Ginnie Mae
Our Guaranty Matters

Transcript

Risk Management

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1. Introduction

1.1 Risk Management Course

1.2 Introduction

Welcome to the Risk Management course!

The purpose of this course is to train Ginnie Mae employees on counterparty risk management with an emphasis on liquidity risks and market risk.

Learning Objectives

Learning Objectives:

- Define liquidity risk
- List characteristics that lead to liquidity risk
- Explain the benefit of liquidity contingency planning
- Define market risk
- List the market conditions that affect market risk
- Explain how market conditions can affect volumes and business activity

1.3 Navigation Tutorial

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

2. Liquidity Risk

2.1 Liquidity Risk Overview

Liquidity risk is the risk that an institution, at any given time, is unable to meet its cash obligations. A normal aspect of everyday liquidity management involves timeframes as short as intra-day to multiyear funding. In extreme cases, liquidity risk can lead to insolvency, which is the inability to pay one’s debts.

Liquidity “events” usually result from a combination of asset and liability mismanagement, or internal or external factors that lead to heightened risk and stress.

This depiction of the continuum of financial liquidity illustrates that assets have different levels of liquidity. The assets on the left are the most salable during a crisis and you're not going to take a real hit or discount on the price of those particular assets.

On the right side of the continuum, you will find it very hard to sell these assets. They are the least liquid assets. You will likely take a dramatic hit if you try to sell them out in the marketplace.

2.2 Balance Sheet Liquidity Considerations

To gain a better sense of liquidity risk in its fullest sense, turn your attention to a bank balance sheet where a lot of liquidity issues can arise.

Liquidity managers reviewing this balance sheet would ask themselves how liquid their position is. Cash and cash equivalents are liquid and can be immediately used. The liquidity of securities varies based on whether they can be sold, and, if so, whether there will be a fire sale price. A fire sale refers to the selling of a security at a price below market value. It is also important to understand what kind of securities they are, such as whether they are corporate.

On the liability-side, there are many considerations. First, a liquidity manager would ask how reliable the Federal Funds market currently is. Typically, the Federal Funds market is associated with domestic unsecured overnight borrowings in U.S. dollars by depository institutions from other depository institutions and other entities such as GSEs.

Additionally, are repurchase (repo) lines diversified, deep, and reliable? Note that a repurchase agreement, or "repo," is a short-term borrowing agreement to sell securities to Investors, usually on an overnight basis, and buy them back at a slightly higher price. That small difference in price is the implicit overnight interest rate. Repos are typically used to raise short-term capital.

Other points to consider include the potential limits on short-term borrowing and wholesale borrowings as well as how stable deposits are under a stress event.

The takeaway is that while there are many questions a liquidity risk manager must consider, the time to address these questions is well before a crisis. Everything should

be addressed proactively and in advance of any kind of event.

2.3 Mortgage Banker Balance Sheet Liquidity Considerations

The core mortgage banker business model is to originate mortgage loans and sell them into the secondary mortgage market, servicing retained and/or released loans. As mortgage bankers become more sophisticated, so does the resulting balance sheet.

For example, your larger mortgage bankers, or mortgage bankers that are subsidiaries of banking institutions, may hold loans for investment in their loan portfolio. If so, just like you did for the depositories, you would want to look at the type of loan that is being retained, the level of delinquent loans in the retained portfolio, and the amount of loan loss reserves currently being held. These more sophisticated mortgage bankers may also hold residual interest in retained securitizations or other securities and equities that expose the company to high levels of interest rate and market risk.

As unregulated mortgage bankers, these institutions are not required to report all the information you would need to complete your review and you may have to reach out to the counterparty to get this information.

2.4 Mortgage Banker Liquidity Considerations

A mortgage banker does not fund their balance sheet with deposits like a depository. A mortgage banker utilizes a warehouse line of credit from third party financial institutions to fund its balance sheet. The primary function is to use the warehouse line of credit to fund the company's loan originations. When an application goes through the origination process and is ready to fund, the mortgage banker borrows cash from the line of credit and posts the originated loan as collateral to the Warehouse Lender.

