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INSTRUCTOR-LED PROGRAMS

School of Mortgage Banking II

MANAGING PROFITABILITY AND RISK

BOOK 1

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MBA Education enables your company to increase efficiency and productivity in order to stay competitive in the real estate finance industry. Our programs and resources are offered in a variety of formats to fit any schedule and learning style. We work closely with industry practitioners and business experts to create current, relevant programs that provide critical skills, strategies and knowledge.

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MORTGAGE BANKERS ASSOCIATION

1919 M STREET NW, 5th FLOOR
WASHINGTON, DC 20036

School of Mortgage Banking II

Managing Profitability and Risk in Mortgage Banking

Table of Contents

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Mortgage Bankers Association
1919 M Street, NW
Washington, DC 20036

Disclaimer

This publication is designed to present, as simply and as accurately as possible, a general explanation of processes and functions within the mortgage industry. It should be noted that the information presented is not all-inclusive. Forms, regulations, and overall processes may change because of changes within the industry. This publication should not be used as a substitute for referring to the applicable rules and regulations and is distributed with the understanding that the publisher is not engaged in rendering legal or other personalized professional service. If legal or other expert assistance is required, the services of a competent professional should be sought.

MBA's Antitrust Admonitions

By electing to take part in this educational program, a participant agrees to abide by the following antitrust guidelines pursuant to the Antitrust Policy of the Mortgage Bankers Association:

1 There shall be no discussion of competitive practices that could lead to decisions to limit product or service availability to customers (e.g., no sharing non-public, company specific underwriting floors or ceilings), or to otherwise exclude anyone from access to credit, or to allocate markets or customers, or to limit product or service innovation;
2 There shall be no discussion of antitrust sensitive topics such as the exchange of non-public information about pricing policies, costs, fees of any kind charged to borrowers, or payments of any kind made to employees or third-party service providers;

There shall be no “vendor bashing,” that is, no identification of performance or other problems with, for example, a specific vendor, investor, or mortgage banker.

Welcome

Welcome to School of Mortgage Banking Course II, brought to you by MBA Education, the educational arm of the Mortgage Bankers Association. During the next several days, you will be exposed to a wide variety of topics taught by a number of different industry experts. Participants have the opportunity to broaden their knowledge and to hear the perspective of lenders from across the country.

School of Mortgage Banking Course II will provide you with information on production management, negotiating and structuring commercial loans, construction lending, servicing portfolio valuation, details on MBS and CMO, pricing, and pipeline hedging. In addition to the presentations that you will listen to during the week, you will also complete multiple case studies.

Our goal is to make your experience at the School of Mortgage Banking the best that it can be. Please feel free to contact us with any questions you may have about the School or any other MBA Education products or services.

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Willis Bryant Award

The Willis Bryant Award represents outstanding academic achievement in MBA Education's School of Mortgage Banking and demonstrated leadership in the industry. The award is named after Willis R. Bryant, a mortgage-banking pioneer of the 1950s who lectured at the SOMB and authored *Mortgage Lending Fundamentals and Practices.* Upon his death in 1965, the award was established in his name, and since then, its recipients have had their names engraved on a plaque that hangs at our headquarters.

To qualify for the award, students must:

- Achieve a grade of at least 90 percent on SOMB I and SOMB II final exams
- Demonstrate exemplary leadership throughout all three courses
- Submit a completed application that highlights their industry achievements
- Submit a signed letter of recommendation

Students who qualify for the Willis Bryant Award are notified within 30 days of completion of Course II. Students who believe they qualify but do not receive notification of eligibility should contact Lynee Alston at 202-557-2912 or lalston@mba.org.

Final selection is based on course grades, peer and instructor evaluations, information provided on the application, and a letter of recommendation.

MBA Canon of Ethics

CANON 1 – Professionalism

Members conduct their business in a professional manner, ensuring that their personnel are knowledgeable in the areas of real estate finance in which they participate and are acting in compliance with sound industry practices.

CANON 2 – Integrity and Confidentiality

Members act in a manner that recognizes that integrity and confidentiality are essential in the real estate finance industry.

CANON 3 – Public Trust

Members do not commit fraud or misrepresentation against the public and do endeavor to protect the public against fraud, misrepresentation and unethical practices in the real estate finance business. Members help eliminate or prevent practices which could be damaging to the public or to the integrity of the real estate finance industry.

CANON 4 – Fiduciary Responsibilities

Members maintain and use money or property held on behalf of others in a prudent, identifiable manner and for the purposes such were received.

CANON 5 – Disclosure of Information

Members provide accurate, timely and meaningful information to those with whom they do business.

CANON 6 – Conflicts of Interest

Members disclose any financial or other conflicts of interest.

CANON 7 – Compliance with Laws

Members act in conformity with applicable laws and regulations and cooperate in every appropriate way with governmental bodies.

CANON 8 – Non-discrimination

Members conduct their business without regard to the race, color, sex, religion, marital status, national origin, or age of the persons with whom they deal.

CANON 9 – Honesty in Advertising

Member advertisements and solicitations accurately describe products and services, using clear, simple, truthful and understandable statements.

CANON 10 – Sanctity of Agreements

Members do not breach or avoid an agreement or commitment, whether written or oral.

CANON 11 – Competition

Members support healthy competition in the real estate finance industry.

CANON 12 – Ethics Compliance

Members and their employees engaged in real estate finance are familiar with and comply with these Canons. Members cooperate, promptly and in good faith, with any investigation related to compliance with these Canons. Failure to so cooperate may result in suspension from or termination of membership.

Course Syllabus

Managing Profitability and Risk in Mortgage Banking emphasizes effective organization and management of the production, servicing and secondary marketing departments for the purpose of controlling risks and maximizing bottom-line profits. This course covers developing new markets, production management, servicing portfolio management and valuation, marketing risk management and pricing strategy.

This course covers developing new markets, production management, servicing portfolio management and valuation, secondary marketing risk management and pricing strategy.

Current Issues & Regulatory Environment

Time: 2 hours

This module is designed to provide an update on current developments in and regulatory compliance and legal issues. In order to provide the most up-to-the minute information there is no pre-written material provided for this section.

Upon completion of this module, you will be able to:

- Provide an overview of key current events in regulatory compliance affecting the mortgage industry.

Profitable Production Management

Time: 2 hours 30 minutes

This module is designed to define profitability and describe what profitability means in today's mortgage market. We will discuss the main sources of income (fees, interest income, gain on sale of a loan, servicing released premiums, and servicing income), as well as the expenses associated with production. We will also address how we look at income vs. expenses to determine profitability. Finally, we will consider emerging market potential and how pursuit of emerging markets affects profitability.

Upon completion of this module, you will be able to:

- Define profitability.
- Understand what drives income.
- Analyze all of the expenses considered in a profitability analysis.
- Determine how profitability is measured.

Explain how to determine the emerging markets in your footprint that fit both corporate strategy and operational soundness.

Secondary Market Revisited

Time: 1 hour 15 minutes

This module is designed to revisit the role of the secondary market and its participants. We will then turn to pricing and rates, discussing how leading economic indicators provide advance notice of the possibility of imminent rate changes. Next, we will consider secondary market risk and introduce terminology which will pave the way for in-depth discussions regarding pricing and hedging.

Upon completion of this module, you will be able to:

- Describe the role of the secondary market and its participants.
- Understand how pricing plays a pivotal role in setting rates.
- Describe secondary marketing risks.
- Understand basic pricing and hedging terminology.

MBSs & CMOs

Time: 2 hours

This module is designed to key terminology used in the process of securitization, explore the evolution of the capital markets, and look at the risks associated with producing and delivering fixed income investments. We will look at the history of interest rates by examining the yield curve, and how that rate fluctuation impacts investments. Finally, we'll describe the instruments themselves and explain the use of derivatives, CMOs, REMICs and tranches.

Upon completion of this module, you will be able to:

- Define key terms in the securitization process.
- Discuss the evolution of capital markets.
- Understand the risks associated with fixed income investments
- Explain what a yield curve is and how it functions to track interest rates and yield on investments.

Have an understanding of derivatives, CMOs, REMICs and tranches and how they are used.

Art & Science of Pricing

Time: 3 hours 45 minutes

This module is designed to identify the components of an effective pricing policy for conforming loan products. The discussion will cover how interest rates are determined and the factors that have a direct influence on those rates and pricing models. In addition, we will explore rate lock options, identifying what they are and how they are used to protect both the consumer and the institution. We will also discuss how understanding your competition and having a strategy for determining best execution are key components in the successful implementation of your organization's strategic initiatives.

Upon completion of this module, you will be able to:

- Determine what factors drive rates and how those factors affect how prices are set.
- Identify rate lock options, how they are used and when they are necessary.
- Define who your competition is and in what areas you are really competing.
- Understand what is meant by "Best Execution," when it should be employed and why.
- Understand the difference between "Best Efforts" and Mandatory deliveries.

Pipeline Hedging

Time: 3 hours 15 minutes

This module is designed to identify risks involved in originating and locking in rates on mortgage loans. We will discuss pipeline management in detail and consider how to mitigate the risks associated with managing the pipeline.

We will also describe the methods used to minimize those risks and address the policies and procedures that need to be in place to manage risk effectively.

Upon completion of this module, you will be able to:

- Understand the risks involved in managing a pipeline.
- Understand why pipeline management is so important.
- Explain the types of pipeline risk.
- Monitor a pipeline and measure fallout by type.
- Determine what to "hedge" and why.
- Perform a market analysis.
- Complete a pipeline exercise.

Demonstrate a basic understanding of futures and how they are used to hedge a pipeline.

Servicing Portfolio Valuation

Time: 6 hours

This module is designed to the many factors that must be considered when performing servicing portfolio valuation. We will review the components of the portfolio and how its make up affects the value. We will also consider how prepayments and defaults affect the portfolio. We will review income components and operating costs, identifying how each affects the ledger and cash flow. We will also discuss yield requirements.

Upon completion of this module, you will be able to:

- Define servicing.
- Identify the components of a mortgage payment and the owner of each segment.
- Identify the components of a servicing portfolio.
- Explain the valuation process.
- Describe the risk associated with various servicing investment alternatives.
- Identify regulatory and accounting guidelines that dictate valuation and reporting policy.
- Understand cash flow.
- Explain the impact of prepayments and defaults on the servicing portfolio.

Negotiating & Structuring the Commercial Loan

Time: 3 hours 15 minutes

This module is designed to focus on commercial properties and commercial deals. We will discuss how best to assess the value and potential success of a property. In addition, we will also discuss methods for negotiating and structuring a commercial loan. The session will conclude with a case study.

Upon completion of this module, you will be able to:

- Understand how commercial real estate properties are underwritten and valued.
- Describe how commercial mortgage bankers make money.
- Assess risk using responsible underwriting guidelines.

Perform basic valuation and underwriting for commercial properties.

Construction Lending

Time: 1 hour

This module is designed to key terms used in the construction lending business and the structure of construction loans. The major risks and rewards of being involved in construction lending will be considered and some of the major issues for construction lenders during the past few years will be addressed. Then we will turn our attention to some of the administrative challenges for a mortgage lender in the support of construction lending while balancing allocation of draws and advances against performance and completion of the projects.

Upon completion of this module, you will be able to:

- Identify the products and players in construction lending.
- Define key terms used to describe the product and the components of the transaction.
- Analyze risks and rewards of construction lending.
- Discuss the documentation needed for construction loans.

Describe the administrative support and requirements for construction loans.

Course Completion

Grading

Successful completion of the course is based on attendance at the onsite class and a passing grade on the online final exam.

Final Exam

The final exam is graded automatically once the "Submit" button is clicked. Students who successfully complete the course will be sent a certificate of completion.

General Instructions for Taking the Final Exam

The open period for taking the online exam for this course will begin at 5:00 PM Eastern time on the last day the course meets and will expire on at 11:59 PM EASTERN TIME exactly two weeks from the last day the course meets. This means you must complete and submit the exam by the above expiration date and time.

- Important: This is a timed exam. You will have exactly two hours to complete and submit the exam. Be sure to allow sufficient time to complete the final exam in one sitting. Be sure to plan your time wisely so that you will not be interrupted.
- This is an open-book exam, and you may use the text book provided in class or in the online course space. No other resources are allowed.
- Have a calculator and scrap paper ready before you open the exam link.
- Your responses to the questions are not recorded and calculated until you click the "Submit" button at the end of the exam. Once you have input all of your answers, simply click the "Submit" button at the bottom of the screen when you are ready to submit the exam for grading.
- Do not exit your Internet browser until after you have finished and submitted your exam. Otherwise you may lose all of your work and be denied further access to the exam.
- If you encounter technical difficulties, especially that interrupt your exam, please contact MBA Education at (800) 793-6222 between the hours of 9:00 AM and 5:00 PM Eastern time, Monday through Friday, or at education@mba.org.

The online testing system allows you two attempts to pass the final exam. If you do not pass the test the first time with a score of 75% or greater, call MBA Education at (800) 793-6222 to discuss your course grade.

Format of the Exam

There are two types of exam questions: multiple choice and multiple **answer**. Multiple answer questions are noted with the following: "Multiple answer question. Select ALL choices that apply."

Understanding Your Course Grade

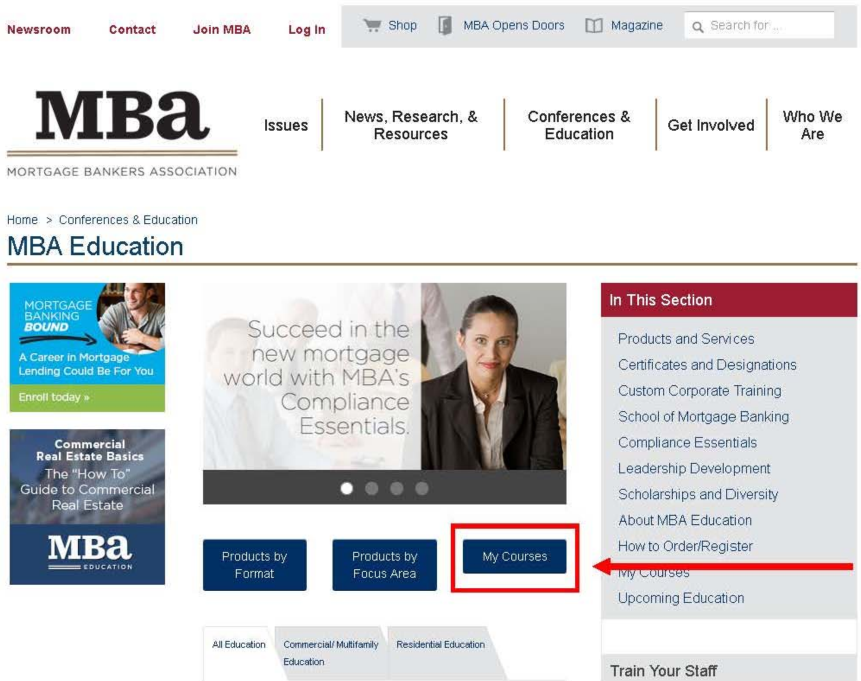
- After completing your assessment, please note that you can view your course grade by clicking on the blue "Tools" button on the left.
- Your course grade will be: a percentage on the line labeled "Weighted Total" in the "Grade" column on the "My Grades" screen.
- The "Weighted Total Grade" is used to determine whether you have achieved the required minimum 75% passing grade.

The number on the "Exam" line in the "Grade" column is your exam raw score and does not represent your course grade.

Accessing Your Course and Exam Guide

Access Your Course and Exam

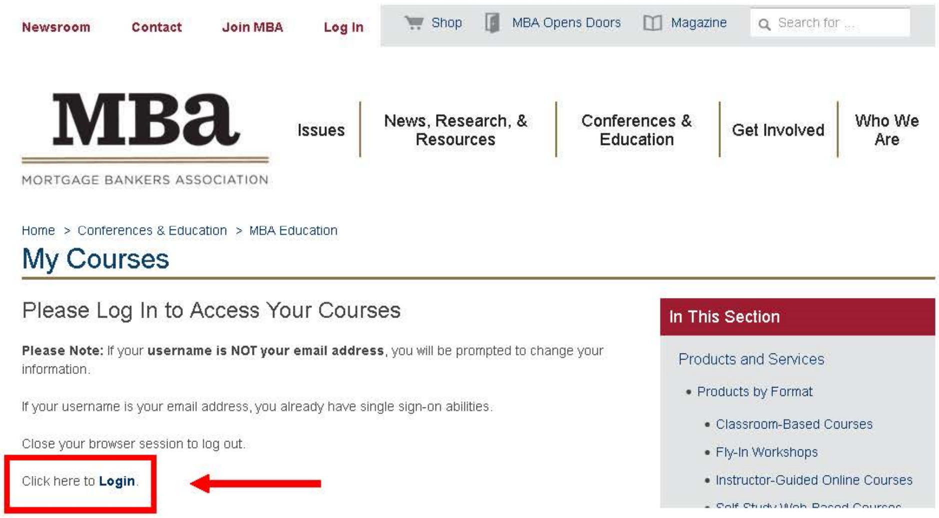
Log in to MBA Education



- Visit the MBA Education web site at mbaeducation.org.
- Click the **My Courses** button in the middle of the page.

Access Your Course and Exam

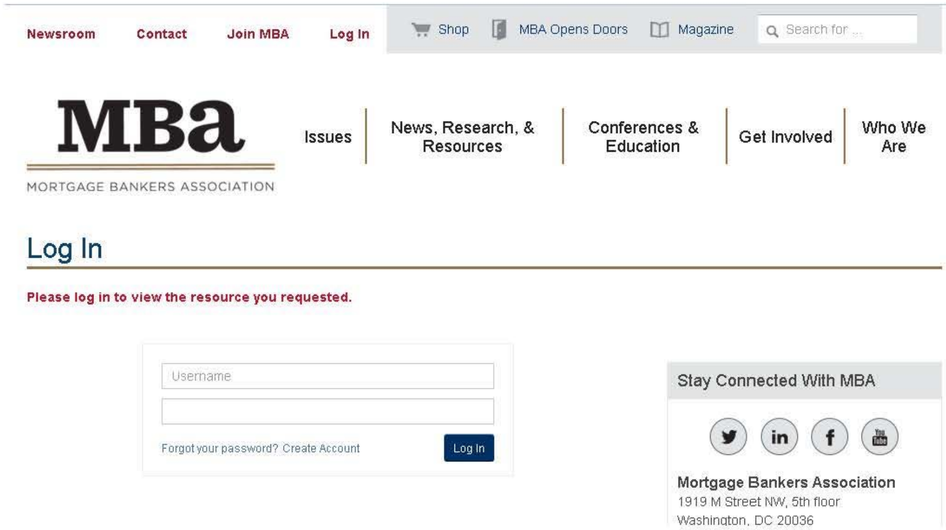
Log in to MBA Education (cont.)



- Click the **Login** link.

Access Your Course and Exam

Log in to MBA Education (cont.)



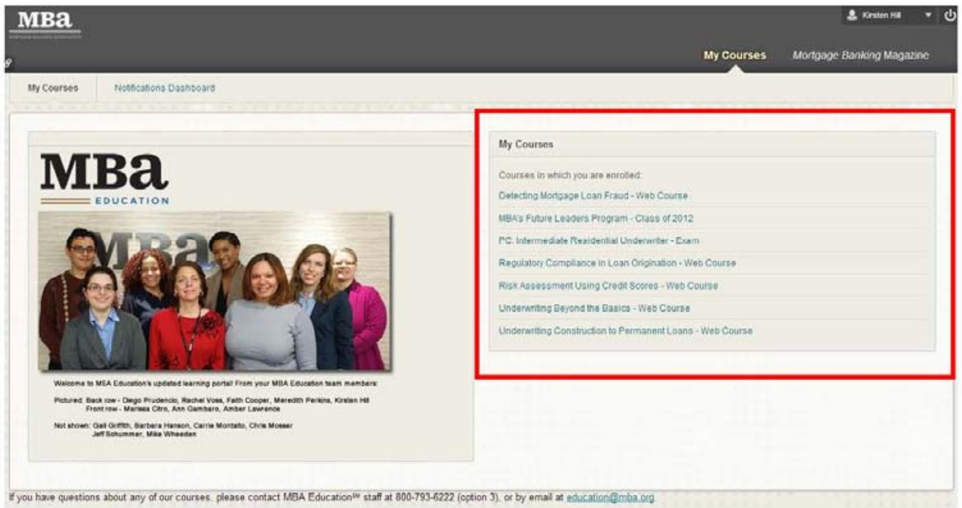
- Enter your username and password in the fields
- Click the **Login** button.

TROUBLESHOOTING

If you have trouble logging in or have misplaced your username and/or password, please call MBA Education at (800) 793-6222 between the hours of 9 AM and 5 PM Eastern Time, Monday through Friday, or send an e-mail to education@mba.org.

Access Your Course and Exam

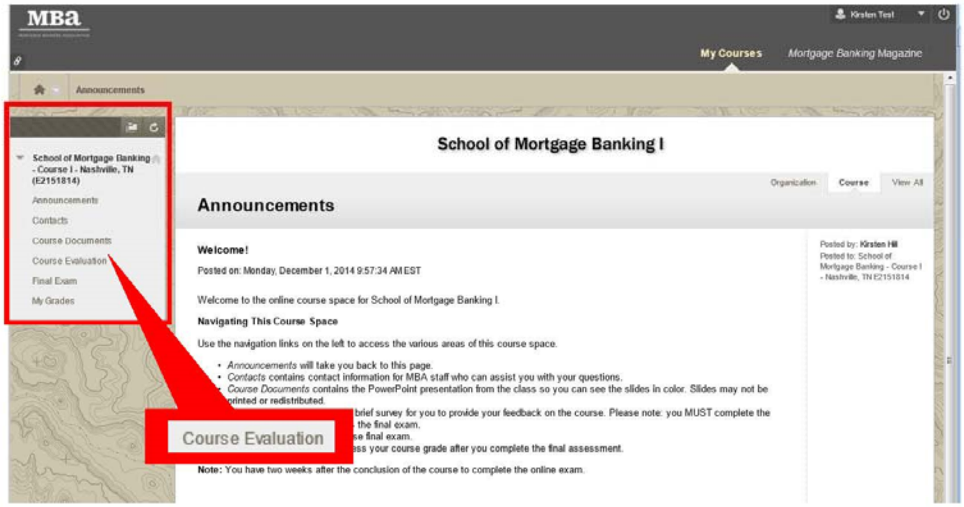
Navigate to your Course



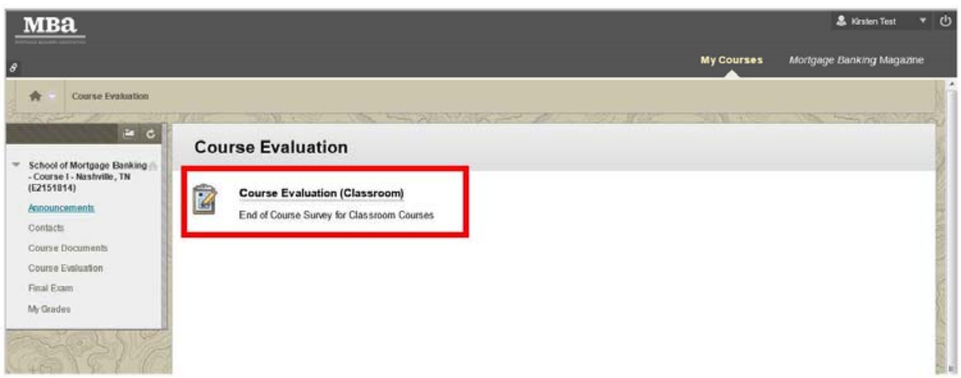
- In the list of **My Courses** on the right side of the screen, locate your desired course.
- Click on the name of the desired course.

Access Your Course and Exam

Complete the Course Evaluation Survey



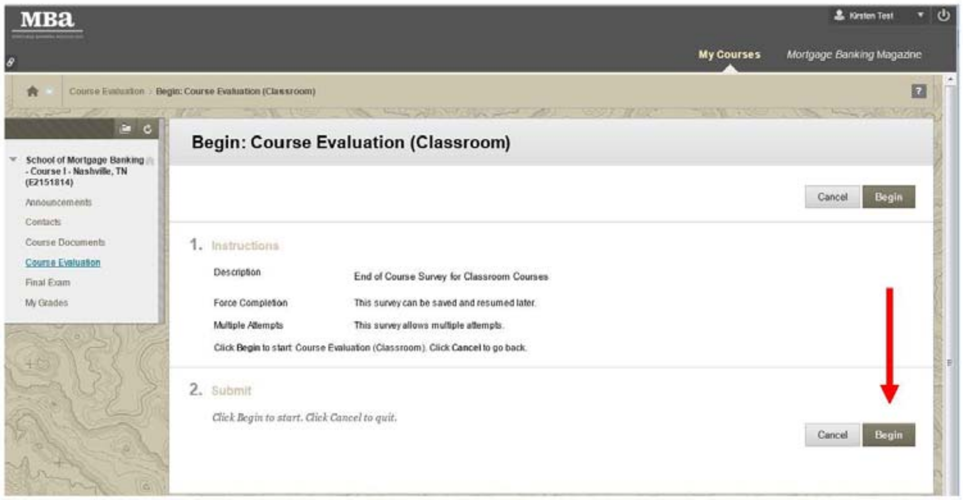
- In the navigation links on the left, click **Course Evaluation.**



- Click **Course Evaluation (Classroom).**

Access Your Course and Exam

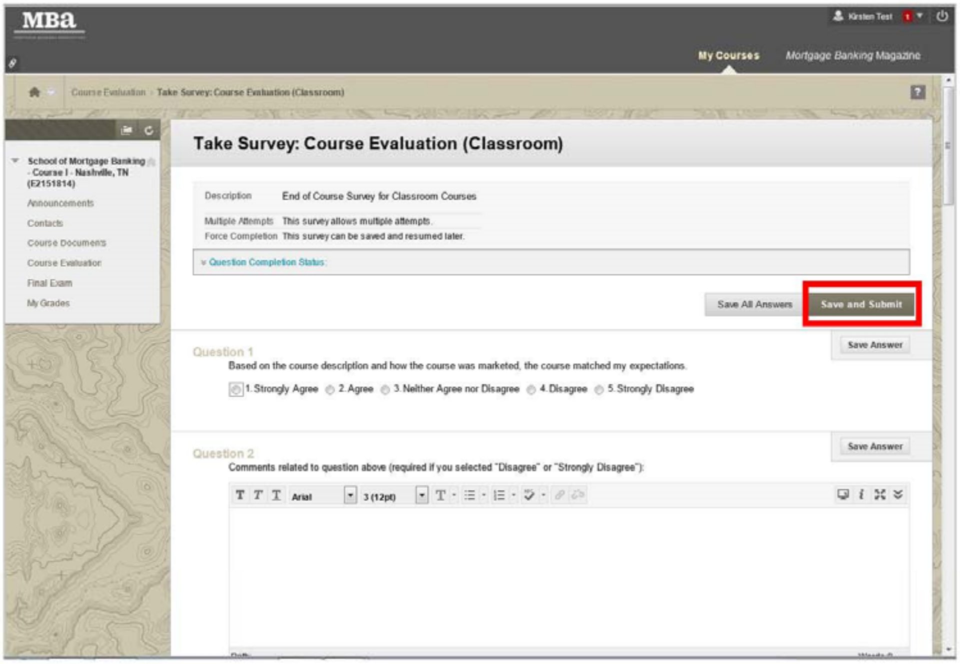
Complete the Course Evaluation Survey (cont.)



