Dividend discount models and the Gordon growth model

Equity Investments

1 Which cash flow do we discount?

- Dividends: cash actually paid to shareholders
- Free cash flow: cash left after running and investing
- Residual income: profit above a charge for equity
- Pick the one that suits the company

IN THE LESSON

- Imagine you are buying a small bakery.
- What is it worth to you?
- You could count the cash the owners take home each year.
- Or you could count all the cash the business generates after paying for its ovens and vans, whether or not the owners take it out.
- Or you could ask how much profit is left after charging the owners for the money they have tied up in the shop.
- Those are three different answers, and each is a sound way to value the bakery.
- Shares work the same way.
- A present value model can discount dividends, free cash flow, or residual income.
- The art is choosing the one that suits the company in front of you.

2 Three inputs and where each fits

Which input suits which company

Cash flow measure	Fits best
Dividends	Mature, steady payers
Free cash flow	No dividend; a controller
Residual income	Negative cash flow, clean books

IN THE LESSON

- Here is the map.
- Dividends are what a minority shareholder really receives, so they suit mature companies whose dividend policy is tied to profitability.
- Think of a steady utility that pays out about the same share of its earnings each year.
- Free cash flow suits companies that pay no dividend, or far less than they could.
- It also suits the view of a controlling shareholder, because a controller decides how the cash is used, and can take it out.
- Residual income suits companies with negative free cash flow for the foreseeable future, or with no dividends, provided the accounting is of good quality.
- Why that condition?
- Because residual income is built from accounting numbers, so poor accounts give poor answers.

3 Example 1: one young company, three measures

Brightwave: EPS 2.40, opening book value 20.00, required return 9%

Dividend	none paid	**0.00**
Free cash flow to equity	building data centres	**−1.20**
Equity charge	9% × 20.00	**1.80**
Residual income	2.40 − 1.80	**0.60**

Zero and negative flows: only residual income can be discounted

IN THE LESSON

- Example one.
- Brightwave Systems is a young software company building data centres.
- This year it earns two dollars forty per share, and it began the year with book value of twenty dollars per share.
- It pays no dividend.
- Because it is spending heavily, its free cash flow to equity is minus one dollar twenty.
- Now the residual income.
- Shareholders require nine per cent, so the charge for the equity they have tied up is nine per cent of twenty, which is one dollar eighty.
- Residual income is earnings less that charge: two forty minus one eighty, which is sixty cents.
- Look at the three answers.
- Zero, negative, and positive.
- Only one of them says anything useful.

4 When the dividend says something

- Mature payer
- Steady payout
- Erratic payout
- No dividend

IN THE LESSON

- Here is the idea on one line.
- On the left, the dividend is a good guide to what shareholders get.
- A mature payer, say a regulated water company, pays out a steady share of earnings, so discounting dividends works.
- Next comes a steady consumer brand with a stable payout.
- Moving right, the link weakens.
- A company with an erratic payout, one year big and the next year small for no reason connected to profit, makes the dividend a poor stand in.
- On the far right sits a company paying nothing at all, like Brightwave.
- Dividends tell you nothing there, though the company may be worth a great deal.
- The further right you are, the more you should reach for another measure.

5 The viewpoint matters, and so does the trap

- Minority holder sees dividends only
- Controller can direct free cash flow
- Trap: dividends where payout ignores earnings
- Trap: free cash flow that stays negative for years

IN THE LESSON

- One more thing, which is whose side you are on.
- A minority shareholder cannot make the board pay anything.
- All she will ever see is the dividend, so for her, dividends are the cash flow.
- A controlling shareholder can direct the cash, so free cash flow is what the controller really has at their disposal.
- The same company can therefore have two sensible values, depending on who is asking.
- Now the exam trap.
- Do not use dividends for a firm whose payout bears little relation to its earnings.
- And do not use free cash flow for a firm investing so heavily that its flows stay negative for years.
- In both cases you are discounting a number that does not describe the business.

6 The dividend discount model: a share is a stream

- You receive dividends while you hold the share
- Then you sell it at the expected price
- Discount both at the required return on equity
- Value = PV of dividends + PV of sale price

IN THE LESSON

- Let's start with the dividend discount model, which we will call the D D M.
- Suppose a friend offers to sell you a share and you plan to keep it for one year.
- What do you get?
- A dividend during the year, and then the share itself, which you sell at the end.
- So the share is worth what those two things are worth today.
- Money arriving in a year is worth less than money in your hand, so we discount both at your required return on equity, which is the return you demand for taking the risk.
- That is the whole model.
- A share is worth the present value of the dividends you receive while you hold it, plus the present value of the price you expect to sell it for.

