Ginnie Mae
Our Guaranty Matters

Transcript

Mortgage Pipeline Risk

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1. Introduction

1.1 Title Screen

1.2 Course Purpose

Welcome to the Mortgage Pipeline Risk course!

The purpose of this course is to train Ginnie Mae employees on mortgage pipeline risk with an emphasis on loan product, funding sources and needs, and secondary marketing economics.

Learning Objectives

Learning Objectives:

- Identify activities involved in loan production
- Examine loan production risks for counterparties
- Compare the various types of funding Ginnie Mae counterparties use
- Describe how the types of funding work
- Describe activities involved with secondary marketing
- Describe how secondary marketing activities could pose risk

1.3 Navigation Tutorial

[The navigational tutorial is applicable to the on-line training only.]

2. Loan Production

2.1 Loan Production in the Mortgage Lifecycle

To understand the loan production activities and where risks might lie for counterparties, it is important to recognize the mortgage lifecycle. A mortgage features three critical phases as depicted in this high-level view of the lifecycle.

Phase 1: Originations

Phase 1, Originations, entails both production and evaluation.

Phase 1 is where loan production originates as loans are acquired through various channels. They can come through retail, consumer direct, home equity, or correspondent sourced loans. They can be purchased in bulk in a variety of different ways depending on how they are acquired or sourced. Next, those loans are evaluated.

Evaluation can be manual loan underwriting or a combination of manual and the Desktop Underwriter/Loan Prospector (DU/LP) automated process. It can use custom statistical models that consider various attributes, Borrower risk factors, like FICO score, and Loan-to-Value (LTV) and debt-to-income (DTI) ratio, and others, applying rules and engines in an automated process.

Now, let's examine how Phase 1 of the lifecycle feeds into Phase 2.

Phase 2: Portfolio Management

During Phase 2, Portfolio Management, the loan originations are retained on the balance sheet in the Real Estate Portfolios (REP) and net interest income is collected.

This phase examines performance, external data, net present value (NPV), option-adjusted spread (OAS), capital optimization models, and frameworks.

Based on the loan production originations, a determination is made about which loans to package into mortgage-backed securities (MBS) to sell to investors in the capital markets.

Now that the loans have been purchased and/or packaged and sold, what is the third phase of loan production in the mortgage lifecycle?

Phase 3: Servicing

Phase 3 in the mortgage lifecycle is servicing of third-party loans sold to Investors or servicing owned loans.

Servicing those loans includes both performing loans and delinquent or non-performing loans, which must be triaged to turn back into performing loans.

Phase 3 examines Investor servicing standards, portfolio loans, custom models, adaptive control, and bureau portfolio standards.

Mortgage Sourcing

Mortgages can be acquired through a variety of channels including:

Retail lending, which sources mortgages directly via the Lender's in-house loan production staff (for example, commercial banks).

Another source is correspondent lending, which is performed by companies obtaining funding from an Investor to originate loans on their behalf (for example, independent mortgage companies).

A third source is mortgage brokers. These are intermediaries (not Lenders themselves) that work with several Lenders to source Borrowers on their behalf.

Finally, the bulk purchase channel is where some larger Lenders will buy or sell pools of loans to other Lenders.

2.2 Loan Production Activities

The activities entailed in loan production include: Product development & marketing, loan application and commitment, sourcing, underwriting, collateral valuation, regulatory & compliance assessment, loan documentation & processing, loan closing and post-closing, and quality control.

The aggregation and acquisition of those loans, the underwriting, and collateral valuation feed into the regulatory and compliance assessments.

Loan documentation and processing, loan closing and post-closing, and quality control or quality assurance have any number of touchpoints which can pose operational risk to the institution both in terms of representations and warranties or indemnification.

As an example, some sort of defect in the way the loan was underwritten or the way in which the property was valued or improper terms and conditions in the Master Agreement could be real problems. These problems could create blowback for that institution where it would have to buy that loan out of that pool. So, a lot of things can happen in the production process that pose risk.

2.3 Loan Production Issues

A myriad of operational and other issues can make or break the financial performance of a counterparty. These include: Operational risk errors, poor underwriting practices, poor oversight of third-party origination partners, poor quality control processes, mortgage fraud, and regulatory issues.

In the past, a lot of bad underwriting practices and all sorts of internal fraud were committed, such as improper documentation or changing Borrowers FICOs. In some cases, companies would use white-out to literally wipe out somebody's 625 FICO and make it 660.

In another example, consider where poor Quality Control (QC) processes can impair a

loan's eligibility. For example, a loan was designated owner-occupant during the origination process and then the loan defaulted. Proper QC would have discovered that it was not an owner-occupied loan but was actually an Investor loan. The fact that the loan was pushed through the system without examining the underlying underwriting data meant that the loan didn't price correctly. It is, therefore, subject to buyback risk because the loan was not a program eligible product to be delivered in the first place.

When we're in a benign economic environment or when we see that production levels are lower and plain vanilla lending is being done, then the potential for operational deficiencies to manifest themselves are not as great. However, it's when you see a confluence of more risk layering of the product in conjunction with rising volume that operational risk areas start to manifest. They can become very problematic very quickly for your counterparty.

Quality Control

Regular pre-funding and post-closing review of loans can provide an early warning mechanism to the risk office and business areas as to any material change in the loan manufacturing process.

Each month loans will be sampled along several types including random, targeted, and discretionary.