- Click **Begin.**

Access Your Course and Exam

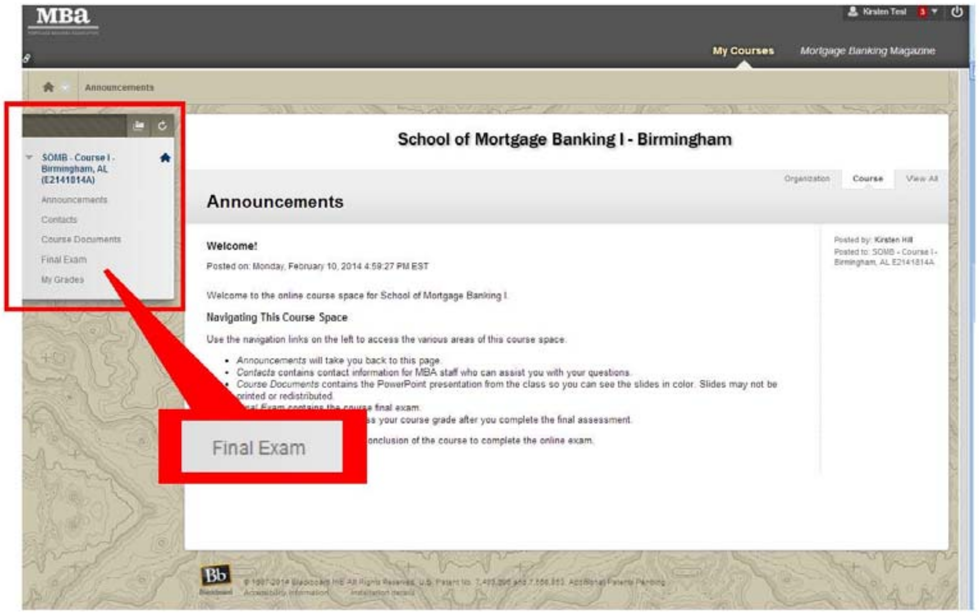
Complete the Course Evaluation Survey (cont.)



- Select your rating for each question. There is also a space provided for any additional comments you have.
- Scroll down to answer all questions.
- When you are done, click **Save and Submit**.
- Use the menu on the left to navigate to the final exam.

Access Your Course and Exam

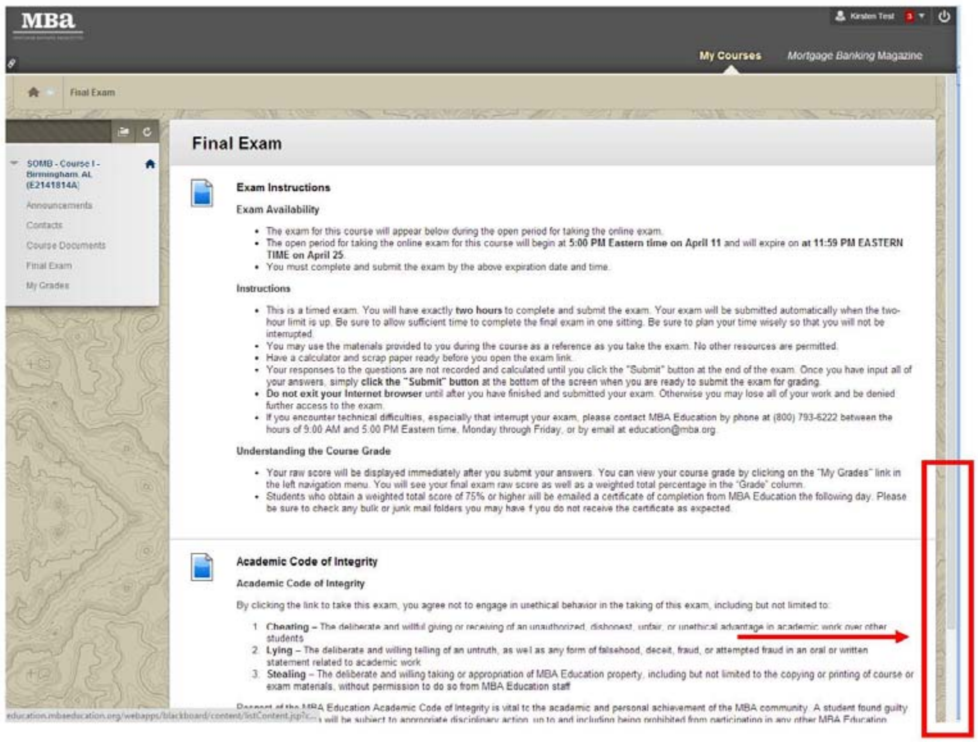
Navigate to your final exam



- In the navigation links on the left, click **Final Exam.**

Access Your Course and Exam

Navigate to your final exam (cont.)



- Read the exam instructions and Academic Code of Integrity.
- Use the scroll bar on the right side of the screen to scroll down to the bottom.

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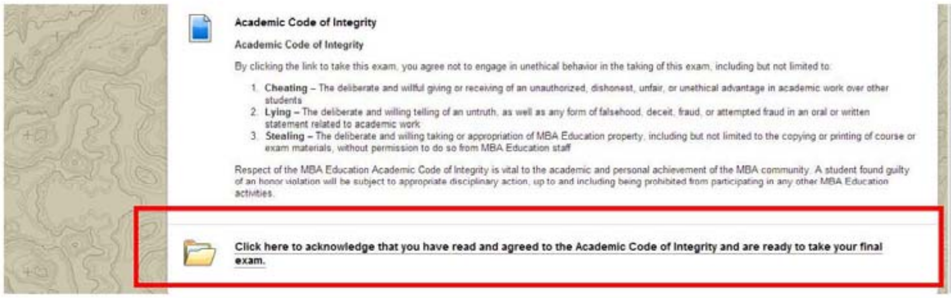
Access Your Course and Exam

Navigate to your final exam (cont.)

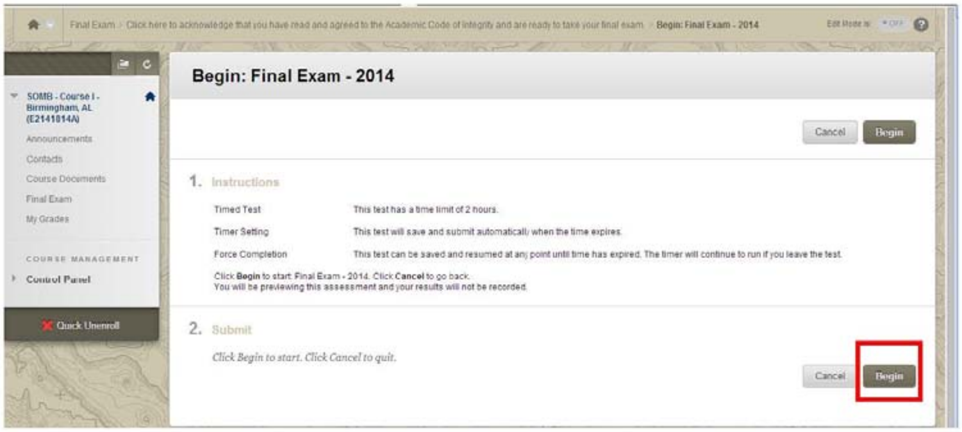


- Click on the folder link

- Click **Final Exam – 2014**
- **NOTE:** ***this item will not appear until the course evaluation is completed***

Access Your Course and Exam

Navigate to your final exam (cont.)



- Click **Begin.**

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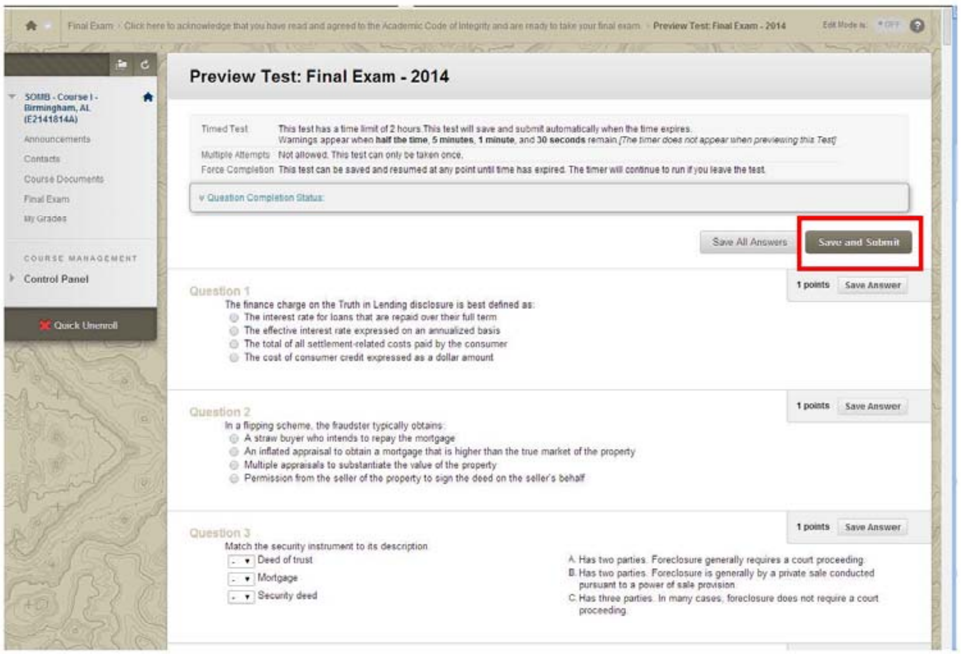
Access Your Course and Exam

Complete and submit your final exam

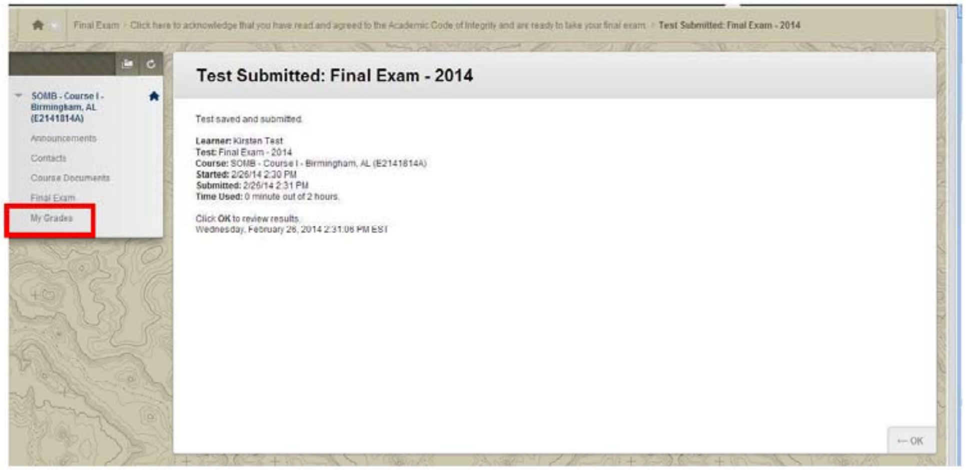


- Select the best response for each of the questions.
    - There are three types of questions you may see:
        - Multiple Choice (select one)
        - Multiple Answer (select all that apply)
        - Matching
- When you are finished, click **Save and Submit.**

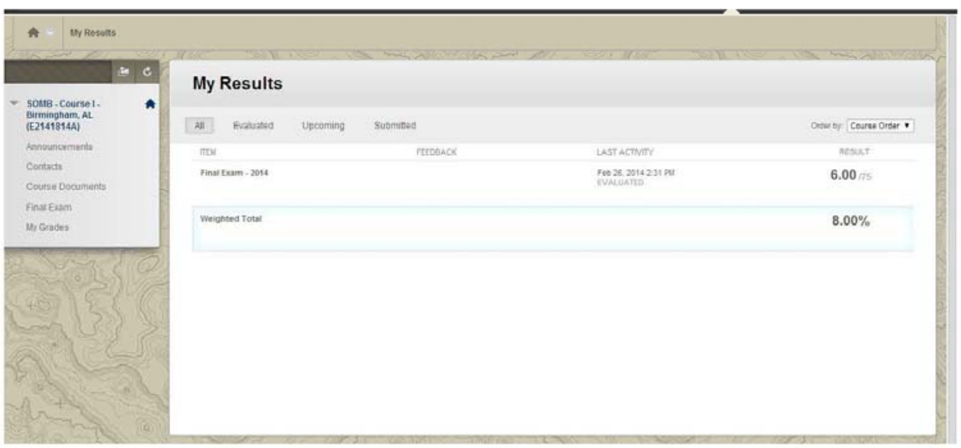
Note that the exam is timed and when the time limit is up, the exam will auto-submit.

Access Your Course and Exam

Check your grades



- Click the **My Grades** link to view your score on the exam and the total for the class.



Current Issues & Regulatory Environment

School of Mortgage Banking II

Table of Contents

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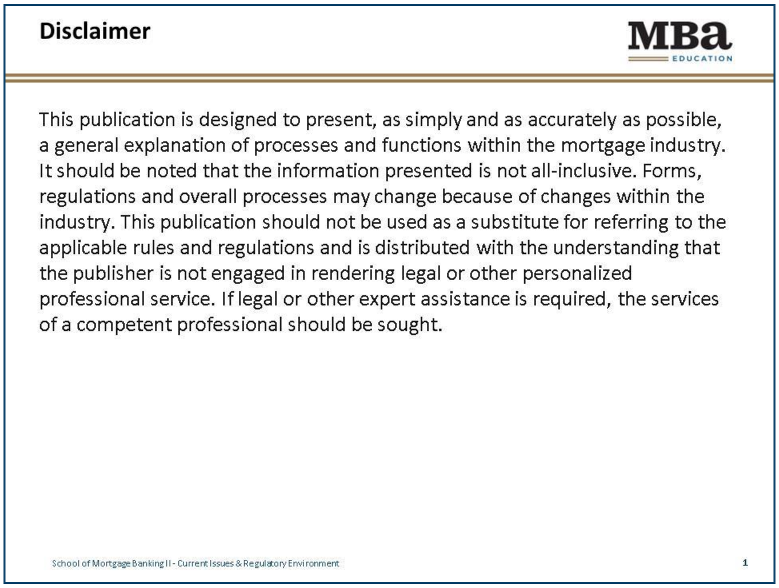

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Overview and Objectives

Overview

This module is designed to provide an update on current developments in and regulatory compliance and legal issues. In order to provide the most up-to-the minute information there is no pre-written material provided for this section.

Objectives

Upon completion of this module, you will be able to:

- Provide an overview of key current events in regulatory compliance affecting the mortgage industry.

Session Evaluation

Class:
Module:
Instructor:
Date:

Instructor Evaluation

Please respond to the following statements using the numeric scale of:
4 - Strongly Agree **3** = Agree **2** = Disagree **1** = Strongly Disagree **N/A** = Not applicable

The instructor demonstrated a superior knowledge of the subject material.	
The instructor provided clear, comprehensive, and satisfactory answers to questions and allotted enough time to answer all questions.	
The instructor used a delivery and presentation style that inspired my attention and interest in the topic.	
The instructor successfully managed the session’s time allotment.	

Course Materials and Content

The session felt well paced and allowed for effective knowledge, acquisition, and retention.	
The session content increased my comfort level with the subject matter.	
Interactive exercises such as practice and discussion questions, case studies, quizzes, etc., were engaging and helped me learn the material.	

Overall

With regard to overall content, presentation and delivery, I am satisfied with the value of this session.	

If there was any information you believe is erroneous or out-of-date that should be reviewed by a subject matter expert, please indicate the page number and/or slide title.

Please use the back of this page to provide any additional feedback you have.

Additional Feedback

Please add any additional comments you have.

Thank you for your valuable feedback!

Profitable Production Management

School of Mortgage Banking II

Table of Contents

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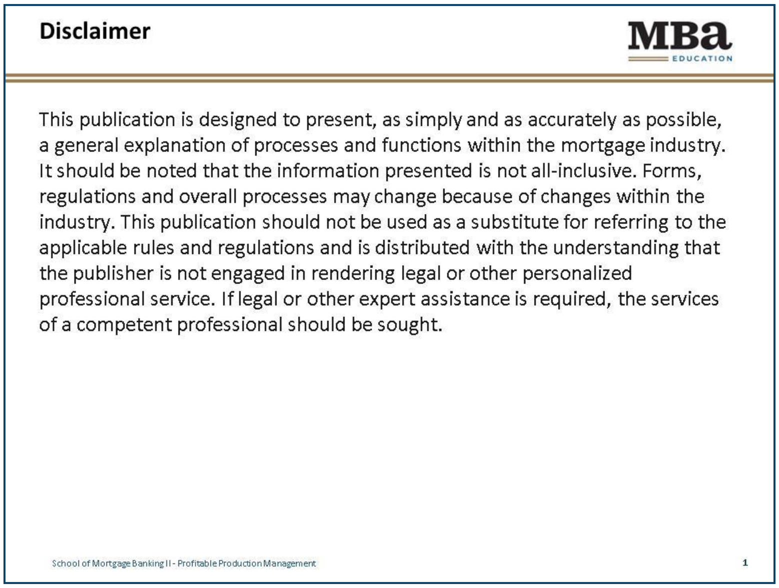

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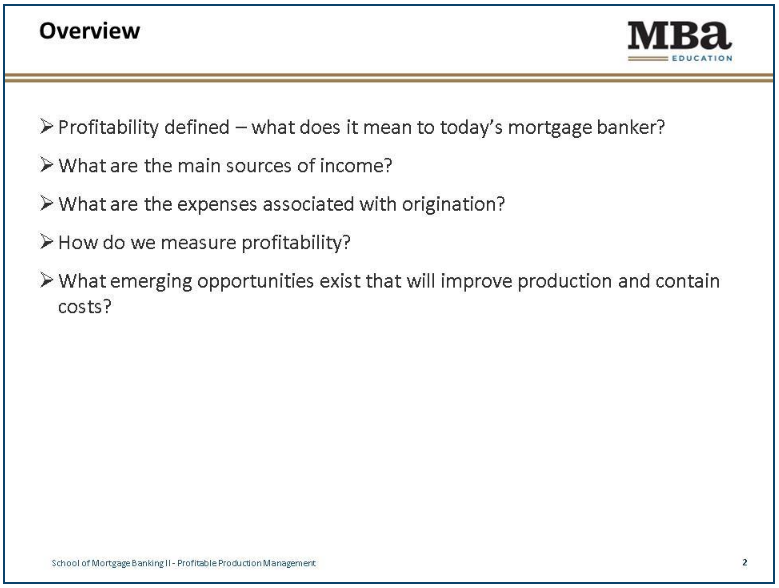
Overview and Objectives

Overview



This module is designed to define profitability and describe what profitability means in today's mortgage market. We will discuss the main sources of income (fees, interest income, gain on sale of a loan, servicing released premiums, and servicing income), as well as the expenses associated with production. We will also address how we look at income vs. expenses to determine profitability. Finally, we will consider emerging market potential and how pursuit of emerging markets affects profitability.

Objectives

Upon completion of this module, you will be able to:

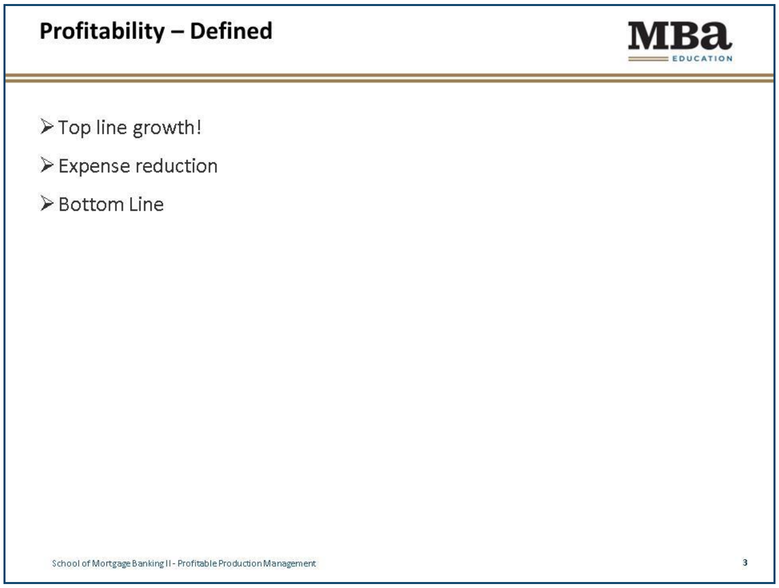
- Define profitability.
- Understand what drives income.
- Analyze all of the expenses considered in a profitability analysis.
- Determine how profitability is measured.
- Explain how to determine the emerging markets in your footprint that fit both corporate strategy and operational soundness.

Profitability Overview

In this segment, we will look at the following topics:

- Profitability Defined
- Top-Line Growth, Expense Reduction, Bottom Line

Profitability Defined



Webster’s dictionary defines profitability as “the percentage of money gained against money paid out.” This definition doesn’t necessarily take into consideration that in the mortgage business, originating a mortgage asset and bringing it to the point of delivery to an investor often requires every penny of the “origination fee” lenders usually charge. However, the two assets created by the origination of this loan — the mortgage itself and the servicing rights — pave the way for profitability. The key is to create a quality asset so that in the execution of selling the loan into the secondary market, a profit can be realized. Also, the decision to sell or retain the servicing rights can be an option that is driven by pricing, market demand and servicing capability.

Top-Line Growth, Expense Reduction, Bottom Line

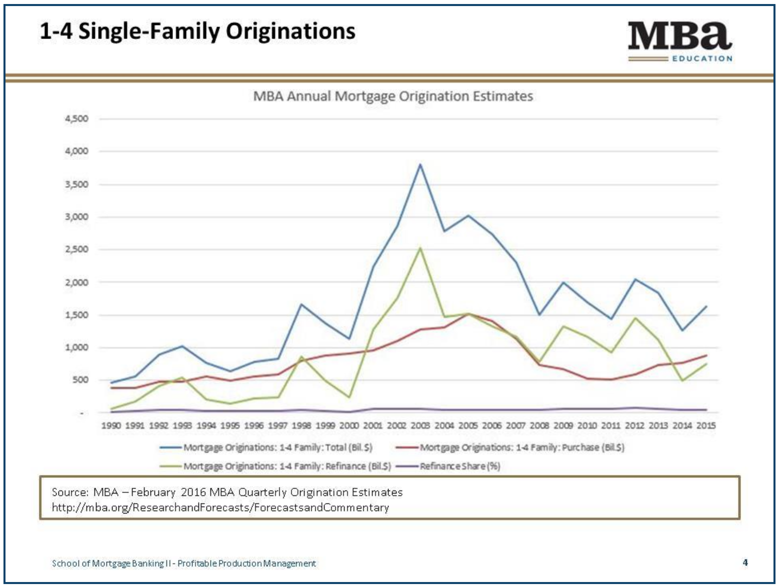
In a mortgage operation the top line is income; but that income must be evaluated against significant costs to produce the assets. No longer is sheer volume the only goal, as increased volume doesn't necessarily equate to increased profitability. A lending policy which supports the originating and closing of investment quality, cost effective loans produced by knowledgeable, responsible staff is the best way to consistently stabilize and add to the bottom line.

History and Trends

In this segment, we will look at the following topics:

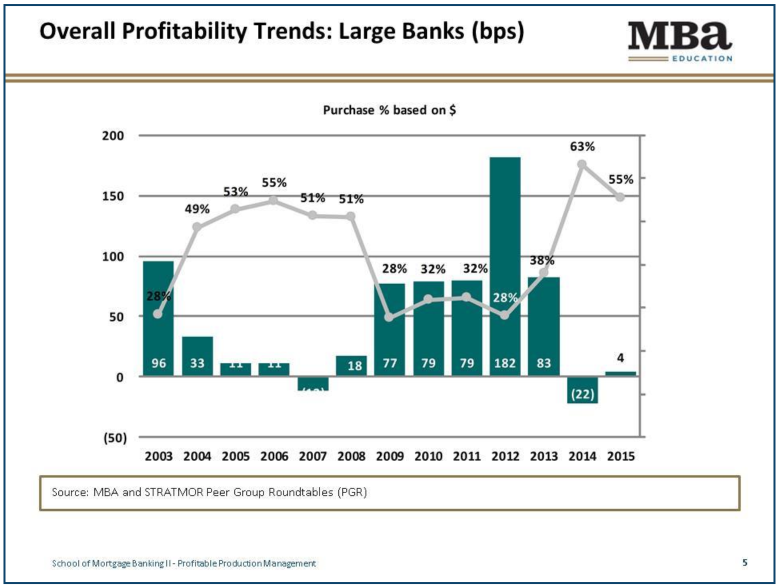
- 1-4 Single-Family Originations
- Overall Profitability Trends: Large Banks
- Overall Profitability Trends: Independent Mortgage Bankers: All Sizes
- Net Profitability Trends: Small and Mid-Sized Independents and Subs of Banks
- Home Prices
- Changes in Quarterly Purchase Applications
- MBA Mortgage Finance Forecast
- MBA Economic Forecast

1-4 Single-Family Originations

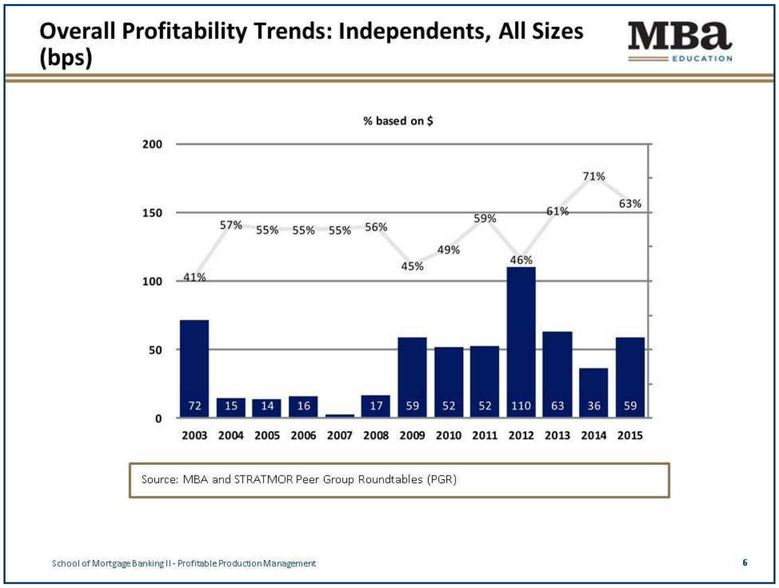


This chart reflects the history of residential production in $ billions from 2003 and forecast through 2015. The chart includes the value for the total of all loans by year. It also depicts (in the darker blue), the amount of purchase vs. refinance business during the same period. Overall production peaked in 2003. Then in 2007, the market dried up for the interest only/option arm (with additional layers of risk) that had fueled the market from 2003 to 2006. Subsequently, the integrity of mortgage-backed securities and the GSEs who had guaranteed those securities were compromised. Hundreds of banks were closed or sold under the direction of the FDIC and several of the investment banking firms and Wall Street icons closed their doors. Record defaults and foreclosures continue to strain the most stable servicing operations, as the struggle to mitigate losses and efforts to keep people in their homes continues.