During this period, the mortgage banker earns the interest from the newly originated loan but must pay interest to the Warehouse Lender at the interest rate negotiated. Typically, the interest rate charged by the Warehouse Lender is greater than the rate on the mortgage loan, incentivizing the mortgage banker to sell the loan as soon as possible to the third-party investor. Once the loan is sold, the mortgage banker pays off the warehouse line, freeing up capital to originate more loans.

2.5 Covenants

A typical Mortgage Banker will cease to operate without a warehouse line of credit. So, it is imperative that we understand the Mortgage Bankers funding structure.

To protect themselves from counterparty losses, Warehouse Lenders require Mortgage Bankers to meet certain financial requirements, or covenants, to maintain the line of credit. All covenants are not equal from warehouse provider to warehouse provider, but they all hit on net worth, earnings, and liquidity benchmarks the Mortgage Banker must maintain. If a Mortgage Banker fails to maintain the required financial benchmarks, the Warehouse Lender has the right to terminate the line of credit, which may cause the

Mortgage Banker to go into bankruptcy.

With that said, as a credit analyst, we must understand what the covenants for each line of credit are and review the Mortgage Banker's level of compliance as it relates to the covenants established by the Warehouse Lenders.

2.6 Characteristics Leading to Liquidity Risk

Let's examine the characteristics leading to liquidity risk.

The first characteristic is the lack of diversification in funding sources. Financial institutions with too few funding sources are at risk during a crisis because their lines of credit are not always accessible as happened in the 2008 financial crisis.

Unpredictable and volatile cash flows can also lead to liquidity risk. A high percentage of delinquent loans can be a considerable strain on an institution requiring significant funds for servicing advances and, in extreme situations, loan buyouts. These cash flows can slow down the normal operations, future investments, and overall growth objectives of financial institutions.

A third characteristic is the over-concentration in a particular asset type and/or sector. Over-concentration of assets is dangerous because there is a risk of greater loss if a particular sector takes a downturn.

Over-abundance of assets that have limited marketability is also an indicator that leads to liquidity risk. A non-marketable security is an asset that is difficult to buy or sell because they are not traded on any major secondary market exchanges. An uninsured or uninsurable whole loan is difficult to sell because it cannot be securitized. An over-abundance of these types of assets poses a risk because they cannot be easily liquidated in a timely or cost-effective manner.

A fifth characteristic leading to liquidity risk is the dependence on funding that is acutely credit- and rate-sensitive. Funding that is sensitive to changes in market interest rates can cause profits to fall as interest rates rise.

2.7 Liability-Side Liquidity Risk

Liability-side liquidity risk arises from transactions whereby a creditor, depositor, or other claim holder demands cash in exchange for the claim. During the 2008 financial crisis, firms that thought they had solid liquidity positions saw them evaporate quickly.

Liability structure was a key factor in the wave of bank failures during the financial crisis due to heavy exposures in customer bank deposits and short-term instruments such as lines of credit drying up. Purchased liquidity, derived from the repo market, as well as warehouse lending also contributed to bank failures.

Heavy exposure in servicing debt facilities, servicing advances, and escrow advances were also key liability-side liquidity risks.

Let's examine these risks further.

2.8 Liability-Side Liquidity Risk - Examples

In 2008, Washington Mutual, the then largest S&L in the country at $306 billion, experienced two successive very large bank runs. We hadn't seen bank runs since 1932. These runs are a form of a liability-side liquidity risk.

Another example of the liability-side liquidity risk is short-term debt instruments that are no longer accessible, that is, they can't roll over because the warehouse lender for a line of credit or a repurchase agreement says the window is shut to you because they don't like your financials in this climate.

In another instance during a financial crisis for a nonbank, you may find when you try to buy liquidity from the repo market that it's a dried up well.

A good example of this is Lehman Brothers (“Lehman”). Lehman was a broker / dealer and funded their balance sheet through capital market transactions called repo trades. These trades were executed with third party companies where the third parties would send Lehman cash and Lehman would post securities as collateral to the trading counterparties. When the trades “settled”, Lehman would send the cash back to the lending counterparty and the lending counterparty would return the securities that were posted as collateral. When the trade had settled, Lehman would be required to immediately replace the trade, or roll over the trade to be able to continue to fund its balance sheet. At any given time, Lehman would have had billions in repo trades outstanding funding its balance sheet.

