

# MORTGAGE PIPELINE HEDGING 101

A WHITEPAPER BY MCT



Your Trusted Capital Markets Partner

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### ABSTRACT

Hedging an open mortgage pipeline is a risk management strategy used by mortgage originators to protect margins and safeguard against market fluctuations/volatility. Hedging is particularly important for mortgage pipelines because of the sensitivity to changing market pricing that could occur prior to loan closing. An originator can typically hedge their pipeline at a lesser cost and greater efficiency than investors can on their behalf by way of a best-efforts commitment. Since hedging in the mortgage space is almost entirely done with forward contracts to mitigate pricing risk, this will be the focus of this paper.

Hedging one's mortgage pipeline typically produces the greatest return over long-term macroeconomic cycles, which is why it is considered an essential step in the growth of a mortgage lender. Managing a hedge position with the right tools and support can be much less complicated than it initially appears and provides a process that is greatly simplified from that of a manual, upfront, best-efforts lock process. With the right support and training resources, the hedging process can effectively be broken down into a manageable daily discipline.

The hedge modeling behind a trading and analytic software, like MCTlive!, requires a depth of knowledge in addition to complex calculations to produce the recommendations that it generates, but the originator is not responsible for maintaining such a model. The originator's main responsibility in hedging an open pipeline is primarily to maintain its own internal data integrity in the LOS system. Originators that have the cleanest data tend to maximize their opportunities to drive more revenue because they can identify and address any potential inefficiencies much faster (i.e. leakage). In this whitepaper, MCT explains what hedging is and why it is a valuable strategy for maximizing profitability in the secondary market.

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### WHAT IS MORTGAGE PIPELINE HEDGING?

**Hedging** – An activity that protects an asset from market fluctuations by taking an offsetting position in a similar asset. Hedging is used to ensure the price change on the loans that have not yet closed is offset by the change in value of the hedging instrument. Hedging a mortgage pipeline helps to manage the pricing risk associated with the pipeline and ultimately optimize loan sale profitability.

When utilizing a hedging strategy, as interest rate lock requests come in, the loan is not yet committed to an investor, but flagged as hedged in the originator's LOS and appropriate coverage would be adjusted to the offsetting global TBA MBS hedge position. Hedging can be thought of as a form of insurance: if the rate is less favorable at the time of the loan sale, the hedge position is secured to offset the difference.

The industry-standard hedge vehicle for vanilla agency eligible fixed-rate production is TBA's or "To-Be-Announced" mortgage-backed securities (MBS), which we will cover in the next section. Let's explore some other essential hedging concepts:

**Basis Risk** – Basis risk is the risk that the performance of a hedge instrument may not perfectly match the performance of the asset it is intended to protect. In the context of hedging mortgage loans, basis risk occurs when changes in loan pricing do not correlate with the changes in hedge instrument (e.g., TBA MBS) pricing. Because the mortgage loans in the pipeline are being hedged with “mortgage” backed-securities, the basis risk is relatively low.

**Best Effort & Mandatory Loan Sale Commitments** – “Best efforts” refers to an interest rate lock commitment that occurs when the seller agrees to make their “best effort” to sell a specific mortgage loan or pool of mortgage loans to a specific investor but does not guarantee that the loans will actually be delivered. This option is selected when the borrower has locked his or her Interest Rate, but the seller takes down a forward commitment with the investor to protect themselves against potential unfavorable market movement. Naturally, it is impossible for the seller to know if the loan will ultimately close (pull through) or even qualify when a long-term best-efforts lock is taken at the time of lock.

When an originator locks a loan “best efforts” with an investor, that investor takes on the associated interest rate risk and hedges that lock. It certainly makes sense that the investor will pass along those hedge costs to the originator/seller at a premium by baking those anticipated costs into the “best efforts” pricing.

When a seller commits on a “mandatory” basis, they are obligated to sell a mortgage loan or specified pool of mortgage loans to the investor. Mandatory commitments are generally not taken out until the loan is fully funded/closed (at or after funding). So, the seller should have no problem ensuring that loan is delivered as promised in exchange for the more attractive mandatory pricing:

For “mandatory” commitments, the investor does not take on the associated market risk while the loan is being processed and is thus able to offer stronger pricing. The savvy originator can hedge their pipeline more efficiently and at a much lower cost than their investors can on their behalf, allowing them to reap the benefit of the spread between best efforts and mandatory pricing.