- Random: Composed of a sample % of the overall population whereby every loan has an equal chance of being selected.
- Targeted: Performed in addition to random and discretionary reviews on a specific population with higher potential for errors, misrepresentation, or fraud.
- Discretionary: The discretionary criteria is set by the lender based on historical defects and trends and is a full comprehensive review of the loan file.

2.4 Regulatory Compliance

Litigation and reputational issues can arise if effective regulatory compliance activities are not conducted. What is effective regulatory compliance?

Effective regulatory compliance ensures that a mortgage Lender can continue to do business and maintain a good reputation. It helps control the degree of risk exposure for the financial institution in a number of areas that may be subject to regulatory examination and enforcement. Effective regulatory compliance ensures institutional safety and soundness by confirming that the bank activities don't pose risk to the institution or the overall financial system. It also means financial soundness indicators are methodological tools that help quantify and qualify the soundness and vulnerabilities of financial systems according to five areas of interests: capital adequacy, asset quality, earnings, liquidity, and sensitivity to market risk.

Multiple areas of risk exist within the context of consumer protection, separate from safety and soundness risk, within the business enterprise. Areas of risk include Investor risk and credit risk, regulatory risk, reputational risk, and litigation risk.

Investor and Credit Risk

Credit risk comes into play because credit available to Lenders may be constrained by Investors if they determine or believe that a financial institution's business practices are not compliant with consumer protection requirements.

Non-compliance with consumer protection requirements or Investor requirements might put those Investors at risk of regulatory action being taken against them and/or of liability to customers for the original Lender's actions.

Regulatory Risk

Regulatory risk may arise when a regulator determines that a financial institution is in violation of a statutory or regulatory requirement, thereby giving rise to a potential enforcement action and sanctions.

It is even possible that a Lender may be barred from doing business or face criminal penalties.

Regulatory compliance is the price of doing business in the mortgage banking arena. Without this compliance, you are looking at an open door for fraud. We'll look at specific types of mortgage fraud shortly.

Reputational Risk

Credit risk comes into play because credit available to Lenders may be constrained by Investors if they determine or believe that a financial institution's business practices are not compliant with consumer protection requirements.

Non-compliance with consumer protection requirements or Investor requirements might put those Investors at risk of regulatory action being taken against them and/or of liability to customers for the original Lender's actions.

Litigation Risk

Loans with compliance violations pose risk of litigation from investors to buy back loans or reimburse investors for costs and liability incurred.

Probably more important and equally possible is the risk of lawsuits from consumers, or class action lawsuits for patterns of violations.

Finally, the risk of litigation is caused by the imposition of civil monetary penalties and fines in the wake of an enforcement action or more formal litigation.

A real-world example of litigation risk goes back to the 2008 financial crisis when Countrywide put themselves on the auction block. Bank of America bought them out for a few billion dollars.

Several years later after all the class action losses that rained down upon them because of Countrywide's bad loans, Bank of America was on the hook for roughly $65 billion in total litigation exposure. This was not a good investment!

2.5 Mortgage Fraud

The creativity of fraudsters is almost limitless. The good news is that fraud models and fraud analytics are using machine learning and artificial intelligence to look for patterns. Let's say that you're in a county and a Lender has five different loans with 'different' buyers. Using fraud tools, you can expose a pattern. Relying on the analytics, further detective work can determine that these loans all had the same buyer.

Now let's take a moment to explore some of the various types of mortgage fraud.

Income Fraud

Occurs when a Borrower falsifies income records or employment history in an attempt to qualify for the loan. Income fraud can also come from the Mortgage Broker or from the Lender.

Occupancy Fraud

Occurs when a Borrower falsely claims they will occupy the property, when in fact they plan on renting it out. (Occupancy usually gives the Borrower better loan terms.)

Appraisal Fraud

This is when a dishonest appraiser is hired to inflate the value of the property, usually for a cut of the profit from the sale.

Illegal Flipping

This fraud is not to be confused with the legitimate practice of buying a house, making improvements and selling it.

Illegal flipping occurs when the seller lies about the improvements or overstates their value to bump up the sale price.

This usually also involves appraisal fraud.

Straw Buyers

This type of mortgage fraud involves employing a "Fake" Borrower with good credit to hide the identity of the true Borrower who would not qualify for the loan.

The straw buyer might be a co-conspirator, receiving a cut of the profit, or a victim of the fraud itself, falsely believing he/she is legitimately investing in property only to be left high and dry.

Predatory Lending

This type of mortgage fraud can be any number of bait-and-switch scams in which the Lender conceals bad loan terms in the paperwork, duping the Borrower into signing the paperwork, charging numerous junk fees, or inflating payments and interest after the

fact.

This is often done with the intent of forcing the Borrower into foreclosure shortly after buying the property.

2.6 Knowledge Check 1

Which of the following are activities entailed in loan production?

A. Underwriting
B. Default recovery
C. Collateral valuation
D. Regulatory & compliance assessment

Feedback:

Activities entailed in loan production include:

- Underwriting
- Collateral valuation
- Regulatory & compliance assessment

2.7 Knowledge Check 2

For each description, select the type of risk; then, select SUBMIT.

Description	Investor and Credit Risk	Regulatory Risk	Reputational Risk	Litigation Risk
This risk may arise when a financial institution is determined to be in violation of a statutory requirement that may result in a Lender being barred from doing business.		✓		
This risk is caused by the imposition of civil monetary penalties and fines in the wake of an enforcement action.				✓

2.8 Knowledge Check 3

For each description, select the type of risk; then, select SUBMIT.

