Topic 1: Instalment pricing

This section deals in general principles. Please discuss any investment decisions with your adviser.

Instalment price movements are closely related to changes in the price of the underlying share.

Over time, the lower the instalment's gearing (the lower the final payment), the higher the correlation to the price of the underlying share.

The difference between the final payment and the price of the underlying shares is the instalment's 'intrinsic value'. For example if the share price is $10.50 and the loan amount is $7.30, then the intrinsic value is $3.20.

The greater the instalment's intrinsic value, the deeper in-the-money it is - and the closer the relationship between movements in the instalment price and movements in the share price.

Delta

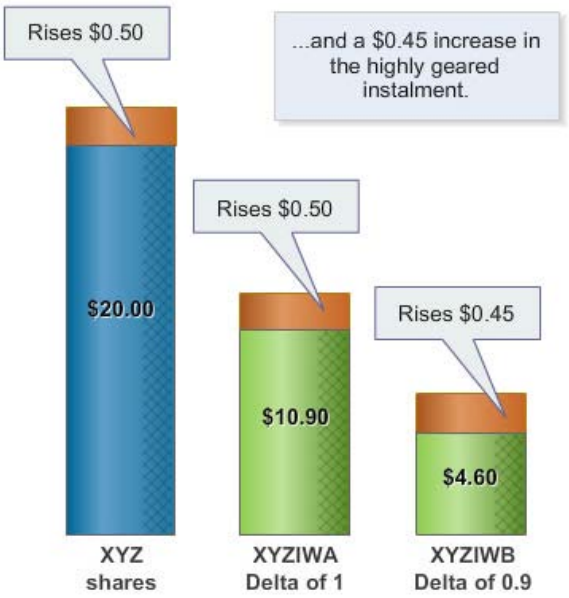
Delta is a measure of how an instalment's price will change compared to changes in the share price.

Regular geared instalments have a delta very close to 1, or 100%. As the share price rises or falls, the instalment should rise or fall by approximately the same amount.

Highly geared instalments have deltas of less than 1, indicating that the instalment will not move by as much as the underlying asset.

For example, if an instalment has a delta of 0.9, for a $0.10 move in the share price, you would expect the price of the instalment to change by $0.09.

Delta may change over the life of the instalment.

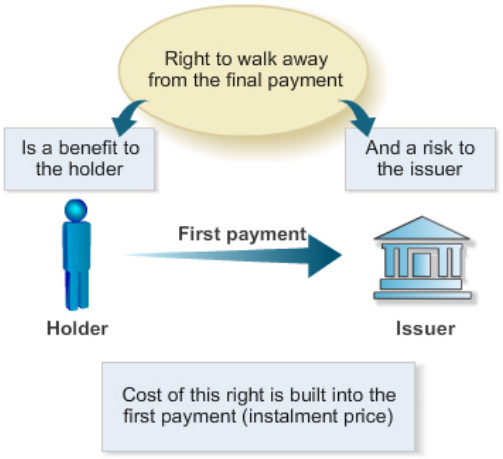


The right to walk away

You do not have to make the final payment of an instalment.

The right to walk away from the final payment is a benefit to you, and a risk to the issuer. It has a value, which is built into the instalment price.

Effectively, this right is a put option with exercise price equal to the final payment. It is sometimes called the 'embedded put option'.



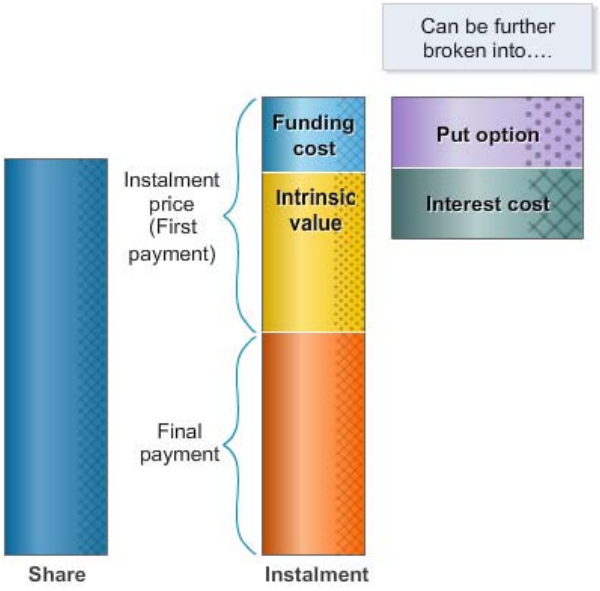
The instalment price

The price of an instalment can be broken down into its intrinsic value (capital amount), and its funding cost.

The intrinsic value is the difference between the share price and the final payment.

The funding cost can be broken down further into:

- the interest cost of borrowing the final payment amount from the issuer, and
- the value of the right not to make the final payment (the embedded put).



