



# Favorable ENVIRONMENT

Building a dashboard for your hedging program

**KEY TAKEAWAYS:**

- Hedging should not be thought of as an all-or-nothing proposition.
- Forward prices are reflected in the pricing of all derivatives, and they are what they are.
- The relationship between spot and forward prices may provide a seeming advantage to one side of the market relative to the other.

**T**rade-offs are inescapable with derivatives. For instance, when hedging with futures, forwards, or swaps, no initial payment is required to initiate the contract, but users have to be willing to forgo the benefit of advantageous price moves in order to be protected from adverse moves. When buying options, caps, or floors, on the other hand, users have to be willing to bear up-front payments in the form of option premiums to secure the prospective benefits, appreciating that some or all of option premiums will be realized costs, irrespective of whether those instruments subsequently pay off or not.

Put another way, at some sufficiently high premium, the protection gained wouldn't be worth the price paid.

Entering into any hedging contract requires a secondary determination beyond simply recognizing which price change direction would be adverse. That is, when locking in a price, the anticipated effective price (post hedge) is critical. It's not enough to lock in *any* price. For hedging to be desirable or appropriate, the price that the market allows you to lock in has to be an acceptable price. Prospective buyers wouldn't want to look in a price that is too high, and prospective sellers wouldn't want to lock in a price that is too low. (The same applies for interest rate payers or interest rate receivers.) Similarly, if using a purchased option, cap or floor, that contract would have to be cheap enough. Put another way, at some sufficiently high premium, the protection gained wouldn't be worth the price paid.

The preference for futures, forwards, or swaps over options because the former contracts require no initial up-front expense should be recognized to be shortsighted—at least to some extent. Using the nomenclature of economists, futures,

forwards, and swaps inherently bear *opportunity costs*, reflecting the fact that users must forgo the effects of a beneficial price moves. These opportunity costs would be unknown at the start of the contract, but they could end up being considerable if and when the price of the exposure being hedged moves sharply beneficially. In contrast, for option, caps, and floors, maximum costs are explicitly known at the start of the hedge, equal to the premiums paid. With this foundation, it should be clear that the choice between using futures, forwards, or swaps on one hand, and options, caps or floors, on the other, should compare potential opportunity costs of the former with known upfront premium amounts of the later.

### Subjectivity required

So when is a fixed price acceptable, and when is an option price cheap enough? Unfortunately, these judgments involve some subjectivity. That subjectivity notwithstanding, for futures, forwards, and swaps, the choice for the prospective hedger distills to choosing between taking the fixed price dictated by that contract or maintaining the exposure and hoping that the unhedged prices will end up yielding a better outcome. Clearly, different players with different risk tolerances and different market expectations will make different choices under the same market conditions.

For entities evaluating the purchase of options, caps, and floors, the alternatives are to bear the unprotected risk and hope prices won't move (too) adversely, or to pay some known premium to offset the effects of prices rising above or below a critical threshold. With options, caps, and

floor, though, choices abound, in that you can structure a hedge with any budget in mind, recognizing that paying a higher premium expands the range of prices for which protection will apply. Put another way, the cheaper the option the greater the price risk born by the hedging entity.

Entering into a hedge is, in effect, a pricing decision; so, too, is the decision not to enter a hedge. Not hedging implies a judgment that the expected unhedged outcome is expected to be preferred to that which would arise if a hedge were in place. From that perspective, a chronic posture of not hedging known exposures would seem to be an abrogation of fiduciary responsibility. Surely, some situations must occur from time to time, where the terms of hedging derivatives are particularly advantageous, but you have to assess the markets on an ongoing basis to see if and when those circumstances arise.

### Three observations:

- **Hedging should not be thought of as an all-or-nothing proposition.** The more attractive the fixed price of a derivative or the price of the option, the more desirable the hedge. Thus, it may be reasonable to hedge larger portions of risk exposures with more attractive derivative pricing, and a smaller portions with less attractive derivatives pricing. Moreover, the degree of hedge coverage deserves to be reconsidered on an ongoing basis as time passes and as market conditions change. Hedging entities should be comfortable about taking a partial coverage as a starting posture, with the idea of adjusting that coverage (upward or downward) over time.

## Sample Hedging Dashboard

	Spot price/Rate (End of September 2015)	1-year Forward Starting Swap Fixed Rate	December 2016 Forward Price	Comments
3-month LIBOR	0.43%	0.60%	0.93%	Favors lenders
Fed Funds	0.14%	0.37%	0.64%	Favors lenders
Crude Oil	\$45.64/bbl.	\$49.10/bbl.	\$50.89/bbl.	Favors sellers
Natural Gas	\$2.59/MMBTU	\$2.87/MMBTU	\$3.19/MMBTU	Favors sellers
Corn	\$3.89/bu.	\$4.07/bu.	\$4.12/bu.	Favors sellers
Soybeans	\$8.84/bu.	\$8.92/bu.	\$8.90/bu.	Favors sellers
Iron Ore	\$356.43/MT	\$42.42/MT	\$40.53/MT	Favors buyers
Live Cattle	\$1.29/lb.	\$1.284/lb.	\$1.27/lb.	Favors buyers/Neutral

Source: Ira Kawaller

- **Forward prices are reflected in the pricing of all derivatives, and they are what they are.** Thus, there's no way to recoup any seeming adverse difference from today's spot price. The only thing a derivative can do is protect from *further* adverse price changes than those already reflected in the derivative's starting price.

- **The relationship between spot and forward prices may provide a seeming advantage to one side of the market relative to the other.**

For example, when forward prices are markedly higher than spot prices, prospective sellers are able to lock in seemingly high sales prices. Conversely, when forward prices are markedly lower than spot prices, prospective buyers can lock in seemingly low purchase prices. Forward prices at comparable levels to current, spot prices would thus seem to offer a fairly neutral setting for hedgers, favoring neither buyers nor sellers.

With this third bullet-point in mind, the following table shows a dashboard

for a variety of interest rates and commodities, showing their spot prices at the near the end of September 2015, with a comparison of swap fixed rates for the 12 months of 2016 (reflective of forward rates throughout that year), and a value for their respective December 2016 forward prices. The presentation is designed to provide a snapshot showing the consensus view of anticipated prices or interest rate both over the coming year as well as by the end of 2016.

The two interest rates shown (3-month LIBOR and Fed Funds) reflect the capacity to lock in higher interest rates for future exposures, thereby favoring enterprises that earn (as opposed to pay) these respective interest rates. Crude oil, natural gas, corn, and soybean derivatives allow for locking in higher prices for future exposures, thereby favoring sellers of these products. On the other hand, iron ore forward prices allow for locking in lower prices for deferred periods, favoring purchasers; and while the same is technically true for

live cattle, in this case the deviations are quite small.

Just because forward prices may favor one side of the market over another doesn't mean that the disadvantaged side should necessarily shun hedging. Other considerations may certainly override, and hedging from this seemingly disadvantaged starting point may still be the better choice, given that market conditions could very well deteriorate further. On the other hand, when the starting conditions favor hedging, the market stands ready to reward you for hedging; and it would be shortsighted to operate under a policy that chronically disregards these market incentives. Maintaining a dashboard may be a first step toward avoiding this pitfall.

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