7 The dividend discount formulas

V0 = (D1 + P1) ÷ (1 + r)
V0 = ΣDt ÷ (1 + r)^t + Pn ÷ (1 + r)^n

V0: value today	What the share is worth now
D1: next year's dividend	Dividend in year 1, then 2, 3 ...
P: expected sale price	Price at the end of year n
r: required return	Return you demand each year
n: years held	Number of years held

IN THE LESSON

- Here are the formulas.
- For one year, the value today, V zero, equals the first dividend plus the expected price at the end of the year, all divided by one plus r.
- For several years, discount each dividend by one plus r raised to the year it arrives, add them up, and then add the final sale price divided by one plus r raised to the number of years held.
- Let's take the terms.
- D is a dividend, with a number to show which year.
- P is the price you expect to sell at, at the end of year n.
- The letter r is the required return on equity.
- And n is how many years you hold.
- Notice that the first dividend is D one, next year's, not the one just paid.

8 Example 2: holding for one year

Larkfield: D1 = 1.80, P1 = 46.20, required return 8%

PV of the dividend	1.80 ÷ 1.08	**1.67**
PV of the sale price	46.20 ÷ 1.08	**42.78**
Value today V0	1.67 + 42.78	**44.44**
Forgetting the sale price	counts D1 only	**1.67**

IN THE LESSON

- Example two.
- Larkfield Foods is a mature packaged food company.
- You expect it to pay a dividend of one dollar eighty next year, and to be trading at forty six dollars twenty a year from now.
- Your required return is eight per cent.
- Discount each piece by one point zero eight.
- The dividend is worth one eighty divided by one point zero eight, which is one dollar sixty seven.
- The price is worth forty six twenty divided by one point zero eight, which is forty two dollars seventy eight.
- Add them and the value is forty four dollars forty four.
- Notice that nearly all the value sits in the price.
- If you forgot the sale price and counted only the dividend, you would get a silly answer of one sixty seven.

9 Example 3: holding for three years

D = 1.00, 1.10, 1.20; sale price 30 at end of year 3; r = 10%

Year 1: D1	1.00 ÷ 1.10	**0.909**
Year 2: D2	1.10 ÷ 1.10^2	**0.909**
Year 3: D3 + P3	31.20 ÷ 1.10^3	**23.441**
Value today V0	0.909 + 0.909 + 23.441	**25.26**
V0 if price is one year short	0.909 + 0.909 + 0.902 + 24.79	**27.51**

IN THE LESSON

- Example three, a longer hold.
- An investor plans to keep a share for three years.
- Dividends are expected to be one dollar, one ten and one twenty, and the price at the end of year three is thirty.
- The required return is ten per cent.
- Year one: one divided by one point one is nought point nine zero nine.
- Year two: one ten divided by one point one squared, which is one point two one, again nought point nine zero nine.
- Year three is the interesting one.
- The dividend of one twenty and the sale price of thirty arrive together, so add them to thirty one twenty and divide by one point one cubed, one point three three one.
- That is twenty three point four four one.
- The total is twenty five dollars twenty six.

10 Where the value comes from

Present value per share

Present value of dividends	**2.72**
Present value of sale price	**22.54**
Value today	**25.26**

Three year hold, required return 10%

IN THE LESSON

- Let's look at that three year answer as bars.
- The first bar is the present value of the three dividends added together: nought point nine zero nine, plus nought point nine zero nine, plus nought point nine zero two, about two dollars seventy two.
- The second bar is the present value of the sale price, thirty divided by one point three three one, which is twenty two dollars fifty four.
- The third bar is the share's value, the two added up, twenty five dollars twenty six.
- Dividends are only about eleven per cent of the value, and the sale price is about eighty nine.
- Over a short hold, it looks as if you are valuing a price forecast, and that feels uncomfortable.
- The next slide deals with that worry.