**Broker-Dealer** – A financial intermediary that buys and sells mortgage-backed securities. In the secondary mortgage market, broker-dealers play a crucial role in connecting buyers and sellers of mortgage-backed securities. They purchase mortgage loans from primary market participants, such as banks and mortgage lenders, and package them into securities that can be sold to investors. By doing so, they provide additional liquidity to the market and help ensure that mortgage funds are readily available to borrowers.

MCT helps match originators with the broker-dealers that are appropriate for their size and financial positions.

**Coupon Slotting** – The process of selecting the appropriate TBA MBS coupon to use to hedge a loan, interest rate lock commitment (see below), or group of loans with various interest rates (e.g., Note rates between 5.75% and 6.25% would currently slot into and be hedged with a 5.5% MBS coupon).

**Cross Hedging** – The hedge of an asset with an instrument having different characteristics, market sensitivity, and rate of price change. Differences can include security type or coupon, and exposes the position to basis risk.

**Fallout Risk** – Fallout risk occurs when loans in the pipeline ultimately do not close. This can result in a loss for the lender if they have already committed resources, such as processing and underwriting costs, to the loan. Fallout isn’t an issue (generally) when hedging because loans are assigned “pull through” percentages at various stages of the origination process and hedging is pull-through adjusted to accommodate for fallout risk. The closer in the process a loan gets to funding, the higher percentage of that loan “pulling through” (Pull-through represents the probability of a loan closing. e.g., locked loans have a 75% pull through rate, loans out of underwriting have an 85% pull through rate, loans at closing have a 97% pull through rate).

**Interest Rate Lock Commitment** – An interest rate lock commitment is an agreement between a borrower and a lender that guarantees a specified interest note rate for a certain length of time. This protects the borrower from potential increases in interest rates during the lock period, allowing them to secure a set rate for their loan.

**Interest Rate Risk** – Interest rate risk for a mortgage lender refers to the potential exposure a lender may experience if there are fluctuations in the underlying price associated with the note rate. To mitigate that risk, the

lender takes down an upfront commitment. When interest rates rise, the value of a lender's existing locked mortgage pipeline in the secondary market decreases, exposing the lender to a potential loss. Conversely, if interest rates fall, the value of a lender's existing locked mortgage pipeline in the secondary market increases.

## HEDGING EXAMPLE AND PROCESS

There is a daily cycle of disciplines for ensuring successful mortgage loan pipeline hedging.

- **Lock** – Loans locked with borrowers need to reflect accurate and timely pricing. Once an interest rate lock commitment is issued, the pipeline should be updated immediately, often through Loan Origination Software (LOS) integrations such as the ones we offer at MCT, and accuracy of loan file characteristics is paramount in determining the proper hedge.
- **Coverage** – Active hedge positions must be constantly reviewed and updated based on changes with the market and changes to a mortgage pipeline. Coverage is based on a variety of factors, most notably pull through rate and the company's overall desired hedge ratio. Hedging software can help you model your resulting position before you execute trades, or your hedge advisor can take responsibility for executing trades on your behalf.
- **Best Execution** – Maximizing profit and protecting margin is the goal of any secondary marketing manager. A robust best execution analysis helps you select the optimal delivery method and investor destination according to your goals. Put simply, find the best outlet for each piece of production.
- **Mark-To-Market Reporting** – Reporting is vital to both monitor a pipeline for changes and to effectively track profitability. It is critical for ownership and secondary departments to have access to a robust daily reporting stack. Every night the originators mark the pipeline and corresponding TBA trade positions to the market. This live and daily reporting supports transparency and optimization.

### Key Takeaways

- TBA is a term taken from the selling of mortgage-backed securities, where the details are not known until later.
- TBAs are used to better facilitate trades in the MBS market and provide liquidity, allowing mortgage lenders to hedge their origination pipelines.
- A TBA trade does not include all its details, so it is best left to professionals who understand the nuances of TBA trades.
- Due to their nature, TBAs can sometimes carry considerable risk.
- TBA is sometimes used interchangeably with TBD ("to be determined").

When it comes to hedging agency-eligible mortgages, To-Be-Announced mortgage-backed securities (TBAs) are securities that represent a liquid market of MBS that have not yet been created; TBAs represent the commitment to sell or purchase a specific pool of MBS at a future date. These are the most liquid and actively traded securities in the fixed-income market, and they play a significant role in the functioning of the secondary mortgage market, providing liquidity and stability.

The forward contract TBA can be used to manage risk, and the delivery of the underlying securities is available but not necessary. Better said, most originators that are hedging do not deliver or create securities (MBS). The TBA strategy is akin to shorting a stock. Using TBAs allows for hedge positions to be added or removed quickly and inexpensively should loans in your pipeline "fall out," new locks enter your locked pipeline or the pipeline risk profile change.

