Capital Raising and Payout Policy

- Corporate and personal tax.
- Imputation versus classical tax systems.
- Dividend dates.
- Equity payouts.
- Equity raisings.
- No equity payout: stock splits and re-investment.
- Australian regulatory and industry bodies.

Company Tax

The company tax rate is a flat 30% in Australia. This means that the marginal tax rate is the same as the average tax rate.

In some countries, including the US, company tax rates are progressive, so the marginal rate steps up as more income is earned. In a progressive tax system, the marginal tax rate can differ from the average tax rate.

Personal Income Tax

The personal income tax rate in Australia is progressive rather than flat.

A person earning less than $18,200 pays no tax. Their marginal and effective tax rates are zero.

A person earning $30,000 pays 19% on each dollar over $18,200, so total tax paid would be $2,242 (= (30,000 − 18,200) × 0.19).

Their marginal tax rate is 19%, and the average tax rate is $\frac{2,242}{30,000} = 7.473\%$.

Calculation Example: Personal Income Tax

Question: A sharp student graduates from university and is employed on an impressive salary of $50,000 per year.

Given the following tax rates, find the personal income tax she will have to pay per year, as well as her marginal and effective tax rate.

Australian Individual Income Tax Rates	
Taxable income ($)	**Tax on this income**
0 – 18,200	Nil
18,201 – 37,000	19c for each $1 over $18,200
37,001 – 80,000	$3,572 plus 32.5c for each $1 over $37,000
80,001 – 180,000	$17,547 plus 37c for each $1 over $80,000
180,001 and over	$54,547 plus 45c for each $1 over $180,000
The above rates for 2014-15 apply from 1 July 2014.	
Source: Australian Tax Office	

Answer: The quick way using the table:

Personal tax payable $= 3{,}572 + (50{,}000 - 37{,}000) \times 0.325 = 7{,}797$

Tax paid per income bracket:

- $18{,}200 \times 0.00 = 0$
- $(37{,}000 - 18{,}200) \times 0.19 = 3{,}572$
- $(50{,}000 - 37{,}000) \times 0.325 = 4{,}225$

Personal tax payable $= 0 + 3{,}572 + 4{,}225 = 7{,}797$

The marginal tax rate is 32.5%.

The average tax rate is $\frac{7{,}797}{50{,}000} = 0.15594 = 15.594\%$

So the newly employed student pays 15.594% tax overall, and 32.5% tax for every extra dollar that she earns.

Dividends in a Classical Tax System

Most countries operate a classical tax system. This means that a firm's profit is taxed at the company level and again at the personal level when the firm pays a dividend.

If a company earned pre-tax profit of $1 and corporate taxes were 30% then $0.30 of tax would be paid at the company level.

If the all of the remaining after-tax profit of $0.70 was paid as a dividend, and the shareholders' personal marginal tax rate was 15% then $0.105 (=0.70*0.15) of tax would be paid at the personal level.

So overall tax would be $0.405 or 40.5% in a classical system.

Dividends in an Imputation Tax System

Australia, New Zealand and Malta operate under an imputation system, so company tax paid by firms can be refunded to shareholders when a fully franked dividend is paid.

Franking credits and imputation credits are synonyms. They are both tax credits. In Australia, only Australian-domiciled investors can use franking credits.

Most countries, including the US and China, operate in a classical tax system where dividends are double-taxed. Once at the company level and again at the personal level. The imputation system avoids the double-taxation of dividends.

Example: Dividends in an Imputation Tax System

Question: A firm earns $1 before tax. The company tax rate is 30%.

All of the firm's net income is paid out as dividends (a 100% payout ratio) and they are fully franked.

What is the shareholder's personal tax liability if she has a personal marginal tax rate of 15%?

Answer: The company would have paid corporate tax of $0.30 on its $1 of pre-tax earnings. The after tax earnings would be $0.70 and all of it is paid as a dividend.

Since the $0.70 cash dividend is fully franked (franking proportion fp = 1), it will have $0.30 worth of franking credits attached to it:

$$\text{FrankingCredit} = \frac{\text{CashDiv}}{(1 - t_c)}.t_c.\text{fp}$$

$$= \frac{0.7}{(1 - 0.3)} \times 0.3 \times 1$$

$$= 0.3$$

Notice that the franking credit equals the corporate tax paid since the dividend is fully franked.

When a shareholder receives their fully franked $0.70 cash dividend, they work out their tax liability as follows.

