

37011 Financial Markets Instruments**Whiteboard Tutorial 5**

1. Derive equations (1)–(3) in Lecture 3:

$$R_0 = N(M - S)/(N + r) \quad (1)$$

$$X = M - \frac{R_0 r}{N} \quad (2)$$

$$V_r = \frac{R_0 r}{N} \quad (3)$$

2. Consider the Virgin rights issue in June 2016: On 15 June 2016, Virgin announced an offer of one new share for every existing share, with a subscription price of \$0.21. The market price on the day of announcement was \$0.30, and based on this Virgin projected an ex-rights share price of \$0.25. Check whether this aligns with the above formulas.
3. Suppose that a company which is listed on the Australian Stock Exchange has preference shares that are currently trading at a price of \$15.60. The preference shares pay a fixed dividend of \$1.50 per share per year. What is the required rate of return that investors require to invest in this company?
4. Derive equation (4) in Lecture 3:

$$P_0 = \frac{D_1}{r - g} \quad (4)$$

5. Suppose an investor has been offered equity in CHC Ltd, an app developer start-up. CHC does not expect to be able to pay a dividend for another four years from now. They expect to pay their first dividend of \$0.50 per share at the end of year 4, and that dividend should then grow by 12% per year (with yearly compounding). What price should the investor be prepared to pay for the stock if they feel the investment is risky and want a 40% return (per annum, with yearly compounding)?
6. Papa's Pizzas would like to know its theoretical share price. The company believes it will be able to pay a dividend of \$0.25 at the end of the first year, \$0.30 in the second year and \$0.36 in the third year. Thereafter, the assumption is that the dividend grows at 4% p.a. (with yearly compounding). If investors require a 14% return (per annum, with yearly compounding), what is a fair price for a slice of Papa's Pizzas?
7. Suppose that the bid/ask exchange rate in USD per AUD is 0.6564/0.6561. Suppose that the bid/ask exchange rate in THB per USD is 35.8690/35.9110.
- (a) What is the mid-market cross rate in THB per AUD?

- (b) Calculate the bid and ask exchange rates in THB per AUD implied by the above USD per AUD and THB per USD exchange rates.
 - (c) Suppose that the bid/ask exchange rate in THB per AUD is 23.585/23.6140. Is there an arbitrage opportunity? If so, how can you make a riskless profit, and how much is the profit?
8. Suppose you are offered an investment in the USA that costs USD 1,100,000. It produces over the next three years cashflows of USD 500,000, USD 600,000 and USD 600,000, respectively. Similar investments have a 12% required rate of return in Australia. The risk-free interest rate in Australia is 5% while in the USA it is 3% (annually compounded). The spot exchange rate is USD 0.6570 = 1 AUD. Is this a good investment?