



An Introduction to Hedging

GRAYSWAN
INVESTMENTS

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What is Hedging? ¹

The best way to understand the concept of “hedging” is to think of it as a type of insurance. Hedging in its simplest form refers to an action or investment strategy which aims to protect the investor from a potential loss in investment value. Hedging does not prevent such an unforeseen event from occurring, but if it does happen and the investor is adequately hedged, the impact of the event is minimised.

In financial markets hedging becomes more complicated than simply paying an insurance company or counterparty a fee or premium every month or every year for some form of protection of the investor’s assets.

Of course, nothing in this world is free, and therefore the investor pays for insurance or hedging in one form or another.

Hedging does not help the investor to escape the hard reality of the cost and risk-return trade off of such a protective investment strategy.

A reduction in risk results in a reduction of potential profits or upside of the expected performance. In summary, hedging, for the most part, is an investment technique not by which an investor will make additional profits but by which an investor minimises the potential of investment losses.

Definitions

Derivatives ²

A security whose price depends upon, or is derived from, one or more **underlying asset’s price**. Underlying assets include equities, bonds, commodities, currencies, interest rates and market indexes.

Forward Contract ²

A financial contract that **obligates** the buyer to purchase an underlying asset from the seller on a specified future date at a predetermined price.

Option Contract ²

A financial contract that gives the holder **the right** (not the obligation) to buy or sell the underlying asset at a predetermined price within a specified time.

Call Option ²

A financial contract that the gives the holder of the option the right (not the obligation) to **buy** the underlying asset at a predetermined price within a specified time.

Put Option ²

A financial contract that the gives the holder of the option the right (not the obligation) to **sell** the underlying asset at a predetermined price within a specified time.

¹ <http://www.investopedia.com/articles/basics>

² <http://www.investopedia.com/terms>

Strike Price²

It is the predetermined price at which the derivative contract can be exercised. It is also called the “exercise price”.

Maturity Date

It is the specified date in the future on which the derivative contract is exercised.

Premium

It is the cost of purchasing an option contract, at the date of purchase.

Cap

It is a predetermined maximum return level of the investment.

Short

To “short” a derivative contract is to sell or write the futures contract or the option contract.

Long

To “long” a derivative contract is to buy the futures contract or the option contract.

Different Types of Options

There are two types of basic option contracts, i.e. call options and put options. An investor can either buy (long) or sell (short) these types of options. This implies that the following four possibilities are available to an investor.

- Long Call Option
- Short Call Option
- Long Put Option
- Short Put Option

The decision which option contract to consider depends entirely on the investor’s expectations of the price of the underlying asset over a specific time horizon.

The four basic option strategies are usually used in different combinations when hedging strategies are constructed. On their own the basic option contracts are often used for speculation. However, even when an investor is interested in protection, it is still important to first understand the basic contracts, as these contracts become the building blocks of more complex hedging strategies.

When an investor hedges, it means that he already owns the asset and that he wants to protect his capital.

The following two examples will show how hedging can enhance the investment strategy to better protect the investor from potential losses.

We use the scenario where an investor owns a house as the underlying asset. In practice, the underlying asset will be a financial security. Option contracts commonly trade on index values, e.g. the TOP40 or SWIX40 Index. However, the house example provides a simplistic overview of how the investor can use option contracts as part of the investment strategy. Transaction costs and the effect of tax are ignored in these examples.

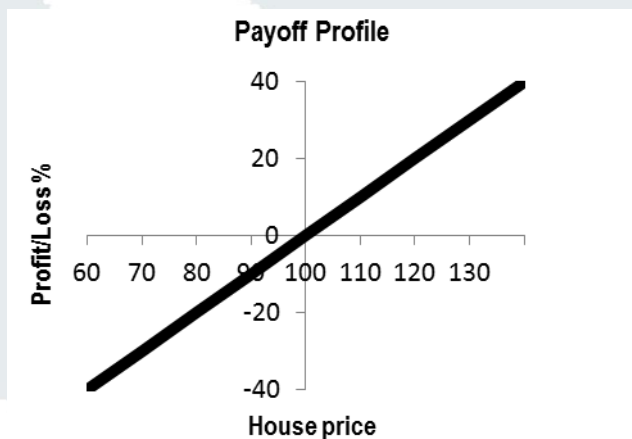
Scenario 1: *Kobus owns a house with current market value of R100. He has no hedging strategy in place, therefore Kobus is 100% exposed to the fluctuations of the property market and he will have to carry any losses that are realised when the markets fall.*

House-Only Investment

Graph 1. The horizontal axis illustrates the house price movement over a 12 month period of time. The vertical axis illustrates the profit or loss the investor experiences for that specific price movement over the 12 month period.

The graph shows the profit/loss that Kobus experiences for a specific move in the house price. This is called Kobus's payoff profile.

Graph 1: The Payoff Profile for a House-only Investment



Potential Results:

- The house price rises to R130. Kobus realises a profit of R30.
- The house price stays unchanged at R100. Kobus's financial position is unchanged.
- The house price falls to R80. Kobus realises a loss of R20.

Basic Hedging Alternatives

Long Put Option

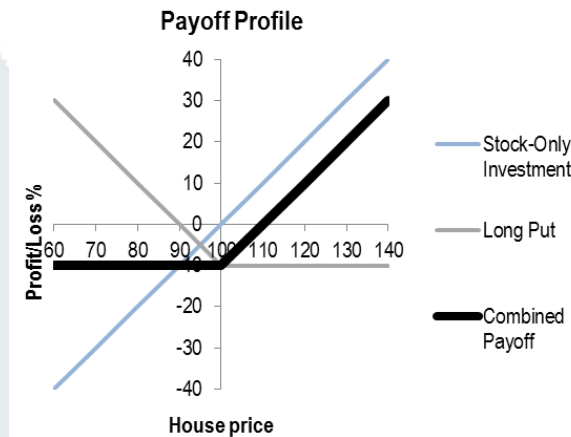
One of the simplest hedging strategies is to combine the house-only investment with a long put option.

Scenario 2: *The house market has performed well in the past to accumulate to the current house price of R100. Kobus is expecting the property market to fall and wishes to protect the capital value of the house. Kobus combines his house-only investment with buying a put option with a strike price of R100 at a premium of R10 and a maturity of 12 months' time.*

The put option gives Kobus a choice to sell the house at R100 if the house price declines to less than R100. Kobus will make no direct capital loss on the asset. The maximum loss experienced in this strategy is however equal to the premium or cost of R10 that he pays to be in the position.

If the house price rises to more than R100 Kobus will not exercise the option. It will be more profitable for him to remain exposed to the market. Kobus will realise a profit equivalent to market growth minus the cost of the premium or cost of the option. Therefore Kobus will have a positive pay off profile if the house price increases beyond R110.

Graph 2: The Payoff Profile for a Long Put Option



This example clearly illustrates how an investor can reduce risk by engaging in hedging strategies. A number of different strategies can be constructed, such as a zero cost collar (a no upfront cost strategy), a put spread (limited downside protection with unlimited upside potential) or a zero cost fence (another no upfront cost strategy). The type of strategy will depend on the investor’s expectation of the market as well as the investor’s desired outcome and the premium or cost the investor is prepared to pay.

If you wish to learn more about hedging, including more of the “easy-to-understand” examples regarding option contracts and the other hedging strategies that were mentioned, please contact Duncan Theron at duncan@grayswan.co.za or Gregoire Theron at greg@grayswan.co.za.



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