TBAs are unique in that they represent a commitment to buy or sell a specific pool of securitized mortgages at a future date, but the exact mortgages that will be included in the pool have not yet been determined. Instead, the securities are issued based on the characteristics of the mortgages, such as their coupon rate, and maturity date, rather than the specific mortgages themselves. These securities are created by mortgage lenders, who originate and underwrite mortgages and then sell them to investors through the secondary mortgage market.

Let's consider a simple example...

- Say an originator has \$10 million in interest lock commitments with their borrowers. With a sound hedging strategy, originators are basically interest rate indifferent from a pipeline valuation perspective. For this initial example, we will assume the lender has 100% pull-through (wouldn't that be nice?) and we'll assume a rise in rates of 25 bps. With a 4-to-1 price-to-rate multiple, this would decrease the value of the pipeline by 100 bps in price. If we assume a 101 original value, that will take the pipeline value down to par (100). The originator would lose \$100k versus what they were expecting to make on the loans.
- To hedge this risk, the originator would sell forward (or "short") \$10M in TBAs. Let's assume a hypothetical price of 101. In that same scenario with the market declining a point in price, the originator is **selling** at a price of 101 but then buying back at a price of only par (100), gaining back the point that they lost due to rising rates on the loans in your pipeline. The decreasing value of mortgages in the pipeline (-\$100K) is offset by gains in the value of the TBA (+\$100K).

In reality, not all loans in the pipeline will actually fund. Therefore, a hedge model is typically used to calculate each loan's individual pull through percentage. Taking the weighted-average of the expected pipeline pull through less the impact of the negative convexity of servicing (this concept will be explored more deeply in an upcoming Hedging 201 whitepaper) produces an "optimal" overall hedge recommendation.

If an originator's optimal coverage recommendation is 85% on a \$10 million dollar pipeline, then they should only have \$8.5 million in TBAs that they have sold to their broker dealer protecting those interest rate lock commitments while they are in the origination process. Once the loans fund and the loans get committed to the highest paying buyer, some TBA coverage would need to be removed by buying back from their broker dealer aka "pairing out".

Taking this one step further, consider the following actions happening throughout the day...

- The lender accepts \$2 million in volume from four new interest rate lock commitments. Lock commitments are expected to pull through at 75%. That means \$1.5 million in locked principal of those loans are expected to close.
- MCT's model recommends selling \$1.5 million in TBA coverage. Before that hedge is placed, the originator is under covered or "long" in their position and they are exposed to interest rate risk if rates rise.
- That same day, the originator happens to fund three loans for a total of \$1.5 million in volume and commits those loans to investors. Because the loans are funded, they will now pull through at 100%, and because they are now committed, the originator no longer needs to hedge that risk. The interest rate risk has been offlaid onto the investor and those loans are out of the originator's hedge position. In this scenario, the originator has \$1.5 million dollars in TBA coverage they don't need for that population any longer.
- Instead of pairing out of that \$1.5 million in TBA coverage, the originator can choose to leave that coverage on because of the new interest rate lock commitments happening to need that same amount of coverage. This is known as "trade recycling" and can be an efficient practice in hedging that minimizes hedge costs.
- With the \$1.5M of new lock exposure being offset by the \$1.5 million of offlaid exposure, MCT's model is now saying the originator is once again at optimal coverage with no action needed to be taken. Now, if underwriting during due diligence were to decline a \$300K loan with an estimated 80% pull through, MCT's model would say that the originator is over covered by \$240K. The originator would then need to pair out of their TBA position to return to optimal.

This example provides a simple demonstration of the operational process of managing a hedged pipeline. It is an oversimplification of modeling and practice in order to keep the concept clear and easy to grasp. In the above example, if the mandatory market price was a net 30 bps stronger than best-efforts, the seller stood to gain an additional \$4,500 on this small population with what is actually a less time-consuming secondary process, particularly in large scale production.

## BENEFITS OF HEDGING

### Higher Pull Through Rates with the End Investor Equals Improved Pricing

Pull through is closely monitored by investors because of the hedge costs associated with the interest rate lock commitments that are extended. When selling loans on a best-efforts basis, low investor pull through results in worse pricing, making it even harder for an originator to compete, and in some cases can even compromise originator/investor relationships. Originators are placed in a tough spot when they have lock requests from the loan officers/borrowers in early stages because they really have no choice but to get those loans locked early in the process with an investor.