Description	Investor and Credit Risk	Regulatory Risk	Reputational Risk	Litigation Risk
This type of risk comes into play because credit available to Lenders may be constrained by Investors if they determine business practices are not compliant with consumer protection requirements.	✓			
This risk arises when the financial institution's good name is harmed because of allegations of non-compliance, whether proven or not.			✓	

3. Funding Sources and Needs

3.1 Overview of Loan Funding Sources

Recall that the three main differences between banks and nonbanks are regulation, capital, and liquidity. Let's examine loan funding sources that distinguish banks and nonbanks.

Major sources of mortgage funding for banks come from deposits and short-term debt.

If you are on the banking side, you will rely significantly on the least cost source of funding, which will be retail and wholesale deposit accounts. Low-cost funding is a result of being insured by the Federal Deposit Insurance Corporation (FDIC) to $250,000. This is basically a subsidy that the federal government gives or grants to depositories to be in that business. This makes it more difficult for nonbanks to compete because they must go out to private markets to fund themselves at a higher cost than bank funding.

The various types of short-term debt for mortgage funding include: Asset-backed commercial paper and traditional warehouse lines of credit. It also includes Repurchase Agreements (Repo) and Reverse Repurchase Agreements. Additionally, short-term debt instruments include the Federal Home Loan Bank (FHLB) advances, which are basically a form of lending through this vehicle, and Nonbank Financing via affiliate relationships. This last one is a big issue for Ginnie Mae as it relates to liquidity risk potential among

these nonbanks versus traditional depository institutions.

Repo & Reverse Repo

Repurchase agreements are used by certain Money Market Funds (MMFs) to invest surplus funds on a short-term basis and by financial institutions to both manage their liquidity and finance their inventories.

A reverse repo is where the bank makes a short-term, guaranteed loan to the central bank. Reverse repos are a sign of excess liquidity in the system, meaning that banks are comfortable lending with money left over after covering their liabilities and investing.

To the party selling the security with the agreement to buy it back, it is a repurchase agreement. To the party buying the security and agreeing to sell it back, it is a reverse repurchase agreement. The reverse repo is the final step in the repurchase agreement, closing the contract.

3.2 Deposits

Turn your attention now to retail and wholesale deposit accounts that banks tap into for funding.

Retail funding accounts for more than ¾ of bank liabilities. As mentioned earlier, retail deposit accounts offer low-cost funding thanks to the FDIC and are relatively stable from a liquidity standpoint. Commercial deposits, on the other hand, are more rate- and credit-sensitive and, therefore, more volatile. The core deposits typically consist of checking accounts, savings accounts, and certificates of deposit.

When banks run out of retail accounts, they look at the wholesale markets. Those are usually called broker-to-broker deposits. Regulators view those as riskier, particularly the FDIC. The FDIC has moved to more risk-based pricing of deposit insurance over the years. The amount of broker deposits that a bank has will be a factor that can cause them to pay a higher premium for their deposit insurance than a bank that has fewer broker deposits on their balance sheet. So those wholesale deposits can be riskier when we're in a time of financial crisis.

Wholesale deposit accounts are generated from brokered deposits and Internet-sourced accounts purchased via a network of deposit brokers. The FDIC limits use of brokered deposits and uses them to price deposit insurance. Importantly, these accounts are more costly and less stable than retail deposits. They are viewed as riskier by regulators and can be destabilizing during a crisis.

3.3 Asset-Backed Commercial Paper

Asset-Backed Commercial Paper (ABCP) is a very large, robust market for short-term funding between 90- to 270-day terms.

Companies sell receivables (e.g., mortgage cash flows from MBS or loans) to a special purpose vehicle (SPV) that, in turn, sells ABCP notes to Investors.

Cash flows from the underlying mortgages are passed through to the SPV and then to the Investors until the ABCP note matures.

Banks with high quality ratings are typical Issuers that monitor the activities of the SPVs they have set up.

During the financial crisis, ABCP came under severe stress due to uncertainty associated with high credit losses on mortgage securities that were used to collateralize this paper. This posed significant liquidity risk to many mortgage firms reliant on this source of funding during 2008-2009.

3.4 Repurchase (Repo) Agreements

Turn your attention now to a depiction of the Repurchase (Repo) Agreement process. Let's say a nonbank wants to originate the mortgage but to do that, they need financing. They reach out to a Repo Buyer, which we look at as a Lender to that Originator. The Repo Seller, who is the mortgage Originator, wants to receive funding back from the buyer.

The Repo Buyer makes cash available from funds that are transferred from the loans.

It's basically a two-leg transaction. It's a simultaneous kind of agreement, in the sense that the Repo Seller, this mortgage Originator, wants funding back from the Buyer and will then agree to transfer the loans to that Repo Buyer. At the end, the Repo Buyer will make a payment.

The difference between what they get from the mortgages and what they ultimately pay out to that Repo Buyer is effectively like a lending cost that the mortgage Originator experiences from this reverse repo transaction.

But wait, we're not done! The mortgage Originator then actually must find a buyer for those loans. So, they're making loans to the Borrower but, ultimately, when they get that loan in place, they must sell that loan out to, for example, a GSE or out through a securitization trust.

In other words, the mortgage Originator, being the Repo seller, is transferring mortgages to the securitization that's buying those loans. They receive a payment for those loans. The Repo seller then passes that payment over to the Lender, in this case, the Repo buyer. The Repo buyer that has been sitting on that collateral will re-transfer those loans back to the Originator, who ultimately transfers them to the securitization trust.