First the dividend is 'grossed up' by adding the franking credit:

$$\text{GrossedUpDiv} = \text{CashDiv} + \text{FrankingCredit}$$

$$= 0.70 + 0.30$$

$$= 1.00$$

Then the personal tax owing is calculated on the grossed up dividend, less the franking credits. Assume that the investor has a 15% personal marginal tax rate ($t_p = 0.15$):

$$\text{PersonalTaxOwing} = \text{GrossedUpDiv}.t_p - \text{FrankingCredit}$$

$$= 1.00 \ \times \ 0.15 - 0.30$$

$$= -\$0.15$$

Since the personal tax owing is negative, the investor will actually receive a tax refund! They will be sent a Reserve Bank cheque in the mail.

Notice that overall, the tax paid on the original $1 of profit before tax was $0.30 at the company level, and -$0.15 at the personal level. So the overall tax was $0.15, which is 15% of the $1 pre-tax profit. This is the investor's personal marginal tax rate, which illustrates the beauty of an imputation system: overall, investors are taxed at their personal marginal tax rates.

The imputation system avoids double-taxing.

Most people calculate the franking credits as we did above by working out the franking credit, the grossed up dividend and then the personal tax owing:

$$\text{PersonalTaxOwing} = \text{GrossedUpDiv}.t_p - \text{FrankingCredit}$$

It's also possible to combine all steps into a single formula:

$$\text{PersonalTaxOwing} = \frac{\text{CashDiv}}{(1 - t_c)}.\left(t_p.[1 - t_c.(1 - \text{fp})] - t_c.\text{fp}\right)$$

$$= \frac{0.7}{(1 - 0.3)}.(0.15 \times [1 - 0.3 \times (1 - 1)] - 0.3 \times 1)$$

$$= -0.15$$

Equations

$$\text{FrankingCredit} = \frac{\text{CashDiv}}{(1 - t_c)} . t_c . \text{fp}$$

$$= \text{GrossedUpDiv} . \frac{t_c . \text{fp}}{\left(1 - t_c . (1 - \text{fp})\right)}$$

$$\text{GrossedUpDiv} = \text{CashDiv} + \text{FrankingCredit}$$

$$= \frac{\text{CashDiv}}{(1 - t_c)} . \left(1 - t_c . (1 - \text{fp})\right)$$

$$\text{PersonalTaxOwing} = \text{GrossedUpDiv} . t_p - \text{FrankingCredit}$$

$$= \frac{\text{CashDiv}}{(1 - t_c)} . \left(t_p . [1 - t_c . (1 - \text{fp})] - t_c . \text{fp}\right)$$

Where:

t_p = Shareholder's personal marginal tax rate.

t_c = Company's corporate tax rate.

fp = Franking proportion. One for fully franked dividends, zero for unfranked dividends.

Grossed up dividend equals cash dividend plus franking credits. Note that foreign tax paid overseas does not generate Australian franking credits.

If the dividend is fully franked (fp = 1), then the corporate tax paid on the earnings will equal the franking credits (CorpTaxPaidOnDiv = FrankingCredit).

Example: Partially Franked Dividends

Question: A firm pays $8,709 of cash dividends to an Australian shareholder with $933 of franking credits attached.

Find the shareholder's personal tax liability if her personal marginal tax rate is 45% and the corporate tax rate is 30%.

Answer: GrossedUpDiv = CashDiv + FrankingCredit

$$= 8,709 + 933$$

$$= 9,642$$

$$\text{PersonalTaxOwing} = \text{GrossedUpDiv} . t_p - \text{FrankingCredit}$$

$$= 9,642 \times 0.45 - 933$$

$$= 3,405.9$$

Example sourced from MarketIndex's Case Study 2, Investor 3:

https://www.marketindex.com.au/franking-credits#:~:text=Case%20Study%20%232%20%2D%20Partially%20Franked

Alternative answer using franking proportion (fp):

If the franking proportion was one (fp=1), then the fully franked credits would have been:

$$\text{FullyFrankedCredit} = \frac{\text{CashDiv}}{(1-t_c)} . t_c . \textbf{fp}$$

$$= \frac{8,709}{(1-0.3)} \times 0.3 \times \textbf{1}$$

$$= 3,732.42857$$

Therefore the franking proportion must be:

$$\text{fp} = \frac{\text{PartiallyFrankedCredit}}{\text{FullyFrankedCredit}} = \frac{933}{3,732.42857} = 0.24997$$