During the spring and summer of 2008, there was market noise about Lehman’s financial health, so over time, as these repo trades settled and needed to be replaced, their trading counterparties would no longer assume the trading risk and began to stop rolling them over, causing Lehman’s funding structure to evaporate, their balance sheet to collapse, and the parent company to file for bankruptcy.

In the 2008 financial crisis, we saw a massive liquidity crisis where lenders were just not lending to each other because the markets were spooked, based on the fact that so much risk was being taken. Additionally, the private label mortgage-backed security (MBS) market saw credit losses were piling up for a lot of companies. Lenders weren’t sure of the viability of some companies, so they didn’t want to roll anything over with them anymore.

2.9 Liquidity Contingency Planning

Contingency planning prepares a bank for emergency situations where sources of available funding to the bank during normal times drop or altogether disappear. In those instances, the bank must prepare for how it will respond to these different liquidity scenarios. Liquidity contingency planning complements the liquidity risk assessment process.

The 2008 market disruption reinforced that liquidity matters most during times of duress, especially when interest rates rise.

Another aspect of contingency planning is that assumptions must be re-examined. Scenario planning is assumption based; however, these assumptions must be continually validated with new information.

Contingency planning involves conducting a scenario-based stress analysis, which is essential for liquidity planning. There are validated stress-based approaches to liquidity planning, such as a test to examine whether a bank could survive a 30-day stress period of cash outflows.

Real market crises, such as the COVID-19 crisis, provide rare opportunities for financial institutions to test their frameworks.

The last consideration related to contingency planning is that diversity of funding sources is key. This is particularly important with Mortgage Bankers as they are much more reliant on outside funding for survival. It is important to remember that every liquidity crisis unfolds differently, and the liquidity of any given funding instrument is difficult to predict. Therefore, a diversity of liquidity sources is paramount.

Additionally, banks should be aware of fungibility between funding sources, which refers to the ability of a good or asset to be interchanged with other individual goods or assets of the same type. Fungible assets simplify the trade process.

2.10 Measures of Liquidity Risk

There are several measures of liquidity risk. The best measure of liquidity risk depends on what type of institution you are analyzing. Analysts for banks use completely different liquidity risk measures than Mortgage Banks because their balance sheets and funding sources vary significantly.

Let’s first examine the Bank measures of liquidity risk.

The most common liquidity risk measure for banks is the Liquidity Coverage Ratio (LCR). This measures short-term liquidity requirements over a 30-day stress scenario. In other words, LCR measures the ratio of the stock of high-quality liquid assets to net cash outflows arising over the 30-day period. The LCR must be maintained at or above 100%.

Once the LCR’s are calculated, if the ratio is below 100%, that institution is not in compliance with their LCR. They must then take steps to improve their ratio, such as selling off some Level Two assets to purchase Level One assets, which are given a higher weight in the numerator.

Although the LCR is a best practice for financial institutions to identify what their compliance would be in a short-term liquidity crisis, it is typically only calculated by the largest financial institutions or depositories

Now turn your attention to the Mortgage Bank measures of liquidity risk.

Mortgage Bankers are considerably different than banks, therefore we use two different liquidity ratios to measure liquidity risk. They are the current ratio and working capital.

The Current Ratio is calculated by taking current assets divided by current liabilities.

This gives you the proportion of the balance sheet that is liquid.

The other alternative is the working capital calculation. This is calculated by taking current assets minus current liabilities. This measure gives you the scale of how liquid or illiquid the balance sheet is.

2.11 Knowledge Check 1

What is liquidity risk?

A. Risk that occurs if there are a lack of Borrowers and Lenders in the market
B. Risk that an institution, at any given time, is unable to meet its cash obligations
C. Risk of an emergency situation that may cause funding sources to be unavailable
D. Risk associated with the inability or failure to meet contractual obligations over the course of two years

Feedback:

Liquidity risk is the risk that an institution, at any given time, is unable to meet its cash obligations.