11 The sale price is just more dividends

- Next buyer pays for the dividends after the sale
- So the sale price is itself a stream of dividends
- Stretch the horizon for ever: no sale price is left
- Value = PV of all future dividends

IN THE LESSON

- Here is the worry.
- If most of the value is a sale price, are we just guessing what someone will pay?
- Ask what the next buyer is paying for.
- They are buying the dividends from year four onwards, plus a sale price of their own.
- And whoever buys from them is buying the dividends after that.
- Link all the holders together, and every sale price is replaced by the dividends that follow it.
- Stretch the holding period out for ever and no sale price is left.
- So the value of a share is the present value of all the dividends it will ever pay, however long you personally plan to keep it.
- Your own holding period changes the way you slice the answer, not the answer itself.

12 Constant growth for ever

- Dividends grow at the same rate g each year
- The list never ends, yet the sum is one fraction
- Called the Gordon or constant growth model
- Know its assumptions before you trust it

IN THE LESSON

- Discounting every dividend a company will ever pay sounds impossible, because the list never ends.
- But there is a shortcut.
- Picture a tree that adds the same share of new growth each year.
- If every dividend is a fixed percentage bigger than the one before, forever, the infinite sum collapses into one short fraction.
- That is the Gordon growth model, also called the constant growth model.
- It works for a company whose dividends are expected to grow at a steady rate, which we call g, with no end date.
- The model is so compact that people sometimes overrate it and sometimes dismiss it.
- Over the next few slides you will see exactly what it assumes, and so when you can trust it.

13 The Gordon growth formula

$V_0 = D_1 \div (r - g)$
$D_1 = D_0 \times (1 + g)$

V_0: value today	What the share is worth now
D_1: next year's dividend	Next year's dividend
D_0: dividend just paid	Dividend just paid
r: required return	Required return on equity
g: growth rate	Constant growth for ever

IN THE LESSON

- Here is the formula.
- The value today equals next year's dividend, D one, divided by the required return r minus the growth rate g.
- And next year's dividend is the one just paid, D zero, times one plus g.
- Let's go through the terms.
- V zero is the value of the share now.
- D one is the dividend expected one year from now.
- The letter r is the required return on equity.
- And g is the constant growth rate of the dividend.
- One thing to see right away is that the bottom of the fraction is a difference.
- The closer g gets to r, the smaller that difference, and the bigger the value.
- Keep that thought, because it matters a lot in a few slides.

14 Example 4: Orchard Utilities

D0 = 2.00, g = 4% for ever, r = 9%

Next year's dividend D1	2.00 × 1.04	**2.08**
Gap r − g	9% − 4%	**5%**
Value V0	2.08 ÷ 0.05	**41.60**
Using D0 by mistake	2.00 ÷ 0.05	**40.00**

IN THE LESSON

- Example four.
- Orchard Utilities is a regulated electricity distributor.
- It has just paid a dividend of two dollars per share.
- The regulator's rules support dividend growth of four per cent a year for the foreseeable future, and the required return is nine per cent.
- Step one, next year's dividend: two times one point zero four is two dollars eight cents.
- Step two, divide by the gap between r and g, nine per cent minus four per cent, which is five per cent.
- Two oh eight divided by nought point nought five is forty one dollars sixty.
- Now the classic mistake.
- If you divide the dividend just paid, two dollars, by nought point nought five, you get forty dollars.
- That is too low by exactly the factor one point zero four.

15 Value against growth: the gap is the story

Chart: Value per share vs Growth rate g (r = 9%)

- g 4%: 41.60
- g 5%: 52.00
- g near r: value soars

IN THE LESSON

- Now a picture of how the value moves.
- Growth runs along the bottom, from nought up towards the required return of nine per cent, and value per share runs up the side.
- We hold next year's dividend at two oh eight.
- The curve is fairly flat on the left and then climbs steeply.
- Find the first mark, at four per cent growth.
- The gap to nine per cent is five points, and the value is forty one sixty.
- Now the second mark, at five per cent.
- The gap is only four points, and dividing by four instead of five lifts the value by a quarter, to fifty two.
- As growth creeps towards nine per cent, the gap shrinks to nothing and the value runs off the top of the page.

16 The price grows at g too

Expected value per share

Today	**41.60**
In a year	**43.26**
In two years	**44.99**

Each year's value is 4% above the last

IN THE LESSON

- There is a neat consequence.
- At any date, the value is the next dividend divided by r minus g.
- So if you move one year ahead, you do the same sum with the next year's dividend, which is bigger by the factor one plus g.
- Orchard's share is worth forty one sixty today.
- In a year, next year's dividend is two oh eight times one point zero four, and the value is forty three dollars twenty six.
- In two years it is forty four dollars ninety nine.
- Each bar is four per cent higher than the one before.
- So the share price is expected to grow at the same rate as the dividend.
- And your nine per cent return splits neatly: a five per cent dividend yield on today's price, plus four per cent price growth.

