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The Journal for Mortgage Banking Professionals ■ Vol. 28, No. 1 December 2013

# Options For Managing Pipeline Risk



**Option coverage is often  
overlooked as a tool to  
reduce risk and boost profits.**

# Utilizing Option Coverage To Manage Pipeline Risk

While the use of put options ultimately costs lenders more, most are finding it is worth the investment.

By Dean Brown

In today's volatile market, mortgage lenders are constantly looking for effective ways to manage pipeline risk. Option coverage has proven valuable for lenders, although it is often overlooked as a tool to help effectively minimize pipeline risk. Let's take a look at how option coverage can help maximize potential profitability while minimizing pipeline risk.

The current market volatility requires mortgage lenders to be even more diligent about seeking effective pipeline risk-management tools. Regardless of how interest rates move, it is solid business practice for mortgage lenders to continually look for ways to maximize profitability while minimizing risk. Option coverage, preferably mortgage-backed securities (MBS) puts and calls, has been proven to minimize pipeline risk. In volatile markets, mortgage lenders that do not purchase option coverage are not maximizing their gain on sales results, on average. The term "on average" is used because lenders may be maximizing their gain on sales results on occasions when mortgage prices stay relatively stable, but not maximizing gain on sales results when mortgage prices fluctuate substantially as they have over recent years.

In cases where mortgage prices are relatively stable - within a .5-point change over a one-month time period - the use of options could be viewed



as unnecessary, because the expense to purchase the options makes it slightly more expensive to hedge than simply hedging a pipeline with mandatory trades. But what about the other cases where mortgage prices are less stable? Let's review some options by taking a look at a hypothetical situation based on the following assumptions:

- Pipeline dollar amount at \$100 million;
- Average fallout percentage expected at 25% or \$25 million; and
- All loans in the pipeline at current coupon 30-year fixed rate.

Given these assumptions and the desire for a mortgage lender to perfectly hedge its pipeline, in a perfect world, it would simply sell \$75 million forward, and its position would be flat, given no change to interest rates or its fallout percentage:

- \$100 million exposure - \$25 million fallout = \$75 million coverage.

However, we don't live in a perfect world, and this equation quickly becomes unbalanced if the fallout percentage is variable in relation to how interest rates change (i.e., fallout increases when rates fall and decreases when rates rise). Given the same assumptions, but adding that if fallout is 50% when rates drop by .5% and prices increase by two points, and fallout becomes 10% when rates rise by .5 points and prices fall by 3 points, the risk position would be as follows:

- Rates drop: \$100 million exposure - \$50 million fallout < \$75 million coverage by \$25 million. Results in a market loss of \$500,000 ( $\$25,000,000 \times .02$ ); and
- Rates rise: \$100 million exposure - \$10 million fallout > \$75 million coverage by \$15 million. Results in a market loss of \$450,000 ( $\$15,000,000 \times .03$ ).

The lock-coverage amount should vary according to the movement in rates, given that the pipeline's fallout function is not constant and varies depending on which way rates move during the processing period for each lock. A lender that has purchased option coverage to hedge the portion of its pipeline that is dependent on rate movement would have a balanced position at any given time:

- Rates drop: \$100 million exposure - \$50 million fallout = \$50 million coverage;

■ Rates rise: \$100 million exposure - \$10 million fallout = \$90 million coverage; and

■ Rates flat: \$100 million exposure - \$25 million fallout = \$75 million coverage.

The coverage provided by the option position would decrease by \$25 million when rates fall, and increase by \$10 million when rates rise, leaving the firm flat in relation to its risk position in the market.

Option coverage applies to more than just the instances when the market makes large swings up or down. The coverage - or insurance policy - is applicable when market rate move-

This execution methodology significantly impacts the bottom line for many lenders.

For example, when the market drops .5% in rates, it equates to approximately a two-point rise in prices, which, in the previous example, would cost the company \$500,000 to buy back the over-covered position. If rates increased by .5%, the new coverage would have to be taken down at a lower price by approximately three points for a loss of \$450,000. These losses are estimated as follows:

■ Rates drop: \$25 million over coverage \* two-point loss on market move = \$500,000; and

**In volatile markets, mortgage lenders that do not purchase option coverage are not maximizing their gain on sales results, on average.**

ments are more subtle. While the probability is low that rates will increase or decrease by 50 basis points during the processing time period, there have been many instances where prices have dropped by just one to two points only to recover by the same one to two points, or vice versa. This may sound as though it would have a minimal impact on pipeline risk, but in actuality, these circumstances could be more detrimental to the gain on sales than just a one-way movement. When prices drop slightly and recover, the number of pair-offs and additional trading necessary to meet the increased pipeline exposure is greater. This classic whipsaw by the market is very destructive to margins, and firms can actually end up with significantly more hedge costs than if upfront option premiums were purchased in the first place.

Without option coverage, hedge managers are forced to react to the market movements after the fact by buying back coverage when market prices rise and selling additional amounts when market prices drop.

■ Rate rise: \$15 million under coverage \* three-point loss on market move = \$450,000.

As we have witnessed in recent years, a change of 25 to 75 basis points within a day has become somewhat common. Even these intraday swings will create a whipsaw effect that can produce similar position changes. While the impact may not be as dramatic as the examples provided, the cumulative effect over just a few days will increase hedge costs as well. Option coverage will alleviate this situation and help to maximize profitability and minimize pipeline risk.

The amount of coverage provided by each option increases automatically when the market prices decrease, and decreases automatically when the market prices increase. Lenders that are able to determine the optimal amount of option coverage and mandatory coverage that their pipeline needs on any given day can hedge against fallout volatility and market movement, thereby decreasing risk and providing maximum gain on sales. Companies that do not purchase option-based coverage are un-

necessarily forced to adjust to the market's movement in much the same manner by selling additional coverage when the market prices drop, and buying back coverage at a loss when the market prices increase.

While this discussion has made several simplifying assumptions, the overall result remains the same. When lenders don't use option-based coverage to manage pipeline risk on average, their bottom line is decreased whether the market increases or decreases. With option coverage, the company avoids the costs associated with volatile markets. Although there is a cost to purchase and hedge with options, on average, the purchase price of the options used to hedge the pipeline is usually less than the expected losses that would be incurred by not using them. The upfront expense ensures minimal pipeline risk and maximum gain on sales.

The proven effectiveness of option-based coverage has prompted some pipeline risk-management firms to develop position analysis tools. The tools are designed to calculate the optimal amount of option coverage and mandatory coverage needed on any given day, based on a firm's pipeline amount and other variables. An option evaluation system is also offered by select firms to assist lenders in identifying the option that provides the most amount of coverage for the least amount of expense.

While mortgage lenders are not exempt from those months where the market is less volatile than what it has been historically (represented by the purchase price of the option premium), and using options ultimately costs them more than if they had not used them at all, the overall consensus is that options are worth the investment. Mortgage lenders that have utilized option-based coverage have experienced benefits month-over-month. They are consistently minimizing pipeline risk and maximizing gains on sales. **SME**

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