To calculate the personal tax owing:

$$\text{PersonalTaxOwing} = \frac{\text{CashDiv}}{(1-t_c)} . \left(t_p . [1 - t_c . (1-\text{fp})] - t_c . \text{fp}\right)$$

$$= \frac{8,709}{(1-0.3)} \times (0.45 \times [1 - 0.3 \times (1-0.24997)] - 0.3 \times 0.24997)$$

$$= 12,441.4286 \times (0.45 \times [0.774991] \quad - \quad 0.074991)$$

$$= 3,405.9$$

Dividend Dates

There are a number of dates associated with dividends:

- Announcement date
- Last cum-dividend date
- Ex-dividend date
- Record date
- Payment date

Announcement date: Details of the dividend amount and dates are announced to the market. This is usually combined with the company's earnings announcement for the quarter or semi-annual period. From the announcement date, the stock is

in the 'cum-dividend' period. The share price may change if the dividend or earnings were a positive or negative surprise.

Last cum-dividend date: Investors who hold the stock at the market close on this date will receive the dividend.

Ex-dividend date: The stock price falls by the after-tax dividend value on the morning of this date because the right to the dividend has detached.

Record date: Always 2 trading days after the ex-dividend date because shares trade on a T+2 basis. There is nothing significant about the record date in terms of share price movements.

Payment date: Dividends are paid to shareholders, usually by direct debit or a mailed cheque. There is no expected share price change on this date.

Equity Payout

There are two main ways to pay equity-holders: dividends and buy-backs. Both reduce the market capitalisation of equity (E).

The market capitalisation of equity equals the number of shares times share price:

$$E = n_{shares}.P_{share}$$

Equity also has a residual claim on the firm's assets, so:

$$E = V - D$$

Dividends (Payout)

Dividends reduce E because when a stock pays a dividend, the stock price falls ($\downarrow P_{share}$).

Regular dividends are usually paid twice a year, the first is the interim and then the final dividend. According to a survey of managers by Lintner in the 1950's, most companies try to avoid decreasing their regular dividend because that would signal to shareholders that the company's future profitability has fallen, hence why they had to cut the dividend which they couldn't afford. So companies try to keep their dividend constant, or slowly increase it at sustainable levels.

Special dividends are dividends that are paid as a one-off, share holders do not expect them to continue.

Share Buy-backs or Repurchases (Payout)

Buy-backs reduce E because the number of stocks fall ($\downarrow n_{shares}$).

Buy-backs, also known as repurchases, occur when a company buys back its shares from shareholders who choose to participate, and the company then cancels these shares, so the number of shares is reduced ($\downarrow n_{shares}$). There are two types of buy-backs.
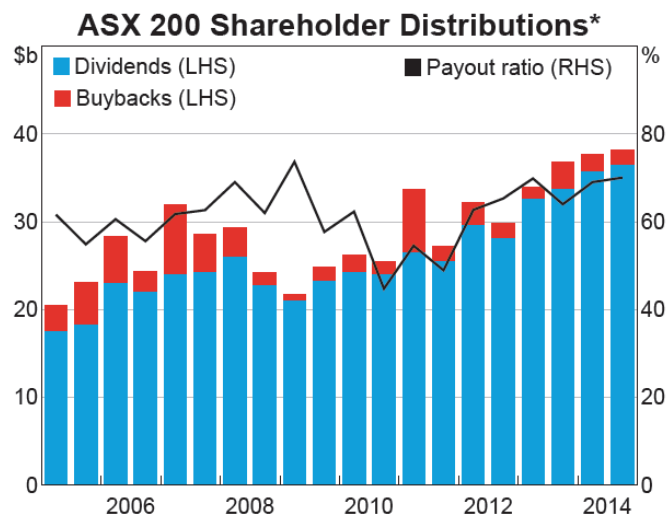
An **on-market** repurchase is where the company buys shares on the exchange, just like an investor would.

The other type is an **off-market buy-back**, where a letter is sent to shareholders offering to buy a proportion of their

shares back for a price that is usually slightly more than the current market price.

ASX 200 Shareholder Distributions*

* Shareholder dividends are attributed to the reporting period in which they are accounted for rather than the period in which they are paid

Sources: ASX; Morningstar; RBA

Equity Raising

There are a number of ways of raising equity. Some include:

Initial Public Offerings (IPO's): Also known as a 'float' or 'listing'. This is when a firm first issues shares into the public stock market. Shares are offered to everyone, usually through a broker.

Seasoned Equity Offerings (SEO's): Same as an IPO, but it is the second or third time that the firm is trying to raise equity.

