Price multiples: how to use them

Equity Investments

1 A price needs a yardstick

- A price alone says nothing
- Multiple = price ÷ something per share
- Yardstick 1: the neighbours
- Yardstick 2: the company's own cash flows

IN THE LESSON

- Picture two houses on the same street.
- One costs three hundred thousand, the other four hundred thousand.
- Which is the bargain?
- You cannot say until you know what each one offers.
- You might compare with other houses nearby, which is a comparison with the neighbours.
- Or you might work out what the rent would be and decide what the house is worth to you, which is a comparison with its own earning power.
- Shares work the same way.
- The price is set against a yardstick, and the real question is which yardstick you trust.
- You already know the price to earnings ratio from Level One.
- Today it is our main example.

2 Method one: comparables

- Compare with the median multiple of peers
- Logic: the law of one price
- Strength: benchmark is observed, not forecast
- Weakness: gives relative value only

IN THE LESSON

- The first method is called the method of comparables.
- You pick a group of similar companies, take their average or median multiple, and compare your share with it.
- If your share trades on a lower multiple than its peers, it may be undervalued.
- The logic behind this is the law of one price, which says that similar assets should sell at similar prices.
- Its strength is that the benchmark comes straight from the market, so nobody has to forecast anything.
- Its weakness is just as plain.
- It only tells you about relative value.
- If every share in the group is too expensive, the cheapest of them is still expensive.

3 Method two: forecasted fundamentals

- Build the multiple from your own forecasts
- Logic: value = discounted cash flows
- Strength: an absolute view of value
- Weakness: only as good as the forecasts

IN THE LESSON

- The second method builds the benchmark from the company itself.
- Value, you remember, is the present value of future cash flows.
- So instead of looking at neighbours, you take your forecasts of dividends or earnings, your required return and your growth rate, and work out what multiple those fundamentals justify.
- This is called the method based on forecasted fundamentals.
- Its logic is that a share is worth what its own cash flows and risk make it worth, whatever the neighbours are doing.
- It gives an absolute view.
- The price you pay is that the answer is only as good as the forecasts, and small changes in them can move the answer a lot.

4 Example 1: cheap and dear at once

Price 36, EPS 3.00, forecast EPS 3.18, peers' P/E 15

Actual trailing P/E	36 ÷ 3.00	**12.0**
Against peers	12 vs 15	**20% below**
Justified leading P/E	0.40 ÷ (0.11 − 0.06)	**8.0**
Justified trailing P/E	8.0 × 1.06	**8.48**
Value from fundamentals	8.0 × 3.18	**25.44**

IN THE LESSON

- Here is a case.
- Freya, an analyst at a made up firm, looks at Harbour Foods.
- The shares cost thirty six dollars.
- Earnings per share were three dollars, and next year's forecast is three dollars eighteen.
- The median trailing price to earnings ratio of its peers is fifteen.
- Freya expects a forty per cent payout, six per cent growth, and requires eleven per cent.
- Trailing, the share trades on twelve times, twenty per cent below the peers.
- It looks cheap.
- But the justified leading multiple is zero point four divided by the gap of five per cent, which is eight.
- That gives a value of about twenty five dollars forty four.
- Against that, thirty six looks expensive.

5 One share, three yardsticks

Trailing P/E multiple

Harbour actual	**12.0**
Peers' median	**15.0**
Justified trailing	**8.48**

Cheap against the peers, dear against its own fundamentals

IN THE LESSON

- Let us see the same share on a picture.
- The vertical axis shows the price to earnings multiple.
- The first bar is Harbour's own trailing multiple, twelve.
- The second is the peers' median, fifteen.
- Against that bar, Harbour looks cheap.
- The third is the justified trailing multiple from its own fundamentals, eight point four eight.
- Against that bar, Harbour looks dear.
- Notice what happened.
- The peers trade well above what a model with an eleven per cent required return would support.
- So the whole sector looks expensive, and a discount to an expensive group is not a bargain.
- The trap is to call a comparables result intrinsic value.
- It is only relative value.