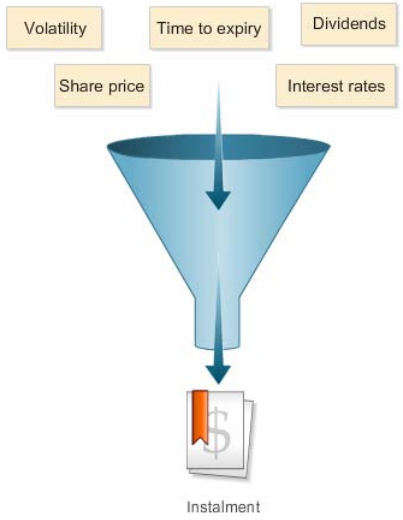
Taking these elements together:

Instalment price = (Share Price - Final payment) + (Prepaid Interest + Put Option)

To understand how instalments are priced, we need to consider each element, and look at the factors that affect them.

There are five factors that affect the price of an instalment:

- Price of the underlying shares
- Time to expiry
- Interest rates
- Dividends, and
- Volatility.



The forces of supply and demand will also play a part.

The next topic examines how each of these factors influences an instalment's price.

Topic 2: Instalment pricing (continued)

In Topic 1, we identified the five factors that affect the price of an instalment.

Variable	Effect on instalment price			
	Regular geared		Highly geared	
	Intrinsic value	Funding cost	Intrinsic value	Funding cost
Stock price rises	↑	—	↑	↓

Price of the underlying shares

By far the most important factor is the price of the underlying shares. An increase in share price, everything else being equal, increases the instalment's price.

A rise in the share price increases the instalment's intrinsic value. However it also leads to a fall in the value of the put option component of the funding cost.

Regular geared instalments

The effect on the put is minimal. The change in the instalment price should be close to the change in the share price.

Highly geared instalments

The effect of a share price rise on the put option will be greater. The fall in value of the put means that the instalment price may not increase by as much as the share price.

Time to expiry

Variable	Effect on instalment price			
	Regular geared		Highly geared	
	Intrinsic value	Funding cost	Intrinsic value	Funding cost
Stock price rises	↑	—	↑	↓
Time passes	—	↓	—	↓

An instalment's value is affected by the passage of time.

As time passes, the interest component of the instalment's value gradually declines. There is less time until the final payment is due, so new buyers are effectively borrowing the final payment amount for a shorter period.

The passage of time also results in a loss in value of the put option component.

Regular geared instalments

Interest decay is relatively gradual, as the funding cost is less than for a highly geared instalment. Day-to-day movements in the instalment price can be attributed to movements in the share price.

Highly geared instalments

The passage of time has a more pronounced effect on highly geared instalments.

Interest rates

When interest rates rise, the funding costs increase.

When interest rates fall the funding costs fall.

For existing instalments the interest rate applying to the funding cost is locked in. But if you intend rolling into a new instalment, the new series will take account of the higher new interest rate by increasing the funding cost (if rates have risen or reduce if rates fall). Similarly if your instalments are of a type that involves an annual reset, the reset payments will involve a changed funding cost.

The impact will be greater on highly geared instalments, as the final payment amount on which interest is calculated is larger.

An increase in interest rates also decreases the value of the put option. This effect, however, is usually minimal.

Variable	Effect on instalment price			
	Regular geared		Highly geared	
	Intrinsic value	Funding cost	Intrinsic value	Funding cost
Stock price rises	↑	—	↑	↓
Time passes	—	↓	—	↓
Interest rates rise	—	↑	—	↑

Volatility

An increase in the volatility of the underlying shares, everything else being equal, will increase the value of an instalment.

A change in volatility directly affects only the value of the put option component of the funding cost. A rise in volatility results in an increase in the value of the put.

Changes in volatility have negligible impact on regular geared instalments, but may have more of an effect on highly geared instalments.

(For more on option pricing, please refer to How options are valued.)

Variable	Effect on instalment price			
	Regular geared		Highly geared	
	Intrinsic value	Funding cost	Intrinsic value	Funding cost
Stock price rises	↑	—	↑	↓
Time passes	—	↓	—	↓
Interest rates rise	—	↑	—	↑
Volatility increases	—	—	—	↑

Dividends

The holder of an instalment is entitled to dividends and franking credits paid on the underlying share.

When the share goes ex-dividend, all else being equal, the price of the instalment usually drops by as much as the dividend, reflecting the change in the share price.

The instalment holder receives the dividend, which should compensate them for the drop in the instalment price.

Variable	Effect on instalment price			
	Regular geared		Highly geared	
	Intrinsic value	Funding cost	Intrinsic value	Funding cost
Stock price rises	↑	—	↑	↓
Time passes	—	↓	—	↓
Interest rates rise	—	↑	—	↑
Volatility increases	—	—	—	↑
Dividend is paid	↓	—	↓	—

In the case of self-funding instalments, dividends reduce the final payment rather than being passed on to the holder. (All instalment holders do receive the benefit of franking credits on franked dividends.) The effect of dividend payments on self-funding instalments is considered in Course 6 - "Self-funding Instalments".

Special dividends

Sometimes a company will declare a special dividend, separate from ordinary dividends.

Special dividends are generally not paid directly to the instalment holder. In most cases, the issuer reduces the final payment by an amount equal to the dividend. The price of the instalment is therefore not affected by the dividend payment.

The treatment of special dividends and associated franking credits will be outlined in the instalment's disclosure document.