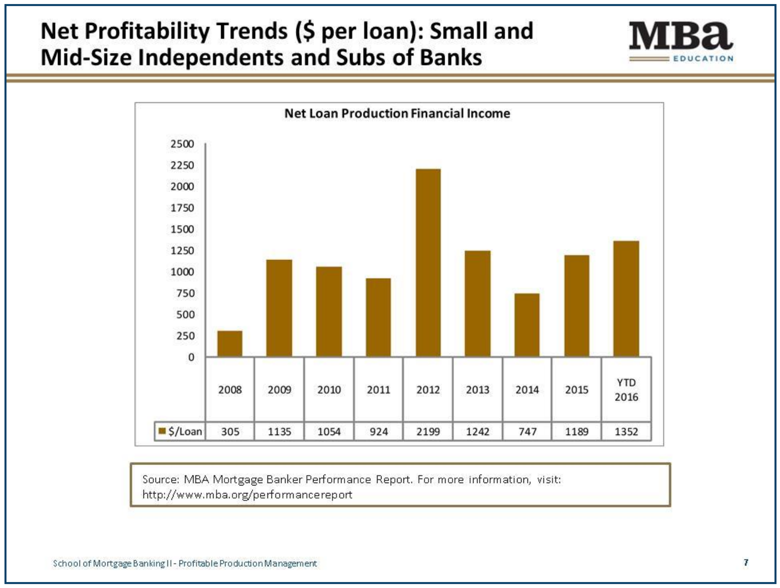
Overall Profitability Trends: Large Banks



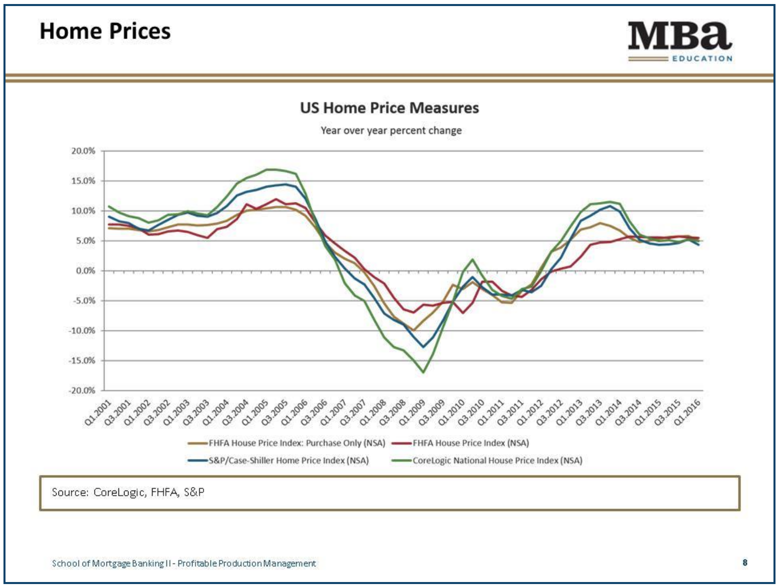
Overall Profitability Trends: Independent Mortgage Bankers: All Sizes



Net Profitability Trends - Small and Mid-Sized Independents and Subs of Banks



Home Prices



This chart represents non-seasonally adjusted (NSA) data or raw data and shows the percent of change in prices in each first quarter, year over year.

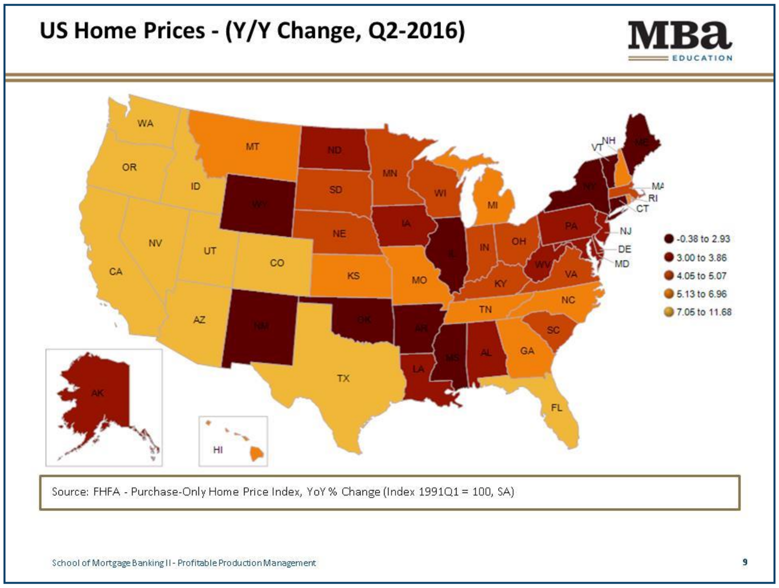
While the market experienced volatility from 1970 thru 1990, that same volatility led to a period of almost steady increases in appreciation and home prices from 1990 through the last quarter of 2005 when values across the country suddenly began to plummet. The reasons for the decline in values are as diverse as the communities and the businesses (large and small) that supported those communities.

Economic conditions played a huge role in the declining markets especially in places like Michigan and Ohio, which were devastated by the collapse of the automobile industry. States like California, where real estate values had escalated to such an extent that value was no longer supported by anything more than the competition to buy in a particular community, were hardest hit by the fierce decline in values.

California is a good example of a state where an interest-only option arm with a second mortgage behind it was the only way a person could afford to buy a home.
When the crisis hit, homes depreciated quickly, leaving hundreds of thousands of families upside down in regard to their mortgages and LTVs. For some states, the issue was an overabundance of available properties or construction projects being built on the assumption that the unprecedented appreciation would simply continue. Other parts of the country, like Florida and Arizona faced the issue that people could no longer afford the luxury of a second home.

Many businesses (both mortgage and nonmortgage) after surviving years of up and down profits have had to close their doors and let employees go. These unemployment issues have created a ripple effect on consumers and their ability to continue to afford the homes they have or to buy new ones.

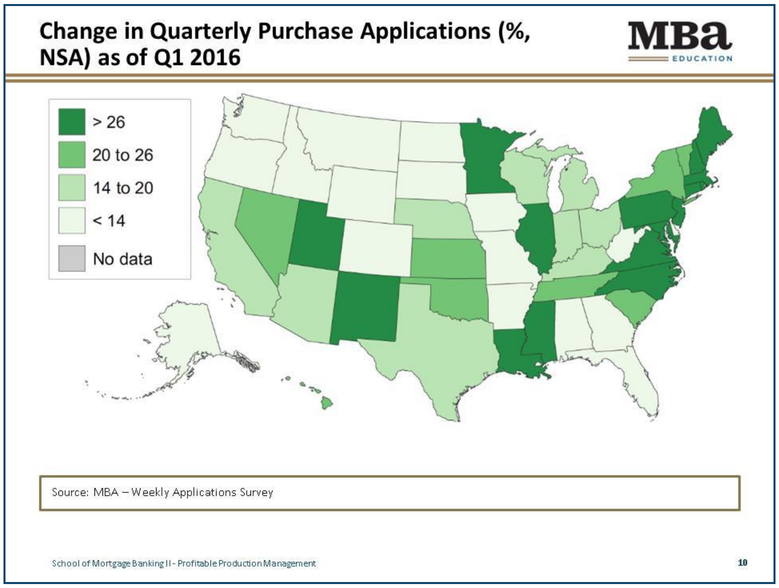
Please see the next graph, which indicates a similar trend in values that is yet to be resolved.



This graph indicates the non-seasonally adjusted (NSA) or raw data that represents the year over year percent changes in home prices by state, as of Q1 2016. The percent change is grouped in ranges by color.

Source: FHFA/MBA

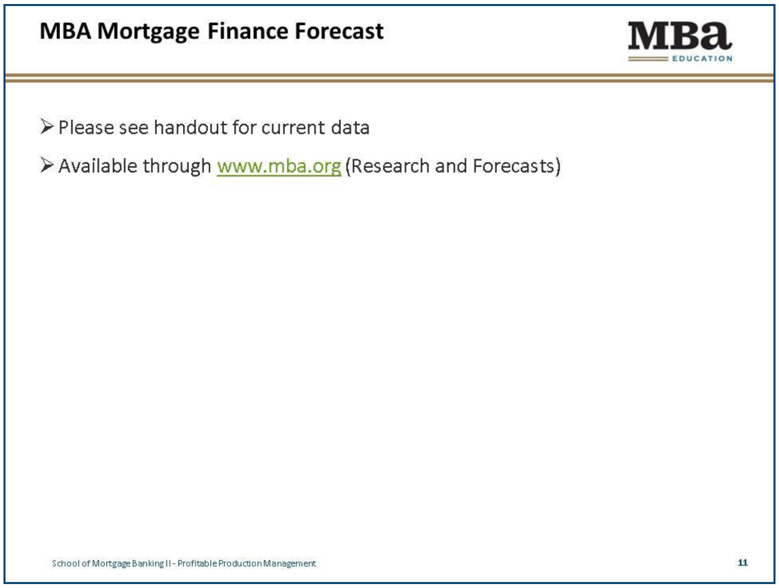
Changes in Quarterly Purchase Applications



This chart represents data that is seasonally adjusted (reflects trends that are market driven rather than cyclical). It reflects the year over year percent change (expressed as an annual rate) in total sales for existing single-family, apartment condos, and co-ops as of Q2 2015. The percent change is shown in ranges by color.

Source: National Association of Realtors

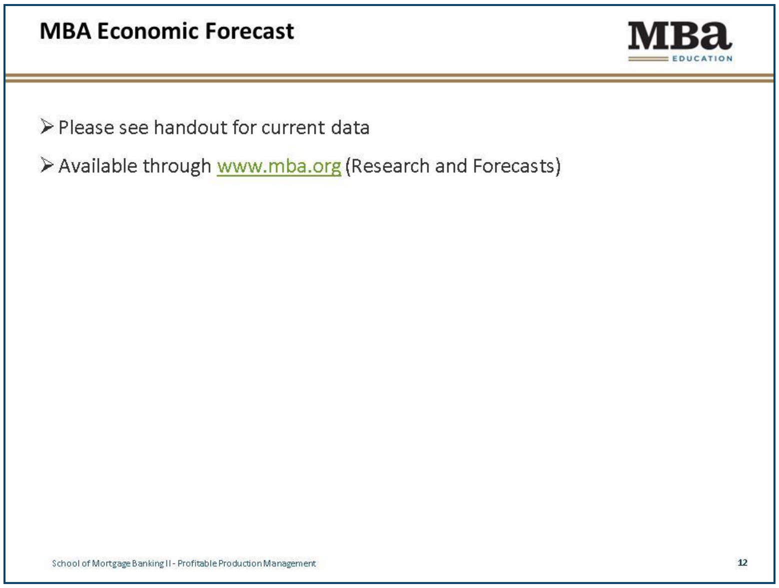
MBA Mortgage Finance Forecast



See handouts for current data.

The Mortgage Bankers Association publishes regular mortgage finance forecasts and commentaries on the MBA website (www.mba.org). The forecasts and commentaries are updated monthly.

MBA Economic Forecast



See handouts for current data.

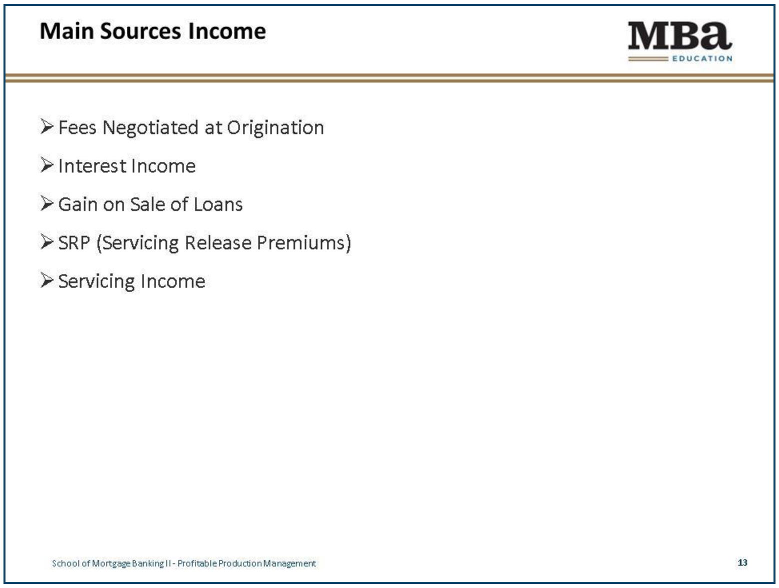
The Mortgage Bankers Association publishes regular economic forecasts and commentaries on the MBA website (www.mba.org). The forecasts and commentaries are updated monthly.

Income

In this segment, we will look at the following topics:

- Main Sources of Income
- Fees Negotiated at Origination
- Interest Income
- Gain on Sale
- Servicing Released Premiums (SRPS)
- Servicing Income

Main Sources of Income



- *Fees Negotiated at Origination* – Typically, 1% of the loan amount; origination fees are used to offset origination/processing costs directly.
- *Interest Income* – interest earned on the spread between what is paid out for the use of warehouse funds and what the borrower has paid (note rate), or interest income on overnight funds swept into interest bearing investments.
- *Gain on Sale* – Gain on the sale of a loan into the secondary market.
- *SRP (Servicing Released Premium)* – Negotiated between the secondary department and the investor purchasing the loan. SRP is usually based on the investor's appetite to acquire that servicing.
- *Servicing Income* – Stream of income paid to the servicer for the servicing of a loan. It is part of the income stream if servicing is retained or if the company seeks to add to an existing servicing portfolio through acquisition of purchased servicing.

Fees Negotiated at Origination

Fees Negotiated at Origination

- Loan fee
- Discount points
- Processing fee
- Administration fee
- Lock fee
- Underwriting fee
- Flood Cert fee
- Tax Service fee
- Lender Inspection fee
- Courier fee
- Doc Prep fee
- Warehouse fee
- ????

School of Mortgage Banking II - Profitable Production Management 14

Lenders must carefully consider the amount and nature of fees charged as many fees are regulated by RESPA and can only be charged to the borrower in the exact amount charged to the lender. For example, a document prep fee would only be allowed to be charged to the extent that a document was prepared by an outside company and the fee was paid to a third party. Always check with counsel before allowing ancillary fees to be charged during the origination, processing and closing process.

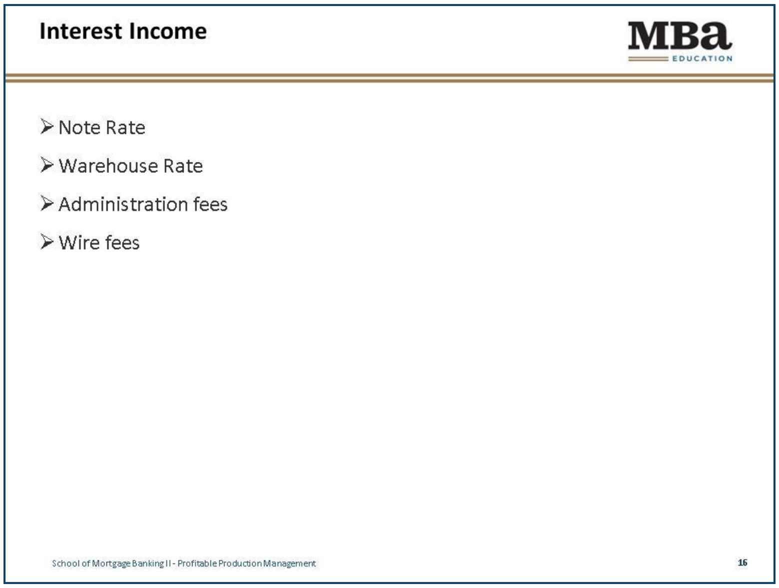
What fees does your organization charge the consumer?

Fees Negotiated at Origination, cont.

- Be aware of regulatory changes that may impact allowable fees.
  - **Loan Originator Compensation Rule**
    - CFPB states: *At this time, the Bureau is not prohibiting payments to and receipt of payments by loan originators when a consumer pays upfront points or fees in the mortgage transaction. This final rule is designed primarily to protect consumers by reducing incentives for loan originators to steer consumers into loans with particular terms and by ensuring that loan originators are adequately qualified.*
  - **Qualified Mortgage Rule (QM)**
    - For a loan to be a QM, the points and fees may not exceed the points-and-fees caps. The points-and-fees caps are higher for smaller loans. For loans > $100,000 the limit is 3% of the total loan amount.

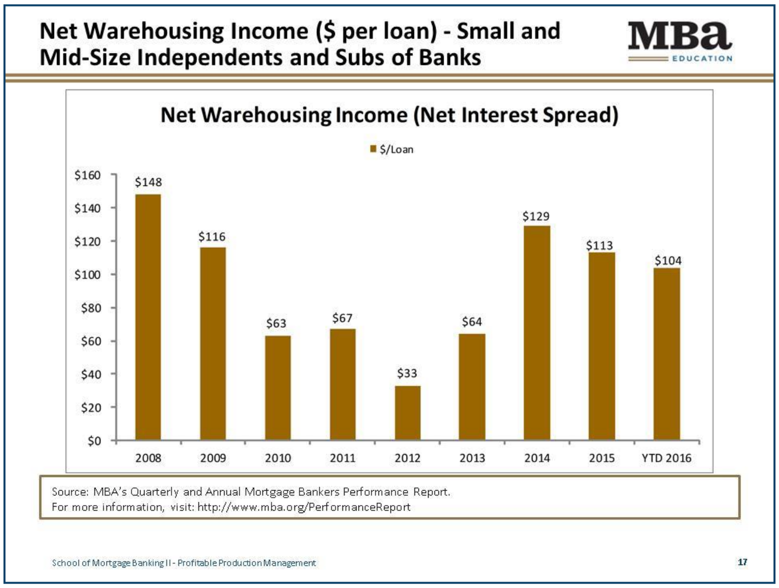
School of Mortgage Banking II - Profitable Production Management 15

Interest Income

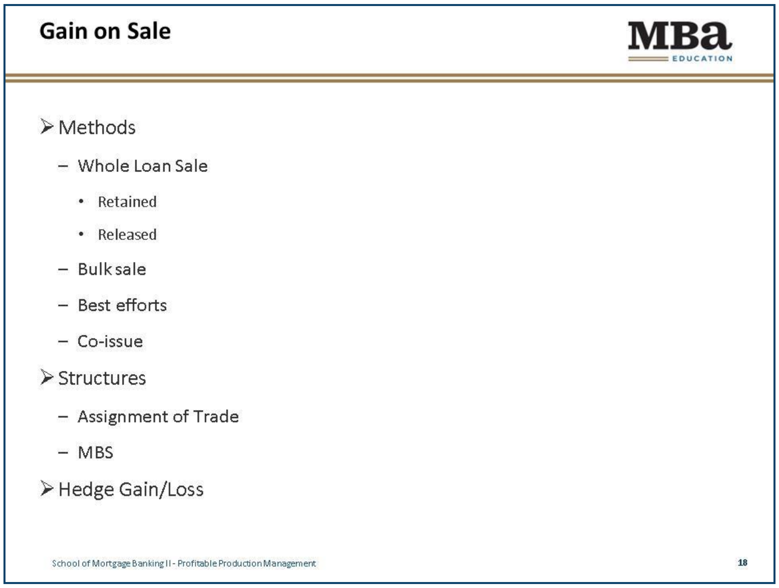


- *Note Rate* – Sets the rate of interest the consumer will pay from the first day the monies are extended on behalf of the borrower (closing).
- *Warehouse Rate* – The interest rate the originator will pay to the holder of its warehouse line for the period of time the loan is on the warehouse line. The difference between this rate and the rate paid by the borrower is interest income to the originator.
- *Administration Fees* – Should administrative fees be applicable and appropriate, they are another form of income.
- *Wire Fees* – paid for the privilege of sending payments by wire through a federal bank for funding a loan or by a consumer making a payment.

Net Warehousing Income (Net Interest Spread)



Gain on Sale

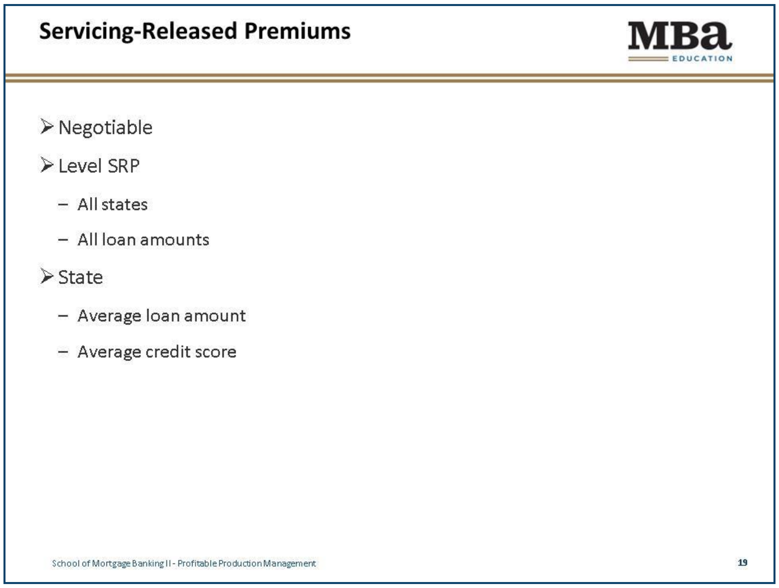


A gain on sale means the amount of money that the secondary marketing department might make by holding a loan (or a group of loans) and selling it at the precise time when the most money can be made on that sale. There is always the risk, however, that if the loan is not sold and the rates move away from us that a lender could be left in a short position without the coverage they need to sell that loan at a profit.

These terms will be discussed in more detail in the pricing and hedging sections.

- *Assignment of Trade (AOT)*
- *Mortgage Backed Security (MBS)*
- *Hedge Gain/Loss* – taken at the time the loan is sold
- *Whole Loan Sale* – Selling both the mortgage asset and the bundled servicing rights.
- *Bulk Sale* – Term used to describe when a block of loans are bought or sold.
- *Best Efforts* – Term used to describe using your “Best Efforts” to sell a loan for the best price and terms into the secondary market.
- *Co-Issue* – Term that indicates there is more than one entity involved in the issuance of a security.

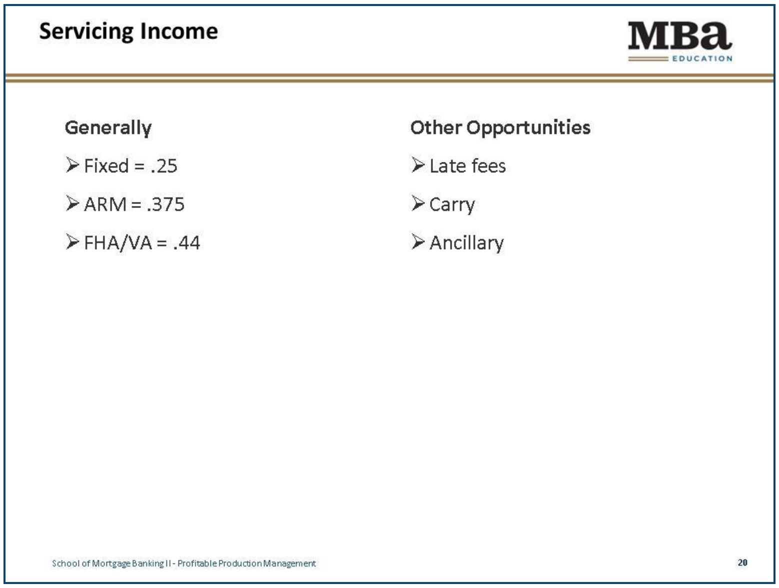
Servicing-Released Premiums (SRPS)



SRPs are somewhat negotiable, for example, level SRP might be negotiated where the investor pays the same level servicing released premium for all loans coming from all states and all different loan amounts. On the other hand, the investor may be interested in loans coming from a specific state; and as a result, negotiations may be based on the average loan amount or credit score.

While typical pricing strategies and models will include premiums for servicing retained or servicing released product, it is a matter of negotiation. In addition, an investor might “pay up” for servicing if there is a preference for a mortgage product from a particular part of the country or the investor wants to diversify geographic risk in a portfolio. Other factors might include product types, average loan amounts, LTVs, credit scores or other risk-related criteria.

Servicing Income



A servicer is generally paid 25bps on the unpaid principal balance for conventional fixed rate loans, 3/8th on adjustable rate loans, as they generally require a higher degree of touch and more disclosure, and 44 to 50bps on a FHA or VA loan, which traditionally carries a higher delinquency rates.