6 The justified P/E from the constant growth model

Justified leading P/E = payout ÷ (r − g)
Justified trailing P/E = payout × (1 + g) ÷ (r − g)

Payout ratio	Dividends as a share of earnings
Required return, r	What investors require
Growth rate, g	Constant growth forever
Justified P/E	What the share should trade on

IN THE LESSON

- Now we build the justified multiple.
- Start from the constant growth dividend model: value equals next year's dividend divided by the required return minus growth.
- Divide both sides by next year's earnings.
- The dividend over earnings is the payout ratio, so the justified leading price to earnings ratio equals the payout ratio divided by r minus g.
- Leading means we use next year's earnings.
- For a trailing multiple we use last year's earnings, which are smaller than next year's by one plus g, so we multiply by one plus g.
- Three things push the multiple up.
- A higher payout, a lower required return, and faster growth.

7 Where does growth come from?

g = retention × ROE
retention = 1 − payout

Retention ratio	Share of earnings kept
Return on equity	Profit earned on equity
Growth rate, g	Sustainable growth

IN THE LESSON

- The growth rate must be earned, not wished for.
- A company can only grow its earnings if it keeps some of them and reinvests them at a good return.
- So the sustainable growth rate equals the retention ratio times the return on equity.
- The retention ratio is one minus the payout ratio, the share of earnings kept.
- Suppose a company keeps fifty five per cent of its earnings and earns twelve per cent on equity.
- Its sustainable growth is fifty five per cent times twelve per cent, which is six point six per cent.
- Notice the link between payout and growth.
- Pay out more and you retain less, so growth falls.
- That is why raising the payout does not simply lift the multiple.

8 Example 2: justified multiple against the market

EPS 2.50, payout 45%, ROE 12%, r = 10%, price 30

Sustainable growth	0.55 × 12%	**6.6%**
Justified leading P/E	0.45 ÷ (0.10 − 0.066)	**13.24**
Justified trailing P/E	13.24 × 1.066	**14.11**
Actual trailing P/E	30 ÷ 2.50	**12.0**
Growth implied by 12.0	solve for g	**6.0%**

IN THE LESSON

- Take a second company, Tarn Ales.
- Earnings last year were two dollars fifty, the payout is forty five per cent, return on equity is twelve per cent and investors require ten.
- The price is thirty.
- First, sustainable growth is fifty five per cent times twelve, six point six.
- Second, the justified leading multiple is zero point four five over zero point oh three four, thirteen point two four.
- Third, the trailing multiple is that times one point oh six six, fourteen point one one.
- The actual trailing multiple is thirty over two fifty, twelve.
- Twelve is below fourteen point one, so the share looks undervalued.
- Solve backwards and the market is pricing in growth of only six per cent.

9 Growth does the heavy lifting

Chart: Justified leading P/E vs Growth rate, 0% to 8%

- 5.6 at 2%
- 13.2 at 6.6%
- 22.5 at 8%

IN THE LESSON

- Here is the justified leading multiple drawn against growth, for a forty five per cent payout and a required return of ten per cent.
- The horizontal axis is the growth rate, from zero to eight per cent.
- The vertical axis is the multiple.
- The curve starts low.
- With no growth, the multiple is four and a half.
- At two per cent growth it is five point six.
- Then it bends upwards, because growth is closing in on the required return, so the gap in the bottom of the formula is shrinking.
- At six point six per cent, the sustainable rate, it is thirteen point two.
- At eight per cent it would be twenty two and a half.
- A small change in growth moves the multiple a great deal.

10 Read it backwards, and mind the inputs

- Forwards: inputs give a justified multiple
- Backwards: price gives the implied growth
- Trap: a growth rate the firm cannot sustain
- 8% growth here needs ROE of about 14.5%

IN THE LESSON

- A justified multiple can be read in two directions.
- Forwards, you put in your inputs and compare the result with the actual multiple.
- Backwards, you take the actual multiple and ask what growth, or what required return, it implies.
- The backwards question is often more persuasive, because it narrows an argument to one number.
- Now the trap.
- Suppose you simply type in eight per cent growth for Tarn Ales.
- The justified leading multiple jumps to twenty two and a half, and the share looks half price.
- But with a forty five per cent payout, eight per cent growth would need a return on equity of about fourteen and a half per cent, which Tarn does not earn.
- You have moved the error from the value into the multiple.