Conversely, when an originator hedges, they aren't committing those loans with an investor until the loans fund. By the time the loan is closed, the originator knows everything about that borrower, loan profile, and what investors would buy the loan, making investor pull through 100%. While the loans are in process, only the volume expected to pull through would be hedged. Hedging is especially critical for consumer direct business models because often these models demand early locks but may have online borrowers that are shopping their loans which often means more uncertainty and lower pull through. Being able to lock loans with investors at funding removes the stress of having to face compromised pricing from their investors for lower pull through performance.

### Take Advantage of Changing Investor Appetites

Investor purchase motivations are going to naturally change day over day and month over month based on market conditions and their own business objectives. As those appetites change, associated pay ups are generally going to be passed through the mandatory channel exclusively. Best effort sellers are not able to benefit from the immediate purchase needs a desk may have in filling their high balance de minimis or another specified pool need. Additionally, in uncertain markets it is much safer for the investor to pass those pay ups to a live market with a short window to purchase rather than extending via a longer-term commitment.

### Become a Lower-Risk Counterparty

Philosophically, a mandatory seller is generally perceived to be a lower-risk counterparty than a best-efforts seller for a few reasons. First, they likely have a net worth at or above two million dollars (Note: GSE minimum is \$2.5mm), which makes them better positioned to handle repurchases or any other company issues if they were to arise. The mandatory seller typically is also going to be large enough to have divisions of labor, so it isn't likely that their president is also head of sales, locking loans, and overseeing compliance. Divisions of labor lead to better quality control and ultimately better-quality loans. In a small best-efforts company, having such clearly defined divisions may not always be feasible.

### Take Advantage of More Price Competition

Pricing is also sharper on the mandatory side due to the sheer competition out there. The mandatory buyer knows that they are likely competing with 10-15 other buyers in addition to the Agencies and any co-issue options. The mandatory seller has a lot of options, and investors know that. More competition drives up the bids. The mandatory seller also has the benefit of being able to commit through all channels available from their aggregator/Agency partners. Occasionally, when a loan that has been hedged is ready to be sold, a best-efforts price could be favorable. When that happens, it is likely because the market has moved and the investor desk hasn't yet reacted with a reprice. The originator can take advantage of this by taking down the highest commitment price available even if it is a best-efforts price. Their investor will welcome commitments however they come; this won't risk the relationship with the investor partner.

### No Need for "Retargeting"

There's nothing worse than locking a loan with an investor in a rising rate environment and finding out a week into the file that the loan is not eligible to be sold to that investor and must be relocked with a new investor for worse pricing. When you are hedging, that risk does not apply. If, during the underwriting process, it is discovered that a hedged loan isn't eligible for a specific investor, then the underwriter would simply check a box or make a note somewhere in the loan origination system so that when the secondary team is going to sell that loan at funding, that specific investor isn't considered in the best execution analysis. By the time the loan funds the originator should know everything about that borrower and loan file. Goodbye retargeting! The originator doesn't have to take a hit, including pricing that has moved because an investor would have been selected up front in the first place. The day-one expected revenue on the loan is protected and preserved by the hedge.

### More Operational Control

Hedging gives originators more control of their process and policies. If a lock request comes in and the investor is repricing, the originator can still flag the loan as hedged and hedge that lock regardless. The originator can decide on their own whether to accept that lock. Renegotiations are no longer subject to investor rules and in the case of MCT clients, the renegotiation process can be made much easier through available reporting that provides insight into the market movement the loan has experienced. Originators can create their own policies that make sense for their business model.

The originator can also maintain better control over their extension policies. They are no longer subject to the various guidelines of their investors on the maximum or minimum number of days outlined in their investor policies. In addition, the investors are generally going to charge a premium in most cases for extensions. In situations where the actual hedge costs could be approximately one basis point per day, the investor may still be charging two basis points a day. An originator may be forced by the investor to take out a five-day extension when they only needed one day, and then must decide to absorb that cost or pass that cost off to their loan officer/borrower.

When an originator is hedging and they need an extra day (or ten), the loan simply remains in the hedge because it isn't locked with an investor until it funds. The investor extensions while the loan is in process are eliminated and the originator can then decide for themselves what makes sense for them to charge. In most cases if they mirror their investor policies in some markets this can easily become a small profit center. Alternatively, the originator could choose to be more generous with their extensions because they are a purchase-focused shop and are looking to earn as many points as possible with their referral partners.