3.5 Warehouse Line Agreements

A warehouse line is a revolving line of credit from a large financial institution with available cash to a mortgage Lender whose cash is tied up in its existing loan portfolio.

Warehouse lines of credit allow mortgage Lenders to leverage their loan portfolios by using the mortgage loans they originate as collateral. Warehouse lines are really treated more like a repo transaction because it allows the buyer of the repo (i.e., the institution

that is the Lender to the Originator) to be able to access collateral.

Loans are then pledged by the mortgage Originator to make this warehouse revolving line of credit available to them. Next, there is the sale of those loans to the securitization trust where a transfer of mortgages that are coming from the release of the liens on the loans from the warehouse Lender goes to the securitization trust. Ultimately, there is a payoff of the warehouse line that is made.

Repurchase agreements and warehouse line agreements are short-term funding arrangements that a nonbank in particular is probably establishing in order to be in the business of originating and then selling these mortgages. These can pose liquidity risk at times to the institution, but also pose risk to Ginnie Mae as a result.

Warehouse Lending

Depositories are in an enviable position to fund mortgages via their retail or wholesale deposit-taking platform. This provides these Lenders with a steady flow of low-cost funding to support consumer lending activities.

By contrast, non-depositories, such as mortgage companies, rely on relatively short-term warehouse lines of credit to finance their mortgages.

3.6 Warehouse Line Management Considerations

There are a lot of considerations when you think about managing this warehouse. It begins with the pipeline time frame. From the time an Originator locks a loan to a Borrower until it leaves the pipeline it remains technically in the “warehouse.” It is called the commitment until it leaves the pipeline.

There are several reasons that might cause a loan to leave the warehouse, including Borrower fallout, loan sales to the secondary market, and loans placed in portfolio.

Borrower fallout can occur when a commitment made 30 days previously at a specified interest rate is affected by the Fed dropping the rate by 50 basis points. The Borrower would naturally find it in their best interest to fall out of the warehouse pipeline. This, of course, creates risk for the Lender. Loans may fall out of the warehouse because they are sold into the secondary market or to a GSE. If it’s a depository, the loan could be placed in a portfolio.

Another issue in warehouse pipeline management is the long pipeline aging. This is a real problem because some loans just take longer to be sold into a securitization than the agreement that they had in place said it should be. So, these warehouse line contracts will have age limits to them, for example, 90 days from the time in which it needs to be removed from the warehouse line or your company can be subject to a number of different penalties. This can be things like additional late charges or late fees, interest charges, or margin calls where they demand more cash to be passed, for example, by a nonbank to maintain the integrity of that warehouse lending contract.

3.7 Key Questions in Warehouse Line Management

Take a moment to explore key questions in warehouse line management.

Margin Call

When an Originator enters a repurchase agreement for warehouse lending, loans serving as collateral for the line are marked-to-market (e.g., $10 million).

Let's suppose after loans have been marked-to-market, interest rates rise.

This would cause the value of the mortgages to fall (e.g., $8.5 million).

Provisions under the repurchase agreement establish a threshold value under which the warehouse Lender could issue a margin call to the Originator.

Let's say a pipeline is aged too long, (i.e., beyond 90 days), in which case, a certain amount of cash will be demanded from the Lender to be posted in a short timeframe. This is a liquidity issue. If the Lender (that nonbank) doesn't have enough cash on hand to be able to meet that margin call, that can pose a problem in terms of whether that line gets pulled or they become subject to other penalties or what have you.

Margin Call Calculation

In our example, the warehouse Lender defines an advance rate of 90%.

A margin call would be made whenever the following occurs:

- (Market Value of Loans) < (Repurchase Obligations Owed) * (Advance Rate)
- ($8.5 million) < ($10 million) *.9

Cash payment or delivering additional loans of $ 0.5 million would be needed to bring the facility back into equilibrium.

Rollover Risk

Let's explore an example. Assume that the:

- Term of our $10 million warehouse line is 180 days.
- Originator now needs to renegotiate a new warehouse line.
- Economy has started to enter a recession since the last contract.
- Warehouse Lender faces stress in maintaining its own business, so it has the option to do the following:
    - Not renew the warehouse line
    - Renew at a smaller line amount
    - Impose higher costs (rate charged)
    - Impose more restrictive conditions

Warehouse Line Covenant

Warehouse line covenants describe terms and conditions including:

- Minimum net worth requirements
- Maximum liability to net worth ratios
- Minimum profitability requirements
- Aging requirements on loans in the securitizations

Covenant Examples

Minimum net worth requirements:

- Percentage of unrestricted cash on hand
- Maximum liability to net worth ratio
- Minimum profitability requirements
- Time deadlines on loan sales into securitizations

Covenant Violation

In normal periods, a covenant violation might require some renegotiation.

During stress periods like 2008-2009, the line might be canceled and the underlying collateral would be seized.

- If an Issuer has not been profitable for four or more quarters, there'll likely be a covenant violation of some kind and a profitability violation.
- If an Issuer is very thin in terms of net worth or liquidity, then look at the warehouse lines to make sure there are no violations.

3.8 Federal Home Loan Bank (FHLB) Advances

There are 11 Federal Home Loan Banks (FHLBs) around the US that provide a source of low-cost funding for mortgages to thousands of member institutions. Members are financial institutions such as commercial banks, thrifts, credit unions, and insurance companies that provide private capital to each bank. FHLBs are considered to be GSEs in that they have federal charters.

FHLBanks carry out their core mission of providing liquidity by raising funds in the global financial markets, then lending that money in the form of “advances” (loans) to members and local communities.

