Tracking Mortgage Pipeline Risk Management Performance

MCM
Mortgage Capital Management
SUPERIOR RESULTS. MINIMIZED RISK.

A white paper by
Dean Brown and **Robert Satnick**,
Mortgage Capital Management

Don't let the title scare you off. It may sound complicated, but as you read on you'll discover relatively painless ways to measure many aspects of your Secondary Marketing Department's performance. I use the word "many" because quite a few of the functions performed by the typical mortgage banker's secondary marketing department are not objectively measurable, such as investor relations, product development, loan officer training, and others. The fact that this area of mortgage bankers' operations sounds complicated, does not mean it necessarily has to be so.

The primary goal of most secondary marketing departments is to make sure the company meets its profit goals for loans sold into the secondary market.

> In simpler terms, they want to make sure that the price they get for their corn at least equals the target price they set when they put the seed in the ground. Like any other successful business, a mortgage banker needs to make an adequate profit in order to stay in business.

> In order to help track a company's overall profit level, MCM tracks the daily profit level – or margin – on each loan originated over a certain period of time, usually quarterly. This produces the average margin number, which should reflect the company's average desired profit margin on loans sold into the secondary market. If it doesn't, the company needs to understand why. This average profit margin should reflect the execution that they have planned for the loans, not a "best efforts" or some alternative execution.

> The locked margin number for a quarter is basically the weighted average profit margin taken at origination for each loan locked during the quarter under review. The estimated price assigned to each loan is equal to the expected price the loan will receive from the client's best investor on the day each loan was locked for the product and rate originated, after taking into account the various loan level pricing adjustments and the lock period. This Implied Sales Price (ISP) is compared to the buy price or originated price charged to the borrower plus the commission paid to the loan officer to arrive at a margin for each loan.

Consider the following example:

- A loan's estimated sale price is 104 servicing released (which represents the best price available that day for the note rate and product originated)

- Borrower is credited with 1 point against closing costs

- Loan officer receives 1.5 points

- Buy price is 102.5 (100 + 1 + 1.5= 102.5)

- Margin on the loan is 1.5 (104-102.5=1.5) (ISP-BuyPrice) or 1.5 points mark-to-market

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This loan level margin is taken for each loan originated at the time it was locked, and a weighted average is calculated to get what the originated average margin was for a given time period.

Loans are sold into the secondary market on an uneven basis, sometimes settling with investors within days, other times settling months out from the date the sale was executed. The gain on sale of these loans is, therefore, not usually uniformly recognized nor does it always match up with the trades used to hedge the pipeline. In addition, loans are usually locked for various periods of time, typically 15, 30, or 45 days, and longer periods such as 60 or 90 days depending on the type of originations conducted by the mortgage banker. Hence, the period of time one must use to track the performance of the secondary marketing department's hedging efforts must reflect the entire time period, including locked and settlement. This does not mean that the profit margin spread should not be measured monthly, only that they should also be tracked quarterly to ensure that a complete picture is obtained in order to obtain a clear picture of hedge performance.

> The first place to look when trying to explain an either too high positive or too low negative variance between the expected originated margin (correctly calculated) and the actual gain on sale received during a quarter is fallout variance during that quarter.

Upon looking back at the previous quarter's gain on sale settlements (all closed loan settlements, trade settlements, hedge related cash expenses, and net interest income) this number should be compared to the weighted average originated margin for the quarter. Hence, if the gain on sale over the quarter under review was 1.5 points, and the locked pricing margin was 1.5, the secondary manager should be applauded for exceeding the performance benchmark. The variance here is zero, but hedge costs and many other items may or may not have been accounted for. Generally performance can be drawn down by many factors that are not under the secondary manager's direct control, including hedge costs from extensions, etc.

When trying to explain either a too-high positive or too-low negative variance between the expected originated margin (correctly calculated) and the actual gain on sale received during a quarter, the first place to look is at fallout variance during that quarter. Fallout is defined as the percentage of loans that do not close during the period in question, plus renegotiation-based fallout, divided by the total amount of locks taken during the period. Because we want the loans sold to replicate the one under review, we usually look back at a quarter's worth of locks, based on the lock expiration date in question and adjusted for the quarter reviewed.