2.12 Knowledge Check 2

Which of the following are characteristics that lead to liquidity risk?

A. Dependence on funding that is acutely credit- and rate-sensitive
B. Under-concentration in a particular asset type and/or sector
C. Lack of diversification in funding sources
D. Unpredictable and volatile cash flows

Feedback:

Characteristics of liquidity risk include:

- Dependence on funding that is acutely credit- and rate-sensitive
- Lack of diversification in funding sources
- Unpredictable and volatile cash flows

2.13 Knowledge Check 3

What is the main benefit of liquidity contingency planning?

A. It assures the bank that their funding sources are stable and reliable.
B. It allows the bank to forecast the availability of funding during non-emergency situations.
C. It measures the liquidity issues that the bank has experienced over its lifetime to better forecast the state of its future.
D. It prepares the bank for emergency situations where sources of funding available to the bank during normal times drop or altogether disappear.

Feedback:

The main benefit of liquidity contingency planning is that it prepares the bank for emergency situations where sources of funding available to the bank during normal times drop or altogether disappear.

3. Market Risk

3.1 Market Risk Overview

Market Risk is the risk of net worth and/or liquidity declining in value because of movements or variations in market conditions.

Market risk cannot be entirely eliminated through diversification of business lines and funding sources; however, it can be managed in other ways, such as hedging, asset sales, and downsizing.

Market risk tends to influence the entire market at the same time, rather than influencing a specific company or industry.

3.2 Market Conditions

There are several conditions that affect market risk. The first is the level of interest rates. There is an inverse relationship such that when interest rates increase, prices decrease. The interest rate risk is the risk that changes in interest rates may reduce the market value of a bond or security. Interest rate risk increases the longer a bond or security is held.

The next condition that affects market risk is the level of volatility in the market. Market volatility is the magnitude and frequency of price fluctuations in the stock market. Higher volatility in the market typically means investments are riskier with a greater potential for losses. A market with lower volatility means that there is a reduced risk with less potential for losses. Highly volatile markets can adversely affect Issuers by making it more difficult to hedge and raise funds as Lenders become more reluctant to lend or spreads widen so much as to make funding uneconomical.

Lastly, adverse economic conditions affect market risk. Economic downturns can be national or regional in scale and the extent of the downturn helps determine its impact. In addition, natural disasters, such as hurricanes, floods and fires are becoming increasingly common and can cause regional economic downturns. Economic downturns can reduce an Issuer’s profitability and sometimes overall stability. Downturns can lower originations, thus reduce fee income, while higher delinquencies increase servicing and repurchase expenses.

3.3 Impact on Volumes and Business Activity

Market conditions can also impact volumes and business activity. Let’s discuss a few

examples.

Declining interest rates may result in larger than expected fallout. Fallout refers to the risk that occurs when the Originator commits loan terms to the Borrower and gets commitments from Investors at the time of application, but the Borrower does not agree to close, often due to a better (lower) rate being available. A larger than expected fallout may leave an Issuer with not enough loans to meet the sale commitments to Investors.

Rising rates may cause higher pull-through rate and more loans closing at below-market rates. Pull-through rate is a percentage that measures the dollar volume of loans that you close versus the dollar volume of loans that you contract.

Rising interest rates can reduce loan volumes in the longer run, which, in turn, reduces profitability by closing below market loans and decreasing overall volumes going forward. As expected, fewer loans are taken out as interest rates rise. Issuers are negatively impacted by this, as fewer loans typically equate to decreased financial gain.

Mortgage Banker Model

With a pure Mortgage Banker Model, originations are what drive revenue generation, thus they are more vulnerable to be negatively impacted by raising interest rates.

As a result, you will see the majority of earnings become inconsistent and volatile when compared to depository earnings that are historically smooth and consistent.

However, when originations slow down, loan originators that utilize brokers and/or third-party originators, will be able to absorb decreases in loan originations and report adequate earnings from core operations as they incur expenses predominately on a marginal basis. If they do not originate loans, they don’t incur a large level of expenses.

Retail originators incur the majority of expenses on a fixed basis as they are required to pay the expenses associated with a branch network regardless of if they originate mortgages or not. This makes earnings more inconsistent in the short run, when compared to wholesale lenders.