11 No single multiple suits every company

- P/E: earning power, fails if earnings are negative
- P/B: balance sheet value
- P/S and P/CF: sales and cash instead of profit
- Dividend yield: the income paid out

IN THE LESSON

- Think of multiples as tools in a drawer.
- A hammer is great for nails and useless for screws.
- The price to earnings ratio links price to earning power, and it is the usual first choice.
- But it breaks when earnings are negative, because a negative ratio ranks nonsensically, and it is shaky when earnings are volatile or managed by accounting choices.
- So analysts keep other multiples ready.
- Price to book uses the value of the equity on the balance sheet.
- Price to sales uses revenue.
- Price to cash flow uses cash.
- And dividend yield uses the income paid out.
- Each has a reason to be used and a recognisable way of failing.
- The trap is to use one multiple for every company.

12 Which multiple for which company?

Match the multiple to the business

Company situation	Use
Losses, young firm	P/S
Bank or insurer	P/B
Profits may be flattered	P/CF
Mature, pays income	Yield

IN THE LESSON

- Here is a quick guide, row by row.
- When earnings are negative, a loss making young company, use price to sales, because sales exist before profits do.
- For a bank or an insurer, whose assets are mostly financial and carried near market value, price to book works well.
- When you worry that accrual accounting has flattered the profits, price to cash flow is harder to manipulate.
- And for a mature, income focused company such as a utility, dividend yield matters because the income is a large part of the return.
- In every row the right answer comes from asking what the business is, and what its numbers can honestly tell you.

13 What can go wrong with each one

- P/E: losses, volatile or managed earnings
- P/B: ignores intangibles, accounting choices
- P/S: sales ignore the cost structure
- Yield: ignores gains; high yield may be a warning

IN THE LESSON

- Now the drawbacks, one at a time.
- Price to earnings fails with losses, and earnings can be swung by accounting.
- Price to book ignores intangibles such as brands and software, and depends on accounting choices, so it suits banks better than technology firms.
- Price to sales is hard to manipulate and works for loss makers, but sales ignore costs, so strong sales need not mean any profit.
- Price to cash flow is less exposed to accrual tricks, but a simple cash measure ignores the money that must be spent on new equipment to stay in business.
- Dividend yield is only part of the return, since it ignores capital gains, and a very high yield may mean the market expects the dividend to be cut.

14 Example 3: three companies, three multiples

Bank, software company and utility

Bank P/B	16 ÷ 20	**0.80**
Software P/E	20 ÷ (−0.40)	**−50**
Software P/S	20 ÷ 5.00	**4.0**
Utility yield	2.10 ÷ 30	**7.0%**
Utility payout	2.10 ÷ 1.90	**110%**

IN THE LESSON

- Let us practise on three made up companies.
- A bank trades at sixteen dollars with book value of twenty a share.
- Price to book is sixteen over twenty, zero point eight, a meaningful number because bank assets are close to market value.
- A software company trades at twenty with a loss of forty cents per share.
- Its price to earnings ratio is minus fifty, meaningless.
- With sales of five dollars a share, price to sales is four, which we compare with peers.
- A utility trades at thirty and pays two dollars ten in dividends, a yield of seven per cent.
- But earnings are one dollar ninety, a payout of one hundred and ten per cent.
- The generous yield is a warning sign.

15 Mistakes so far

- Comparables result is not intrinsic value
- Unsustainable growth inside a justified P/E
- Leading and trailing multiples mixed up
- One multiple forced onto every company
- High dividend yield taken at face value

IN THE LESSON

- Let us pause and collect the slips from the first half.
- One.
- Treating a comparables result as intrinsic value.
- A discount to a group is a statement about the group.
- Two.
- Building a justified multiple on growth the company cannot sustain, which only moves the error from the value into the multiple.
- Three.
- Mixing leading and trailing.
- A justified leading multiple must be compared with a leading actual multiple, and trailing with trailing.
- Four.
- Using one multiple for every company, for example price to earnings on a loss maker.
- Five.
- Admiring a high dividend yield without checking that the payout is affordable.
- Keep these five in mind as we move on.

