Module 4

Corporate Financial Decision-Making for Value Creation

Caps, Floors and Collars
(You'll never walk alone...)

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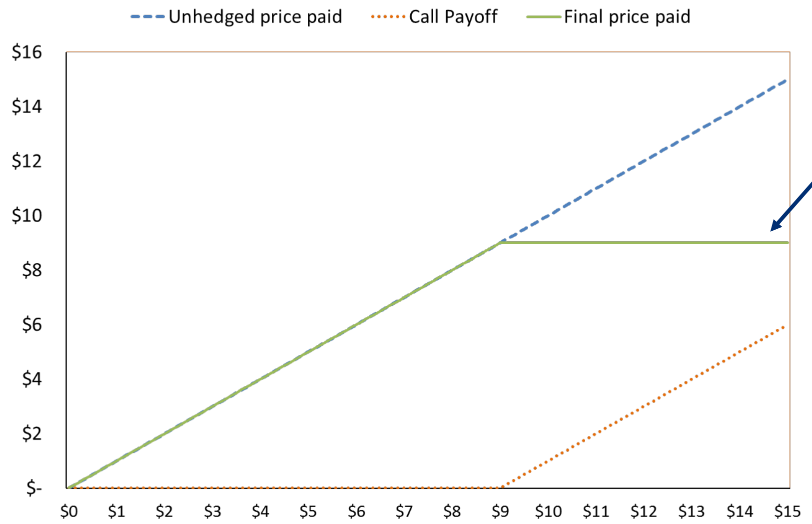
Combining positions: Caps

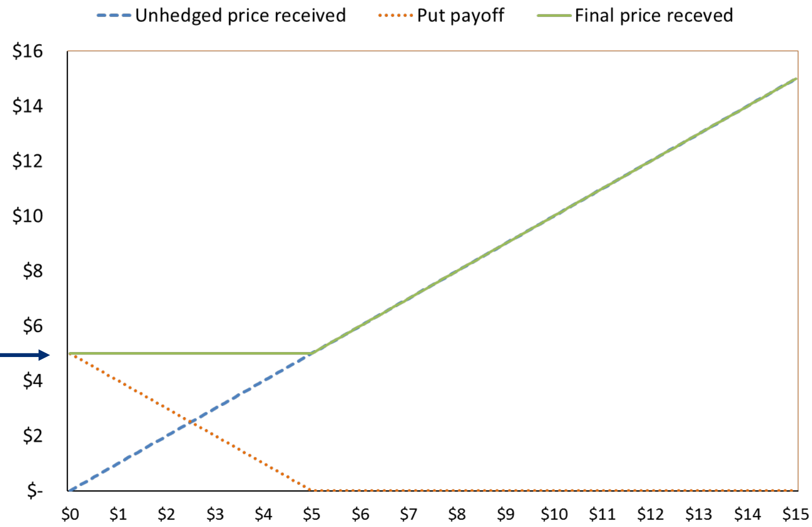
Let's consider Judy's position after she buys a call option on corn with an exercise price of $9:



The call has provided a "cap" on the price paid for corn!

Combining positions: Floors

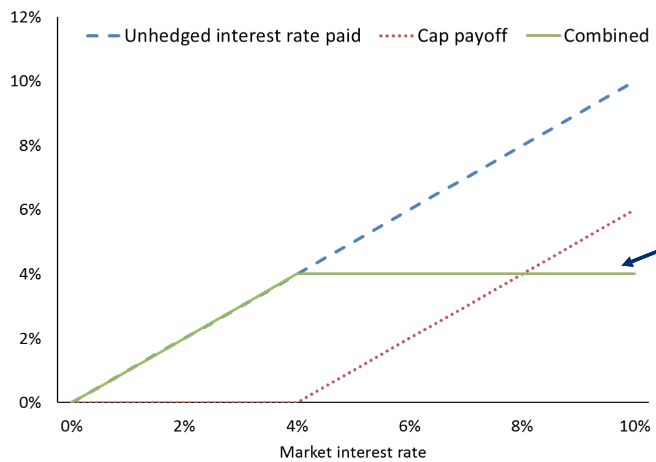
Now what about Frank's position with a put option with an exercise price of $5?



The put has provided a "floor" on the price received for corn!

Caps and floors

Caps and floors are also very popular in lots of other markets such as interest rate and currency markets. For example, take a borrower with bonds issued at a variable (or **floating**) rate.



Cap at 4%

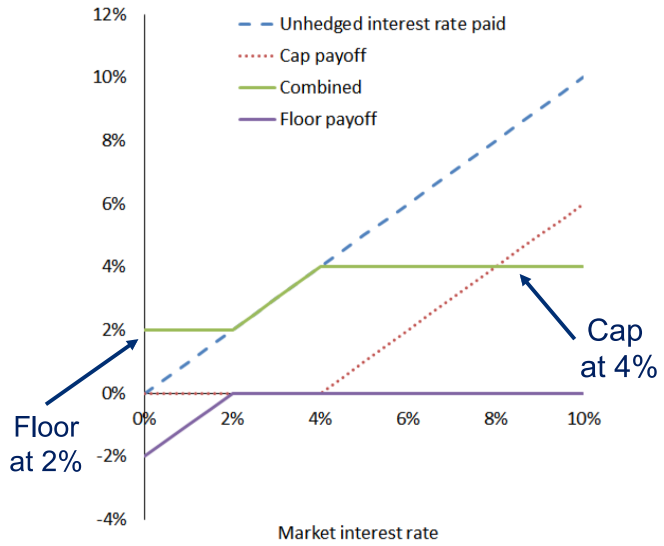
Combining caps and floors

- From the borrower's perspective – it might be very expensive to buy a cap – especially when volatility in the markets is high.
- To help offset the cost of the cap – it is common for borrowers to simultaneously sell a floor – which is equivalent to selling a put option!
- Selling an interest rate floor is equivalent to the borrower saying:

I will pay the floor rate even when interest rates are lower than that!

…let's assume our borrower sells a floor at 2%...

Cap + Floor = Collar



Other settings

- A borrower buys a cap and sells a floor to establish a collar so as to set up a minimum and maximum borrowing cost.
- In contrast – an investor – concerned about falling interest rates – would **sell** a **cap** and **buy** a **floor** to set up a collar that guaranteed a minimum investment rate of return.
- Caps, floors and collars are extremely popular in many different settings; especially currency hedging where the outright cost of an option may be very expensive.

Summary

- We have demonstrated how to combine a position in the underlying asset with option positions to generate:

1. Caps
2. Floors
3. Collars

- Spent a lot of time thinking about **how** to use forwards, futures and options to hedge risk but an important question remains:

Why should a company hedge risk at all?

Source list

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Slides 2, 3, 4 & 6:
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