3.4 Repurchase Risk

Repurchase risk, also referred to as off-balance-sheet risk, occurs when a Mortgage Banker or a Depository sells a loan into the secondary mortgage market and the sold loan does not meet Investor guidelines. The loan in question may be required to be indemnified or repurchased by the Mortgage Banker. The Mortgage Banker is exposed to the credit risk of the defective loan. They can try to resell the defective loan (most likely at a loss) into the secondary mortgage market or they can put the loan into its loan held for investment portfolio.

3.5 Repurchase Risk (continued)

GSE Lenders are subject to repurchase risk from underwriting deficiencies. In other words, Servicers of pools guaranteed by Fannie Mae and Freddie Mac are required to

advance principal and interest until the Borrower is 120 days delinquent on the loan, and then the GSE will buy the loans out of the pool.

Ginnie Mae Issuers, in contrast, are subject to repurchase risks for deficient underwriting in addition to the need to buy out loans from pools to manage delinquency thresholds as well as minimizing servicing advance burdens. Servicers of pools guaranteed by Ginnie Mae are obligated to continue making payments to Investors for the life of the loan without regard to whether they'd be able to recover those payments. However, Servicers have the option to stop the advances by purchasing the loans out of the pool once the mortgages reach 90 days delinquent, but it may not be cost-effective for nonbanks to hold the mortgages on their balance sheet that are bought out of the pool.

The risk is referred to as off-balance-sheet risk as the entire volume of potential repurchases is not reported on the financial statements. The financial statements will most likely only report on loans that have been repurchased – but will not include loans that have been requested to be repurchased but have not been. You would want to get an understanding of what the volume of potential repurchases looks like and understand how those loans are performing. Ginnie Mae Issuers with high delinquency rates can have a considerable amount of unreported off-balance-sheet risk. Just like looking at Depositories, you would want to get a firm understanding of how much in loan loss reserves is being held against this operating risk.

Sourcing

When reviewing a Mortgage Banker, it is important to understand how loan originations are sourced.

Loan Originators that utilize Brokers and/or Third-Party Originators to source loan originations are more susceptible to repurchase risk when compared to retail lenders as a significant level of the processing and underwriting function is completed by third parties.

With a Retail Lender, 100% of the processing and underwriting functions are performed in house, reducing the likelihood of loan fraud and misrepresentation.

3.6 Managing Market Risk

Well run Ginnie Mae Issuers can manage market risk by having a robust net worth and liquidity monitoring and reporting governance protocol. Senior Management should monitor warehouse lending and debt servicing liquidity via the Company's Daily Treasury Dashboard or 13-Month Liquidity Monitoring Report.

The Issuer should always aspire to maintain a Liquid Asset minimum cushion and targets of 120% of their most conservative Lender or Investor covenant. More ideally, the Issuer should aspire to maintain a liquid asset minimum cushion and targets of greater than 6 months of fixed operating costs plus debt service payments. Non-compliance with minimum liquidity requirements should be immediately reported to the Board with a remediation plan.

In addition, utilizing multiple stress testing scenarios can help prepare Issuers to confront times of market or economic turbulence and stress. Effective stress testing scenarios can help inform an organization as to how to better prepare and manage their liquidity and cash flow needs in adverse market conditions.

3.7 Nonbank Liquidity Concerns during COVID-19

During the COVID-19 crisis, which began in early 2020, concerns about the liquidity of Nonbank Mortgage Servicers began to materialize. Nonbank liquidity issues would impact the origination market and could potentially cause confusion and chaos for Borrowers. There were two main reasons nonbanks were suspected to have liquidity problems.

First, nonbanks fund originations by receiving lines of credit from banks. In the event of an economic crisis, such as one caused by a global pandemic, banks could potentially cut off these lines of credit. If this occurs, nonbanks would be limited in their ability to originate and service mortgages.