16 Price to book and book value per share

BVPS = (total equity − preferred) ÷ shares
P/B = price ÷ BVPS

Common equity	Total equity less preferred
Common shares	Ordinary shares in issue
Book value per share	Common equity per share
Price	Market price per share

IN THE LESSON

- Now the arithmetic, starting with price to book.
- Book value is what the balance sheet says belongs to shareholders.
- But it must belong to the right shareholders.
- Total equity includes preferred equity, which is a fixed claim that ranks ahead of the ordinary shareholders.
- So book value per share equals total equity minus preferred equity, divided by the number of common shares.
- Price to book is then the price divided by that figure.
- The trap is to leave the preferred equity in.
- That overstates book value per share and makes the share look cheaper than it is.
- Many analysts go one step further and strip out goodwill to get tangible book value.

17 From total equity to tangible book

Book value ($m)

Total equity	**5,200**
Common equity	**4,800**
Tangible common	**3,900**

Preferred equity first, then goodwill

IN THE LESSON

- Here is the company for our next example, drawn in millions of dollars.
- The vertical axis shows book value.
- The first bar is total equity, five thousand two hundred.
- Take away four hundred of preferred equity, whose claim is fixed and ranks first, and the common shareholders' equity is four thousand eight hundred.
- Then take away nine hundred of goodwill, the premium paid in past takeovers, which cannot be sold by itself and depends on accounting history.
- What is left is tangible common book value, three thousand nine hundred.
- Each step shrinks the base, so each step makes the price to book ratio larger.
- Removing goodwill is a judgement, but removing preferred equity is not.

18 Example 4, part one: the book multiples

Equity $5,200m, preferred $400m, goodwill $900m, 200m shares, price $30

Book value per share	(5,200 − 400) ÷ 200	**$24.00**
P/B	30 ÷ 24.00	**1.25**
Wrong: preferred left in	30 ÷ 26.00	**1.15**
Tangible book per share	(4,800 − 900) ÷ 200	**$19.50**
Price to tangible book	30 ÷ 19.50	**1.54**

IN THE LESSON

- Now the numbers.
- There are two hundred million ordinary shares priced at thirty dollars.
- Book value per share is five thousand two hundred minus four hundred, over two hundred, which is twenty four dollars.
- Price to book is thirty over twenty four, one point two five.
- If you wrongly left the preferred equity in, you would divide five thousand two hundred by two hundred, twenty six dollars, and get one point one five.
- That is enough to change a comparison with peers.
- Taking out goodwill as well leaves three thousand nine hundred, or nineteen dollars fifty a share.
- Price to tangible book is thirty over nineteen fifty, one point five four.

19 Sales, cash flow and dividend yield

P/S = price ÷ sales per share
P/CF = price ÷ cash flow per share
Dividend yield = dividend per share ÷ price

Price	Market price per share
Sales per share	Revenue divided by shares
Cash flow per share	A named cash measure ÷ shares
Dividend per share	Trailing or forecast dividends

IN THE LESSON

- The other multiples follow the same pattern of price over something per share.
- Price to sales divides the price by sales per share.
- Price to cash flow divides the price by a cash measure per share.
- Which cash measure?
- It might be earnings plus non cash charges such as depreciation, or cash flow from operations, or free cash flow to equity.
- Say which one you use, and keep it the same across companies.
- Dividend yield turns it round: dividend per share divided by price.
- The trailing version uses the last four quarterly dividends, or the last annual dividend.
- The leading version uses the forecast for next year.
- Do not mix the two when comparing.