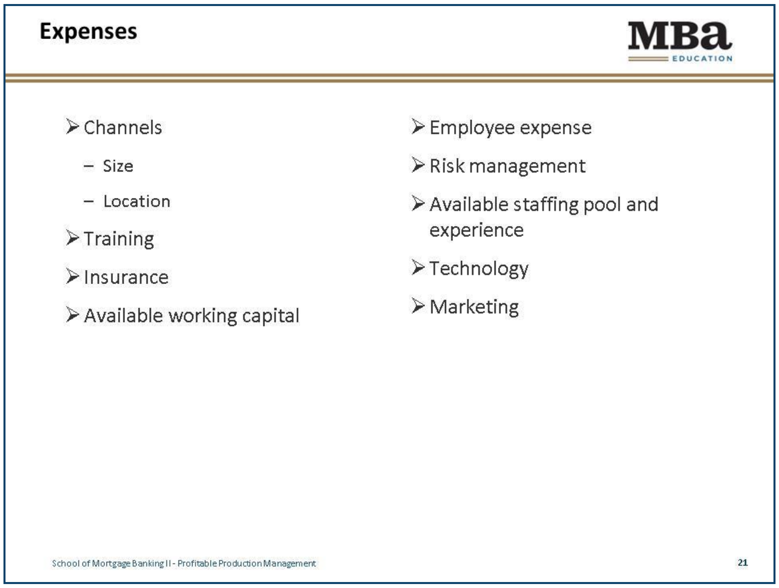
- *Late fees* – who gets to keep them is usually negotiated in the Servicing Agreement
- *Carry (float)* –Interest on the payments received
- *Ancillary fees* – e.g., amortization schedules, “special” servicing fees

Expenses

In this segment, we will look at the following topics:

- Main Expense Buckets
- Fully Loaded Production Expenses: Small and Mid-Sized Independents and Subs of Banks
- Expense Management (Tactical Overview)

Main Expense Buckets



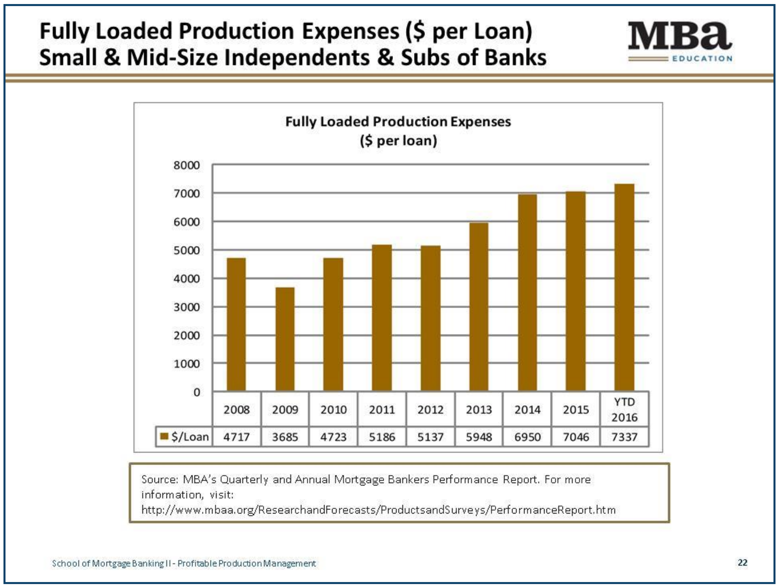
Now let's take a look at some of the main expense buckets.

Channels — Wholesale, retail, correspondent or some combination of these channels. Differences in production channels will affect costs and need to be considered against corresponding expenses and risk. For example, how is the business run – is it a centralized or decentralized environment?

The following should be considered as the business models are implemented:

- *Available working capital* – Is there enough money to run a successful mortgage banking firm and are the financial resources in place to sustain it?
- *Staffing /training issues* — Do you have the resources in house, or is it better outsourced/if you have some processes where specific expertise is needed?
- *Employee expense* – Attracting and retaining quality employees may be alternatively easy or difficult depending on who has gone out of business in your area and how skilled their employees are.
- *Technology issues* — processing software, accounting, marketing, word processing, networking, hardware, infrastructure to support servicing or do we outsource to subservicer?

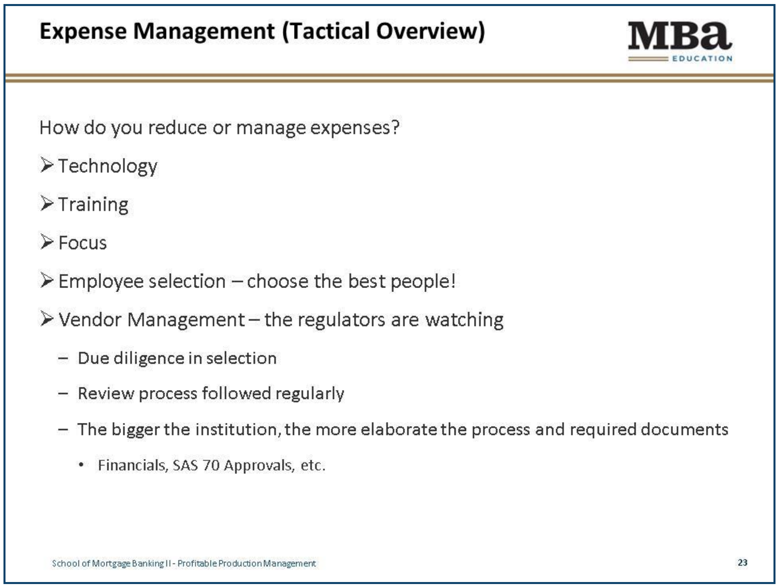
Fully Loaded Production Expenses - Small & Mid-Sized Independents & Subs of Banks



	2008	2009	2010	2011	2012	2013	2014	2015	YTD 2016
$/Loan	4717	3685	4723	5186	5137	5948	6950	7046	7337

Loan production is expensive and costs are rising. As a result, the assets created during the production process – the mortgage and the servicing rights – are critical to a mortgage company's fiscal sustainability.

Expense Management (Tactical Overview)



In order to reduce and successfully manage expenses, due diligence must be done. Talking to clients and vendors integrated with and providing services to the platform is key:

- Secure the best technology that your budget allows and maintaining a vendor relationship that provides for tight service levels, minimal downtime and the opportunity for continuous upgrades and training on how to maximize the use of the technology.
- Make sure that the focus is always targeted on how you do business profitably or how you would like to expand your business – not someone else's model.

Today, because of the constriction of the business, many good, experienced candidates are available in the job market. Be judicious in your selection of employees – look for people with solid track records, industry designations and experience with government, conventional and private mortgage insurance products. These are the role models who can help to train and mentor other new hires; and if you provide them with solid management training programs, you will create loyalty and retention.

Going Forward

In this segment, we will look at the following topics:

- Issues and Opportunities
- Emerging Opportunities
- The Value of Home Ownership
- Future Home Buyers
- What Keeps Renters From Buying

Issues and Opportunities

Issues and Opportunities

- Technology?
- Product Development?
- Cost containment?
- Consolidation?
- Available capital?
- Stability?
- Emerging Opportunities?

Emerging Opportunities

Emerging Opportunities

- Economic and Industry Shifts
  - Interest rate hikes
  - Major increase/decrease in refinance originations
- Demographic and Cultural Shifts
  - Growth in immigrant population
  - Overall growth among minorities
- Specific events in your market area

School of Mortgage Banking II - Profitable Production Management 25

Emerging Opportunities, cont.

- Local economy
- Income groups
- Small/large business focus
- Real estate sales and valuation changes
- Other?

School of Mortgage Banking II - Profitable Production Management 26

Have bank closings created opportunities for new market penetration? Are there opportunities for good FHA and VA business because of the demographics of an area? Communities once served by companies that have closed present an opportunity to develop marketing plans with developers or holders of condominium projects. First time homebuyer tax credits may have expired, but similar programs are available through neighborhood reinvestment plans.

What opportunities are you missing? Take a moment to analyze your customer base to see where their needs fall and how you may be able to assist them.

- How is your local economy doing? Is it strong?
- What are the income and employment opportunities?
- What are the local businesses focusing on (retooling manufacturing facilities, new business opportunities, etc.)?
- How have local property values been affected by supply and demand, default, current default trends?
- Are there other opportunities/difficulties that you see coming?

Recent shifts in both the economy and the industry have presented new and unprecedented challenges. Additional demographic and cultural changes have only added another layer of complexity to identifying "next steps" for the industry. As with all change, however, these challenges come with opportunity for markets to emerge that will serve an even broader and more diverse constituency. It will not happen overnight; it will take hard work, renewed internal and external communication and education for both industry professionals and consumers.

Think about the changes in the communities you serve. What is being done to reach out and begin to prepare consumers for stable homeownership, and what is being done to help keep existing borrowers in their homes?

The Value of Home Ownership

The Value of Homeownership

Studies show that homeownership is good for children:

"Our findings reaffirm the idea that homeownership, in and of itself, predicts positive outcomes for children. This result applies to the likelihood both of children remaining in school, and girls not bearing children as teenagers. This result survives adding controls for LTV ratio, for financial wealth, for state, region and time fixed effects, and, with possibly one exception, for dollar amount of down payment. Our results suggest that homeowners' children have better outcomes than renters' children, except for children of homeowners who made no down payment at all."

Source: Research Institute for Housing America Special Report Measuring the Benefits of Homeowning: Effects on Children Redux. Richard K. Green, Gary D. Painter (University of Southern California) and Michelle White (University of California at San Diego). http://www.housingamerica.org/Publications/MeasuringtheBenefitsofHomeowning:EffectsonChildrenRedux.htm

School of Mortgage Banking II - Profitable Production Management 27

A recent study from the University of Southern California, sponsored by MBA-affiliated Research Institute for Housing America (RIHA), shows correlation between a family's owning a home and positive outcomes for children, such as higher high school graduation rates and lower teen pregnancy rates for girls. This conclusion holds even when controlling for other factors and indicates that for families, homeownership, in and of itself, has a positive influence on children.

The Power of Home Ownership

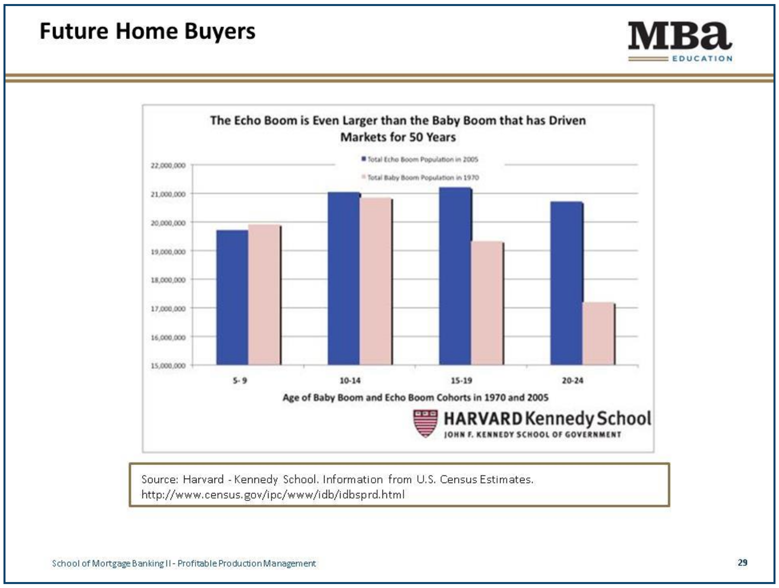
- Homework: please watch the following inspirational video about the power of homeownership and its role in the American Dream:
- Mitch Kider *"The Power of Home Ownership"* http://vimeo.com/41520285

School of Mortgage Banking II - Profitable Production Management 28

This video from a prominent attorney tells the personal story of his family's American Dream and notes the critical role of mortgage financing in helping them achieve it. Its message resonates powerfully in today's emerging markets, where the American Dream remains powerful among immigrants working to build a better life for their families.

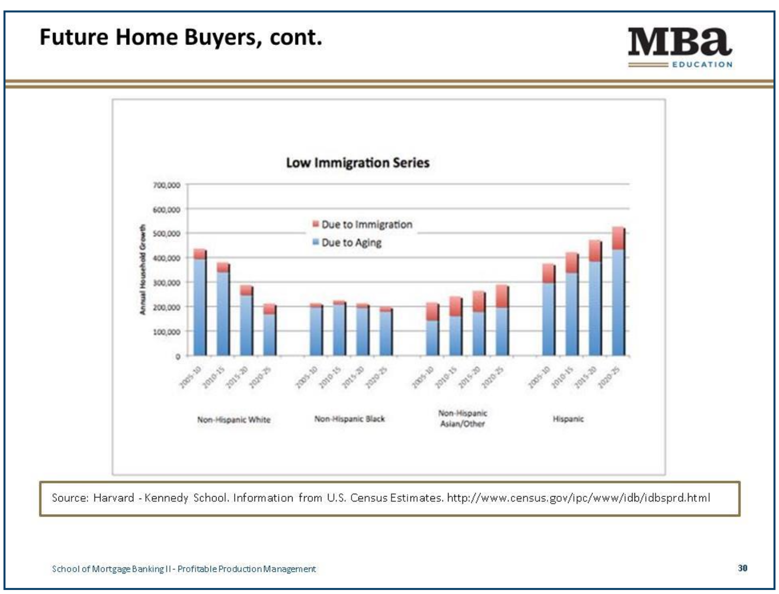
Please take a moment this evening to watch the video as a brief homework assignment.

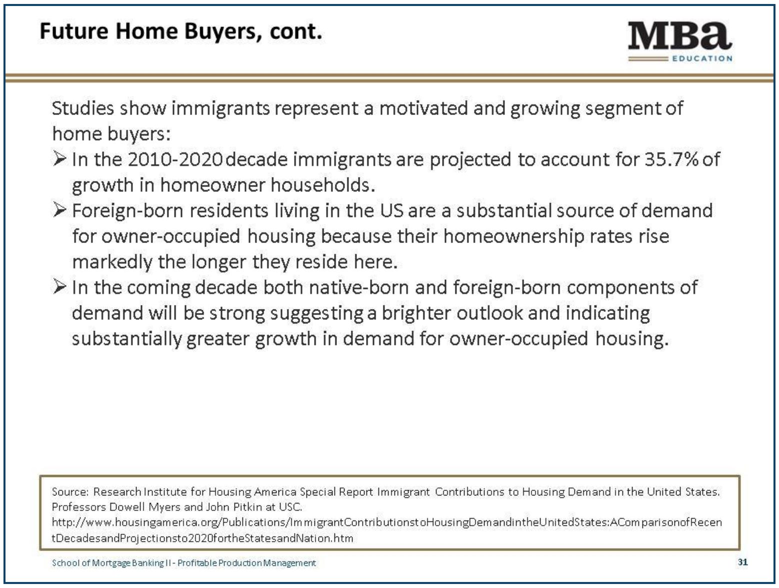
Future Home Buyers



“There will be 5 million more echo boomers than there were boomers when they first started swelling housing markets," said Eric Belsky, executive director of the Harvard University Joint Center for Housing Studies. As a result, household growth during the next 10 years should range between 12.5 million and 14.8 million, according to the report. All those new households mean demand for many new housing units.

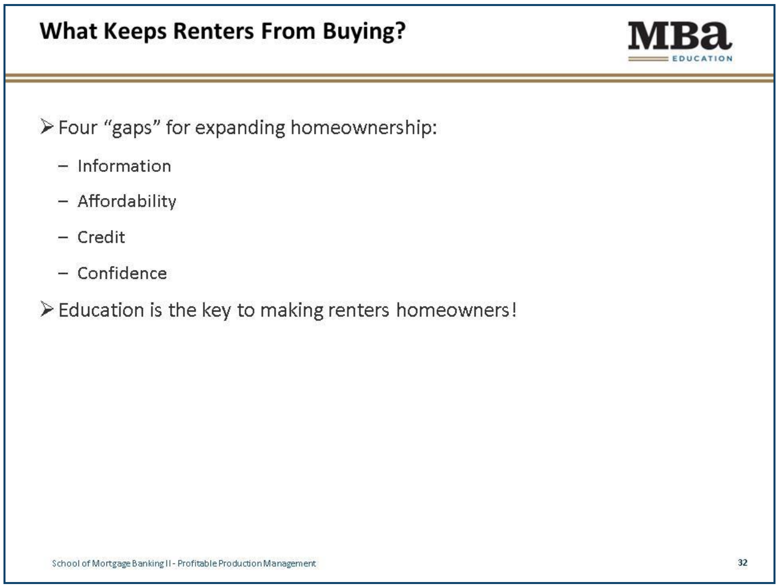
"This is a powerful, powerful underpinning of future demand" said Belsky.





The American Dream is alive and well. And as always, mortgage financing and the people who work in the industry play vital roles in helping people achieve it.

What Keeps Renters from Buying?



There are several factors keeping renters from pursuing the homeownership dream though it has been made clear by the recent “mortgage meltdown” that not everyone has the wherewithal to be a homeowner. The obstacles (perceived and real) that renters face when considering the path to homeownership can keep them in “renter” status indefinitely.

- **Information** –In many cases, the education of the consumer has been left to the media, which has a tendency to report on the more sensational aspects of the market rather than publicize the opportunities. In addition, often originators are not skilled in marketing to the borrowers who are renting. However, with all change comes the opportunity to adjust marketing plans and make education both internally and externally to the consumer a priority. Education needs to be a part of any strategic marketing plan.
- **Affordability** – while today’s low rates should be providing a path to homeownership, borrowers are still worried about whether they will have a job tomorrow – and how much house/mortgage they can really afford.
- **Credit** – Credit plays an even more definitive role in the mortgage industry going forward, as the economic environment has been cause to an increased number of people experiencing substantive difficulties:

  - Loss of employment or significant reduction in income
  - Divorce
  - Illness or some temporary hardship
  - Increased responsibilities which increased housing costs

Often, impaired credit may be the end result for those who are dealing with these circumstances. However, for potential borrowers who have maintained good credit there are significant opportunities for both low rates and great deals on properties with more rationalized asking prices as well as REO properties.

- **Confidence** – Recent statistics have proven that the tax credit made available to first-time homebuyers in 2009 and the extension into 2010 made a significant impact on housing purchases while the tax credit was in place.

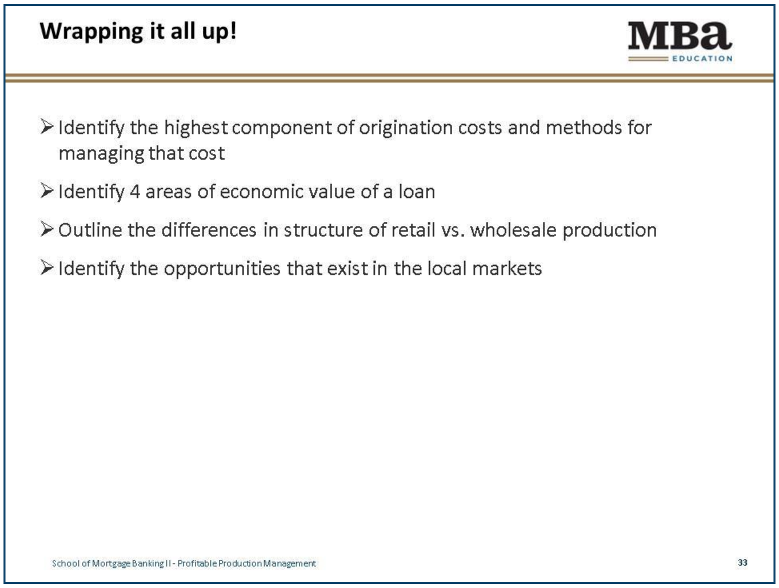
Education is the key; and low rates and available inventory make this market particularly appealing to a buyer who has maintained good credit and has money saved in order to make a down payment.

Profitable Production Management Practice

In this segment, we will look at the following topics:

- Wrapping It Up: Action Steps

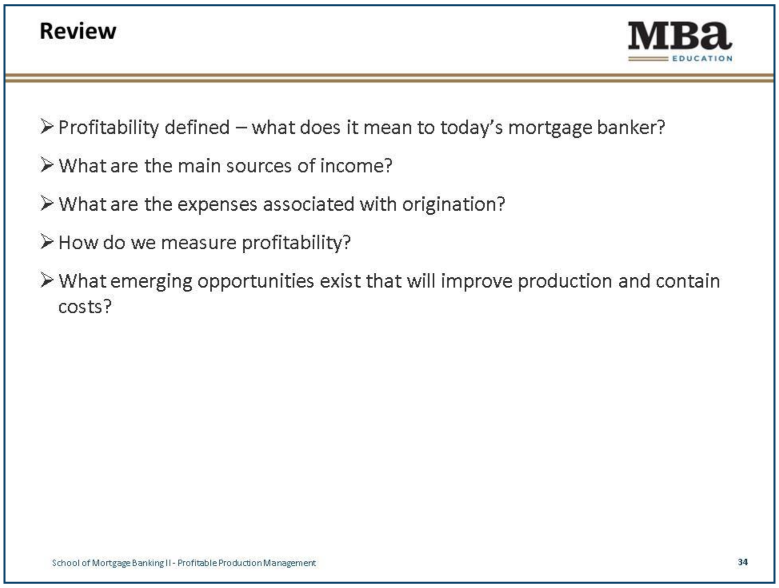
Wrapping It Up: Discussion



You will have a chance to use some of these ideas and put them into action in the case study you are about to do.

Put on your thinking caps and think outside of the traditional box!

Review



Objectives Review

Upon completion of this module, you will be able to:

- Define profitability.
- Understand what drives income.
- Analyze all of the expenses considered in a profitability analysis.
- Determine how profitability is measured.
- Explain how to determine the emerging markets in your footprint that fit both corporate strategy and operational soundness.

Session Evaluation

Class:
Module:
Instructor:
Date:

Instructor Evaluation

Please respond to the following statements using the numeric scale of:
4 - Strongly Agree **3** = Agree **2** = Disagree **1** = Strongly Disagree **N/A** = Not applicable

The instructor demonstrated a superior knowledge of the subject material.	
The instructor provided clear, comprehensive, and satisfactory answers to questions and allotted enough time to answer all questions.	
The instructor used a delivery and presentation style that inspired my attention and interest in the topic.	
The instructor successfully managed the session's time allotment.	

Course Materials and Content

The session felt well paced and allowed for effective knowledge, acquisition, and retention.	
The session content increased my comfort level with the subject matter.	
Interactive exercises such as practice and discussion questions, case studies, quizzes, etc., were engaging and helped me learn the material.	

Overall

With regard to overall content, presentation and delivery, I am satisfied with the value of this session.	

If there was any information you believe is erroneous or out-of-date that should be reviewed by a subject matter expert, please indicate the page number and/or slide title.

Please use the back of this page to provide any additional feedback you have.

Additional Feedback

Please add any additional comments you have.

Thank you for your valuable feedback!

Secondary Marketing Revisited

School of Mortgage Banking II

Table of Contents

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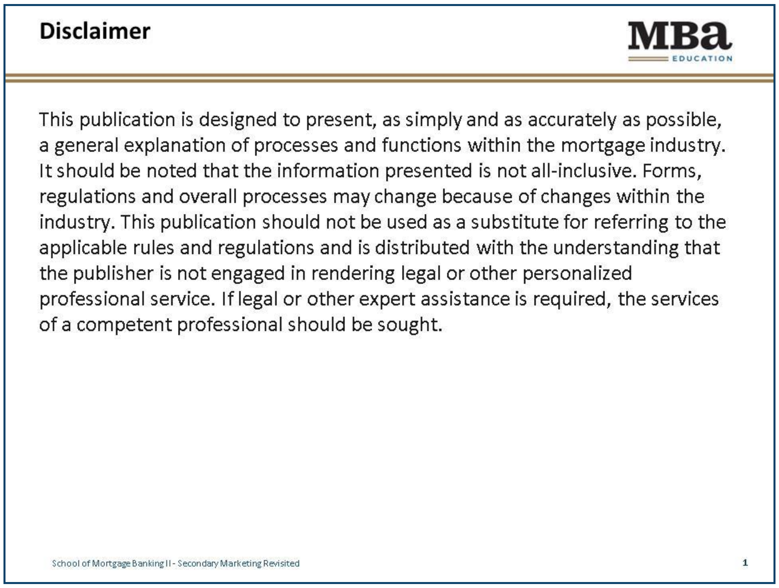
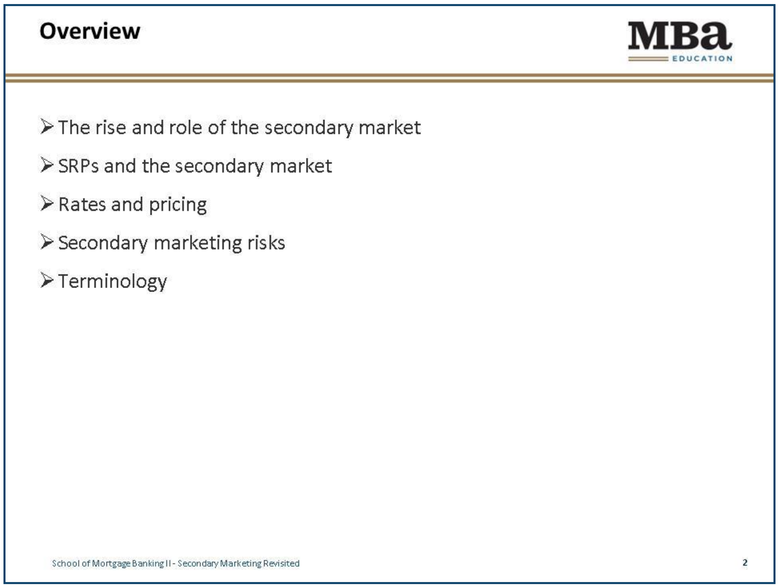


This publication is designed to present, as simply and as accurately as possible, a general explanation of processes and functions within the mortgage industry. It should be noted that the information presented is not all-inclusive. Forms, regulations and overall processes may change because of changes within the industry. This publication should not be used as a substitute for referring to the applicable rules and regulations and is distributed with the understanding that the publisher is not engaged in rendering legal or other personalized professional service. If legal or other expert assistance is required, the services of a competent professional should be sought.

Overview and Objectives

Overview



This module is designed to revisit the role of the secondary market and its participants. We will then turn to pricing and rates, discussing how leading economic indicators provide advance notice of the possibility of imminent rate changes. Next, we will consider secondary market risk and introduce terminology which will pave the way for in-depth discussions regarding pricing and hedging.

Objectives

Upon completion of this module, you will be able to:

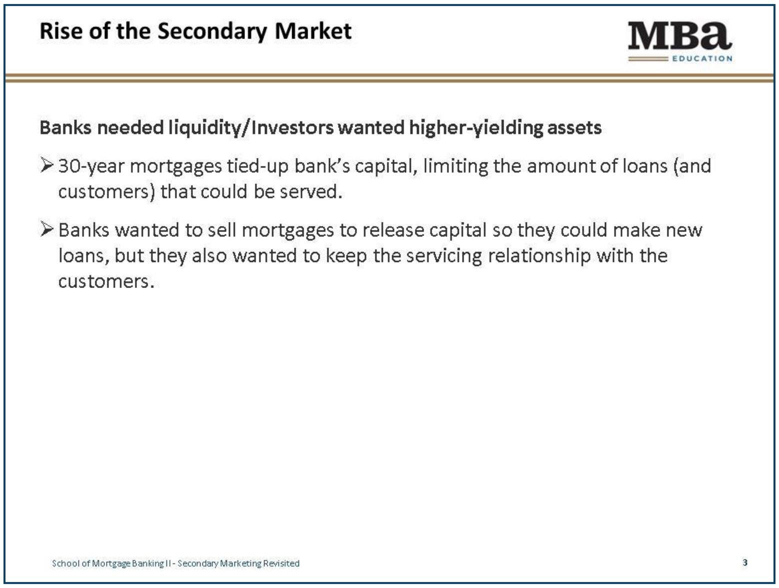
- Describe the role of the secondary market and its participants.
- Understand how pricing plays a pivotal role in setting rates.
- Describe secondary marketing risks.
- Understand basic pricing and hedging terminology.