The second reason nonbanks were thought to have potential liquidity problems centers around nonbanks' role in servicing mortgages. Nonbanks typically deal with mortgage-backed securities (MBS). The monthly pass-through process begins by Borrowers making scheduled Principal and Interest (P&I) payments to the Nonbank Servicer. The Nonbank Servicer processes these payments and deducts a servicing fee. Then, they send Investors their payment. Investors receive their scheduled monthly payment regardless of whether the Borrower pays their P&I on time. Therefore, it can be costly to nonbanks when Borrowers fail to make their payment.

3.8 Why Nonbanks Had Few Liquidity Problems

During a large-scale crisis, it becomes more common for Borrowers to default. This was a big concern during COVID-19 because the U.S. federal government passed the CARES Act, which allowed borrowers of any government insured loan to receive up to 12 months' forbearance on their loans with little to no documentation or proof of hardship. The concern was that many people would request forbearance, leading nonbanks to face liquidity constraints as they continued to advance payments on behalf of Borrowers who had requested forbearance.

Though liquidity concerns were well-founded, nonbanks had few liquidity problems and remained stable during the COVID-19 crisis. Nonbanks were aided by low interest rates, a refinancing boom, and a surprisingly strong housing market.

Select the Reasons for Stability to learn more about why nonbanks had few liquidity problems.

Reasons Nonbanks Remained Stable

- Forbearance take up by Borrowers was not as high as some anticipated. As

displayed in this graph, even though Nonbank Servicers often originate and service loans made to riskier Borrowers, overall forbearance rates were lower for loans serviced by nonbanks than for banks, although the differences in forbearance rates for Bank and Nonbank Servicers of Ginnie Mae loans were more muted. Furthermore, not all Borrowers who requested forbearance stopped making their payments.

- Another reason nonbanks had few liquidity problems was that there was a refinancing boom. Unexpectedly, mortgage purchase activity did not decrease during the pandemic. Additionally, lower interest rates resulted in a refinancing boom. Income from mortgage originations allowed Nonbanks to cover shortfalls from Borrowers not making payments.
- Nonbanks did not have liquidity issues during the pandemic because Ginnie Mae, GSEs, and related government agencies adjusted their policies and procedures to help mitigate liquidity issues that arose during the pandemic. Ginnie Mae provided an emergency backstop for Servicers and a limited means of reimbursement for advances. Ginnie Mae updated its liquidity facility, the Pass-Through Assistance Program (PTAP), so that Servicers could use it for COVID-19–related assistance. The PTAP is a liquidity facility from which Servicers needing short-term loans can borrow money so that they can forward payments to Investors.

3.9 Mortgage Servicing Rights Valuation Risk

Ginnie Mae's Issuer base is now dominated by non-bank mortgage companies as has been previously discussed. The largest asset on mortgage companies balance sheets by far are their Mortgage Servicing Rights (MSRs). Consequently, the accurate valuation of an Issuer's MSRs is essential to get an accurate valuation of their Net Worth and to be able to determine if they meet Ginnie Mae's guideline requirements.

The primary limitation of getting accurate MSR valuations is that despite very active MSR modeling and trading activities occurring across the mortgage banking industry, the asset is still categorized as a Level Three (mark-to-model) asset.

Any transaction activity is not exchange-based. Trades occur on a known counterparty to known counterparty basis with stakeholder approvals, contractual negotiations, and operational transfers required. This results in a market with participants having imperfect information and access to that information being limited.

3.10 MSR Valuation Calculations

MSRs derive themselves based on the anticipated cash flows based on the level of service fee income plus an intangible cross selling opportunity calculation, offset by discounting, prepayments, and credit loss projections. MSRs are very difficult to price based on the numerous inputs used in the pricing of the asset and lack of market activity to provide a consistent and reliable valuation.

Also, all servicing portfolios are not equal. A $1 billion Fannie Mae portfolio held at Mortgage Banker A will most likely price differently than a $1 billion Fannie Mae portfolio held at Mortgage Banker B. This is due to the numerous components that go into the valuation such as: weighted average life, weighted average service fee, cost to service, level of prepayments, level of credit losses, and loans originated including those purchased and refinanced.

Calculation

When reviewing the MSR valuation, the first step is to determine how concentrated the asset is on the balance sheet. To do this, you want to calculate the MSR capitalized on the balance sheet relative to total assets and total equity.