As an example, if we are looking at the gain on sale for the 4th quarter, those loans would have been locked, closed and settled during September, October and November; that would be the range of dates reviewed using each loan's lock expiration date. This percentage would be compared to the weighted average daily fallout estimate used by secondary marketing to measure the performance of their model.

If the actual fallout level during September through November was 20%, and the weighted average daily fallout estimate was 21%, a positive variance of 1% existed. This 1% variance could have either made money for the company or lost money for the company depending on the average market movement during that period. If the average market movement was a positive 1 point, e.g., the market improved from 101 to 102 during the quarter, the 1% positive variance would have created a positive margin impact during the quarter by a basis point (1% multiplied by 1 point).

> If a loan is locked and priced assuming a 30-day period and it ends up taking 45 days, the extra 15 days costs the firm in either actual or effective roll costs in the market.

While that may not be a significant difference, consider if the variance was 10% and the market sold off 2 points, on average, during the period. This would have created a fallout-based negative impact of 20 basis points. So if your company had priced to make 1.5 points based on the average daily originated price, and your fallout variance was what was just described, then the margin booked during the period would be 1.30 points – 20 basis points short of the target. However, this is usually just the first stop in the review of many factors that go into the equation.

LOCK EXTENSION COSTS

The next area or item to review is called lock extension costs. If the average original lock period during the quarter under review is 30 days, and the average ending lock period is 35 days for the same group of locks, then the pipeline was effectively extended by 5 days on average for each loan. This circumstance usually goes hand-in-hand with a high number of locks taking two-to-three weeks longer than what was originally priced.

If a loan that is locked and priced assuming a 30-day period ends up taking 45 days, the extra 15 days costs the firm in either actual or effective roll costs in the market. This cost can be directly estimated by looking at the prices of the underlying Mortgage-Backed Securities (MBS) in the market. For example, if the price posted on the Thomsen Reuters Eikon® system for a FNMA 4.0 in March is 104-13/32nds, and the price for April is 104-3/32nds, then the roll cost between months is 10/32nds, or .3125 points for

a 30-day period. The 15 extra days on a lock should have cost the borrower, at a minimum, above at least half of the roll cost or .1563 points – plus bid/ask spread of 2/32nds or .0625, for a total of .218 points in the current market.

If the average roll cost was 12/32nds and the firm extended all locks five days in each month of the quarter, then the effective extension cost during the period was 5/30*3*.375 or .1875 basis points. Without adjusting the extension cost number for actual price changes paid by the borrower, this number may be somewhat high because some extensions are charged back to the customer. This pricing adjustment should be easily calculated and represents a variance from the original locked margin of the loan. Also, many loans do not take 30 days to close, giving a positive roll effect. For example, if the original lock period was for 30 days and a loan only takes 15 days to close, then a 15-day positive roll would be incurred by the company, giving the loan the opposite of the above, or .1875 point credit. The point here is to arrive at an overall effective roll/extension cost or credit number to insure that the time period priced was either recognized or extended during the period.

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HEDGE RATIOS PERFORMANCE

The next issue to review would be the effective performance of the hedge ratios used. While most secondary market managers use the same MBS security to hedge the loans they would be pooled or sold into, a hedge ratio variance could exist. First, let's look at the obvious. If FNMA 30 4.0 – the current coupon is used solely by the secondary hedge manager to offset the risk of the originated at-risk pipeline, then variances are bound to exist. For example, 15-year product geared toward FNMA over the counter sale execution definitely will not track perfectly in price to the FNMA 4.0 sold even when correct Option Adjusted Spread (OAS) based hedge ratios are employed during the period. The reason is that convexity issues and basis movements occur that are not accounted for in a static or a dynamic process – not to mention the difference in Servicing-Released Premium (SRP) values and changes to those values. Hence, if basis risk has been incurred during a period, those positive and negative impacts should be measured and accounted for.