Rise and Role of the Secondary Market

In this segment, we will look at the following topics:

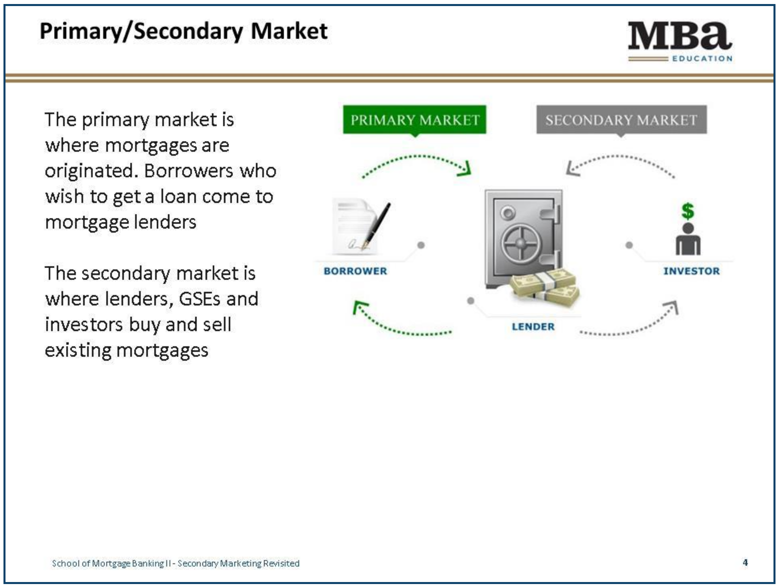
- Rise of the Secondary Market
- Primary/Secondary Market
- Exchange of Funds

Rise of the Secondary Market



The secondary market arose because banks could not keep funds tied up for thirty years, even if they were getting the interest income on that investment. The banks needed liquidity; but they also wanted to retain their relationship with their customers. So, they looked for investors who would buy the "asset" (the loan), while the banks retained the servicing rights and therefore their relationship with the borrowers. Banks that wanted to retain their relationships with customers but did not have the volume of servicing to achieve economies of scale opted to find a subservicer (to service loans on their behalf).

Primary/Secondary Market



The primary market is the market in which mortgages are made and includes transactions with consumers and homebuyers and homeowners. The secondary market is where mortgages are traded and mortgage lenders and other financial intermediaries transact with investors, buying and selling existing mortgages.

This diagram enables you to see the relationships between the players in the primary and secondary mortgage markets.

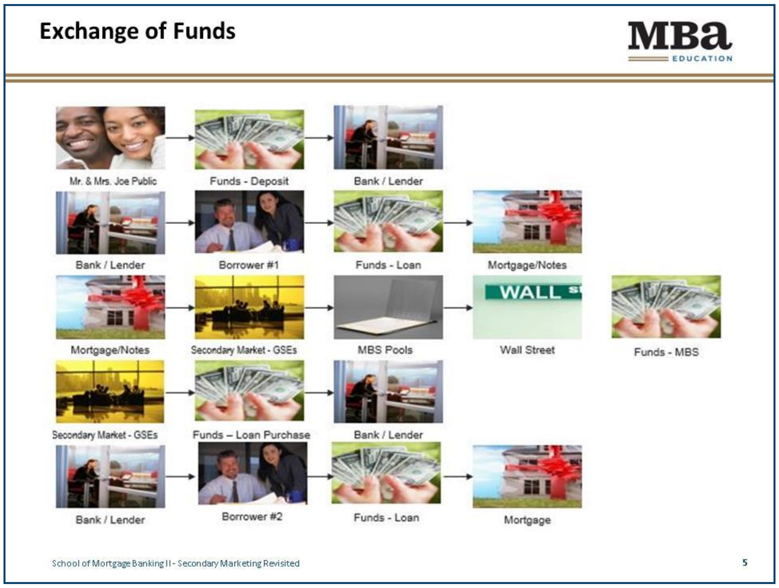
The loan process could begin with either a mortgage broker or a mortgage lender:

- *Mortgage broker* – does not close with own funds; places loan with mortgage lender
- *Mortgage lender* – closes with own funds, i.e., warehouse funds or other short term borrowings

The investor role could be played by an “Agency” or conduit:

- *Agency* – GSE (Government Sponsored Enterprise) Fannie Mae, Freddie Mac, Ginnie Mae, FHLB; conforming and government loans
- *Conduit* – aggregates mortgages – may securitize or sell to agency; non-conforming mortgages: jumbo, alt-a, subprime

Exchange of Funds



Secondary Marketing generates the investment funds which enable the cycle of mortgage lending to continue. Many view secondary marketing as the starting point of the mortgage banking process because the funds for the lending cycle begin here. The funds are generated through mortgage-backed securities issued by organizations called government sponsored enterprises (GSEs) and by private investors. These groups purchase pools of mortgages from lenders and other intermediaries in the mortgage banking process.

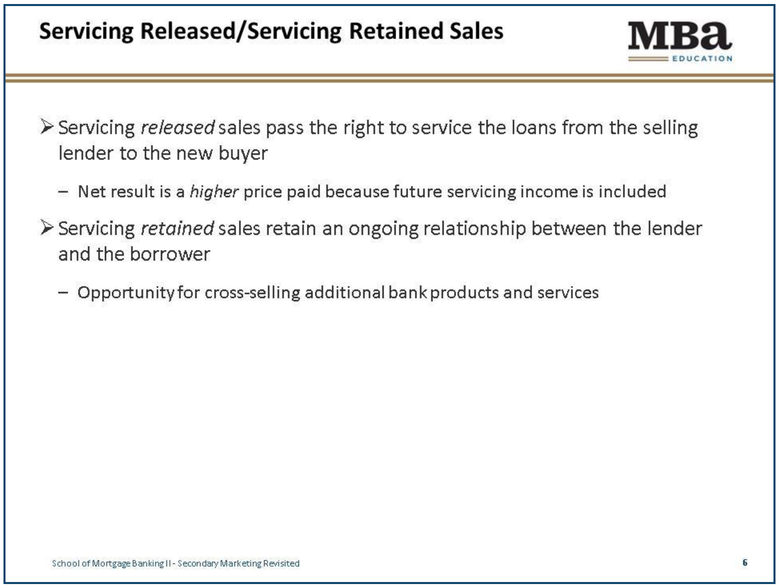
An **"exchange of funds"** is simply secondary marketing as the driver for an ongoing exchange of funds between consumers, lenders, and investors.
The exchange of funds displays the various players in each step engaged in creating the mortgage transaction. The mortgage note is sold to investors and/or mortgage backed security pools (MBS) which are sold via Wall Street. The funds from the MBS sales repay the investor, which in turn repays the lender who prepares to loan the funds again. This exchange of funds cycle continues to repeat itself.

SRPs and the Secondary Market

In this segment, we will look at the following topics:

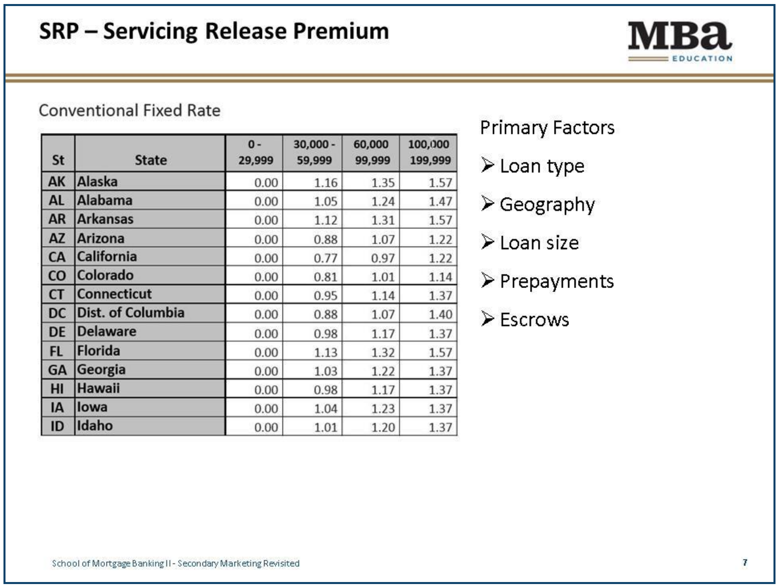
- Servicing Released/Servicing Retained Sales
- SRPs

Servicing Released/Servicing Retained Sales



Making the decision to sell a loan servicing released or servicing retained not only has an impact on what the aggregator/investor will pay for the loan, but on what your costs will be based as well. The important criteria remains – does this decision fit with your corporate strategy and are the costs balanced by the potential income?

SRPs



St	State	0 - 29,999	30,000 - 59,999	60,000 99,999	100,000 199,999
AK	Alaska	0.00	1.16	1.35	1.57
AL	Alabama	0.00	1.05	1.24	1.47
AR	Arkansas	0.00	1.12	1.31	1.57
AZ	Arizona	0.00	0.88	1.07	1.22
CA	California	0.00	0.77	0.97	1.22
CO	Colorado	0.00	0.81	1.01	1.14
CT	Connecticut	0.00	0.95	1.14	1.37
DC	Dist. of Columbia	0.00	0.88	1.07	1.40
DE	Delaware	0.00	0.98	1.17	1.37
FL	Florida	0.00	1.13	1.32	1.57
GA	Georgia	0.00	1.03	1.22	1.37
HI	Hawaii	0.00	0.98	1.17	1.37
IA	Iowa	0.00	1.04	1.23	1.37
ID	Idaho	0.00	1.01	1.20	1.37

This chart represents the differences in pricing that may result because of the variations in the listed primary factors. Today, with the unprecedented issues created by widespread defaults in areas that have experienced the most significant depreciation, investors are more wary than ever before. Loan size alone does not satisfy the appetite of an investor interested in a stable portfolio of loans.

Rates and Pricing

In this segment, we will look at the following topics:

- Price Discovery: Whole Loan Pricing
- Whole Loan Pricing: All-In Price
- Discount/Premium Pricing
- What Do Borrowers Pay?
- Interest Rate Determinants
- Economic Indicators

Price Discovery: Whole Loan Pricing

Price Discovery: Whole Loan Pricing

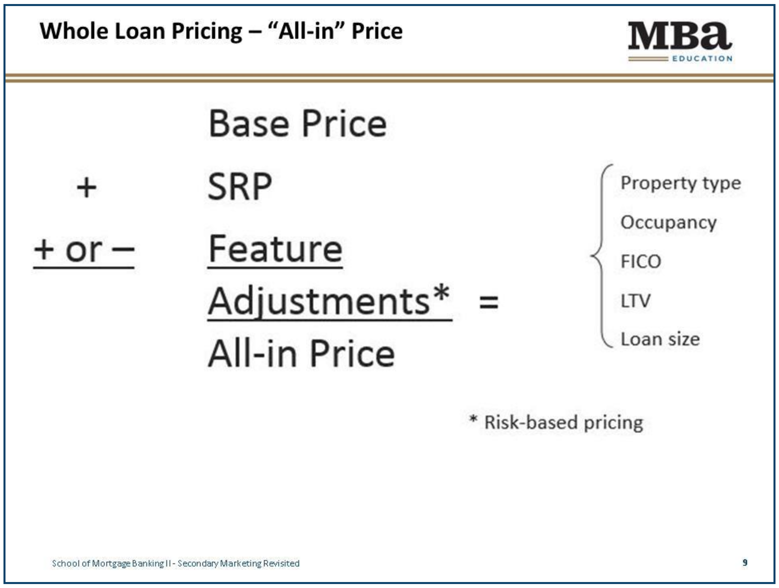
Note: Price is expressed as % of Principal Balance

AGENCY FIXED 30YR					
Rate	**15-Day**	**30-Day**	**45-Day**	**60-Day**	**75-Day**
3.875	98.204	98.141	98.079	98.016	97.954
4.000	98.656	98.593	98.531	98.468	98.406
4.125	99.301	99.238	99.176	99.113	99.051
4.250	99.715	99.652	99.590	99.527	99.465
4.375	100.173	100.110	99.048	99.985	99.923
4.500	100.421	100.359	100.296	100.234	100.171
4.625	100.778	100.715	100.653	100.590	100.528
4.750	101.109	100.046	100.984	100.921	100.859
4.875	101.580	101.517	101.455	101.392	101.330

School of Mortgage Banking II - Secondary Marketing Revisited 8

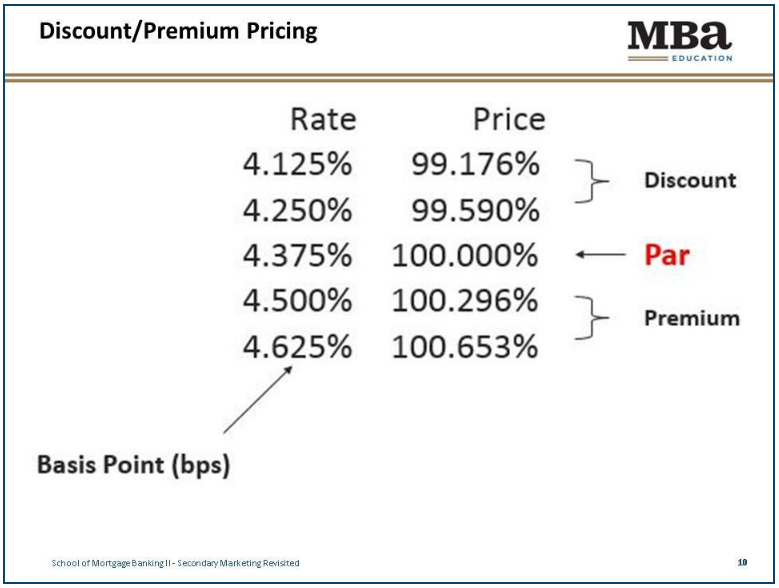
An originator will be paid more for the delivery of the whole loan that only requires rate protection for a short period of time. For example, on this chart if an originator were selling an individual unsecured loan to an investor at a rate of 4.500% and only need protection for 15 days to deliver that loan, they would be paid .421 over par *(as the rate lock price for a whole loan @ 4.50% for 15 days was 100.421 or par plus .421)*. The higher the rate on the loan being delivered and the less time it takes to deliver, the higher the price the investor will pay for that loan.

Whole Loan Pricing: All-In Price



Risk-based pricing is foremost in the minds of investors today. Investors will pay more for a loan that has a higher possibility of performing for the expected life of that loan, or for the mortgage-backed security backed by high quality, owner-occupied, fully documented loans with lower LTVs escrows and good credit scores.

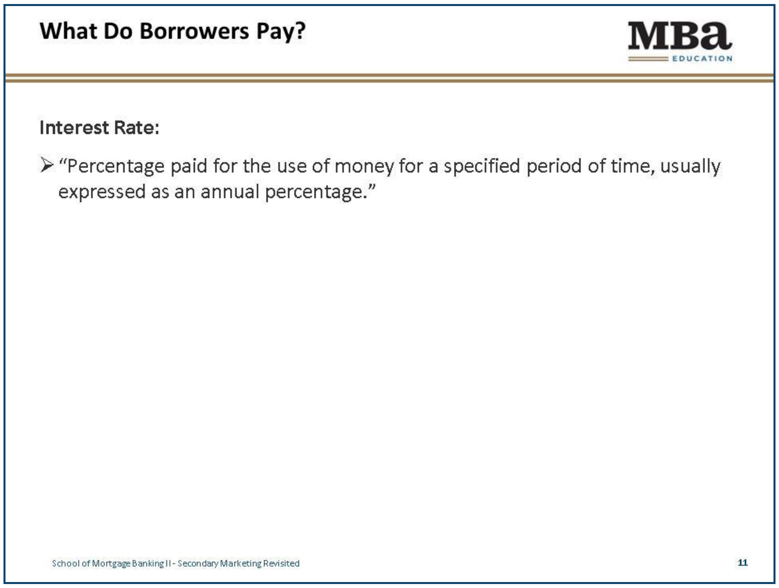
Discount/Premium Pricing



In this illustration, circumstance or market conditions may be affecting this pricing. Note that the below par rates are calculated at about 41bps difference in price for a difference of 1/8th in rate, while for the above par pricing, the difference drops to about 36pbs for a difference of an 1/8th in rate.

These variations change constantly as loans are traded in the secondary market; and while we have not dealt with that kind of volatility recently, secondary marketing managers must be vigilant about keeping their eye on leading indicators.

What Do Borrowers Pay?



Borrowers pay a market rate adjusted by the amount of points they are willing to pay in order to adjust the rate. Each point or one percent of the mortgage amount is called a discount point and buys the rate up or down depending on the market and the borrower's rate tolerance.

Interest Rate Determinants

Interest Rate Determinants

MBa EDUCATION

Interest Rate - Format

- Interest Rate - Format
- For a specified period of time

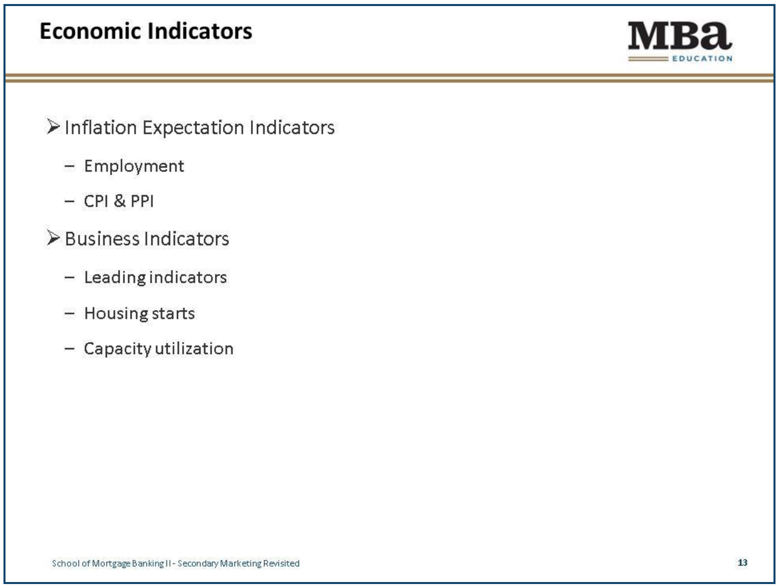
Interest Rate Determinants

- Supply of funds
- Demand for funds
- Inflation
- Risk (default, prepayment, liquidity)
- Taxes
- Appetite for specific product

School of Mortgage Banking II - Secondary Marketing Revisited 12

Today, interest rates have fallen significantly to unprecedented lows. However, the industry is still recovering from the shock of reverting to very tight underwriting standards and credit risk underwriting, which has slowed production. Going back to responsible underwriting guidelines, significant down payments or mortgage insurance as compensating factors, and/or full documentation requirements will have a significant impact on the borrower’s rate and impact the investor’s appetite to buy.

Economic Indicators



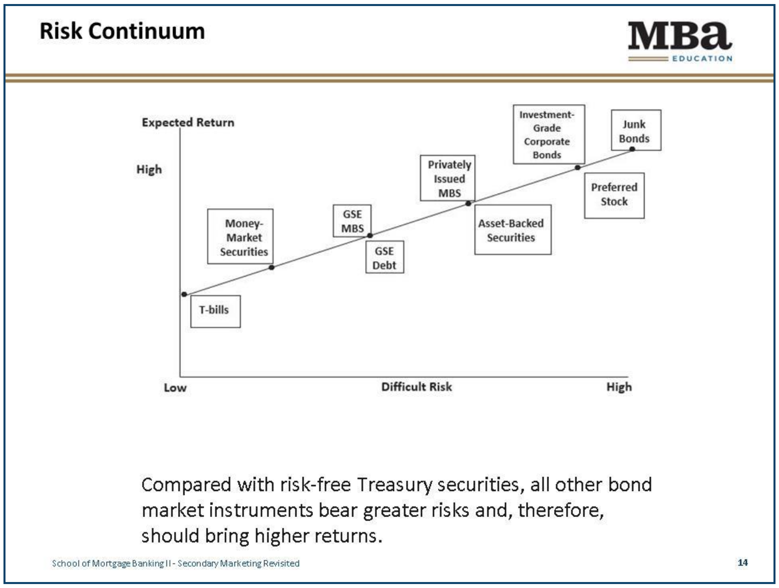
These are the economic indicators that secondary marketing managers look at every day in order to anticipate movement in the markets that will affect interest rates directly.

Secondary Marketing Risks

In this segment, we will look at the following topics:

- Risk Continuum (Topic)

Risk Continuum



In the past, traditional thinking was that compared with risk-free Treasury securities, all other bond market instruments bear greater risk and, therefore, should bring higher returns. However, the performance of GSE MBSs, GSE debt, privately issued MBS, and many other asset-backed securities (involving real property) have been at extraordinary risk over the past two and a half years.

Terminology

In this segment, we will look at the following topics:

- Terminology (Topic)

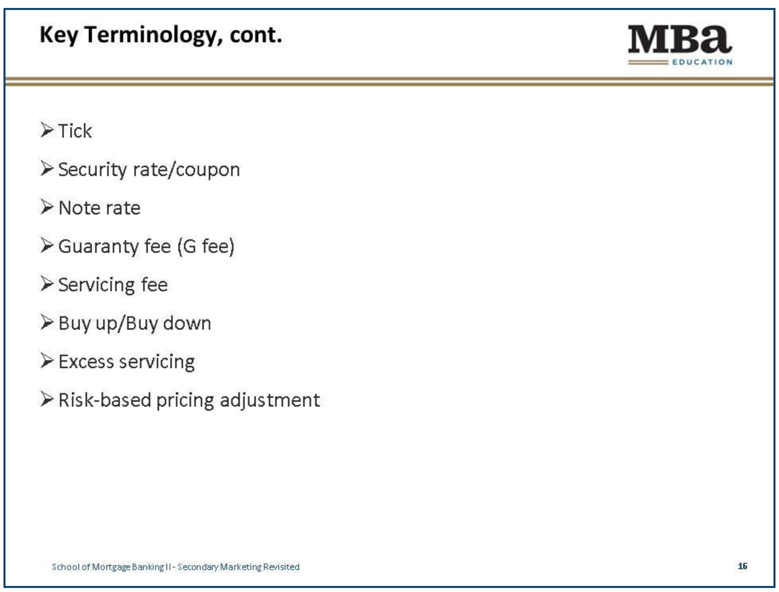
Terminology

Key Terminology

- Basis point
- Par
- Discount
- Premium
- SRP
- Net pricing

Most definitions below can be found in the 10th Edition of the *Mortgage Banking Glossary* published by the Mortgage Bankers Association.

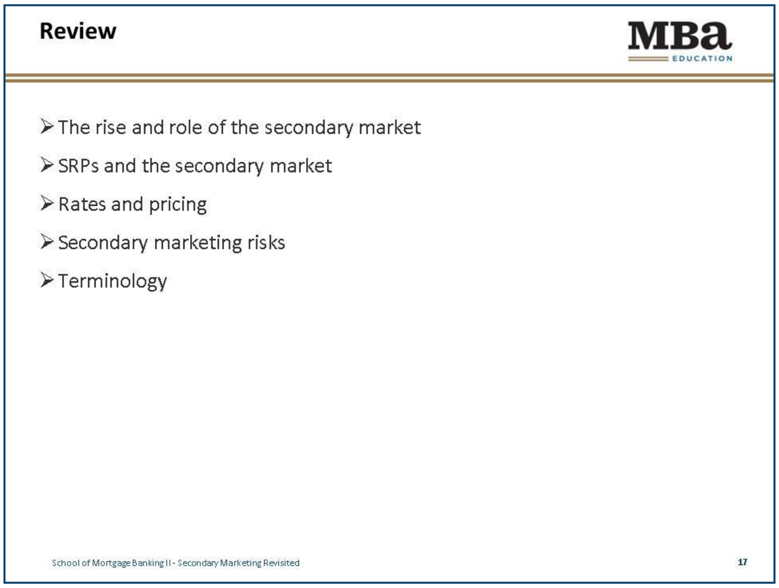
- *Basis point* – One one-hundredth of one percent.
- *Par* – A price of 100% of face value.
- *Discount* – In loan originations, a discount refers to an amount withheld from the loan proceeds by the lender. In secondary market sales, a discount is the amount by which the sale price of a note is less than its face value. In both instances, the purpose is to adjust the yield upward, either in lieu of interest or in addition to interest. The rate or amount of the discount depends on money market conditions, the credit of the borrower, and the rate or terms of the note.
- *Premium* – An amount paid, often in addition to the interest, to secure a loan.
- *Servicing Released Premium* – is a premium paid by an Investor to the originator or seller of a loan for the release of the servicing rights as well as the loan itself. This acquisition is desirable to the Investor as it represents a stream of income in addition to the payment of principal and interest on the loan itself. And it is also beneficial to the originating lender as it represents an additional premium paid to them for releasing those servicing rights.
- *Net Pricing* – this would represent the price paid for a loan minus the discount.



Most definitions below can be found in the 10th Edition of the *Mortgage Banking Glossary* published by the Mortgage Bankers Association.

- *Tick* – A minimum change in price – up or down. In the mortgage securities market, a tick is generally measured in 1/32 of a point.
- *Security rate/coupon rate* – The rate stated on the face of the security and not necessarily the rate of the mortgages in the pool backing that security.
- *Note rate* – The rate stated in the note which evidences the borrowers personal obligation to pay the loan back at the stated note rate.
- *Guaranty fee (G fee)* – The price for guaranteeing to an investor the timely payment of principal and interest from all of the mortgages underlying a mortgage-backed security.
- *Servicing fee* – The fee earned by a servicer for administering a loan for an investor, usually expressed as a percentage of the unpaid principal balance of the loan and deducted from the monthly mortgage payment.
- *Buy up* –up-front payment to a loan seller in exchange for a higher guarantee fee.
- *Buy down* – is a term used to describe a mortgage with a below market rate made in return for an interest rate subsidy or fee paid by the builder, seller or buyer. The term is also used to simply refer to buying down a rate for a corresponding fee.
- *Excess servicing* – Cash flows from servicing portfolios which are greater than the costs incurred to service the loan contained therein.
- *Risk-based pricing adjustment* – An adjustment added to the rate of return required to attract capital (an investor) to a particular investment.
- *MBS – Mortgage Backed Security* – is an investment instrument backed by mortgage loans as security. Ownership is evidenced by an undivided interest in a pool of mortgages or trust deeds.
- *CMO/REMIC – Collateralized Mortgage Obligation/Real Estate Mortgage Investment Conduit* – specialized securities that can be structured to meet specific investor cash-flow requirements

Review



Objectives Review

Upon completion of this module, you will be able to:

- Describe the role of the secondary market and its participants.
- Understand how pricing plays a pivotal role in setting rates.
- Describe secondary marketing risks.
- Understand basic pricing and hedging terminology.

