

Perspectives

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HEDGING TO COPE WITH INTEREST RATE UNCERTAINTY

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Most market observers face a conundrum. After seeing a change in prices in virtually any market, it's difficult to discern whether said change reflects the beginning or continuation of a trend in that direction, or if the change is a temporary distortion soon to be reversed. With interest rates, however, we have a unique consideration – the Federal Reserve (the “Fed”).

The Fed has unparalleled influence in this sector, and seasoned forecasters know better than to ignore the Fed's public statements. As of this writing, the Fed is unambiguously projecting interest rate increases. Of course, this projection rests on an expected continuation of the current economic expansion, as well as a sanguine outlook for inflation. While both of these forecasts will likely be tested at some point in the future, the Fed can be expected to signal any revision of its sensibilities if and when they were to change. Until then, however, higher interest rates seem most likely.

The more relevant question, then, is not *whether* interest rates will rise, but rather *how high* they are likely to go. Answering this question requires at least enough humility to admit that nobody knows for sure – not even the Fed. That said, interest rate futures markets offer clues as to consensus expectations for a variety of benchmark interest rates. For example, with one of the most actively traded futures contracts, three-month LIBOR is one such benchmark rate. These contracts effectively reveal where this key interest rate is expected to be at three-month intervals over the next 10 years. And while futures prices adjust with trading every day, they offer explicit, objective forecasts at any point in time.

We can also look to bond and note futures, fed funds futures and swap futures for analogous forecasts of other benchmark interest rates. Besides offering rate-specific forecasts, these various futures prices serve as the foundation for pricing a broad array of over-the-counter interest rate derivatives.

Building a Hedge

While it's generally understood that interest rate derivatives can protect against rising or falling interest rates, the starting point for the protection derives from futures pricing curves as of the date the derivative is transacted. Thus, if a hedger wanted to use a derivative to lock in an interest rate today, the rate that would be available to that firm would be consistent with the consensus forecast. In other words, the hedger seeking to lock in rates would have to accept the consensus forecast rate as its hedging objective – regardless of whether the spot interest rate happens to be higher or lower than that consensus forecast rate at that time.

Depending on the nature of the exposure, the difference between current spot interest rates and the implied forecasted rates underlying interest rate derivatives might be adverse or beneficial. These days, for instance, with consensus forecasts anticipating rate increases, hedging with derivatives tends to impose somewhat of a cost for hedging against rate increases, while at the same time offering a benefit to entities faced with the opposite risk of falling interest rates. (If you can borrow today at 5%, but the market offers the opportunity to lock up a future funding cost of 5.5%, you're forced to accept a 50 basis point penalty; on the other hand, if you can invest at 5% today, that same derivative would let you invest in the future at 5.5%, thereby

offering a 50 basis point benefit.)

Consider the case of a commercial entity that expects to issue three-year debt in the coming four months, where the prospect of higher interest rates has stimulated interest in entering into an interest rate swap to lock in the interest rate on an intended funding. Three critical questions would have to be asked:

1. What benchmark interest rate can be secured for the three-year period starting in four months? (This question distills to getting a quote for the fixed rate on a forward starting three-year swap.)
2. What is the credit spread that the firm would likely bear, relative to this benchmark interest rate?
3. Given the expected all-in rate (i.e., the swap's fixed rate plus the expected credit spread), what portion of the interest rate exposure that the firm is facing should be hedged?

In the current environment, this all-in interest rate should be expected to come in at a rate higher than the cost of funds that the company would bear if it were to issue debt today. This higher-than-today's interest rate might discourage the company from hedging, but it shouldn't preclude it. The appropriate question is *how much* of the exposure should be addressed with a derivative, given the fixed rate level that the derivative allows the firm to access?

Dealing with Uncertainty

Along with the implied fixed rate available with the derivative, a complementary consideration is the business judgement as to the probabilities associated with interest rates ultimately falling below, reaching or rising above the implied rates underlying the derivative. It should be clear that if the market for swaps allowed this prospective borrower to lock in an all-in cost of funds at, say 5%, while at the same time expecting rates to rise even higher, hedging would be particularly attractive. On the other hand, hedging would be less attractive if

the firm didn't expect market interest rates to rise above 5%. Extending this line of thinking further, it may be interesting to realize if the consensus forecast reflected in the pricing of the derivative were actually realized (which shouldn't be expected), the swap wouldn't generate any payoff whatsoever – the company would realize identical earnings regardless of whether it hedged or not.

Unfortunately, the calculus becomes more complicated because we live in a world of uncertainty. The idea of not hedging at all because we don't expect market rates to surpass the threshold of the implied forecast of the derivative is problematic because we might be wrong. Thus, even if we might not believe the rate will move beyond that critical value, it may still be reasonable to hedge *some portion* of an existing exposure. Put another way, even though the market conditions force the hedging entity to lock-in an implicit rate increase dictated by the price of the swap, it's the probability that interest rates could move *even higher* that would justify hedging, even at a seemingly elevated interest rate.

Employing the swap serves to eliminate the uncertainty that would otherwise prevail if the exposure were left unhedged. With the swap, the company should have a high degree of confidence that the anticipated all-in funding costs initially calculated would be realized (subject to accurately forecasting the credit spread) for the portion of the exposure that the company chooses to hedge.

Managing a Hedge

Thus far, the discussion has focused on how much to hedge at the start of the hedging process, but hedging deserves reconsideration both periodically and whenever economic circumstances change in material ways. Suppose, for example, an initial hedge was initiated to protect against a rate increase that ultimately materializes. But suppose further that with time remaining before the hedge expires, the market has evolved, and now it now seems more likely that interest rates could retreat. Does it make sense to maintain the hedge in the face of these changed circumstances? Probably not.

As time passes and perceptions change as to the probabilities associated with adverse price moves, or if the company's risk tolerances change, the degree of hedge coverage could be adjusted – either up or down. Critically, just because a derivative contract hasn't expired doesn't necessarily mean it's prudent to maintain hedge coverage.

Clearly, an orientation that favors a dynamic hedge adjustment process could open the door for abuse. Consider the case of the company that starts out with a hedge of 50% of some exposure. Assume that the firm perceives the risk as being more pressing, thus adjusting its hedge coverage to 75%. Later, the company reassesses conditions and decides that the expected adverse rate move has run its course such that rates now are expected to move beneficially. With this reassessment, the firm decides to reduce its hedge coverage down to 25%.

Throughout this adjustment process, this firm could represent that it is mitigating risk, albeit at varying degrees. Still, while it might be appropriate to observe these kinds of hedge adjustments over weeks or months, an objective observer would likely have a problem with these kinds of adjustments if they were made over the course of a single trading day! The moral here is that hedge adjustments should be implemented on the basis of some previously devised plan that reflects the company's

risk management orientation and policies. Thus, a mechanical rule that imposes an objective discipline on the hedge-adjustment process is preferable to ad hoc assessments relating to adjusting hedge positions. Unfortunately, it's not clear that any single rules-based approach will be appropriate in all circumstances.

When considering an objective hedge management plan, it's critical to be sensitive to two opposing concerns: if you're starting with partial hedge coverage and interest rates move adversely, it's natural to want to increase the degree of hedge coverage; on the other hand, at some point, the prospect of interest rates achieving a top (or bottom) might gain greater currency. Prudent managers will periodically review their hedge coverage and adjust their plans accordingly, reflecting a forward-looking orientation as to the changing probabilities associated with future interest rate changes.

Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the official policy or position of the Financial Managers Society.

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