar of earnings
Justified P/E	From payout, r and g
Enterprise value	Equity + debt − cash
EBITDA	Pre-interest profit

IN THE LESSON

- Let us pull the lesson together.
- There are two ways to judge a multiple.
- Compare it with what peers pay, which is the method of comparables, or compare it with the multiple the firm deserves, which is the method of forecasted fundamentals.
- The price to earnings ratio is price divided by earnings per share.
- The justified forward version is the payout ratio divided by the required return minus growth.
- Enterprise value is equity plus debt minus cash, and enterprise value to E B I T D A is a fairer comparison when firms borrow differently.
- Always choose similar peers, use the median, adjust trailing figures for one-offs, and measure every peer on the same basis.

31 Try three quick questions

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.

IN THE LESSON

- Now try three quick questions yourself.
- Pause after each one.
- Question one.
- A company has an equity value of six hundred, debt of two hundred, cash of fifty and E B I T D A of one hundred.
- What is enterprise value to E B I T D A?
- Enterprise value is six hundred plus two hundred minus fifty, which is seven hundred and fifty.
- Divided by one hundred, that is seven point five.
- Question two.
- The payout ratio is fifty per cent, the required return is nine per cent and growth is five per cent.
- What is the justified forward multiple?
- Fifty per cent divided by four per cent is twelve point five.
- Question three.
- Why is the enterprise multiple fairer when two firms borrow different amounts?
- Because both its top and bottom are measured before financing.
- Well done.