Session Evaluation

Class:
Module:
Instructor:
Date:

Instructor Evaluation

Please respond to the following statements using the numeric scale of:
4 - Strongly Agree **3** = Agree **2** = Disagree **1** = Strongly Disagree **N/A** = Not applicable

The instructor demonstrated a superior knowledge of the subject material.	
The instructor provided clear, comprehensive, and satisfactory answers to questions and allotted enough time to answer all questions.	
The instructor used a delivery and presentation style that inspired my attention and interest in the topic.	
The instructor successfully managed the session's time allotment.	

Course Materials and Content

The session felt well paced and allowed for effective knowledge, acquisition, and retention.	
The session content increased my comfort level with the subject matter.	
Interactive exercises such as practice and discussion questions, case studies, quizzes, etc., were engaging and helped me learn the material.	

Overall

With regard to overall content, presentation and delivery, I am satisfied with the value of this session.	

If there was any information you believe is erroneous or out-of-date that should be reviewed by a subject matter expert, please indicate the page number and/or slide title.

Please use the back of this page to provide any additional feedback you have.

Additional Feedback

Please add any additional comments you have.

Thank you for your valuable feedback!

MBSs & CMOs

School of Mortgage Banking II

Table of Contents

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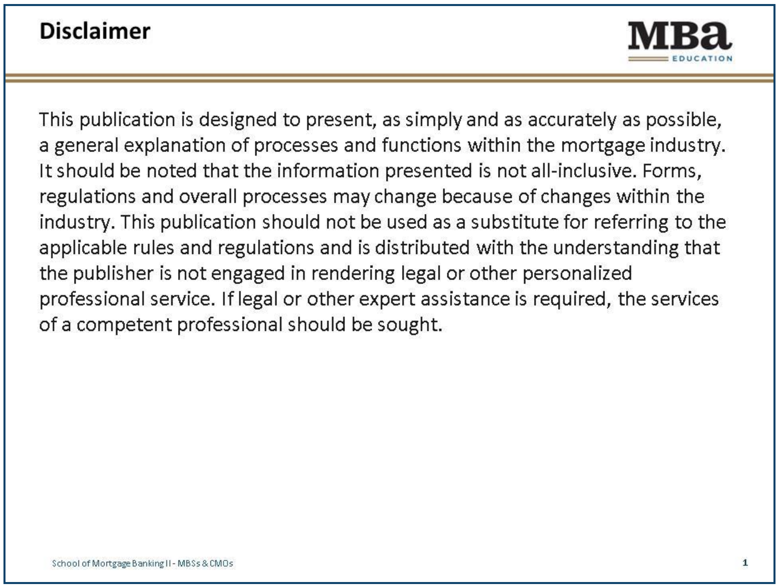
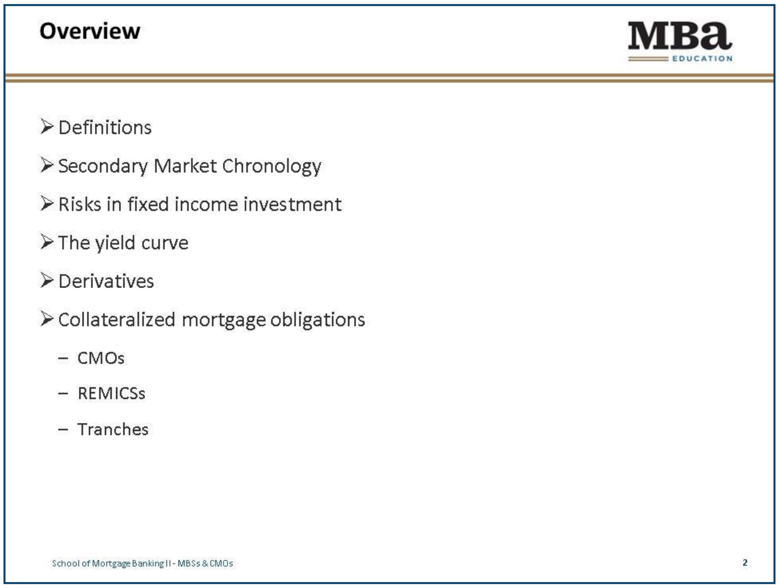


This publication is designed to present, as simply and as accurately as possible, a general explanation of processes and functions within the mortgage industry. It should be noted that the information presented is not all-inclusive. Forms, regulations and overall processes may change because of changes within the industry. This publication should not be used as a substitute for referring to the applicable rules and regulations and is distributed with the understanding that the publisher is not engaged in rendering legal or other personalized professional service. If legal or other expert assistance is required, the services of a competent professional should be sought.

Overview and Objectives

Overview



This module is designed to key terminology used in the process of securitization, explore the evolution of the capital markets, and look at the risks associated with producing and delivering fixed income investments. We will look at the history of interest rates by examining the yield curve, and how that rate fluctuation impacts investments. Finally, we'll describe the instruments themselves and explain the use of derivatives, CMOs, REMICs and tranches.

Objectives

Upon completion of this module, you will be able to:

- Define key terms in the securitization process.
- Discuss the evolution of capital markets.
- Understand the risks associated with fixed income investments
- Explain what a yield curve is and how it functions to track interest rates and yield on investments.
- Have an understanding of derivatives, CMOs, REMICs and tranches and how they are used.

Definitions

In this segment, we will look at the following topics:

- Definitions

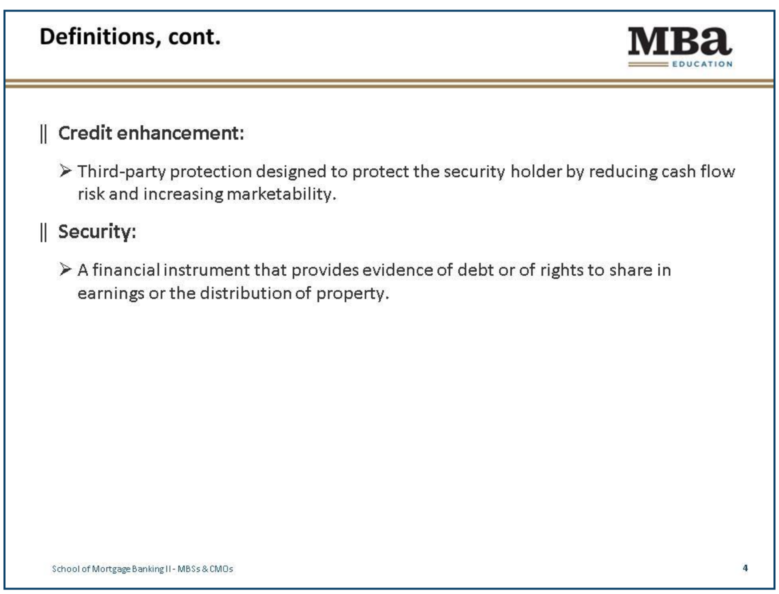
Definitions

Definitions

- **Mortgage-backed security (MBS):**
  - An investment security representing an undivided interest in a pool of mortgages.
- **Pass-through security:**
  - An investment vehicle in which the cash-flow is "passed through" to the investor (i.e., the holder of the security) as it is received.
- **GNMA security:**
  - A fully modified pass-through security which is backed by the full faith and credit of the United States government.

The definitions below are from the 10th Edition of *Mortgage Banking Terms*, published by the Mortgage Bankers Association.

- *Mortgage-backed security* – An investment instrument backed by mortgage loans as security. Ownership is evidenced by an undivided interest in a pool of mortgages or trust deeds. Income from the underlying mortgages is used to pay interest and principal on the securities.
- *Pass-through security* – An investment vehicle in which the cash-flow is “passed through” to the investor (i.e. the holder of the security) as it is received.
- *GNMA security* – A fully modified pass-through security, which is backed by the full faith and credit of the United States Government.
- *Credit enhancement* – Third-party protection designed to protect the security holder by reducing cash flow risk and increasing marketability i.e. pool insurance through a private mortgage insurance company.
- *Security* – A financial instrument that provides evidence of debt or of rights to share in earnings or the distribution of property.
- *Payment delay* – Time lag between the receipt of mortgage payments from borrowers and the remittance of moneys payable to mortgage-backed security (MBS) investors.
- *Private label security* – A security issued by a private entity. The issuer’s balance sheet guarantees the security.
- *FNMA MBS* – A pass-through security that guarantees the timely payment of principal and interest and is backed by Fannie Mae’s U.S. Agency (GSE) status.
- *FHLMC PC* – A pass-through security that guarantees the timely payment of principal and interest and is backed by Freddie Mac’s U.S. Agency (GSE) status.



Definitions, cont.

- **Payment delay:**
  - Time lag between the receipt of mortgage payments from borrowers and the remittance of moneys payable to MBS investors.
- **Private label security:**
  - A security issued by a private entity. The issuer's balance sheet guarantees the security.

Definitions, cont.

- **FNMA MBS:**
  - A pass-through security which guarantees the timely payment of principal and interest and is backed by Fannie Mae's U.S. Agency (GSE) status.
- **FHLMC PC:**
  - A pass-through security which guarantees the timely payment of principal and interest and is backed by Freddie Mac's U.S. Agency (GSE) status.

Secondary Market Chronology

In this segment, we will look at the following topics:

- Secondary Market Chronology

Secondary Market Chronology

Secondary Market Chronology

- 1934 – Federal Housing Administration (FHA) created to insure U.S. home mortgages
- 1938 – Federal National Mortgage Association (FNMA) created to purchase FHA-insured mortgages
- 1944 – Veteran's Administration (VA) program established to guarantee mortgages for veterans of military service
- 1948 – Fannie Mae begins purchasing VA mortgages
- 1957 – Federal Home Loan Bank Board (FHLBB) permits sale and purchase of participation interest in mortgages

School of Mortgage Banking II - MBSs & CMOs 7

This chronology reflects milestones in the development of the secondary mortgage market capability.

Secondary Market Chronology, cont.

- 1968 – Fannie Mae converted to a private corporation. Its mortgage-guarantee program through the Department of Housing and Urban Development is assumed by the newly formed Government National Mortgage Association (GNMA or Ginnie Mae)
- 1970 – Federal Home Loan Mortgage Corporation (FHLMC) created to develop a secondary market for conventional mortgages
  - Ginnie Mae issues first publicly traded pass-through certificate backed by FHA & VA mortgages

School of Mortgage Banking II - MBSs & CMOs 8

Secondary Market Chronology, cont.

- 1973 – Fannie Mae and Freddie Mac introduce standard mortgage application and appraisal reports for the lending industry
- 1977 – Bank of America issues the first publicly traded pass-through certificate that does not rely on government backing
- 1981 – Freddie Mac introduces a mortgage swap program by which lenders can trade loans for interest in participation certificates

Secondary Market Chronology, cont.

- 1987 – First Collateralized Debt Obligation (CDO) issued by Imperial Savings Association. During the '90s, they become the fasting growing sector of the securities market.
- 1987 – Fannie Mae issued the first Real Estate Mortgage Investment Conduit (REMIC)
- 1990 – Traditional mortgage powers like Citibank and Countrywide, along with corporate giants like Merrill Lynch and Sears became more active in the secondary market, bypassing the traditional process of Fannie Mae and Freddie Mac and creating what would become known as "Private Label Securities."

Secondary Market Chronology, cont.

- 1991 – Secondary market for conventional mortgages exceeds $800 billion. About $3 trillion in mortgage securities are traded worldwide.
- 1997 – The first Credit Default Swap (CDS) is introduced by JP Morgan.
- 1998 – Originations topped $1 trillion for the first time.
- 2001 – Originations topped $2 trillion
- 2003 – Originations peak at $3.8 trillion

School of Mortgage Banking II - MBSs & CMOs 11

Secondary Market Chronology, cont.

- 2006 —Home values in most areas peak and start to decline.
- 2007 – Delinquencies in subprime market begin to increase and large subprime lenders being to fail, triggering a loss of confidence in the MBS market. Fear spreads and capital begins to freeze.
- 2008 – Credit markets are in turmoil. The market for private label securities dries up, along with many mortgage products. Fannie Mae, Freddie Mac and the US government programs for FHA loans became the main outlet for mortgages.

School of Mortgage Banking II - MBSs & CMOs 12

Secondary Market Chronology, cont.

- 2008 – Originations = $1.5 trillion
- September 8, 2008 – The US Government placed Fannie Mae and Freddie Mac under government conservatorship, making the government responsible for the $6 trillion in mortgages that the agencies owned or guaranteed.
- 2009 – Present
  - Origination has held consistently around 1.3 trillion
  - Discussion and activity has focused on two themes:
    - What should become of the GSEs
    - How to bring private capital back into the secondary mortgage market

Risks in Fixed-Income Investment

In this segment, we will look at the following topics:

- Types of Fixed-Income Risk

Types of Fixed-Income Risk

Types of Fixed Income Risk

Interest rate	• As rates go up, prices go down.
Credit	• Will the issuer repay?
Inflation	• How much will $1 buy in 1 or more years?
Reinvestment	• At what rate will you reinvest interim cash flows
Call/prepayment	• Will debt be retired before maturity date?
Liquidity	• How quickly can you sell the security?
Payment delay	• How long does it take for security holder to receive P&I payments from issuer?

School of Mortgage Banking II - MBSs & CMOs 14

One might think that having income fixed at a reasonable rate of return on an investment provides for some comfort in the valuation of one's assets; however, the market creates a framework in which those investments are constantly evaluated. There is risk inherent in market fluctuation, especially dramatic swings.

Let's consider some of the consequences and risks.

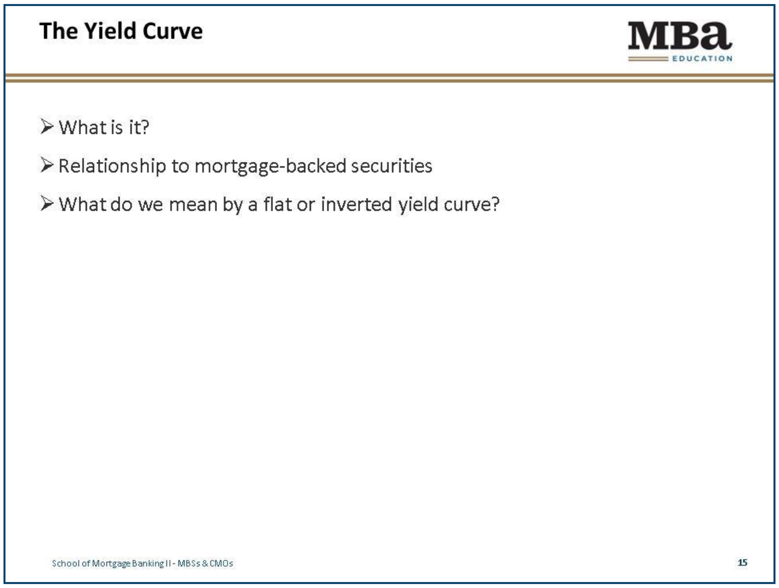
- Interest Rate - increases and decreases
- Credit – how credit worthy is the issuer?
- Inflation – how will inflation affect the value of the investment
- Reinvestment – interim cash flows
- Call/prepayments – how does current environment impact?
- Liquidity – value vs. time
- Payment delays – purchase to payment time

The Yield Curve

In this segment, we will look at the following topics:

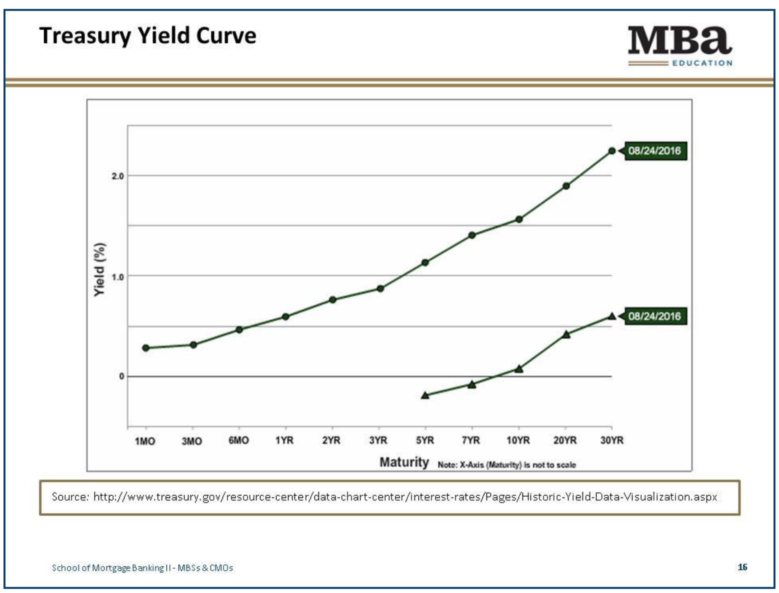
- The Yield Curve
- Spread between Secondary Mortgage Market and Treasury Rates

The Yield Curve



A yield curve is nothing more than the graphic representation of market yield for a fixed income security plotted against the maturity of the security.

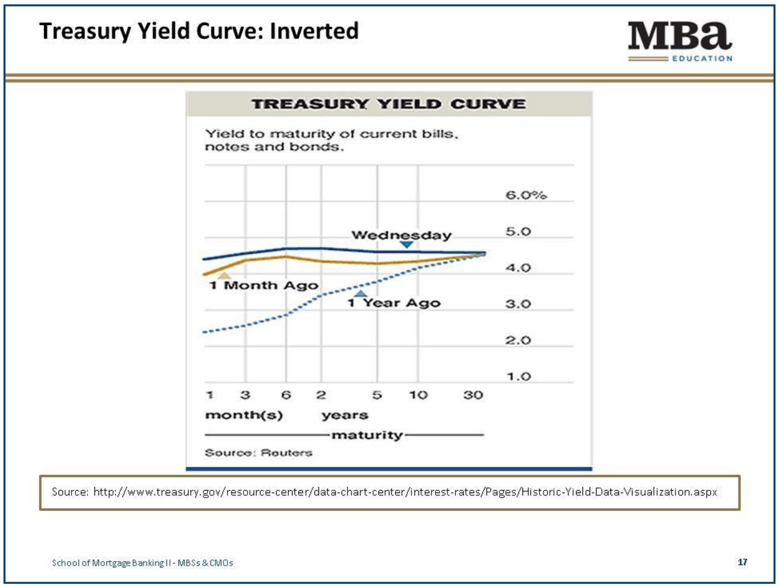
Current Treasury Yield Curve



This graph from the Treasury web site (www.treasury.gov) tracks the yield to maturity of constant treasury bills, notes and bonds over a condensed period of time.

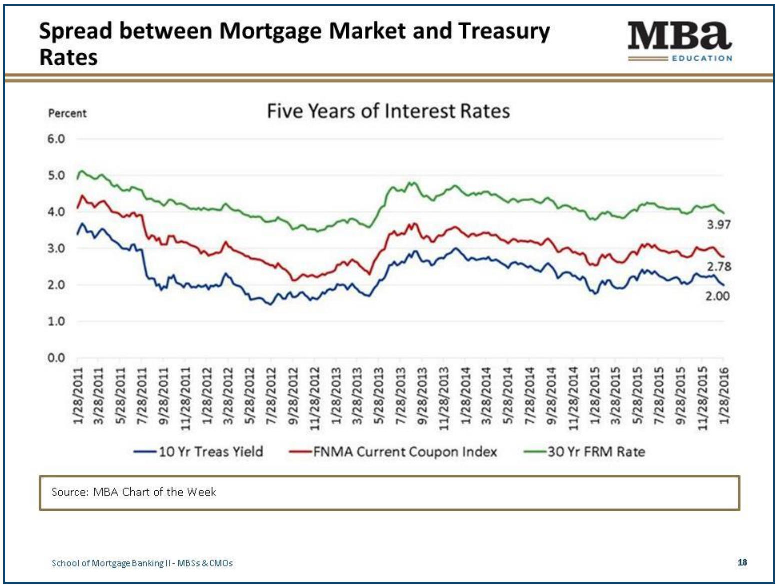
Source: http://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/Historic-Yield-Data-Visualization.aspx

Treasury Yield Curve: Inverted



This slide tracks the yield to maturity of constant treasury bills, notes and bonds over a condensed period of time.

Spread between Secondary Mortgage Market and Treasury Rates



Following the "taper tantrum" in the middle of 2013, most forecasters predicted a continued increase in mortgage interest rates. However, largely due to global uncertainties, rates declined over the course of 2014. The 30-year fixed mortgage interest rate reached 4.8 percent in September of 2013 before falling to a two-year low of just below 3.8 percent in January of 2015, according to MBA's Weekly Applications Survey. This pattern of course follows the path of the U.S. 10-year Treasury yield, which strongly influences the secondary mortgage market.

In January of this year, Treasuries plummeted, but the spread between Fannie Mae current coupon yields and the 10-year Treasury widened. Primary-secondary spreads also remained relatively wide.

Over the past few weeks, 10-year Treasury yields have rebounded by roughly 40 basis points as strong U.S. job market data, and growing confidence that the Fed will raise short-term rates by midyear, reversed January's trend. Primary and secondary mortgage yields have also increased, but by less than the move in Treasuries as spreads declined.

Derivatives

In this segment, we will look at the following topics:

- Derivatives

Derivatives

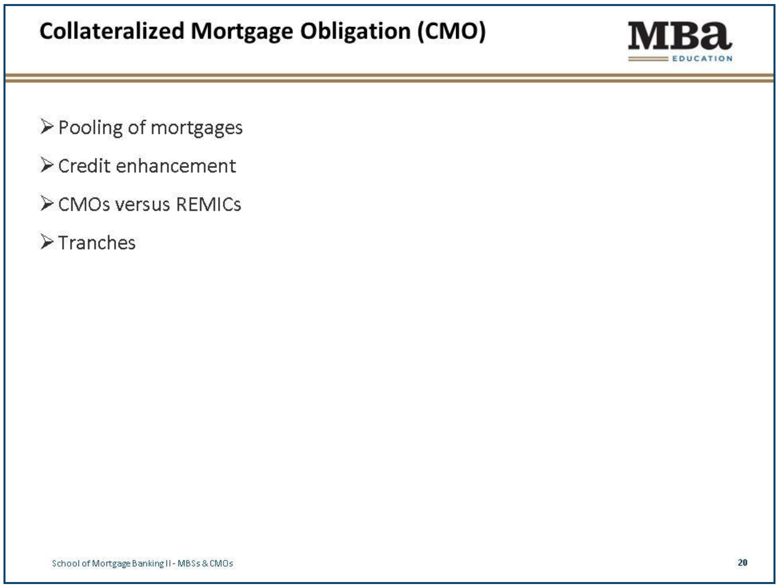
Derivatives are investments whose returns derive from the change in value of other securities or indexes, such as bonds, interest rates, and stocks. Derivatives, like futures, options, and swaps, were developed to allow investors to hedge risks in financial markets — in effect buy insurance against market movements. Over time, they have become a means of investment in their own right. The use of derivatives over this past decade has supported huge growth in the industry, but not without risk. For example, many derivatives were tied to the performance of stocks and or bonds and given the significant drop in interest rates during the financial crisis of the past few years; these investments represented for many investors and money managers a significant concern.

Collateralized Mortgage Obligations

In this segment, we will look at the following topics:

- Collateralized Mortgage Obligations (CMOs)
- REMICs
- Tranches
- Participants
- Market Information
- Advantages to the Issuer
- Investors

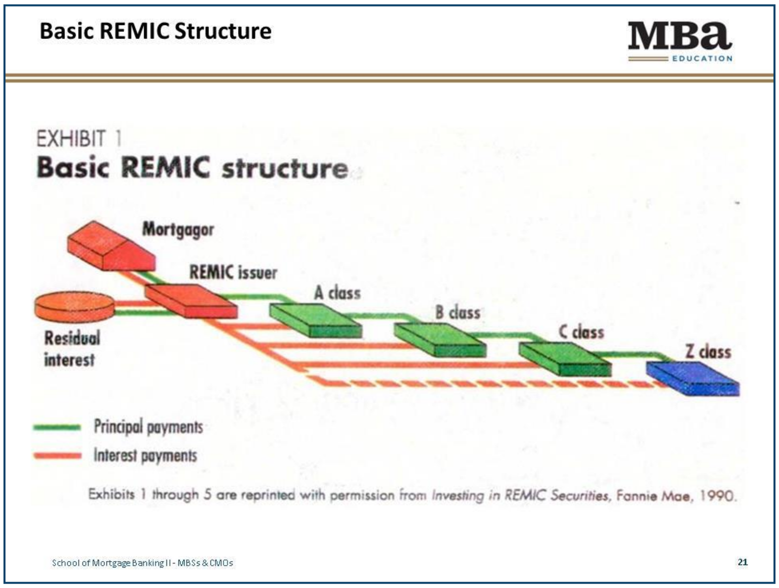
Collateralized Mortgage Obligations (CMOs)



A CMO (collateralized mortgage obligation) is a special purpose entity that is wholly separate from the institution(s) that creates it. The entity is the legal owner of a set of mortgages, called a pool. Investors in a CMO buy bonds issued by the CMO, and they receive payments according to a defined set of rules. With regard to terminology, the mortgages themselves are termed collateral, the bonds are tranches (also called classes), while the structure is the set of rules that dictates how money received from the collateral will be distributed. The legal entity, collateral, and structure are collectively referred to as the deal. Investors in CMOs include banks, hedge funds, insurance companies, pension funds, mutual funds, government agencies, and most recently, central banks. The term collateralized mortgage obligation refers to a specific type of legal entity, but investors also frequently refer to deals issued using other types of entities such as REMICs (Real Estate Mortgage Investment Conduit) as CMOs.

REMICs

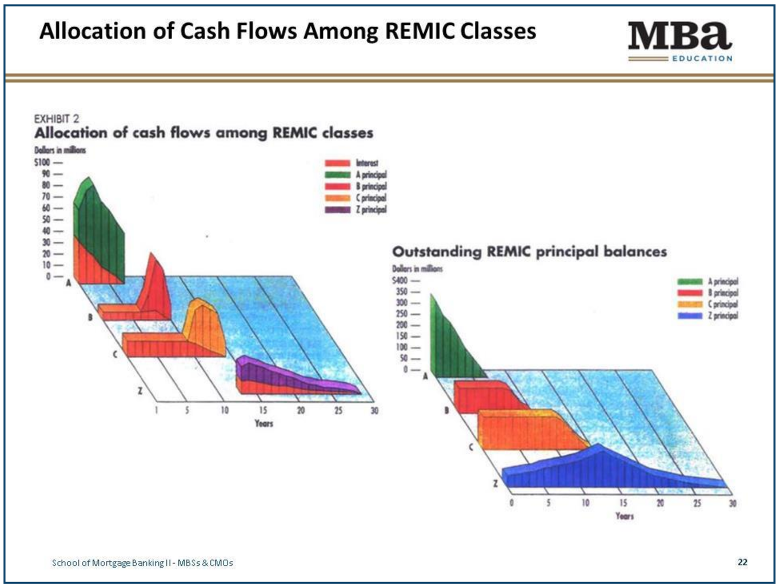
Basic REMIC Structure



A real estate mortgage investment conduit (REMIC) is a vehicle for issuing multiclass mortgage-backed securities which allows the issuer to treat the security as a sale of assets for tax and accounting purposes.