20 Example 4, part two: sales, cash and yield

Sales $6,000m, net income $480m, depreciation $220m

Price to sales	30 ÷ (6,000 ÷ 200)	**1.00**
Cash flow per share	(480 + 220) ÷ 200	**$3.50**
Price to cash flow	30 ÷ 3.50	**8.57**
Trailing dividend yield	0.84 ÷ 30	**2.8%**
Leading dividend yield	0.96 ÷ 30	**3.2%**

IN THE LESSON

- Back to the same company.
- Sales are six thousand million over two hundred million shares, thirty dollars a share, so price to sales is one.
- For cash flow we use net income of four hundred eighty plus depreciation of two hundred twenty, which is seven hundred, over two hundred shares, three dollars fifty.
- Price to cash flow is thirty over three fifty, eight point five seven.
- For the yield, the last four quarterly dividends were twenty cents, twenty, twenty two and twenty two, together eighty four cents.
- Divided by thirty that is two point eight per cent.
- The forecast for next year is ninety six cents, so the leading yield is three point two per cent.

21 Reported earnings versus underlying earnings

- Reported EPS includes one off items
- Underlying EPS = the repeatable level
- Add back charges, remove gains
- Trap: a one off that happens every year

IN THE LESSON

- Now let us look at the bottom of the price to earnings ratio, the earnings.
- Imagine a baker whose profit last year included a lucky payout from selling an old oven, and a one time bill for closing a shop.
- Would last year's profit be a good guide to next year's?
- Not really.
- Reported earnings often include non recurring items such as restructuring charges, impairments and gains on asset sales.
- Underlying earnings, also called core or persistent earnings, strip these out to show the repeatable level of profit.
- Adjust fairly in both directions: add back the charges and take out the gains.
- The trap is excluding a charge that management calls one off when similar charges turn up almost every year.

22 Example 5: from reported to underlying EPS

Reported EPS 2.21, all items after tax

Reported EPS	latest year	**2.21**
Add back restructuring	reduced earnings	**+0.45**
Add back impairment	reduced earnings	**+0.10**
Remove gain on sale	raised earnings	**−0.30**
Underlying EPS	2.21 + 0.45 + 0.10 − 0.30	**2.46**

IN THE LESSON

- Here are the numbers for a made up company, Castle Steelworks.
- Reported earnings per share for the latest year were two dollars twenty one.
- Inside that figure are three items, all after tax.
- A restructuring charge of forty five cents reduced earnings, so we add it back.
- An impairment of ten cents also reduced them, so we add that back too.
- A gain of thirty cents on the sale of a disused mill increased earnings, so we take it out.
- Two twenty one plus forty five plus ten minus thirty is two dollars forty six.
- That is the underlying figure, the one a multiple should be built on.
- Notice that the adjustments run both ways.

23 Cyclical companies: normalise the EPS

- Cycles swing even underlying earnings
- Method 1: average EPS over a full cycle
- Method 2: average ROE × current book value
- Method 2 reflects a bigger company today

IN THE LESSON

- Cleaning out one off items is not always enough.
- A steelmaker or a shipping line earns a lot at the top of the economic cycle and little at the bottom, even when nothing unusual happens.
- A price to earnings ratio on trough earnings looks enormous, and on peak earnings looks tiny.
- Neither is a fair guide.
- So analysts normalise earnings per share to the level you would expect on average over a full cycle.
- There are two standard ways.
- The historical average method averages EPS over the full cycle.
- The average return on equity method multiplies the average return on equity over the cycle by the current book value per share.
- The second reflects growth in the size of the company.

24 Two ways to normalise EPS

Normal EPS (1) = average of cycle EPS
Normal EPS (2) = average ROE × current BVPS

Average EPS	Mean over the full cycle
Average ROE	Mean ROE over the cycle
Current book value	Book value per share today

IN THE LESSON

- Here are the two methods as formulas.
- The first is simple.
- Add up the earnings per share for each year of the cycle and divide by the number of years.
- The second takes the average return on equity over the cycle, the profitability you can expect on average, and applies it to book value today.
- Why is that better for a company that has grown?
- Because book value is the size of the company now.
- Earnings from five years ago came from a smaller equity base, so an unadjusted average understates what the same point in the cycle would produce today.
- When the company has grown, prefer the return on equity method.
- When it has not, the two give similar answers.