17 What the Gordon model takes for granted

- Growth is constant and lasts for ever
- Required return r must exceed growth g
- Dividends are the right measure of the cash
- Top of the fraction is D1, never D0

IN THE LESSON

- Now the small print.
- The model assumes three things.
- First, growth is constant and lasts for ever.
- No fast years, no slow years, no end.
- Second, the required return is greater than the growth rate.
- If it were not, the formula would give a negative or infinite value, which makes no sense.
- Third, dividends are the right measure of what shareholders receive.
- If the payout bears no link to the business, the model has nothing real to hold on to.
- A final reminder about the trap: always use D one on top.
- When growth is positive, using D zero understates the value by the factor one plus g.
- It is a small slip in the formula, and an easy mark to lose in the exam.

18 Perpetual preferred: a bond wearing a share's clothes

- Fixed dividend, never repaid, cannot be called
- Like a perpetual bond
- Gordon model with growth of zero
- Dividend is a percentage of par value

IN THE LESSON

- Now the simplest security in equity valuation.
- A preferred share is a share that promises a fixed dividend.
- Suppose it is perpetual, which means it never matures, and non callable, which means the company cannot buy it back whenever it likes.
- Then it pays the same dividend every year for ever.
- Think of a perpetual bond, a loan that pays the same interest and never gets repaid.
- The dividend does not grow, so this is just the Gordon model with growth of zero.
- The value is the dividend divided by the return that holders of that preferred demand.
- The only trick is the dividend itself, which is quoted as a percentage of par, the face value, not of the market price.

19 Valuing a perpetual preferred

V0 = D ÷ rp
D = dividend rate × par
rp = D ÷ P0

V0: value today	Value of the preferred share
D: annual preferred dividend	Fixed dividend each year
Par value	Face value the rate applies to
rp: preferred's required return	Return on the preferred itself

IN THE LESSON

- Here are the formulas.
- The value today equals the annual dividend divided by the preferred's own required return.
- The dividend itself is the dividend rate times the par value.
- So a six per cent preferred with a par value of fifty dollars pays three dollars a year.
- Let's go through the terms.
- V zero is the value of the preferred share.
- D is the annual dividend in dollars.
- Par is the face value the rate applies to.
- And r p is the required return on the preferred, which is not the same as the return on the company's common shares.
- You can also run it backwards.
- Divide the dividend by a market price, and you get the yield that price implies.

20 Example 5: a six per cent preferred

Preferred: 6% of par 50.00, never called

Annual dividend D	6% × 50.00	**3.00**
Value at 7.5%	3.00 ÷ 0.075	**40.00**
Value at 11%	3.00 ÷ 0.11	**27.27**
Yield at a price of 36	3.00 ÷ 36	**8.33%**
Wrong: common return 9%	3.00 ÷ 0.09	**33.33**

IN THE LESSON

- Example five.
- Tamsin Water has a six per cent perpetual preferred share with a par value of fifty dollars.
- Step one, the dividend.
- Six per cent of fifty is three dollars a year.
- Step two, the value if investors want seven and a half per cent: three divided by nought point nought seven five is forty dollars.
- Now suppose rates rise and investors want eleven per cent.
- The value falls to three divided by nought point one one, which is twenty seven dollars twenty seven.
- That is how a perpetual bond behaves.
- Now run it backwards.
- If the share trades at thirty six dollars, the yield is three divided by thirty six, eight point three three per cent.
- Finally the slip: using the nine per cent common return gives thirty three thirty three, the wrong answer.

21 Mistakes to avoid so far

- Sale price: discount for the same years as the last dividend
- Use D1, next year's dividend, never D0 in the value
- Gordon: D1 on top of r − g; D0 understates by 1 + g
- Preferred: rate × par first; use its own required return
- Match the cash flow to the company

IN THE LESSON

- Let's pause and collect the mistakes, because each of them is a classic exam trap.
- First, the sale price must be discounted for the same number of years as the final dividend it arrives with, not one year fewer.
- Second, the first dividend in the model is D one, the next one, not D zero, the one you have already missed.
- Third, in the Gordon model, put D one on top of the fraction.
- Dividing D zero understates value by one plus g.
- Fourth, for a preferred, apply the rate to par before you divide, and discount at the preferred's own required return.
- And last, choose the cash flow to suit the company: no dividends for erratic payers, and no free cash flow for firms stuck with negative flows.