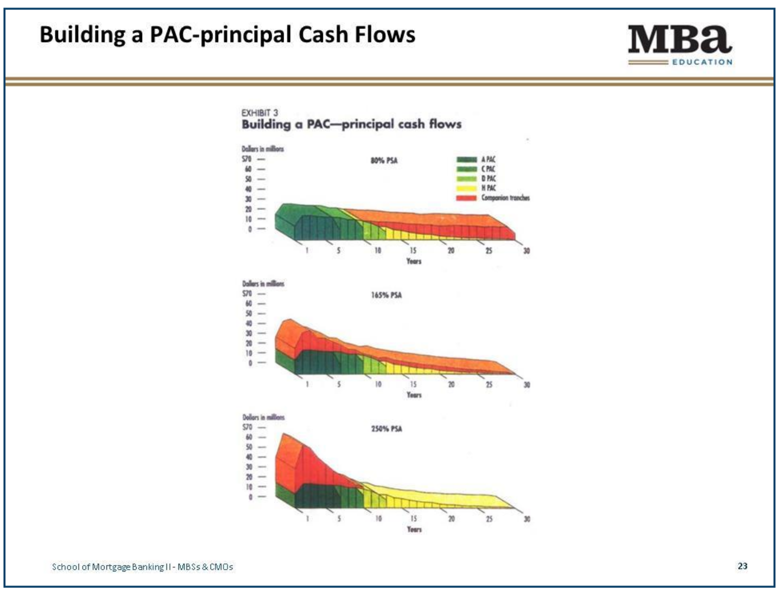
As illustrated in the slide above, a group of mortgages could create four different classes of bonds. The first group would receive payment before the second group and so on. The first group of bonds would be expected to pay off sooner, but would also have a lower interest rate. Thus, a 30-year mortgage (or group of mortgages in this case) is transformed into bonds of various lengths suitable for various investors with different goals.

REMIC Allocation of Cash Flows



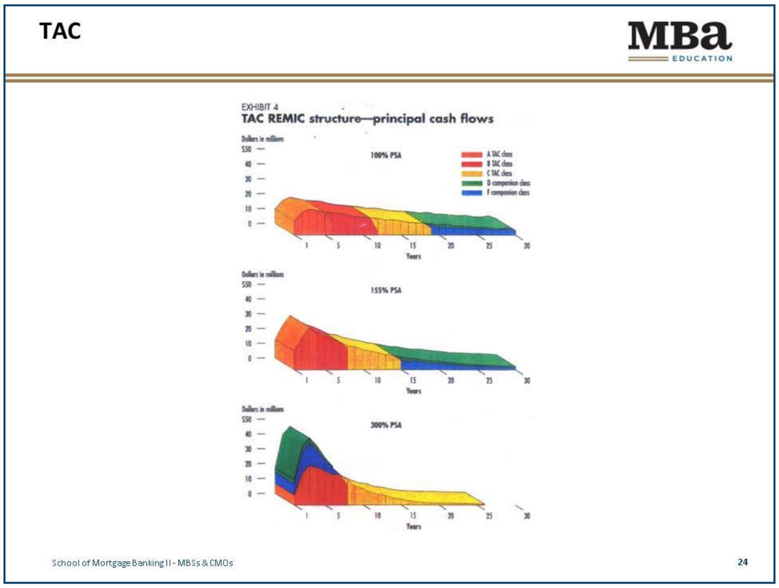
This slide depicts the allocation of Cash Flows among REMIC classes. Outstanding REMIC principal balances are paid out relative to their priority and the remaining principal balances.

Building a PAC – Principal Cash Flows

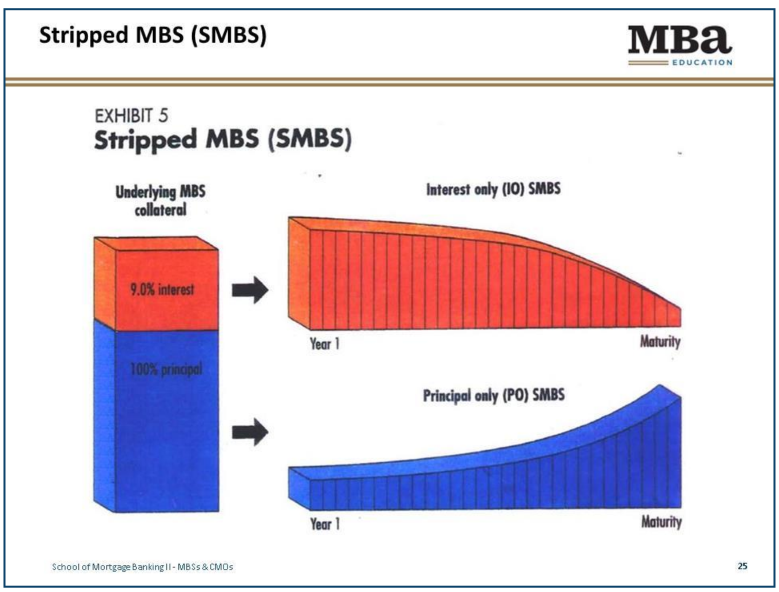


PAC – A bond with a fixed pay down schedule over a specified period of time, which eliminates cash flow uncertainty due to prepayments.

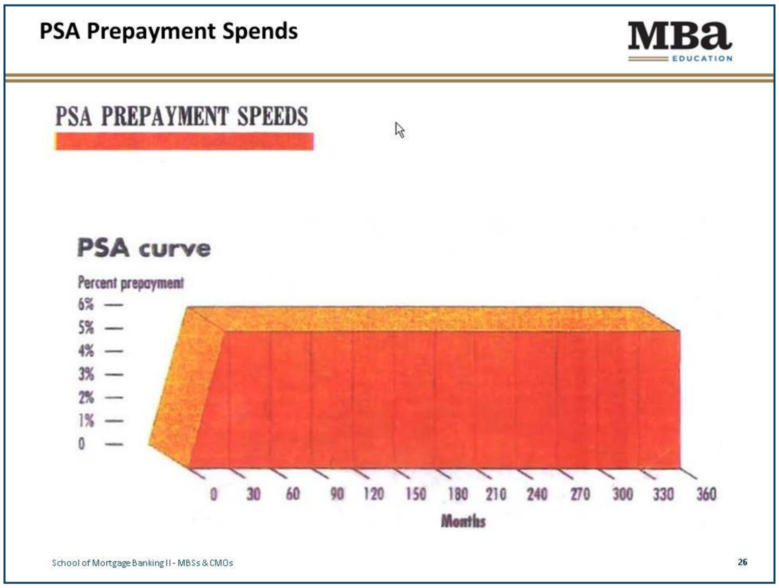
TAC REMIC Structure – Principal Cash Flows



Stripped MBS (SMBS)



PSA Prepayment Speeds



The PSA is the national association of banks, dealers and brokers that underwrites and sells municipal securities, mortgage backed securities and standards and practices US government and federal agency securities. It has developed standards and practices for mortgage securities trading which have become industry standards.

Prepayments on mortgage loans commonly are expressed relative to a prepayment standard or model. The one used for REMICs generally is the standard prepayment model of the Public Securities Association (PSA).

The model above represents an assumed rate of prepayment each month of the then-outstanding principal balance of a pool of new mortgage loans. A 100% PSA assumes prepayment rates of 0.2% per annum of the then-unpaid principal balance of mortgage loans in the first month after origination and an additional 0.2% per annum in each month thereafter (for example, 0.4% per annum in the second month) until the 30th month. Beginning in the 30th month and in each month thereafter, the 100% PSA assumes a constant annual prepayment rate of 6 percent.

Multiples are calculated from this prepayment rate; for example, 150% PSA assumes annual prepayment rates will be 0.3% in month 1, 0.6% in month 2, reaching 9% in month 30 and remaining constant at 9% thereafter. A 0% PSA assumes no prepayments. Regardless of the methodology used to price or describe yield and performance of a mortgage security, there can be no assurance the rate of the prepayment will conform to any model, past experience or traditional assumptions.

Simple REMIC

Simple REMIC

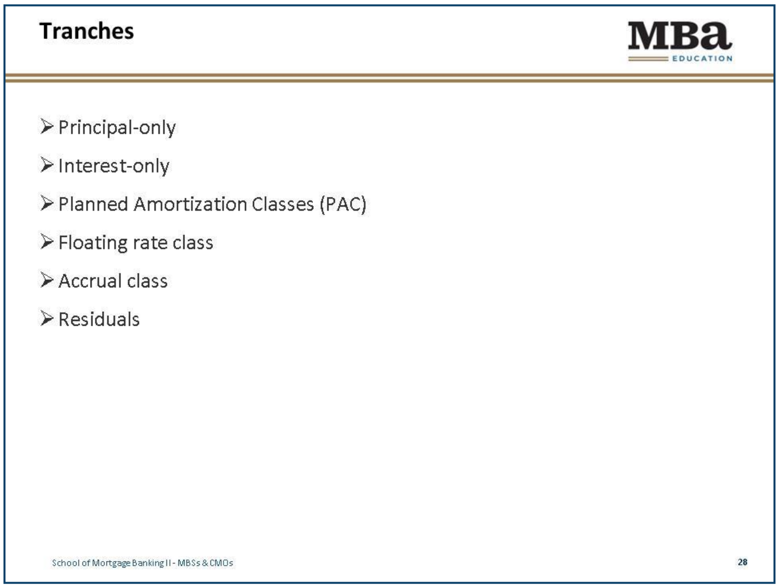
Class	Amount	Expected Life
A	$10 mm	2 years
B	$20 mm	5 years
C	$20 mm	7 years
D	$50 mm	10 years

	$100 mm	

School of Mortgage Banking II - MBSs & CMOs 27

Tranches

Rating Agency Ratings on Tranches



Tranche – A level or class of investment interest in a collateralized mortgage obligation CMO or REMIC, differentiated by maturity, interest rate and /or accrual structure.

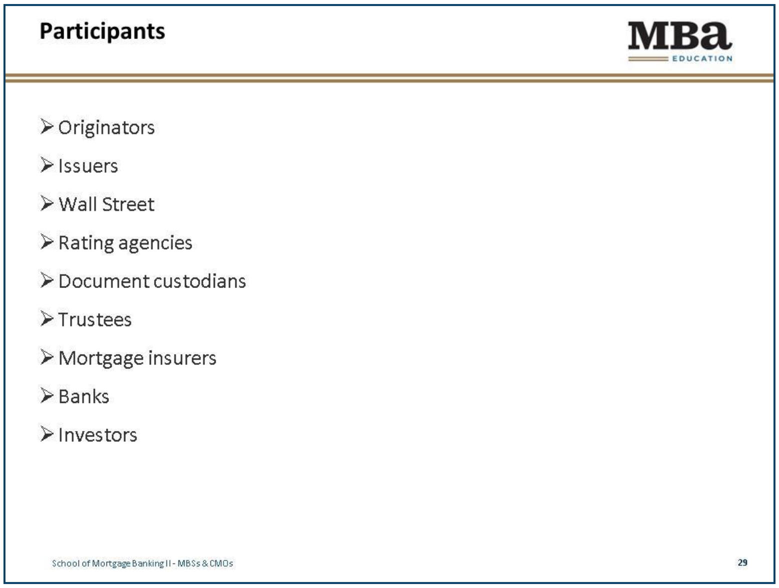
- *Principal-only* – Bonds that sell at a discount, and would thus be zero coupon bonds (e.g., bonds that you buy for $800 each and which mature at $1,000, without paying any cash interest). These bonds would satisfy investors who are worried that mortgage prepayments would force them to reinvest their money at the exact moment when interest rates are lower. Countering this, principal only investors in such a scenario would also be getting their money earlier rather than later, which equates to a higher return on their zero coupon investment.
- *Interest only* – Bonds that include only the interest payments on the underlying pool of loans. These kinds of bonds would dramatically change in value based on interest rate movement (e.g., prepayments mean less interest payments, but higher interest rates and lower prepayments means these bonds pay more and for a longer time.) These characteristics allow investors to choose between interest only (IO) and principal only (PO) bonds in order to manage better their sensitivity to interest rates. They can be used to manage and offset the interest rate-related price changes in other investments.
- *PAC* – A bond with a fixed pay down schedule over a specified period of time, which eliminates cash flow uncertainty due to prepayments.
- *Floating Rate Bonds* – A type of bond in which the yield is allowed to rise and fall within a specific range with fluctuations of the market. Floating rate bonds have been used in the housing bond market.
- *Accrual Class* – A bond on which the interest rate accrues, but is not paid to the investor during the period of accrual. Instead, the amount accrued is added to the principal balance and is paid at maturity.
- *Residuals* – Excess income generated by the underlying mortgage collateral of certain mortgage-backed securities, which is not needed to meet contractual obligations to security holders.

Rating Agency Ratings on Tranches

As we have discussed, levels or classes of investment interest in a collateralized mortgage obligation CMO or REMIC, differentiated by maturity, interest rate and/or accrual structure are known as tranches. It is considered a piece, portion or slice of a deal or structured financing. This portion is one of several related securities that are offered at the same time, but may have different risks, rewards and/or maturities. Tranche is the French word for slice.

The rating agencies apply a credit rating to these tranches based on stability, payment structure or because the “slice” of underlying assets may be rated higher than the rating on the CMO as a whole. This ability to assign ratings based on risk, maturity, re-investment options and assorted classes, makes the investment in a particular tranche attractive for a particular investment strategy.

Participants

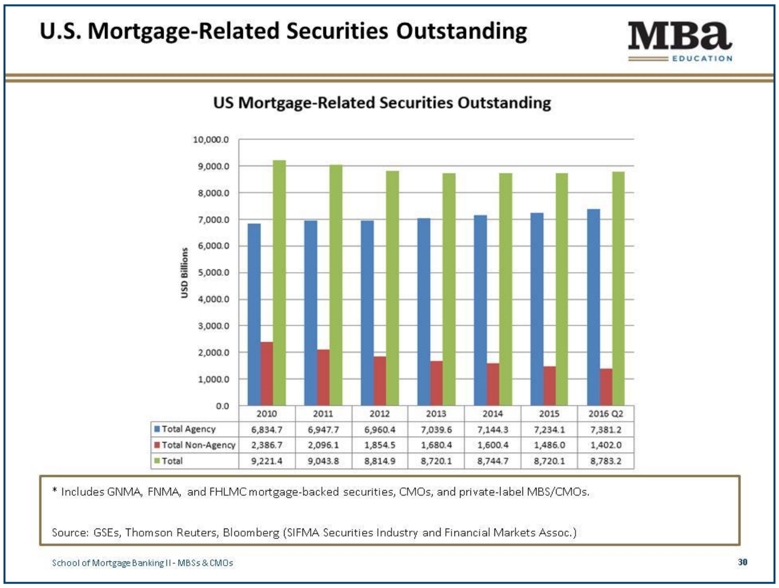


Not only are these entities considered "participants," but also they are significant stakeholders in the secondary and capital markets.

- *Originators* – where the life cycle starts – these are the mortgage bankers who produce a closed loan.
- *Issuers* – Entity who packages mortgages for sale as securities. For example, you may have an FHA Originator who is considered an approved Seller / Servicer by Ginnie Mae (for government loans), is approved to pool their loans, and actually issues the Ginnie Mae security.
- *Wall Street* – In this context, we are talking about Wall Street firms that have MBS trading desks and are involved in selling securities to investors.
- *Rating Agencies* – Credit ratings provide individual and institutional investors with information that assists them in determining whether issuers of debt obligations and fixed income securities will be able to meet their obligations with respect to those securities. Credit rating agencies provide investors with objective analyses and independent assessments of companies and countries that issue such securities.
- *Document Custodians* – Financial institutions that contract with a lender to maintain custody of certain mortgage documents on the lender or Investor's behalf.
- *Trustee* – One who holds legal title to a property for the benefit of another, or to secure performance of an obligation.
- *Mortgage Insurer* – A company that provides insurance, which protects mortgage lenders against loss in the event of default by the borrower. These same insurance companies also provide lenders who create pools of loans with pool insurance, which provides mortgage insurance on a pool of loans to protect the lender/investor.
- *Bank* – banks can participate in this process of creating CMO's and MBS's in a number of ways. They might be an originator, an aggregator, an issuer, a document custodian or play all of these roles as well as by providing warehouse lines to lenders who are participating in the securitization process.
- *Investors* – An investor may be involved in the purchase of one whole loan or the purchase of millions of dollars of securities. The key is that an individual or institution that makes a financial investment in CMOs or MBS is considered an Investor.

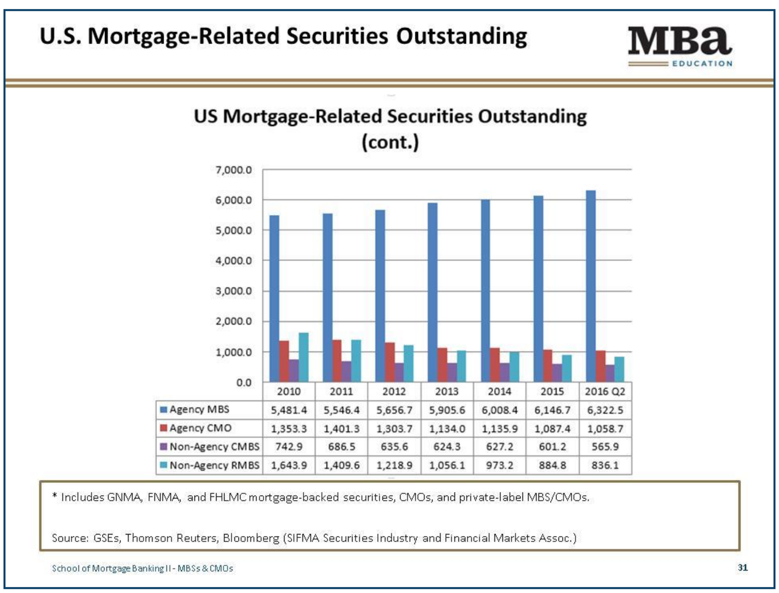
Market Information

US Mortgage-Related Securities Outstanding



This chart shows the total of agency and non-agency securities debt outstanding.

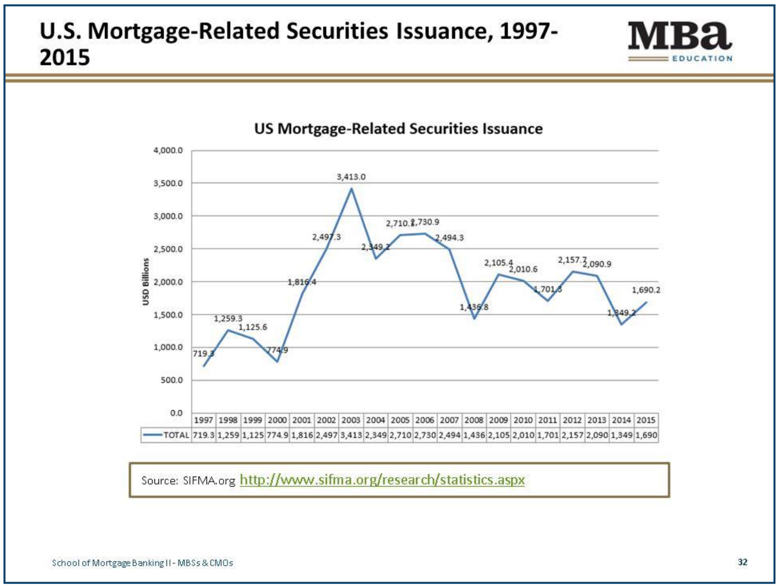
Source: http://www.sifma.org/research/statistics.aspx



This chart shows securities debt outstanding broken out by agency and non-agency MBS, CMOs, CMBS and RMBS.

Source: http://www.sifma.org/research/statistics.aspx

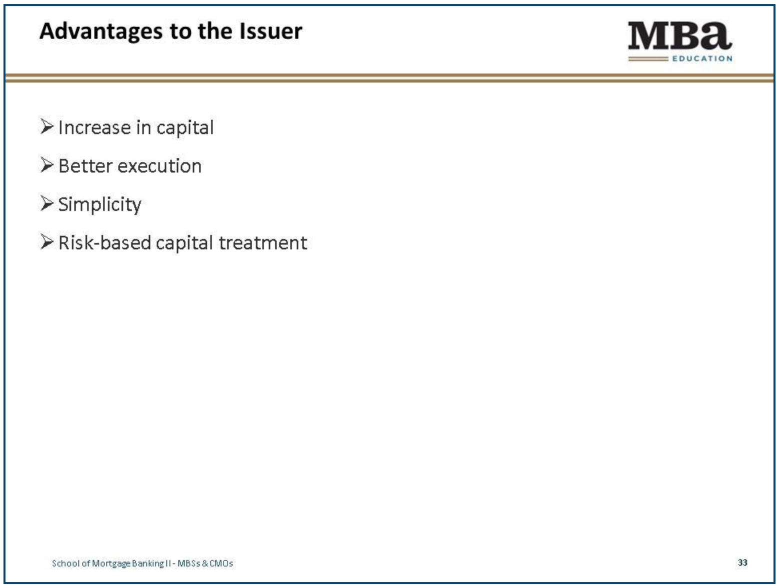
US Mortgage-Related Issuance



This chart shows the volume of mortgage-related security issuance from 1997-2015.

Source: http://www.sifma.org/research/statistics.aspx

Advantages to the Issuer

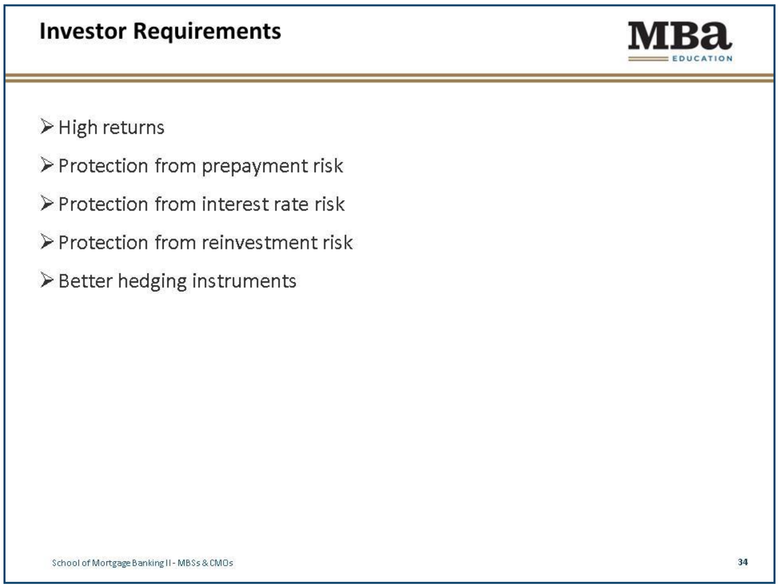


Today, there is growing opportunity to originate, process, close and ultimately issue MBSs. Because of the resurgence of FHA loans, there is also significant opportunity for an approved lender to expand their MBS capacity and become a Ginnie Mae Issuer. Issuers have the capability to take advantage of more control over access to capital, negotiate better execution when selling loans into the secondary market, and positively affect their risk based capital position.

The restrictions on outlets for the sale of mortgages will also cause many lenders to revert to traditional methods for selling loans, focusing on asset quality, performance, and strengthening relationships with investors in order to bring integrity back to the process.

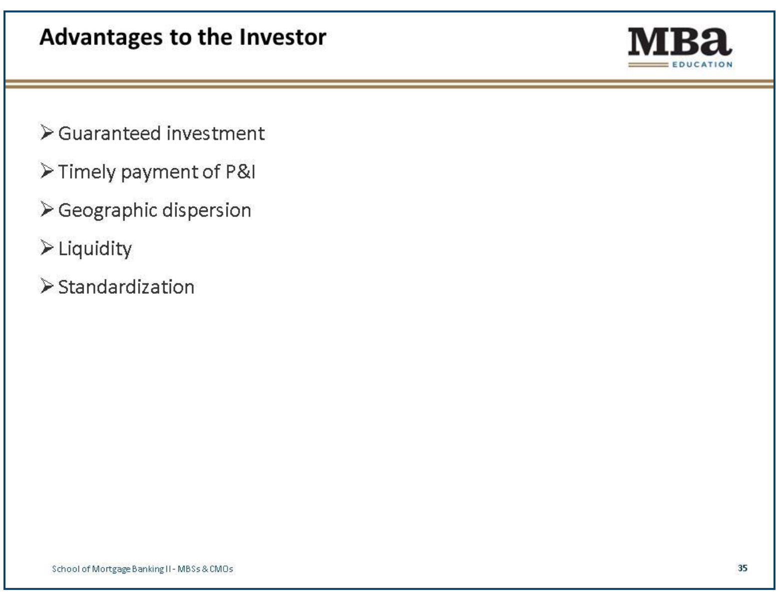
Investors

Investor Requirements



Investor requirements may dictate changes to the traditional investments and investment structures. Prepayments and the volatility of the market over the past few years have given investors pause to consider that rate of return may no longer be the most important criteria.

Advantages to the Investor



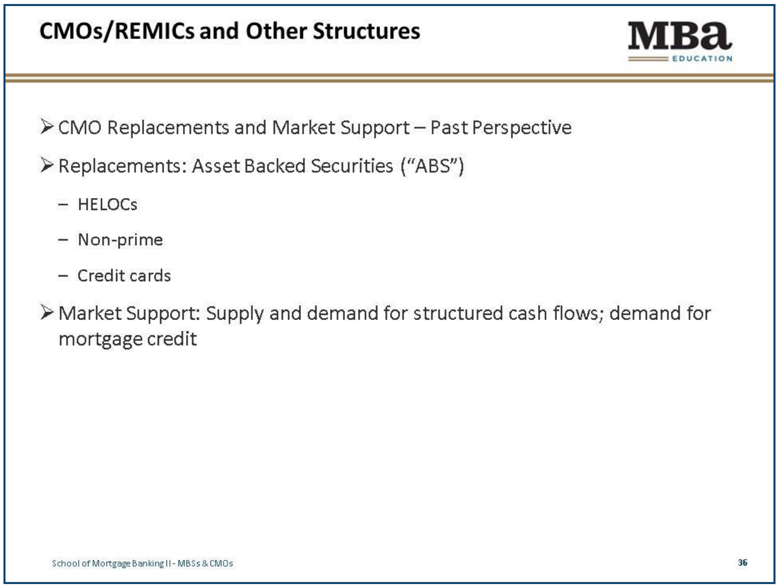
Traditionally, there have been clear advantages to those willing to invest, as identified above. With increased fluctuation in the market, investors still willing to commit investment dollars to CMOs and MBSs are going to be more judicious about those investments. They will be looking for guarantees and diversity of risk.