### Ease of Managing a Large Pipeline

At some point, an originator has little choice but to initiate mortgage pipeline hedging because even if the overall pricing isn't better, it becomes a logistical nightmare to manage every single lock individually on each of the various investor websites. While each loan is assigned a pull through percentage the entire working pipeline can be summed up into an expected pull through percentage at any given point in the day. MCT client data is pulled live throughout the day so there is full visibility into the current hedge position. If 85% of the pipeline is expected to close, then 85% of that volume is hedged – which we would consider “optimal”. The pipeline size is going to change throughout the day as loans are locked and enter the pipeline, loans in the pipeline advance in stages, loans are canceled, withdrawn, or denied. However, all these changes are managed internally and globally rather than piecemeal with a litany of different best-efforts investors.

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## ARE YOU READY TO HEDGE?



MCT generally recommends that originators should seriously consider hedging a mortgage pipeline when monthly “hedgeable” volume reaches approximately \$10 million. MCT typically moves clients to mandatory when volume is closer to \$15 million or \$20 million, but it is good to start thinking about getting prepared for the transition ahead of time. Once an originator has \$15 to \$20 million or more in “hedgeable” volume, the economics of hedging begin to clearly outweigh the costs. Over the long term, an originator should expect to make a 20 to 25 basis points lift over best-efforts.

An originator also needs a healthy net worth to be able to manage the changing cash flows involved with hedging. Having a net worth of over \$1 - \$2 million is going to be a minimum approval threshold that the broker-dealers and top mandatory buyers are going to require to be approved to deliver mandatory and trade TBAs, both of which are required for hedging.

Only loans that are underwritten on a delegated basis can be hedged so those considering hedging will need to consider the volume of delegated production available. Finally, it is vital to have a centralized lock desk individual to set pricing and control the locks that are coming in. A centralized lock desk is a separate requirement from delegated underwriting, but one that MCT can help with via [Lock Central](#).

A hedge advisor, such as MCT, can be a tremendous resource overall and support a smoother and more efficient environment to effectively mitigate risk and protect margins/profits. To achieve that, your MCT trader interfaces directly with your secondary marketing professionals to establish a daily cycle of disciplines for successful mortgage loan pipeline management with our mortgage hedging advisory services. Originators wishing to protect their profitability and increase their overall revenue in the face of ongoing changes in the mortgage market should [get in touch with MCT](#) to start learning and considering processes and policies.

Stay tuned for a Hedging 201 whitepaper coming soon which will dive deeper into mortgage-backed security pricing, cross hedging, coupon slotting, and the use of durations in hedging.

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## ABOUT MORTGAGE CAPITAL TRADING

Founded in 2001, Mortgage Capital Trading, Inc. (MCT) has grown from a boutique mortgage pipeline hedging firm into the industry’s leading provider of fully integrated capital markets services and technology. MCT offers an array of best-in-class services and software covering mortgage pipeline hedging, best execution loan sales, outsourced lock desk solutions, MSR portfolio valuations, business intelligence analytics, mark to market services, and an award-winning comprehensive capital markets software platform called MCTlive! MCT supports independent mortgage bankers, depositories, credit unions, warehouse lenders, and correspondent investors of all sizes. Headquartered in San Diego, California, MCT also has offices in Philadelphia, Healdsburg, and San Antonio. MCT is well known for its team of capital markets experts and senior traders who continue to provide the boutique-style hands-on engagement clients love. For more information, visit <https://mct-trading.com/>.



**MCT** hedge advisory

- ✓ HALO - Traditional Full Service Hedge Advisory
- ✓ MCTlive! - Capital Markets Software Platform
- ✓ BAM - Bid Tape Management Solution
- ✓ Best Execution Analysis & Loan Sales
- ✓ TAM - Request for Quote platform for the exchange of TBA MBS Securities

**MCT** MSR services

- ✓ MSRlive! Cloud-based Portfolio Valuation Platform
- ✓ Customized grids
- ✓ Quarterly Servicing Portfolio Valuation Reports
- ✓ One-on-one Servicing Strategy Consulting
- ✓ Enhanced Retain/Release Analyses

**MCT** lock central

- ✓ Outsourced Lock Desk Services
- ✓ From Initial Locks Only to Full Service
- ✓ Works with all LOS & PPE Systems
- ✓ Best Practices - Lock Desk Policy and Procedures

**MCT** PRODUCT & PRICING

- ✓ Proprietary Pricing & Eligibility Engine
- ✓ Real-Time Pricing for ALL Delivery Channels
- ✓ Loan Sale Best Executions
- ✓ Rate Sheet Generation Services

**MCT** BUSINESS intelligence

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- ✓ Proprietary Loan Sale Best Execution Database
- ✓ Investor Report Cards
- ✓ Price Competitiveness
- ✓ Client Opportunity Curves
- ✓ Capital Markets Consulting