25 Example 6: normalising a cyclical company

Cycle EPS 2.10, 3.06, 1.52, 0.60, 2.46; BVPS now 22.00; price 29

Historical average EPS	9.74 ÷ 5	**1.95**
Average ROE	55% ÷ 5	**11%**
ROE method EPS	11% × 22.00	**2.42**
P/E on average EPS	29 ÷ 1.95	**14.9**
P/E on ROE method	29 ÷ 2.42	**12.0**

IN THE LESSON

- A cyclical company's underlying earnings per share over the last full cycle were two dollars ten, three oh six, one fifty two, sixty cents and two forty six.
- Their sum is nine seventy four, so the historical average over five years is about one dollar ninety five.
- Return on equity in those years was fourteen, eighteen, eight, three and twelve per cent.
- The average is eleven per cent.
- Book value per share has grown and is now twenty two dollars.
- Eleven per cent of twenty two is two dollars forty two.
- At a price of twenty nine, the multiple on the historical average is fourteen point nine, and on the return on equity method it is twelve.
- The second method is preferred here, because the company has grown.

26 Same price, four different denominators

P/E at a price of 29

Trough EPS	**48.3**
Average EPS	**14.9**
ROE method	**12.0**
Peak EPS	**9.5**

Normalising removes the cycle from the multiple

IN THE LESSON

- Let us see why this matters.
- The vertical axis shows the price to earnings multiple for the same cyclical company at the same price of twenty nine.
- On the trough year earnings of sixty cents, the multiple is forty eight.
- The share looks wildly expensive at exactly the moment its profits are temporarily squashed.
- On the historical average, it is fourteen point nine.
- On the return on equity method, twelve.
- On the peak earnings of three oh six, it is nine and a half, and the share looks absurdly cheap.
- Normalising takes the cycle out of the denominator.
- A multiple built on a single year of a cyclical business mostly tells you where in the cycle you happen to be.

27 Earnings yield: the P/E turned upside down

- Earnings yield = E ÷ P
- It is 1 ÷ (P/E), the P/E upside down
- P/E explodes when earnings are near zero
- E/P stays smooth, even when negative

IN THE LESSON

- Now the last idea, and a neat one.
- Earnings yield is earnings per share divided by price.
- It is simply the price to earnings ratio turned upside down.
- A share on a multiple of twenty has an earnings yield of one twentieth, five per cent.
- Why bother?
- Because the price to earnings ratio misbehaves when earnings are tiny or negative.
- When earnings are close to zero the ratio becomes enormous.
- When they are negative it becomes a negative number that means nothing.
- Earnings yield has no such problem.
- It stays a smooth number that can be ranked, with a loss sitting naturally below a profit.
- For positive earnings the two measures tell the same story, in opposite directions.

28 Earnings yield and the P/E ratio

Earnings yield = EPS ÷ price = 1 ÷ (P/E)

Earnings per share	Profit per share
Price	Market price per share
Earnings yield	Profit earned per dollar paid

IN THE LESSON

- Here is the relationship.
- Earnings yield equals earnings per share divided by price, and that equals one divided by the price to earnings ratio.
- Take a share at forty dollars with earnings of five dollars.
- The multiple is eight, and the earnings yield is five over forty, twelve and a half per cent.
- Take a share at sixty with earnings of one dollar fifty.
- The multiple is forty, and the earnings yield is two and a half per cent.
- A high earnings yield is a low multiple, which usually means cheap.
- A low earnings yield is a high multiple, which means dear.
- So when you rank shares by earnings yield, the highest yield is the cheapest, and you read down the list.

29 Same four shares, two rankings

By P/E, lowest first

D: P/E −25 → A: P/E 8 → B: P/E 16 → C: P/E 40

By earnings yield, highest first

A: 12.5% → B: 6.25% → C: 2.5% → D: −4%

IN THE LESSON

- Here are four shares, ranked cheapest to dearest in two ways.
- The top row sorts by price to earnings ratio, lowest first.
- Share D made a loss, so its ratio is minus twenty five, and it lands at the front of the queue, labelled the cheapest on the list.
- That is exactly backwards.
- Then come A at eight, B at sixteen and C at forty.
- The bottom row sorts by earnings yield, highest first.
- A leads with twelve and a half per cent, then B with six and a quarter, then C with two and a half.
- Share D, with a negative four per cent, drops to the end, where a loss belongs.
- The other three keep their order.