22 What the Gordon model does well and badly

Gordon growth model scorecard

Feature	Verdict
Three visible inputs	Strength
Mature, stable payers	Strength
No or erratic dividend	Fails
Growth about to change	Fails

IN THE LESSON

- So when should you reach for it?
- First the good news.
- It is simple, transparent and easy to explain to a client.
- It has just three inputs: next year's dividend, the required return and the growth rate, all visible.
- It suits mature, dividend paying companies with stable payout policies and growth close to that of the economy.
- Analysts also use it for broad market indices, and for the terminal value in models with several stages.
- Now the bad news.
- It cannot value a company that pays no dividend or pays erratically, or one whose growth is expected to change.
- And it breaks down as growth approaches the required return.
- Here is the scorecard.

23 Example 6: small errors, large swings

D1 = 2.08 throughout; base r = 9%, g = 4%

Base case	2.08 ÷ (9% − 4%)	**41.60**
Growth 5%	2.08 ÷ (9% − 5%)	**52.00**
Required return 8%	2.08 ÷ (8% − 4%)	**52.00**
Growth 8%	2.08 ÷ (9% − 8%)	**208.00**

One point on g or r moves value by a quarter or more

IN THE LESSON

- Example six.
- The weakness in numbers.
- Take Orchard again, with next year's dividend fixed at two oh eight, required return nine per cent, and growth four per cent.
- The value is forty one sixty.
- Now raise growth by just one point, to five per cent.
- The gap falls from five points to four, and the value jumps to fifty two dollars, a quarter more.
- Alternatively leave growth alone and cut the required return to eight per cent.
- Same gap of four points, same fifty two.
- Now push growth to eight per cent.
- The gap is one point, and the value is two hundred and eight dollars, five times the starting figure.
- Nothing about the company changed much, but the answer exploded.
- So the model needs inputs you can trust.

24 Arguing for the model, and the fast growth trap

- Orchard: steady payer, growth near the economy's: use it
- Veltro: no dividend, growth far too fast to last: do not
- Also fine for indices and terminal values
- Fast growers need models with stages

IN THE LESSON

- Suppose the investment committee asks whether to use the Gordon model for two companies.
- For Orchard, the regulated utility, the case is strong.
- Its dividends are steady, growth is close to the economy's, and the model's three inputs are easy to defend.
- For Veltro Networks, the answer is no.
- Veltro is a fibre broadband company that has grown earnings at over twenty five per cent a year and has never paid a dividend.
- A growth rate like that cannot last for ever, and certainly cannot stay below the required return.
- The trap is applying the model to a fast grower whose current growth cannot possibly continue.
- For a company like that you need a model with stages, which comes in a later lesson.

25 Running the model backwards

- Give the model the price instead of the growth
- It returns the growth the market expects
- Compare with what the company can sustain
- Far too high: the share may be overvalued

IN THE LESSON

- Normally you give a model a growth forecast and it gives you a price.
- But you can run it the other way.
- Give it the market price, and it tells you the growth the market must be expecting.
- That is a useful trick, because it is easier to judge whether a growth rate sounds believable than to say exactly what a share is worth.
- Think of reading a thermometer in reverse: if the room is this warm, how long has the heating been on?
- If we treat the market price as fair value, we can solve the Gordon formula for g.
- Then we compare that growth with what the company can actually sustain.
- If the market is asking for much more than the business can deliver, the share may be overvalued.

26 Implied growth: two versions

g = r − D1 ÷ P0
g = (P0 × r − D0) ÷ (P0 + D0)

g: growth rate	Growth the price implies
r: required return	Required return on equity
P0: market price	Market price today
D0: dividend just paid	Dividend just paid
D1: next year's dividend	Next year's dividend

IN THE LESSON

- Here are two versions of the same idea.
- If you know next year's dividend, the implied growth is the required return minus the forward dividend yield, D one divided by the price.
- If you only know the dividend just paid, write D one as D zero times one plus g and solve again.
- The implied growth rate becomes the price times r, minus D zero, all divided by the price plus D zero.
- Let's check the terms.
- P zero is today's market price.
- D zero is the dividend just paid.
- The letter r is the required return.
- And g is the growth rate that makes the model value equal the price.
- A fundamental estimate to compare it with is the retention ratio times return on equity.