Members have access to advances, a form of short- or long-term funding arrangement between an FHLB (Lender) and the member (Borrower). Costs are advantageous since FHLBs are considered GSEs and lower costs are reflected in relatively low advance rates (i.e., borrowing costs to members).

FHLB advances are subject to a number of provisions which can, under times of stress, pose risk to the member in terms of maintaining a steady funding source. During the financial crisis, FHLBs required members to post additional collateral as mortgage losses started to mount.

3.9 Nonbank Nontraditional Funding

A number of nonbanks have special arrangements within their parent-affiliate structures. One example is a nonbank holding company that consists of a real estate investment trust (REIT) that buys and holds mortgages and a mortgage banking operation. PennyMac is a good example of this funding, where they have special arrangements within their parent-affiliates structure.

Let's look at the funding process and its risks.

The REIT sources loans via a correspondent channel.

The mortgage bank, in this case, buys loans from the REIT that the REIT sourced.

The mortgage bank pays the REIT the amount equal to the cost of each loan plus a sourcing fee.

Then, in turn, it sells the loans into a Ginnie Mae securitization.

The mortgage bank earns a gain-on-sale from this along with the rights to service the loans on behalf of the REIT.

3.10 Additional Sources of Nonbank Funding

Nonbanks do not enjoy the same access to liquidity facilities as banks do. For instance, they do not have access to consumer deposits, ability to access the Federal Reserve's discount window and other lending programs, or to Federal Home Loan Bank advances.

Instead, they rely heavily on the following funding sources:

Warehouse Lending, Principal and Interest (P&I) Advances, Corporate and Escrow Advances, Mortgage Servicing Right (MSR) Advances, Excess Servicing Strip, and Early Buyout (EBO) financing.

Mortgage Servicers routinely meet their liquidity and working capital needs by borrowing against servicing advances or the value of MSRs. However, very few creditors are willing to lend against Ginnie Mae MSRs without being able to secure their lien on the collateral. Ginnie Mae's Acknowledgment Agreement (AA) provides Lenders the vehicle to secure the lien.

Acknowledgment Agreement (AA)

The AA (i.e., the instrument that governs how MSRs and servicing advances can be pledged) states that if an Issuer fails to make full and timely payment to MBS Investors, the Issuers' creditor(s) may protect their collateral by taking ownership of the loans collateralizing the MBS and assume responsibilities of the Issuer, including the obligation to service the underlying loans and advance principal and interest.

If creditors choose not to take ownership of the loans or assume responsibilities of the Issuer, Ginnie Mae will take ownership of the loans and Issuer obligation without compensation to the creditors. By securing their lien through the AA, Lenders are

generally able to lend larger amounts at more favorable rates and longer terms than they would on a non-secured basis.

3.11 Additional Sources of Nonbank Funding (continued)

Let's explore each of these funding sources.

Warehouse Lending

Non-banks, such as mortgage companies, rely on relatively short-term warehouse lines of credit to finance their mortgages.

This warehouse lending poses significant liquidity risk to nonbanks. Independent mortgage bankers typically try to maintain warehouse lines in excess of their projected origination volumes so that they do not run short.

Servicing Advances

Servicing Advances as funding sources include:

- P&I Advances and Corporate
- Escrow Advances

When loans in Ginnie Mae pools go delinquent, Ginnie Mae Issuers must advance.

- Delinquent principal, interest, taxes, insurance, FHA annual mortgage insurance premiums, and the 6 bps guarantee fee are charged by Ginnie Mae until the loan:
    - Reperforms
    - Is liquidated via foreclosure or short sale, or
    - Is bought out from the pool by the Issuer using out-of-pocket funds.

If advance obligations exceed what Issuers have the financial capacity to pay, it could trigger Issuer default.

Thus, while greater Borrower credit risk in the Ginnie Mae space creates higher risk of Borrower default, Servicer advancing obligations compound the problem.

In comparison, the advancing obligation for GSE loans ends after four months, limiting downside risk.

Banks providing lending to fund Servicing Advances are delivering a powerful liquidity tool to Issuers to help mitigate risk.

Since they rapidly rollover, Servicing Advances provide a lot of liquidity without significantly increasing an Issuer's overall leverage rate.

Generally, 80% of Servicing Advances are for P&I payments which are repaid within 30-90 days.

In addition, the industry has widely adopted the use of Servicing Advance funding for over a decade and has sophisticated servicing tools to track advances on a loan level and pool level basis.

MSR Advances

A third funding source is the Mortgage Servicing Rights Advances.

MSRs are generally the largest asset on a nonbanks balance sheet.

Nonbanks can obtain an additional important source of liquidity from Lenders by pledging their MSRs as collateral for an additional financing line.

Lenders will generally lend up to 50-60% of the MSR value.

Excess Servicing Strip

Excess Servicing Strip is the fourth funding source.

Servicers may raise funds by selling off servicing cashflows that are more than the core servicing strip necessary to service the loans.

This type of transaction is called excess servicing strips or an IO strip.

Ideally, the servicing strip buyer is also responsible for making servicing advance payments on the underlying loans in the pool.

The following steps outline how this type of transaction works:

1. A 5% Mortgage Loan originated by the Lender
2. Issuer pools loan in a 4.50% pass-thru Ginnie Mae pool
3. Less 0.06% Ginnie Mae Guaranty Fee
4. Servicer entitled to 0.44% MSR servicing strip
5. Servicer retains basic 0.14% necessary to service the loans in the pool
6. Remaining 0.30% Excess Servicing Strip can be sold to Investors

EBO Financing

The fifth funding source is EBO financing.
Making Servicing Advances on delinquent loans is Ginnie Mae pools. This can be a burden because unlike the GSEs, Ginnie Mae does not buy loans out of the pool after four missed payments. Therefore, the Servicer could be on the hook to make advances for up to 24 months in some cases until the final disposition and claim on the loan.

