

Replies, 10/15/03

Dear Students,

Thanks a lot for asking these great questions! The answer to my question (to use an option market hedge on account payable/ account receivable, what type of option would you buy & why) is you would go for a call option to hedge an account payable and a put option to hedge an account receivable.

Here are the answers to your questions.

Can you explain natural hedge again?

Suppose you have an account receivable in foreign currency. Then, a natural hedge would be if you have an offsetting operating cash flow, an account payable, that naturally arises from your business operations. For example, Ericsson could sell handsets in Thailand in local currency (the ringgit) but at the same time incur ringgit account payables for, say labor that assembles the handsets. That would be a natural hedge.

Can you explain the budget rate a little more? Is it built into a forward contract?

Suppose your company has an account receivable of 1,000,000 British pounds. Since your company's functional currency is US\$, you base your sales decisions on the price in terms of US\$. So, if your company is willing to accept the sale at the minimum for \$1,700,000, then the implied budget rate is \$1.7/ British Pound.

Why wouldn't you still exercise the call option above the strike price but below break-even price to particularly cover the cost of the option, when you compare a forward vs. option market hedge?

I assume you are referring to the option market hedge of an account payable, even though we have not yet discussed it in class, since only then the option of interest is a call. So, if the spot price is a little above the strike, but not above the break-even price, then you will clearly go for the option and exercise it, since you would be able to recover some of the cost you paid on the option. Now, to compare an option hedge w/ a forward hedge on the account payable, you have to factor in your expectations on what the exchange rate will be at maturity and then compare the break-even price on the option w/ the locked-in rate on the forward. In any case, if you buy a call, and the spot is between the strike and break-even prices, you will exercise your option for sure.

You said that management would not be criticized for cost of hedging, only for forex losses. Won't management be criticized if company gains in the forex market but lost in the futures/ forex markets because of the hedge?

Yes, big time, just like back in the 80s the chairman of Lufthansa did get well criticized and eventually resigned due to partial hedge on the US\$/ Deutsche Mark exchange rate at the time.

Can you please post the problem sets at least a week in advance? It is very stressful to get it done during the week.

I know, and I apologize to be late in getting the problem set three to you on Sunday, rather than the Thursday before ☹.

On slide 5, why is the hedged curve taller? What does the vertical axis represent?

The length of the curve is actually counting how many times (in percentage value) the random cash flow will be equal to the particular dollar amount on the axis. So, the taller the curve for a particular dollar amount (the expected cash flow) the more likely (in terms of percent value of possibility of occurrence) is that this particular expected cash flow will be realized. Now, why the hedged curve is taller? Because there is greater certainty we will get the expected net cash flow ☺!

Can you explain a little more about how/why in an option market hedge, you only make money if you go below the lower bound on the option price?

So we are talking about a money market hedge for an account receivable, I assume. And the option is actually a put option. As we know, the lower bound of profitably exercising the option is the strike net of the cost of the premium. So, if the spot at maturity of the option is below this cutoff rate, we know that we can make money, since we have locked in a sell-rate, which is high enough to cover the premium of the option.

You said in the example about good CG that the company had a separate CEO and chairman and that was one of the main reasons they had good CG – however it is common in the US for the CEO to be chairman as well – what do you make of that?

Ooh, I forgot to ask that question to team three, so I guess, we can ask them in class.

What are your thoughts on the Carlyle Group?

Carlyle group is one of the largest private equity fund in the US that is active in investment overseas. For more on them, check out their website, <http://www.thecarlylegroup.com/eng/index.html>

Now, what is a private equity fund? This is a bunch of several wealthy individuals that decided to pool their assets and invest into new ventures (predominantly private companies), that are in need of seed capital and professional expertise in order to grow. In general one refers to this type of investment companies as venture capital (the other type is called angel investors – individuals who directly finance a given start-up company, out of their own personal wealth). The Carlyle group is unique among other equity private funds due to its size (more than \$16 billion under management), impressive

number of well-reputed investment professionals working for it, and diversity of investments (controls 21 fund across management-led leveraged buyouts, real estate, high yield, venture capital and turnaround).

I am unclear of the difference b/n covered and uncovered forward hedge?

Suppose you want to hedge an account receivable and so you enter into a forward hedge (i.e. you sell the amount in foreign currency to be received forward). When funds to fulfill this hedge are not already available or are due to be received later, so that the currency has to be purchased in the spot market at some future date, then this will be an open, or uncovered hedge. The opposite case, when funds will be available at maturity of the forward contract, so that you will not have to go to the spot market to supply them, this will be the case of a covered forward hedge.

Could you please explain why swaps are used in covering transaction exposure?

I meant currency, or cross-currency swaps. In essence, this is a transaction where a dealer (usually a market maker bank) & a firm agree to exchange equivalent amounts of two different currencies for a specified period of time. So, suppose that Mazda is better at borrowing in Japan, while Gillette is better at borrowing in US. Then if Mazda faces transaction exposure in the US (say they have an account receivable in the US for \$10bn) they could basically borrow the equivalent of that amount at the spot rate in Japanese yen and then swap it w/ an equivalent amount of debt which Gillette might have borrowed in the US market for the purposes of hedging an account receivable from Japan. This would be an example of cross-currency swap. Both parties borrow in their local currency, but swap proceeds so that they can do a money market hedge.

How is financial hedging different from contractual hedging?

They overlap. For example, a money market hedge is a contractual hedge, but oftentimes this type of hedge could utilize swaps, and other financial instruments for hedging.

Are forward hedges always recorded at the spot? So there will be always an accounting gain or loss recorded in the future?

Yes.

Q1, #2, of quiz 2, can you explain this some more?

The question relates to the ways one can determine the exchange rates:

If we are to use the monetary approach to exchange rate determination, what will be the predicted effect on the exchange rate of domestic currency if domestic real income increases? Why? Using the same theory, what would be the effect on exchange rate if domestic interest rate increases? Why?

When the real domestic income increases local investors become richer and so money demand for financial assets in local currency would increase, so the local currency would appreciate.

When domestic interest rate increases, the money demand for local currency decreases since the cost of money (the interest rate) is higher. So, the local currency will depreciate.

One general comment is in order. In the monetary approach, unlike the portfolio approach, the only assets are just the local and foreign currency. As we know, money as such do not earn interest, so the increase in domestic interest will not increase the interest of foreigners to domestic currency since they will not earn interest on their holdings of our currency. However, the higher cost of borrowing domestically clearly implies lower demand for the local currency. With the same supply of currency & lower demand, one would expect to see the local currency depreciate.

Could you slow down and go over the A/R and A/P hedge strategies a bit more?

We will summarize in the beginning of class the A/R hedge and then go through A/P hedge very carefully. The essence of both approaches is to understand how one can perform money market hedge, forward market hedge, and option market hedge for both A/R & A/P.

Could you please put the answers to the memo question in the replies?

Sure.