27 Example 7: what does a price of forty imply?

Price 40, D0 = 1.60, r = 9%; retention 60%, ROE 6%

Implied growth g	(40 × 0.09 − 1.60) ÷ 41.60	**4.81%**
Sustainable growth	60% × 6%	**3.6%**
Value at 3.6% growth	1.60 × 1.036 ÷ (9% − 3.6%)	**30.70**
Shortcut using D0 ÷ P0	9% − 1.60 ÷ 40	**5.00%**

IN THE LESSON

- Example seven.
- Dovecote Brewing trades at forty dollars, has just paid a dividend of one dollar sixty, and has a required return of nine per cent.
- The company keeps sixty per cent of its earnings and earns a return on equity of six per cent.
- Start with the formula for the dividend just paid.
- Forty times nought point nought nine is three sixty.
- Take off one sixty to get two dollars.
- Divide by forty plus one sixty, which is forty one sixty.
- The implied growth is four point eight one per cent.
- Now the company's own capacity: retention of sixty per cent times six per cent is three point six per cent.
- At three point six per cent growth the model gives only thirty dollars seventy.
- The shortcut, nine per cent minus one sixty over forty, gives five per cent, which is wrong.

28 Reading growth off the price

Chart: Value per share vs Assumed growth g (r = 9%)

- Market price 40
- Implied 4.81%
- 3.6%: 30.70

IN THE LESSON

- Here is the same example drawn.
- Growth runs along the bottom and value per share up the side.
- The curve is the Gordon value for Dovecote at each growth rate, using the dividend just paid.
- It climbs faster and faster to the right.
- Now find the dashed line across the page.
- That is the market price of forty.
- Follow it until it meets the curve, then drop down to the growth axis.
- That is the growth the market is pricing in, four point eight one per cent.
- Now look at the lower mark, at three point six per cent, which is what the company can fund from its own reinvestment.
- The curve there is only thirty dollars seventy.
- The gap between those two growth rates is the question to put to the price.

29 Recap: one idea in five costumes

Value = present value of what the owner receives

Which cash flow	Pick by company type
Dividends plus sale	PV of dividends plus sale
Constant growth	D1 ÷ (r − g)
Preferred share	D ÷ rp
Implied growth	g = r − D1 ÷ P0

IN THE LESSON

- Let's pull it together.
- One idea runs through the whole lesson: a share is worth the present value of the cash it hands back.
- First, choose the cash flow: dividends for mature payers, free cash flow for non payers and controllers, residual income for negative flows with clean accounts.
- Second, over a holding period, add the discounted dividends and the discounted sale price, with the sale price discounted as long as the last dividend.
- Third, for constant growth, next year's dividend over r minus g.
- Fourth, a perpetual preferred is the same with zero growth: dividend over its own required return.
- Fifth, run it backwards to find the growth a price implies, and compare it with what the business can sustain.

30 Try three quick questions

1. Preferred pays 5% on par 40; required return 8%. Value?
   Answer: D = 2.00; 2.00 ÷ 0.08 = 25.00.
2. D0 = 3.00, g = 5%, r = 10%. Gordon value?
   Answer: D1 = 3.15; 3.15 ÷ 0.05 = 63.00.
3. r = 9%, D1 = 2.00, price 50. Implied growth?
   Answer: 9% − 2.00 ÷ 50 = 9% − 4% = 5%.

IN THE LESSON

- Now try three quick questions yourself.
- Pause after each one.
- Question one.
- A perpetual preferred pays five per cent on a par value of forty dollars, and holders require eight per cent.
- What is it worth?
- The dividend is two dollars, and two divided by nought point nought eight is twenty five dollars.
- Question two.
- A company has just paid three dollars, dividends will grow five per cent for ever, and the required return is ten per cent.
- What is the value?
- Next year's dividend is three fifteen, divided by five per cent, giving sixty three dollars.
- Question three.
- The required return is nine per cent, next year's dividend is two dollars, and the price is fifty.
- What growth is implied?
- Two over fifty is four per cent, so nine minus four is five per cent.