Early buyout financing is an important liquidity pool to Ginnie Mae Issuers because it gives them the capability to obtain financing to buy loans out of pools after four months of delinquent payments and stop advance obligations.

The Issuer can either retain the EBO loans on their balance sheet and see if they can be brought current and repooled or sell them outright.

3.12 Knowledge Check 4

What is the funding arrangement in which the seller (mortgage Originator) wants funding back from the buyer and will then agree to transfer the loans to that buyer and make a payment? The mortgage Originator then goes out to find a buyer for those loans, which is often a GSE or a securitization trust.

A. Asset-Backed Commercial Paper
B. Traditional Warehouse Lines of Credit
C. Repurchase Agreements
D. Federal Home Loan Bank Advances
E. Nonbank Financing

Feedback:

This is an example of the Repurchase Agreement.

3.13 Knowledge Check 5

What is the funding source that relies on a special arrangement with their parent-affiliate structures? One structure is the REIT, which buys and holds mortgages. The other structure is a mortgage banking operation that pays the REIT amount equal to the cost of each loan plus a sourcing fee and then, in turn, sells the loans into a Ginnie Mae securitization.

A. Asset-Backed Commercial Paper
B. Traditional Warehouse Lines of Credit
C. Repurchase Agreements
D. Federal Home Loan Bank Advances
E. Nonbank Financing

Feedback:

This is an example of the Nonbank Financing arrangement.

3.14 Knowledge Check 6

What is the funding arrangement in which this particular type of bank provides a source of low-cost funding for mortgages to thousands of member financial institutions that are considered to be GSEs? Members provide private capital to each of the 11 banks and have access to advances, a form of short- or long-term funding arrangement.

A. Asset-Backed Commercial Paper
B. Traditional Warehouse Lines of Credit
C. Repurchase Agreements
D. Federal Home Loan Bank Advances
E. Nonbank Financing

Feedback:

Federal Home Loan Bank advances provide a source of low-cost funding for mortgages to thousands of member financial institutions that are considered to be GSEs.

3.15 Knowledge Check 7

Which of the following are funding arrangements in which companies sell receivables (e.g., mortgage cash flows from MBS or loans) to a special purpose vehicle (SPV) that, in turn, sells these notes to Investors.

A. Asset-Backed Commercial Paper
B. Traditional Warehouse Lines of Credit
C. Repurchase Agreements
D. Nonbank Financing

Feedback:

The following funding arrangements enable companies to sell receivables (e.g., mortgage cash flows from MBS or loans) to a special purpose vehicle (SPV) that, in turn, sells these notes to Investors:

- Asset-Backed Commercial Paper
- Nonbank Financing

4. Secondary Marketing Economics

4.1 What is Secondary Marketing?

Once the loan origination takes place, those loans are delivered to investors in, for example, a mortgage-backed security (MBS).

Secondary marketing units function as the interface between the primary and secondary markets and are responsible for moving loans from production to delivery to Investors.

Activities included in this process are product development, loan pricing, and pipeline and warehouse management.

Secondary marketing participants also document and deliver loans to the Investor as well as manage repurchase, indemnification, and recourse obligations.

4.2 Loan Commitment

Once a loan is approved, a Lender will enter into a contingent agreement or commitment to provide the loan to the Borrower within a specified period of time, known as the commitment window. The commitment window can vary, for example, 30 days, 60 days, or 90 days.

The loan commitment provides certainty to the Borrower of the loan's terms and amount

including interest rate so long as required documentation and other provisions of the agreement are met.

Assume you are the Borrower and you're getting a 4% mortgage rate in 60 days at no further cost to you should you come to the closing table. What is the Lender's risk? What happens if interest rates rise?

Lender Risk

The Lender's risk is that the Borrower has a free option to fall out of the pipeline and accept a new commitment somewhere else at a lower rate.

This "rate lock" poses interest rate risk to the Lender over the period until the loan closes and hence must be hedged.

4.3 The Mortgage Pipeline

As Lenders make loan applications, they build up a pipeline of mortgages that are processed for approval and closing.

A loan stays in the Originator's pipeline from the time it is locked until it falls out of the pipeline, which usually occurs when rates fall after the commitment is made.

Another reason the loan falls out is that it is sold into the secondary market.

Finally, the loan can also leave the pipeline when it is placed into the Originator's portfolio.

4.4 The Mortgage Warehouse

A loan is normally held in the warehouse for no more than 90 days to complete documentation, processing, and the sale.

Some types of loans are held longer, such as lower volume products that take longer to amass for effective economic delivery and loans being accumulated under special Investor delivery programs.

Overall warehouse turn rates (average days in the warehouse) normally range from 35 to 45 days.

While in the warehouse, the institution earns net interest income on the spread between the coupon rates on the loans and the cost of funding the warehouse.

If the loan is maintained in the warehouse longer than originally expected at the time the rate lock was granted, some of the net interest income will be offset by the cost of maintaining a hedge on the loan.

4.5 Managing the Warehouse

Institutions are subject to Generally Accepted Accounting Principles (GAAP) and making sure that they have systems to value the warehouse loans with objective evidence and documentation by management.