Another common example would be the use of GNMA I securities to hedge the production of GNMA II loans. Usually the spread between GNMA I securities and GNMA II securities is fairly stable, but not always. If the average spread over the period changed from, for example, 3/32nds to

12/32nds, and GNMA I's were used exclusively for the hedge GNMA II production, the ratio variance for the period for that portion of the closed and sold loans would be 9/32nds or .2813 points. Other factors that impact the correct use of hedge ratios include, but are not limited to, servicing valuation changes, yield curve changes, maximum prices or caps from investors, investor return requirement changes, and generally bad or static hedge ratios to begin with. MCM employs an OAS model with dynamically calculated SRP valuations, and considers investor caps by product and coupon, the results of which are reviewed daily and reported monthly and quarterly.

> If the dynamic exposure level in the Risk Management Policy Document states that the dynamic risk position should never be more than 5% of the net OAS exposure, then this amount should be verified several times a day.

ASSESSING DAILY RISK

The next factor that must be reviewed is the amount of risk being taken on a daily basis by the hedge manager. For example, if the dynamic exposure level in the Risk Management Policy Document states that the dynamic risk position should never be more than 5% of the net OAS exposure, then this amount should be verified several times a day. First a quick definition, dynamic risk position = dynamically calculated market value change equivalent OAS locks plus closed loans – trades in terms of the current coupon. Net exposure equals the total amount of locks (after fallout) and closed loans adjusted for OAS hedge ratios. So if a firm has $120 million in net locks after fallout, $20 million in closed loans both after adjusting for OAS based hedge ratios in terms of the current coupon, and a dynamic exposure level of $7 million, then they would be at the long positive limit of a +5% dynamic net exposure level (7/140 = .05 or 5%).

Another important way to look at this includes, for example, that if the Risk Reports in the Morning Position Reports used by the manager state that the company is long 10% every morning on average, but flat at the end of day in the official reporting (often the only one reviewed by management), then you can surmise that the manager has been betting the market would improve during the period while showing that his position was flat at the end of day. Risk Positions must be measured throughout the day and one must measure the impact of being long or short in the market given the price changes that occur. For example, assume that in the morning a Risk Position Report states that a given pipeline is long $10 million. If the market opens up that day 12/32nds, then the pipeline should gain $37,500 before new coverage is added, all things being equal. This could also easily be a loss of $37,500 given a market movement in the opposite direction.

If, conversely, the Risk Position indicates that the firm is short $10 million dynamically, then the position would benefit from a 12/32nds sell-off in the

market, and lose $37,500 when the market improved 12/32nds. Monitoring Secondary's Risk Position several times per day and keeping a tally of the impact of the decisions to be either long or short will shed quite a bit of light on a given manager's performance. Even if the manager follows a policy of being as flat as possible and executes to a "T", the possibility of not being flat is always present given that most firms accept locks after the market has closed, and loans either close, change status, or fallout after market hours, making even the best estimates for the following day to be significantly off, on occasion. MCM's Pipeline Risk Management System is online all day, 24/7, so that multiple Risk Position Reports can be run throughout the day.

Other factors to consider when measuring the performance of Secondary Marketing when looking at margins include:

• The cost of renegotiations

• Accurate average locked loan spread

• Investor-based pricing spread widening or tightening

• Any mark-to-market valuation jumps between locked and closed status

• The amount of options used to offset optional exposure and pair off loses not tied to loan sales

• Program/product change costs

• Beginning mark-to-market versus ending mark-to-market of exposed pipeline

• Beginning volume of net locks versus ending volume of net locks

• Product mix, channel, or source changes

• Number of days that fallout locks are hedged

• Basis improvement or impairment with investors

• Option costs – imbedded and incurred

• QM loans rejected and re-classified as non-QM

• Relocks

• Bad Data in Pipeline

• Free float downs when the market improves

• Mispriced loans

• Check out "100 Ways to Mess up in Secondary Marketing" blog at: http://www.mortcap.com/blog/17

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Dean Brown
CEO
dbrown@mortcap.com
858-483-4404, ext. 101

Robert Satnick
National Sales Director
roberts@mortcap.com
858-483-4404, ext. 201