30 Example 7: ranking four shares

A: 40, EPS 5.00. B: 32, EPS 2.00. C: 60, EPS 1.50. D: 25, loss 1.00

A	5.00 ÷ 40	**12.5%**
B	2.00 ÷ 32	**6.25%**
C	1.50 ÷ 60	**2.5%**
D	−1.00 ÷ 25	**−4.0%**

P/E of D = 25 ÷ (−1.00) = −25, wrongly ranked first

IN THE LESSON

- Now the working.
- Share A costs forty with earnings per share of five.
- Share B costs thirty two with earnings of two.
- Share C costs sixty with earnings of one fifty.
- Share D costs twenty five with a loss of one dollar.
- The price to earnings ratios are eight, sixteen, forty, and for D minus twenty five.
- The earnings yields are twelve and a half, six and a quarter, two and a half, and for D minus four per cent.
- Notice there was no special rule needed for the loss maker.
- The yield simply takes a negative value and falls to the bottom of the list.
- The ratio needed a rule to be thrown out, and analysts who forget the rule rank the loss maker first.

31 Earnings yield against bond yields

- E/P can be compared with bond yields
- A: 12.5% vs bond 4.5%; C: 2.5% vs 4.5%
- But a bond yield is a promise, E/P is not
- Rough gauge of relative value only

IN THE LESSON

- One more use.
- Because earnings yield is a rate of return, it can be set beside the yield on a government bond.
- Suppose the ten year bond yields four and a half per cent.
- Share A earns twelve and a half per cent on its price, eight points above the bond.
- Share C earns two and a half, two points below.
- It is tempting to say A is cheap and C is dear.
- Treat that as a rough gauge only.
- The bond yield is a fixed promise.
- Earnings yield is an accounting ratio on profits that may grow, shrink or be retained, and it carries equity risk.
- A high earnings yield may mean the share is cheap, or that the market expects earnings to fall.

32 Recap: the formulas to remember

Justified P/E = payout ÷ (r − g); P/B = P ÷ BVPS Yield = DPS ÷ P; E/P = EPS ÷ P; EPS = avg ROE × BV

Justified P/E	Payout ÷ (r − g), leading
Book value per share	Common equity ÷ common shares
Dividend per share	Yield = dividend ÷ price
Average ROE	Normalise cyclical EPS
Earnings yield	E/P ranks losses last

IN THE LESSON

- Let us pull it together.
- Comparables give relative value, fundamentals give absolute value.
- A justified leading multiple is the payout over r minus g, and the trailing one is multiplied by one plus g.
- Growth must be earned: retention times return on equity.
- Price to book uses common equity only, so take the preferred out first.
- Price to sales and price to cash flow help when earnings fail, and dividend yield ignores capital gains.
- Underlying earnings strip out one off items in both directions, and cyclical companies need normalised earnings: the cycle average, or average return on equity times current book value.
- And earnings yield is the ratio upside down, which ranks loss makers last.

33 Try three quick questions

1. Payout 50%, r = 10%, g = 6%. Justified leading P/E?
   Answer: 0.50 ÷ 0.04 = 12.5
2. Price 45; equity 1,000 incl. 200 preferred; 40 shares. P/B?
   Answer: BVPS = 800 ÷ 40 = 20; 45 ÷ 20 = 2.25
3. Price 50, EPS −2.50. Earnings yield, and its rank?
   Answer: −5%: ranks below every profitable share

IN THE LESSON

- Now try three quick questions.
- Pause after each one.
- Question one.
- A share has a payout of fifty per cent, a required return of ten per cent and growth of six per cent.
- What is the justified leading price to earnings ratio?
- Fifty per cent over the gap of four per cent is twelve and a half.
- Question two.
- Price is forty five.
- Total equity is one thousand, including two hundred of preferred, and there are forty common shares.
- What is price to book?
- Common equity is eight hundred, so book value per share is twenty, and price to book is two point two five.
- Question three.
- Price is fifty and earnings per share is a loss of two fifty.
- What is the earnings yield?
- Minus two fifty over fifty is minus five per cent, and it ranks last.