Remember! Loan commitments can fluctuate in value before the time they actually become loans because of changes in interest rates that affect the ultimate value of those instruments.

Loans remaining in the warehouse for longer time frames may reflect documentation or other salability problems. The valuation of such loans should consider these salability problems.

Management should take appropriate action to ensure that the level of longer-term warehouse holdings is kept to a minimum and accounted for per GAAP. Bank reports should quantify and track the number, dollar volume, aging, and reasons for longer-term warehouse holdings.

If the bank no longer intends to sell a loan in the warehouse, the loan should be transferred to the bank's permanent loan portfolio in accordance with GAAP.

This warehouse lending poses significant liquidity risk to nonbanks. Independent mortgage bankers typically try to maintain warehouse lines in excess of their projected origination volumes so that they do not run short.

4.6 Loan Pricing Basics

Mortgage rates are typically expressed as a "spread" over the US 10-year Treasury yield. Treasury yields impact conventional fixed-rate 15- and 30-year loans. For example, the higher that 10-year Treasury rates go, the higher home mortgage rates will climb. Conversely, lower yields on 10-year Treasury notes translate into lower mortgage interest rates for home buyers as well.

That primary market spread varies over time depending on mortgage market conditions but has been about 165 basis points (bps) on average over the last 30 years.

Loan Pricing Example

If the US 10-year Treasury yield of 2.7%, or 270 bps, is added to the 165 bps, then the mortgage rate for a fixed rate, 30-year mortgage would be: [(270 + 165)/100] = 4.35%.

4.7 Loan Pricing Basics (continued)

Components to the primary mortgage spread include the impacts from changes in interest rates affecting Borrower prepayment; impacts from a Borrower default (i.e., involuntary prepayment); and other expenses (e.g., general & administrative (G&A) expenses, funding costs, etc.).

What drives that 165 basis points?

A lot of analytics go into that, but it really comes to something called Option-Adjusted Spread (OAS). This means that there is a certain amount of yield that Investor is going to demand over and above a 10-year Treasury to compensate them for the interest-rate risk associated with a mortgage when a Borrower prepays.

Recall that when interest rates fall low enough, Borrowers will be incentivized to prepay, and that can cause the value of that mortgage-backed security to decrease. If a Borrower defaults, we call those involuntary prepayments. They're not a credit loss to the Investor but they do have a G&A cost to securitize the loan.

It is also important to remember that secondary market mortgage spreads consider such costs as guarantee fees and servicing fees in addition to prepayment costs.

Option-Adjusted Spread (OAS)

OAS is the amount of yield that the Investor is going to demand over and above a 10-year Treasury to compensate them for the interest-rate risk associated with a mortgage when a Borrower prepays.

4.8 The To-Be-Announced (TBA) Market

Mortgage Lenders that sell loans to securitizing agencies, such as Fannie Mae, or Issuers in the Ginnie Mae market who issue directly, do so by establishing a forward contract on pools called the To-Be-Announced (TBA) market. The TBA market operates on a monthly settlement schedule.

The forward contract enables the Securitizer and Originator to have a known arrangement ahead of when the loans are pooled and placed into mortgage-backed securities.

The TBA agreement specifies the par amount of the transaction, price, maturity, coupon, and issuer and settlement date.

Selling loans forward into the market is a way for Lenders to hedge the interest rate risk that occurs in the warehouse and commitment pipeline due to changes in the market value of the loans.

4.9 What Is Best Execution?

After Lenders determine which loan products they are going to offer, they try to optimize the value they obtain from the loan. If the Lender wants to dispose of the loan, what are the options?

If it’s a depository, the mortgage loan could be held-for-Investment (HFI), which means retain the mortgage on the balance sheet.

It could be sold as a security to Fannie, Freddie, or Ginnie, taking into consideration if it’s sold out as a Fannie security, will you get a higher price than if it’s held in your portfolio?

If you're a nonbank, will you get a better price if it runs through a GSE execution or a Ginnie Mae execution?

The mortgage loan could be sold as a private-label into the residential MBS market.

Best execution is simply taking the highest price outlet among alternatives (e.g., selling the loans as GSE- or Ginnie Mae-eligible).

Nonbanks also engage in best execution but without the option to portfolio the loans except in some specific cases (e.g., an affiliated relationship with a REIT).

4.10 Gain-on-Sale and Net Proceeds from Securitization

To determine what that best execution looks like, you think about calculating the gain-on-sale (GOS) and the net proceeds from the securitization. How much an Issuer can make from securitization is determined by the net proceeds and gain-on-sale (GOS) from the securitization process.

Net proceeds are defined as the annualized gain-on-sale, plus servicing fees that would be received, less the cost of the service, less the origination cost to make that loan. Take a moment to examine this formula: Net Proceeds = Annualized GOS + Servicing Fee - Cost to Service - Origination Cost.

GOS and Net Proceeds Example

Consider the following example scenario.

Suppose an Issuer receives a price of $101.50 on a Ginnie Mae MBS that was originally at par value (i.e., $100) for the Issuer.

What would the GOS be of the MBS face amount?

What would be the annualized GOS basis points (bps)?

The GOS would be $1.50 per $100 of the MBS face amount.

If the loan had an effective life (i.e., duration) of 4 years, that would be $1.50 divided by 4 years for an annualized G O S of 37.5 bps.

Taking this a step further, we'll examine the net proceeds calculation.

Suppose the servicing fee is 25 bps, servicing costs are 10 bps, and the origination costs are 5 bps.