If the concentration is minimal, say 5% of equity, the level of materiality is limited and the impairment risk is mitigated as a write-down will be immaterial to overall financial capacity.

However, if MSR represents over 50% of total equity, the credit analyst needs to get a better understanding of the potential risks.

You will need to calculate the MSR valuation as follows: (MSR on the balance sheet / total UPB of portfolio) * 10,000. The 10,000 multiple is to convert the product into basis points.

Please keep in mind, we are not looking to price or validate the price of the asset, we are just looking to determine the reasonableness of the valuation. There are two tools to assist you in doing this:

1. Servicing Multiple
2. Benchmarking

3.11 Servicing Multiple

As mentioned above, there is an intangible valuation component of the MSR valuation. So, to get a feel for how much of the MSR valuation is generated from tangible cash flows versus intangible assumptions, you would take the MSR valuation calculation and divide it by the servicing portfolio's weighted average servicing fee.

For example, assume you have a $750 million dollar Fannie Mae servicing portfolio that is capitalized on the balance sheet at $6.4 million and maintains a weighted average servicing fee of 25 basis points.

The first step is to determine the MSR valuation by taking the ($6.4 million divided by $750 million) * 10,000 – to give you a valuation of 85.3 basis points.

The next step is to divide the MSR valuation of 85.3 basis points by the weighted average service fee of 25 basis points. This provides a servicing multiple of 3.4 times.

Historically, a servicing multiple around 3 has been viewed as a reasonable valuation.

3.12 Benchmarking

By benchmarking, you are comparing the Mortgage Banker's MSR valuation you are underwriting versus an industry average.

Select each folder tab to learn more about benchmarking methodology and comparative examples.

Average MSR Valuation

To arrive at the average MSR valuation, the following methodology was used:

- All counterparties that capitalize servicing on their balance sheet were identified using the "WEB MB" database.
- The servicing valuation was calculated on a counterparty level by:
    - (Capitalized value of the MSR / UPB of the servicing portfolio) * 10,000
    - = Value relative to the size of the servicing portfolio
- The average was taken on all counterparty valuations.

Industry Average to Mortgage Banker Valuation Comparison

Once you have the industry average, compare it to the valuation used by your Mortgage Banker.

For example, the December 2017 industry average for Mortgage Banker MSR valuations equaled 89 basis points. Using the previous example, an 85.3 bps valuation would appear reasonable when compared to the industry average of 89 bps.

However, suppose the Fannie Mae portfolio was only $500 million and the valuation was still $6.4 million. The MSR valuation would appear to be aggressive at 128 basis points.

This valuation would then provide a servicing multiple of 5.1, again showing that the valuation may be aggressive.

Potential Impact to Equity

Next, we would want to see what the potential impact to equity if the company were to value the MSR portfolio at the industry average of 89 basis points versus the 128 basis points.

- To do this we would implement the following 2 calculations:
    - 128 bps valuation - 89 bps industry average = 39 bps
    - 39 bps * $500 million servicing portfolio = $1.95 million decrease to equity
    - If your counterparty has $5 million in equity, this is a significant risk that needs to be reported.
- However, if the Mortgage Banker maintains $100 million in equity, it will most likely restrict earnings and not have a material impact to total equity.

OER Model Calculation

Benchmarking or reasonableness testing on MSR valuations can also be done by comparing Issuers reported MSR values to the Ginnie Mae internal Operating Expense Ratio (OER) model calculation.

There can be considerable differences between the valuation reported by the Issuer and the value calculated by Ginnie Mae.

- Comparison of Operating Expense Ratio (OER) modeled MSRs to the Mortgage Bankers' Financial Reporting Form (MBFRF) reported net MSRs valuation
- Only Single-Family multiples available (no Multifamily or HMBS) from MBFRF to compare against
- MBFRF multiples are available for 93 of 136 Single-Family Watchlist Issuers.
- Several large Servicers reported multiples that exceeded a 5 multiple.

MBFRF - Mortgage Bankers' Financial Reporting Form

VMMR - Valuation Modeling and Modeling Research

The multiple is calculated as: [(Net Ginnie Mae MSR Value / UPB) / Estimated Servicing Fee].

