

# Valuation of EatOnline.Asia

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**RETURN ON EQUITY**

- The cash payoff to shareholders:
  - dividend
  - capital gain
- The return from holding a share:
  - dividend yield
  - expected capital gain or loss

$$r = \frac{D_1 + (P_1 - P_0)}{P_0}$$

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**EQUITY VALUATION**

- The value of equity is the present value
  - of the expected future cash flow
  - of the forecast of dividends and expected future price

$$P_0 = \frac{D_1 + P_1}{(1+r)}$$

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**CALCULATION**

The value of equity of a company is the present value of the expected future cash flow of the company. The value of equity is the present value of the forecast of dividends and expected future price.

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**INTRINSIC VALUE OF A PREFERRED STOCK**

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**VALUATION OF ORDINARY EQUITY**

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**Questions**

- SALT Ltd shares currently sell for \$3 per share. The last dividend was \$0.20 per share. The dividend is expected to grow at 5%. (a) What is the required return on SALT shares? (b) The dividend yield?  
**12%, 7%**
- Old Equipment anticipates a dividend growth rate of 4% forever. The market-required return is 20% on similar securities. The next dividend is predicted to be \$0.152 per share. What is the current price per share?  
**0.95**

**Questions**

- Green Ltd has just paid a \$0.40 dividend. The dividend is expected to grow at 12% for the next 4 years. After that, the grow rate will be 4% indefinitely. If the required return is 16%, what is the current value of a share today?  
**\$4.48**
- Save Ltd is expanding rapidly. Its dividend growth rate for the coming year is projected at 25%. This rate will decline by 5% points per year until it reaches the industry average of 5%. Once it reaches 5%, it will stay there indefinitely. The most recent dividend was \$0.20 per share, and the market requires a return of 16% on investment such as this one. What is the price per share for Save?  
**\$2.87**

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## CALCULATION

- Suppose that the shares of stock X is selling at £5. Investors expect a £3 dividend over the next year and an increase in share price of £6.
- What is the expected dividend yield? **4%**
- What is the expected capital gain/loss? **3%**
- What is the expected return? **12%**

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# CALCULATION

- Suppose that the shares of stock X is selling at £75. Investors expect a £3 dividend over the next year and an increase in share price of £6.
  - What is the expected dividend yield? **4%**
  - What is the expected capital gain/loss? **8%**
  - What is the expected return? **12%**

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# INTRINSIC VALUE OF A PREFERRED STOCK

## PREFERRED SHARE

- Preference shares are commonly specified to provide a fixed dividend stream.
  - Dividends are paid only after all expenses have been met, including interest.
  - Dividends are more risky than interest payments (from the same firm)
  - Therefore preference shares need to offer a return premium.
- Dividends are paid from After Tax income.
- Types of preference shares
  - Cumulative/non-cumulative
  - Redeemable/non-redeemable
  - Convertible

- Consider a company's share which offers a perpetual stream of equal dividend payment
  - i.e.,  $D_1 = D_2 = D_3 = \dots = D_t = \dots$
  - Preferred stock: fixed dividend
  - To find PV or fair price: value like perpetuity

$$P_0 = \frac{D_1}{r}$$

## Non Cumulative Preference Shares

The company Tictic pays a preferred dividend of \$12. Similar shares have yields of 14%. If the preferred shares are non redeemable, and the next dividend will be paid in 3 years time. What is the value of the non cumulative preference share.

Deferred perpetuity: \$65.95

## CALCULATION

## Cumulative Preference Shares

- If the next two years' dividends will be skipped but cumulated (i.e. paid late), then the value will be determined in two parts
- It now becomes a DEFERRED PERPETUITY and a DEFERRED PAYMENT.
  - Deferred Perpetuity
    - Payment of \$12 starting in the 3rd year
  - Deferred Payment
    - 2\*\$12 dividend that was skipped in the first 2 years, paid in the 3rd year



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$$P_0 = \frac{D_1 + P_1}{(1+r)}$$

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## CALCULATION

The price of a share of company ABC is expected to be £81 in one year's time. The company guarantees a dividend of £3 next year. If shares of a similar risk investment offers a return of 12%, what price should ABC's share be at today? **£75**

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# CALCULATION

The price of a share of company ABC is expected to be £81 in one year's time. The company guarantees a dividend of £3 next year. If shares of a similar risk investment offers a return of 12%, what price should ABC's share be at today? **£75**

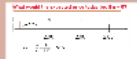
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# VALUATION OF ORDINARY EQUITY

## Ordinary Equity: Zero dividend growth

Assume a company is expected to maintain the same dividend in future years. What are we valuing? We are valuing a perpetuity.

If dividend is \$0.80 and the cost of equity is 11%, then the value is \$7.27



## CONSTANT GROWTH DIVIDEND DISCOUNT MODEL

- Also known as the Gordon Growth Model
- Suppose forecast dividends grow at a constant rate,  $g$ , then we can use the following formula to calculate the price of the share:

$$P_0 = \frac{D_1}{r - g}$$

### Calculation

Assume a company has a current dividend of \$1.00 and a constant growth rate of 5%. The cost of equity is 11%.

$$P_0 = \frac{1.00 \times 1.05}{0.11 - 0.05} = \frac{1.05}{0.06} = 17.50$$

**Assumptions**  
 - The company has a constant growth rate of dividends.  
 - The cost of equity is constant.  
 - The company has no debt or preferred stock.

## DIVIDEND DISCOUNT MODEL

- We can express a share's present value as the present value of all the forecast future dividends paid by the company to its shareholders without referring to the future share price.

$$P_0 = \frac{D_1}{(1+r)} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \dots$$

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**ONE YEAR HOLDING PERIOD**  
 Add the value of the share at the end of the period to the present value of the dividends received during the period.

**MULTIPLE YEAR HOLDING PERIOD**  
 Add the value of the share at the end of the period to the present value of the dividends received during the period.

## Valuing Common Stock with two-stage Growth

How do we value a firm's common stock price which is experiencing a high growth in dividends which is followed later by a lower but stable growth rate in dividends?

- What if  $g = 30\%$  (supernormal growth) for 3 years before achieving long-run growth of 6%?
- Can no longer use the simple constant growth model to find the stock value





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$$P_0 = \frac{D_1}{(1+r)} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \dots + \frac{D_t}{(1+r)^t} + \dots$$

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## ONE YEAR HOLDING PERIOD DDM

- Anil plans to buy a share of company XYZ. The company is expected to pay a dividend of \$2 at the end of year 1. Anil plans to sell the share at \$50 at the end of year 1. The expected return of this investment is believed to be 10%. What is the value of this investment?

• \$47.3

## MULTIPLE YEAR HOLDING

- Anil plans to buy a share of company XYZ. The company is expected to pay a dividend of \$2 and \$3 at the end of year 1 and 2 respectively. Anil plans to sell the share at \$50 at the end of year 2. The expected return of this investment is believed to be 10%. What is the value of this investment?

• \$45.61