Private placements: Same as an SEO, but the shares are only offered to a particular, usually wealthy, small group of investors. The shares are not offered to the general public.

Rights issues: These are only offered to existing shareholders. For example, a 2 for 5 rights issue with a subscription price of $10. This means existing shareholders may buy 2 new shares from the company for every 5 shares that they already own, for a price of $10 each. The subscription price has to be less than the market price of the share to entice shareholders to take part.

Dividend Reinvestment Plans (DRP's): This is where a shareholder may elect to receive their dividends in the form of more stock rather than cash. The advantage for the shareholder is that the price of the shares bought is usually set at a price slightly below the market price. There are also no brokerage fees to pay. Some people argue that DRP's do not

raise equity, they just prevent it from being paid out, which has some truth.

All of the above methods of equity raising increase the number of shares on issue:

$$\uparrow E = \uparrow n_{shares}.P_{share}$$

Bonus Issues, Stock Dividends, Stock Splits and Reverse Stock Splits (No Payout)

'Stock dividends' and 'bonus issues' are not really dividends at all since there's no cash payment from the company to shareholders. In a:

- 10% share dividend; which is the same as a
- 1 for 10 bonus issue; or a
- 11 for 10 stock split,

For every 10 shares that a shareholder owns, they will be given one new share in the company.

Since all shareholders receive this, the total number of shares increases by 10% (=11/10-1), but since the value of the firm's

assets is unchanged, the share price must fall by 9.09% (=10/11-1).

Some investors argue that stock dividends, bonus issues and stock splits are pointless since they do not increase shareholder wealth.

Reverse stock splits combine shares together, they're the opposite of stock splits. So a **1 for 10** reverse stock split turns ten shares into one. So the share price will be 10 times higher and the number of shares will be only one tenth of the previous number. The market capitalisation of equity will be unchanged.

Equivalence of Bonus Issues, Stock Dividends and Stock Splits

The following are all equivalent:

- Two-for-one stock split.
- One-for one bonus share issue.
- One hundred percent share dividend.

Each will mean that for every one share you already own, you will receive one extra share. So you will have two shares at the end for every one share you owned at the start.

Because no cash is paid from you to the company or vice versa, the value of the company's assets is unchanged and its total

equity is unchanged. However, the total number of shares will double and the share price will half.

The purpose of stock splits and so on might be to lower the share price when it gets 'too' high. A very high share price creates an indivisibility problem, making share purchases difficult for investors with small portfolios who wish to diversify.

For example, how many people can afford to add even a single Berkshire Hathaway Class A share to their portfolio? http://www.google.com/finance?q=NYSE,BRK.A

Calculation Example: Stock splits, bonus issues and stock dividends

Question: A **2**-for-**5** bonus issue is equivalent to what sort of stock split and stock dividend?

Answer: A 2 for 5 bonus share issue means that for every 5 stocks you own you will receive 2 new ones for free. This means that you will end up with 7 (=2+5) stocks at the end, which is an increase in your number of stocks by 40% (=2/5). So all of the following are equivalent:

- 2-for-5 bonus share issue;
- 7-for-5 stock split;
- 40% share dividend.

Re-Investment (No Payout)

Instead of paying out equity in the form of dividends or buy-backs, companies can re-invest their cash by undertaking more positive-NPV projects which will boost their asset value and lead to capital gains for shareholders.

Equivalence of Bonus Issues, Stock Dividends and Stock Splits

The following are all equivalent:

- Two-for-one stock split.
- One-for one bonus share issue.
- One hundred percent share dividend.

Each will mean that for every one share you already own, you will receive one extra share. So you will have two shares at the end for every one share you owned at the start.

Because no cash is paid from you to the company or vice versa, the value of the company's assets is unchanged and its total

equity is unchanged. However, the total number of shares will double and the share price will half.

The purpose of stock splits and so on might be to lower the share price when it gets 'too' high. A very high share price creates an indivisibility problem, making share purchases difficult for investors with small portfolios who wish to diversify.

For example, how many people can afford to add even a single Berkshire Hathaway Class A share to their portfolio? http://www.google.com/finance?q=NYSE,BRK.A

Re-Investment (No Payout)

As an alternative to paying out equity in the form of dividends or buy-backs, companies can instead re-invest their cash by undertaking more positive-NPV projects which will boost their asset value and lead to capital gains for shareholders.

$$r_{total} = \downarrow r_{dividend} + \uparrow r_{capital}$$