Estimated servicing fee is calculated as the quarterly servicing fee collections as a % of the serviced UPB, annualized. Data is Issuer-reported and unaudited.

% Difference = (MBFRF Multiple - VMMR Multiple) / VMMR Multiple.

Can you determine which Issuers appear to have data issues with their MBFRF reporting?

Issuers 4038, 4285,4247,4386 appear to have data issues with their MBFRF reporting.

Single Family Multiples Comparison (Watchlist)

Issuer	Issuer Name	VMMR Multiple	MBFRF Multiple	% Difference
4038	PROVIDENT FUNDING ASSOCIATES L	3.45	3,610.31	104536%
4285	AMCAP MORTGAGE LTD	3.59	3,603.33	100196%
4247	AMERISAVE MORTGAGE CORPORATION	3.49	238.10	6725%
4386	ALLIED MORTGAGE GROUP, INC.	3.23	16.01	395%

Issuer	Issuer Name	VMMR Multiple	MBFRF Multiple	% Difference
4006	SOUTHWEST STAGE FUNDING, LLC	2.77	4.47	62%
3940	EMI EQUITY MORTGAGE, INC.	2.49	3.99	60%
4324	THE MONEY HOUSE, INC.	2.54	3.99	57%
4070	UNITED SECURITY FINANCIAL CORP	3.35	5.19	55%
3219	UNION HOME MORTGAGE CORP.	3.32	5.06	53%
4331	MORTGAGE LENDERS INV. TRADING	3.27	4.94	51%
2397	PHH MORTGAGE CORPORATION	3.03	4.54	50%
4320	FLAT BRANCH MORTGAGE, INC.	3.29	4.86	48%

3.13 Knowledge Check 4

What is the main benefit of liquidity contingency planning?

A. The risk that an institution, at any given time, is unable to meet its cash obligations
B. The risk of investments rising too quickly in value
C. The risk of investments declining in value because of movements or variations in market conditions
D. The risk of market conditions remaining unchanged for long periods of time

Feedback:

Market risk is the risk of investments declining in value because of movements or variations in market conditions.

3.14 Knowledge Check 5

What is the main benefit of liquidity contingency planning?

A. Volatility
B. Credit Scores

C. Adverse Economic Conditions
D. Interest Rates

Feedback:

Market conditions that affect market risk include:

- Volatility
- Adverse Economic Conditions
- Interest Rates

3.15 Knowledge Check 6

What is the main benefit of liquidity contingency planning?

A. Rising rates may cause higher pull-through and more loans closing at below-market rates.
B. Declining interest rates may result in larger than expected fallout which may leave an Issuer without enough loans to meet the sale commitment.
C. Declining credit scores can lead to fewer Borrowers taking out loans, leading to falling profits.
D. Rising interest rates can reduce loan volumes and negatively impact Issuers' profitability.

Feedback:

Examples of how market conditions can affect volumes and business activity include:

- Rising rates may cause higher pull-through and more loans closing at below-market rates.
- Declining interest rates may result in larger than expected fallout which may leave an Issuer without enough loans to meet the sale commitment.
- Rising interest rates can reduce loan volumes and negatively impact Issuers' profitability.

4. Conclusion

4.1 Summary

The goal of this training course was to provide a fundamental understanding of counterparty risk management with an emphasis on Liquidity Risk and Market Risk.

You explored liquidity risk and discovered the characteristics that give rise to it.

You learned about liability-side liquidity risk, which arises from transactions whereby a creditor, depositor, or other claim holder demands cash in exchange for the claim.

You also examined the importance of liquidity contingency planning.

Then, you gained an understanding of the measures of liquidity risk for banks and

nonbanks.

Next, you delved into market risk and the conditions that affect it.

You learned about the impact of market conditions on volumes and business activity and how to manage that risk.

Learning Objectives

Learning Objectives:

- Define liquidity risk
- List characteristics that lead to liquidity risk
- Explain the benefit of liquidity contingency planning
- Define market risk
- List the market conditions that affect market risk
- Explain how market conditions can affect volumes and business activity