Net Proceeds = Annualized GOS + Servicing Fee minus Cost to Service minus Origination Cost.

In our example, net proceeds would be 37.5 + 25 minus 10 -minus 5.

Net Proceeds = 47.5 bps

So, what is your big take away in this example?

Clearly, net proceeds are affected by prevailing mortgage security pricing.

Therefore, GOS as well as the costs to originate and service the loan can and will fluctuate, depending on guarantor requirements and market conditions.

4.11 Loan Representations and Warranties

Securitizing agencies, such as Ginnie Mae, require Sellers to abide by representations and warranties, also known as reps and warrants. Reps and warrants ensure that the loans sold conform to certain standards established for such issues as underwriting consistency with the terms and conditions. There should not be any misstatements, misrepresentations, or omissions relating to the Borrower.

They also ensure conformance with collateral value issues so that appraisals are done independent of the production unit of the organization. Standards on loan eligibility and data accuracy are also defined in reps and warrants.

Finally, reps and warrants ensure compliance with all rules and regulations from state, local, and federal entities.

Violations of reps and warrants triggers a loan repurchase by the Seller.

4.12 Indemnification

Indemnification is compensation for harm or loss. It is a term used in association with insurance such as might be provided by public or private insurers such as FHA or a private mortgage company.

Suppose an FHA loan enters into default and an Investor presents a claim to FHA for their loss.

If FHA discovers that there's been some defect as represented from an underwriting standpoint, collateral valuation, fraud, or other issue, the loan would be flagged, causing an indemnification to occur. FHA would be indemnified from covering the credit loss. The loss would revert back to the seller that made that loan.

Risk and Cascading Effects

Reps and warrants and indemnification can pose risk to Sellers/Issuers for Ginnie Mae if they start to realize a lot of buybacks or claim curtailments.

That's problematic and could be reflective of poor loan manufacturing processes. All these risks are tied together as operational risk that ultimately can cascade into liquidity risks and survivability issues of the entity itself.

4.13 Knowledge Check 8

Which of the following describe when a rate locked loan will no longer stay in the Originator’s pipeline?

A. It falls out of the pipeline when rates fall after the commitment is made.

B. It is sold into the secondary market.
C. It has been held for 30 days.
D. It is moved into the Originator's portfolio.

Feedback:

A rate locked loan will no longer stay in the Originator's pipeline when it:

- Falls out of the pipeline when rates fall after the commitment is made
- Is sold into the secondary market
- Is moved into the Originator 's portfolio

4.14 Knowledge Check 9

Scenario: Main Street Mortgage Company intends to make a fixed-rate 30-year mortgage at 4% for $400,000 to a Borrower. The Borrower wants to settle on the house in 60 days. Which of the following might describe the arrangement in this scenario?

A. Loan commitment
B. Rate lock established prior to loan closing
C. Collateral valuation
D. Underwriting

Feedback:

Loan commitment and Rate lock established prior to loan closing describe the arrangement in this scenario.

4.15 Knowledge Check 10

Scenario: Main Street Mortgage Company intends to make a fixed-rate 30-year mortgage at 4% for $400,000 to a Borrower. The Borrower wants to settle on the house in 60 days. What risk issues do you anticipate for the Lender in this scenario, if any?

A. This is a standard loan so there are no risks.
B. Change in loan value before closing
C. The rate lock poses interest rate risk to the Lender over the period until the loan closes.
D. Borrower fallout due to change in circumstances or financial incentive

Feedback:

The Lender's risk issues include:

- Change in loan value before closing
- The rate lock poses interest rate risk to the Lender over the period until the loan closes.
- Borrower fallout due to change in circumstances or financial incentive

4.16 Knowledge Check 11

Select True or False; then, select SUBMIT. To manage risks, an Originator could hedge a loan and others like it in the pipeline to reduce interest-rate and fallout exposure.

A. True
B. False

Feedback:

It is TRUE that to manage risks, an Originator could hedge a loan and others like it in the pipeline to reduce interest-rate and fallout exposure.

4.17 Knowledge Check 12

Select the best response to fill in the blank to describe the process the Lender takes in completing the transaction; then, select SUBMIT. At the time of commitment, the Lender would enter into an _____ that would provide a gain to the Lender, ideally in the amount of any losses, due to an adverse movement in interest rates.

A. Agreement for Reverse Repo
B. Option-adjusted spread
C. Offsetting hedge
D. Indemnification agreement

Feedback:

At the time of commitment, the Lender would enter into an Offsetting Hedge that would provide a gain to the Lender, ideally in the amount of any losses, due to an adverse movement in interest rates.

5. Conclusion

5.1 Summary

The goal of this training course was to provide a fundamental understanding of counterparty risk management with an emphasis on Loan Production, Funding Sources and Needs, and Secondary Marketing Economics.

You explored loan production in the mortgage lifecycle including the activities, issues that can make or break the financial performance of a counterparty, and regulatory compliance.

You learned about the types of funding sources, distinguishing between banks and nonbanks, and then investigated the various types of short-term debt and their risks.

Finally, you delved into the secondary marketing economics. You examined the various

activities and the risks involved in the secondary market as well as how Lenders try to optimize the value they obtain from a loan and the options if the Lender wants to dispose of a loan.

Learning Objectives

Learning Objectives:

- Identify activities involved in loan production
- Examine loan production risks for counterparties
- Compare the various types of funding Ginnie Mae counterparties use
- Describe how the types of funding work
- Describe activities involved with secondary marketing
- Describe how secondary marketing activities could pose risk