Other Structures

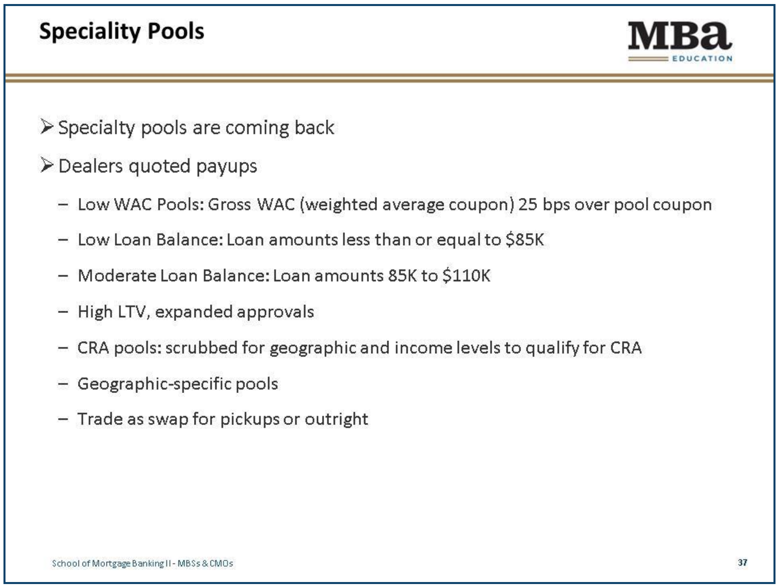
In this segment, we will look at the following topics:

- CMOs/REMICs, and Other Structures
- Specialty Pools
- Whole Loan Deals

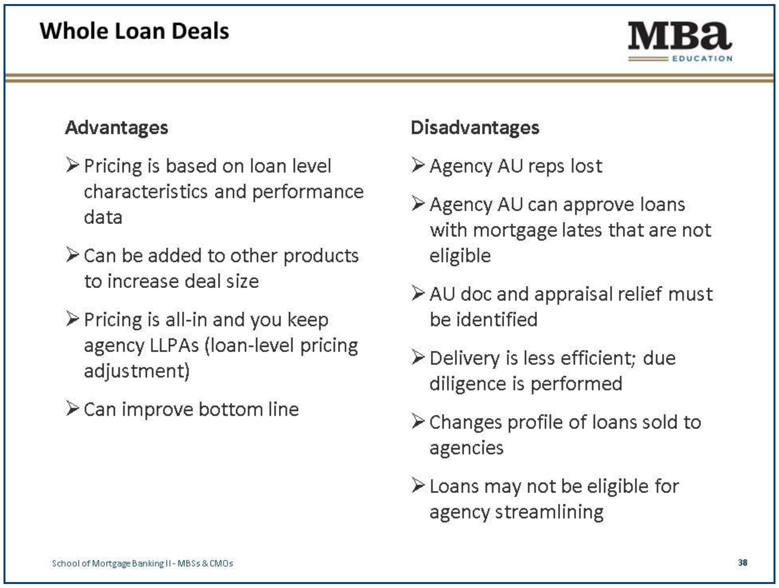
CMOs/REMICs, and Other Structures



Specialty Pools



Whole Loan Deals



These are deals where otherwise unsecured mortgages are sold individually or in a group to an investor. These loans may be added to an already existing sale to add diversity or value.

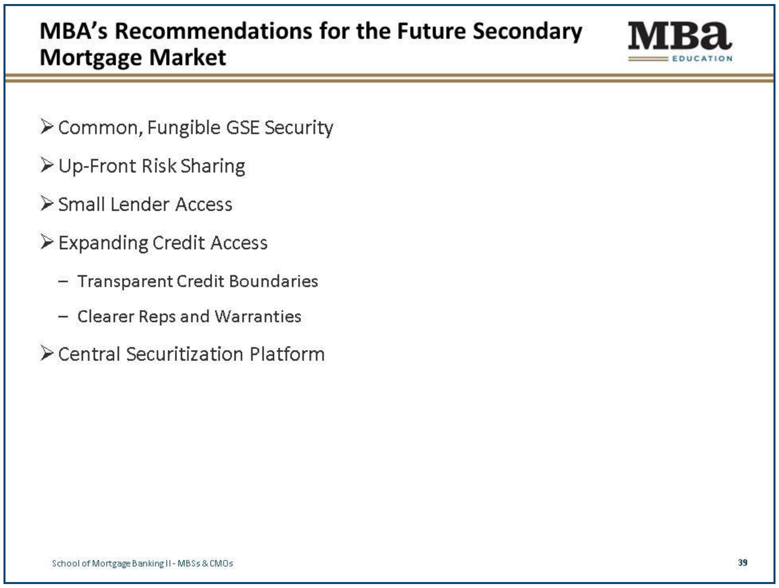
There are decided advantages and disadvantages to these whole loan deals, but for some investors this type of deal suited their specific investment goals and gave them a potential additional stream of income.

Future of MBS

In this segment, we will look at the following topics:

- Future of MBS

Future of MBS



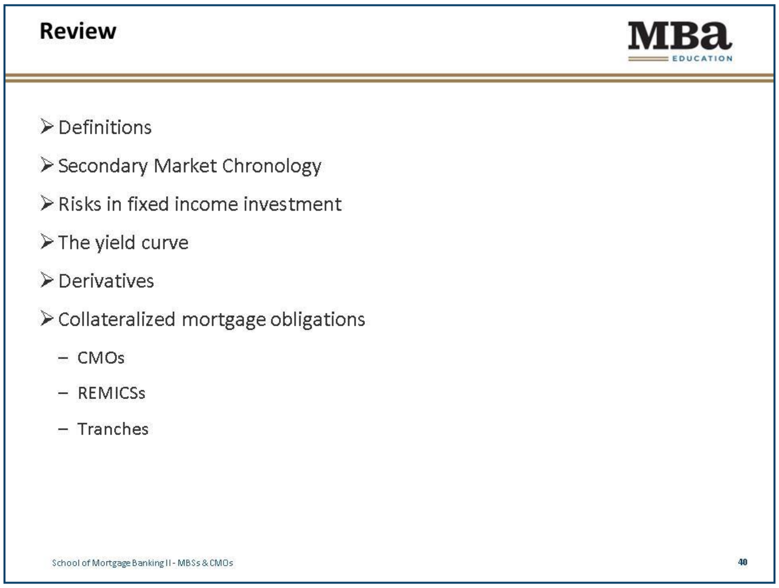
MBA continues to work on a comprehensive plan and recommendations for GSE reform. In 2009, MBA's Council on Ensuring Mortgage Liquidity, a 23-member task force representing MBA's diverse membership base, released a paper outlining a proposed framework for a refined government role in the secondary mortgage market designed to ensure liquidity for mortgages without presenting unnecessary risks for the taxpayer. That original work has developed into MBA's current recommendations. Visit the Secondary Mortgage Market issues section for more information on GSE reform and other issues MBA is working on: https://www.mba.org/issues/all-issues-list?filter=taxonomy4%3d1%252fIssues%253a%2bResidential%252fSecondary%2bMortgage%2bMarket&sortOrder=ASC

MBA's recommendations focus on six main areas:

- *Common Security:* a common security that ensures liquidity
- *Risk Sharing:* upfront risk sharing that ensure private capital delivers for consumers
- *Small lender access:* that ensures the secondary market works for smaller lenders
- *Credit access:* clear credit boundaries and representations and warranties that provide an environment conducive to expanded credit access for consumers
- *Securitization platform:* a common securitization platform
- *Multifamily market:* prepare for the future of the multifamily rental housing market by preserving the infrastructure, expertise and a government role with regard to the two GSE multifamily businesses, and explore their stand-alone capabilities as a transition step.

For more information visit the MBA website to download the "what you need to know" document: https://www.mba.org/assets/Documents/GAR_GSE_Reform_WTK.pdf

Review



Objectives Review

Upon completion of this module, you will be able to:

- Define key terms in the securitization process.
- Discuss the evolution of capital markets.
- Understand the risks associated with fixed income investments
- Explain what a yield curve is and how it functions to track interest rates and yield on investments.
- Have an understanding of derivatives, CMOs, REMICs and tranches and how they are used.

Session Evaluation

Class:
Module:
Instructor:
Date:

Instructor Evaluation

Please respond to the following statements using the numeric scale of:
4 - Strongly Agree **3** = Agree **2** = Disagree **1** = Strongly Disagree **N/A** = Not applicable

The instructor demonstrated a superior knowledge of the subject material.	
The instructor provided clear, comprehensive, and satisfactory answers to questions and allotted enough time to answer all questions.	
The instructor used a delivery and presentation style that inspired my attention and interest in the topic.	
The instructor successfully managed the session's time allotment.	

Course Materials and Content

The session felt well paced and allowed for effective knowledge, acquisition, and retention.	
The session content increased my comfort level with the subject matter.	
Interactive exercises such as practice and discussion questions, case studies, quizzes, etc., were engaging and helped me learn the material.	

Overall

With regard to overall content, presentation and delivery, I am satisfied with the value of this session.	

If there was any information you believe is erroneous or out-of-date that should be reviewed by a subject matter expert, please indicate the page number and/or slide title.

Please use the back of this page to provide any additional feedback you have.

Additional Feedback

Please add any additional comments you have.

Thank you for your valuable feedback!

Art & Science of Pricing

School of Mortgage Banking II

Table of Contents

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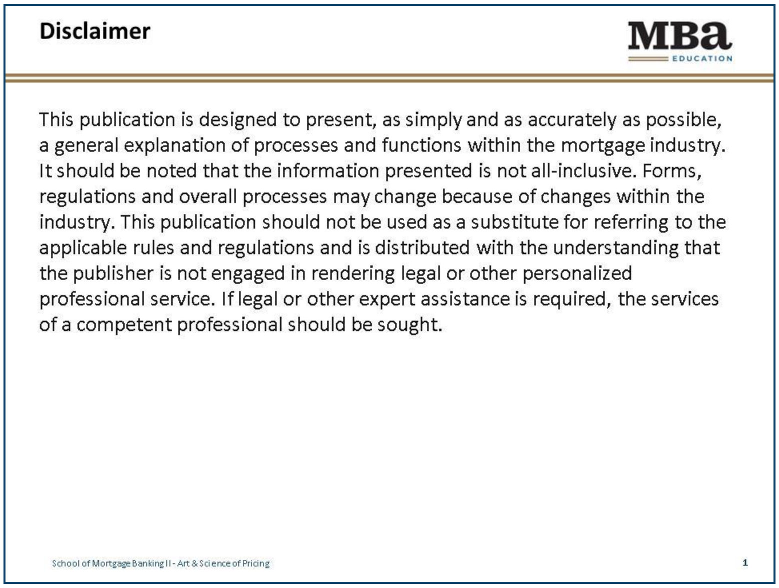
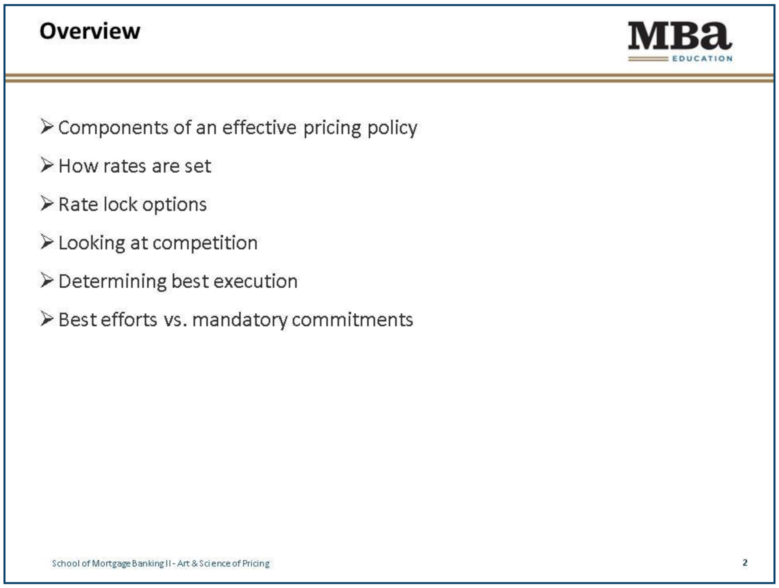


This publication is designed to present, as simply and as accurately as possible, a general explanation of processes and functions within the mortgage industry. It should be noted that the information presented is not all-inclusive. Forms, regulations and overall processes may change because of changes within the industry. This publication should not be used as a substitute for referring to the applicable rules and regulations and is distributed with the understanding that the publisher is not engaged in rendering legal or other personalized professional service. If legal or other expert assistance is required, the services of a competent professional should be sought.

Overview and Objectives

Overview



This module is designed to identify the components of an effective pricing policy for conforming loan products. The discussion will cover how interest rates are determined and the factors that have a direct influence on those rates and pricing models. In addition, we will explore rate lock options, identifying what they are and how they are used to protect both the consumer and the institution. We will also discuss how understanding your competition and having a strategy for determining best execution are key components in the successful implementation of your organization's strategic initiatives.

Objectives

Upon completion of this module, you will be able to:

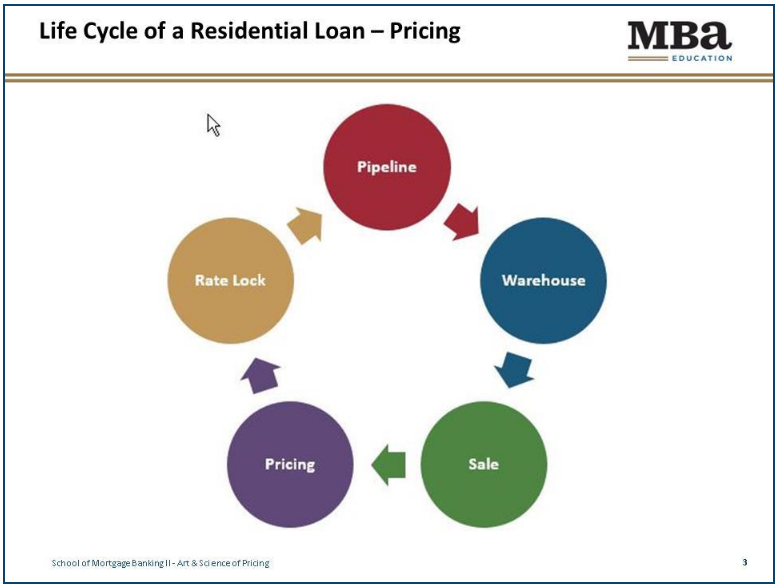
- Determine what factors drive rates and how those factors affect how prices are set.
- Identify rate lock options, how they are used and when they are necessary.
- Define who your competition is and in what areas you are really competing.
- Understand what is meant by "Best Execution," when it should be employed and why.
- Understand the difference between "Best Efforts" and Mandatory deliveries.

Pricing Overview and Key Terms

In this segment, we will look at the following topics:

- Life Cycle of a Residential Loan – Pricing
- Pricing (Some Subjective Issues)

Life Cycle of a Residential Loan – Pricing



Life Cycle of a Residential Loan – Pricing

Pricing policy is a critical component of the life cycle of a loan that is impacted by many moving parts. While your company may have a pricing "model" that stays somewhat set, the factors that contribute to changing pricing and the degree to which it changes is a 24 X 7 complex set of catalysts.

Rate Lock

Rate locks (i.e., confirmation of the ability to close a loan with the consumer and deliver it to the investor) are typically offered for 15, 30, 60 and 90 days. When longer rate locks are necessary, they can be negotiated under special circumstances (e.g., new construction).

Pipeline

The term "pipeline" generally refers to the loans that have been originated and are at some stage in the life cycle prior to being closed and delivered. Some institutions who deliver pools of loans (i.e., multiple loans at one time) may refer to their "closed loan pipeline" when they are discussing pricing on the sale and delivery of a pool of loans.

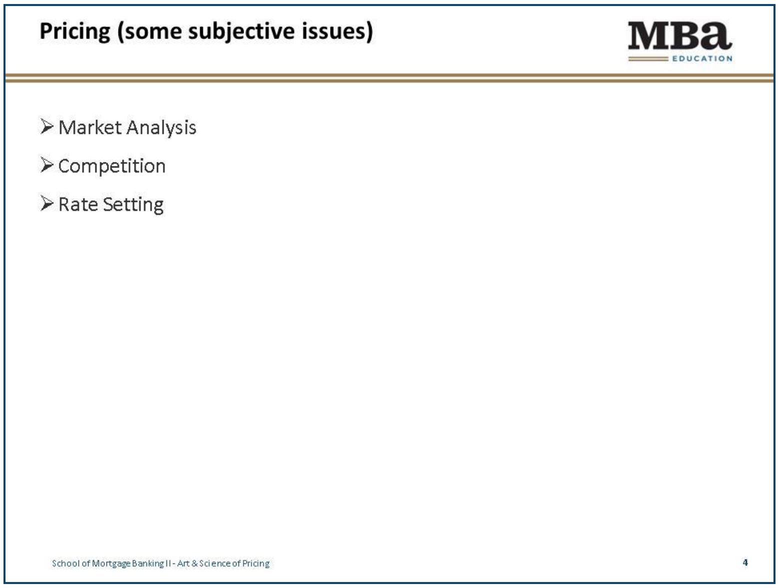
Warehouse

Most mortgage lenders who close in their own name (i.e., with their own funds) actually "borrow" those funds for a short time from their warehouse line. For this privilege, they will pay the daily interest for the use of those monies. The interest rate paid on the use of the funds is predetermined by the terms of the warehouse agreement. The exposure (to rate change) is usually limited to the time from which the loan is funded until the investor purchases the loan, at which time the monies are wired to the originating lender and the warehouse line is replenished. The difference between the interest rate assigned to the new mortgage loan and the interest rate paid to the warehouse lender for the use of funds is called the "spread."

Sale

Here in the life cycle, we are talking about the "sale" of a loan or pool of loans to an investor. The price that the investor pays in the sale of the loan or pool of loans determines the lender's profit or loss. Once the sale is completed and the loans are reviewed to ensure compliance with the agreed upon terms, the investor wires the monies back to the originator. The money originally borrowed from the warehouse line is replaced, thus restoring liquidity to the warehouse line. So, the cycle can begin again.

Pricing (Some Subjective Issues)



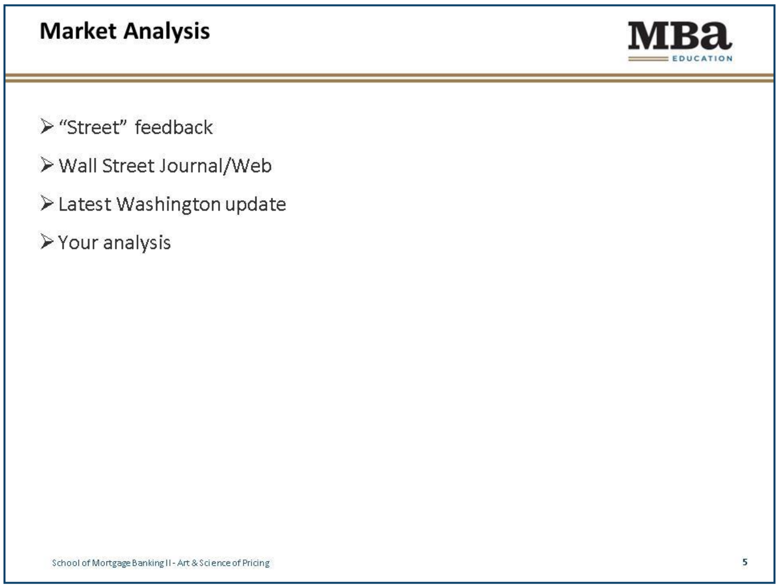
Pricing (Some Subjective Issues)

When performing a market analysis discerning what the market will bear and knowing your company's strategy are two factors that need to be aligned in order to have a successful pricing policy.

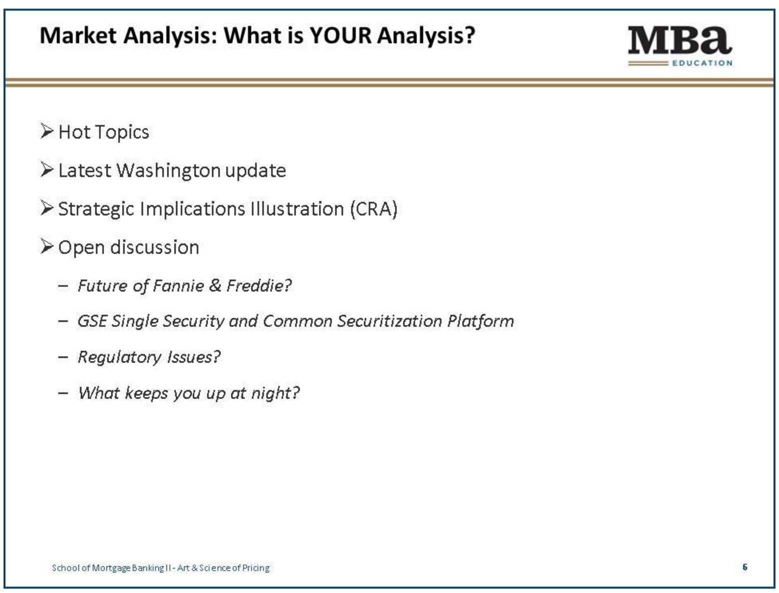
When analyzing your competitive position, review the origination staff's ability to effectively market itself and the company beyond just price, as rate alone will not secure the competitive advantage. Competition is not just about rate.

When determining where to set your company's rate, it is imperative to know if the pricing model works and whether the costs to originate as well as to attract the kind of quality production that fits your organization's strategic plan are covered. Any institution can buy the market on any single day by reducing their price below the competition, but that only produces volume – not quality production.

Market Analysis



What Is Your Analysis?

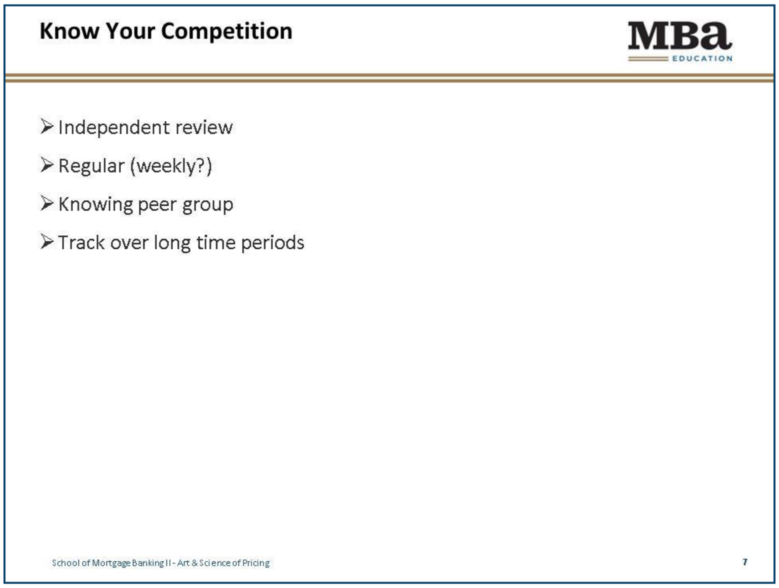


Market Analysis – What's Your Analysis?

- What does the Wall Street Journal or your chosen source of financial updates have to say about the market?
- What are the HOT topics that are going to fuel volatility?
- What regulatory changes or proposed legislation may change your direction or marketing plan?

Now, let's take a look at how these things might factor into your market analysis….

Know Your Competition

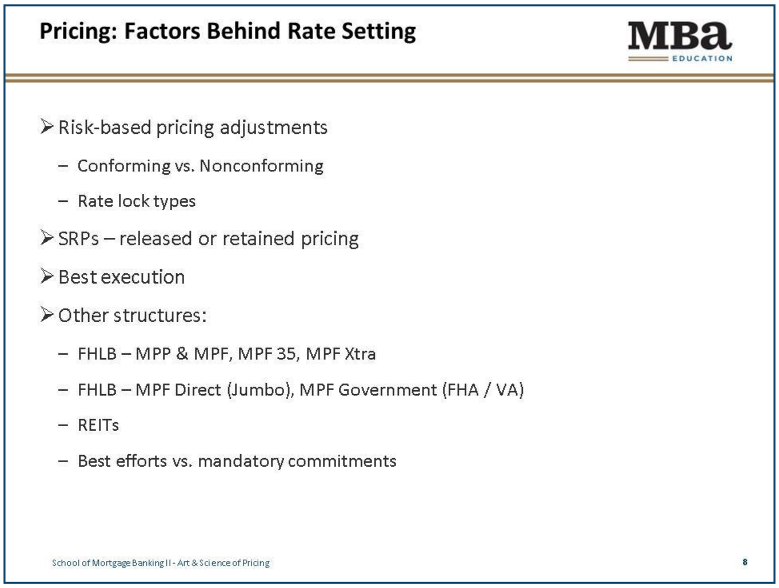


It is very important to know and understand your competition's approach to product, pricing and penetration into their markets. What can be learned from an independent review? For years, many origination shops kept a weekly matrix of the rates that their competition set for similar products. However, most successful originators will say that rate is not what got them the deal. Although it is important to be competitive relative to rate, being knowledgeable, sharing information and educating the borrower as to the best choices for their circumstances makes an originator even more competitive than price.

Peer groups are important to the mortgage industry as they help to compare costs to originate, determine reasonable fees, determine processing and underwriting costs and determine best practices for closing and delivery. While these types of peer group analyses have been available on the servicing side for years, the numbers for comparison have not been as readily available on the origination side. Often these costs have been more difficult to compare because of variances on what is considered "common and customary" from one part of the country to another. However, understanding the cost to originate will help to keep pricing in line with what the market will bear.

Tracking and being accountable for producing profitable business makes all the difference in the stability and sustainability of a company's budget, which is the key to the bottom line.

Factors behind Rate Setting



Risk-Based Pricing Adjustments

Risk-based pricing may be a strategy employed to compensate for additional risk related to an individual loan or group of loans. For example, if the loan being originated has a high LTV and very little down payment or equity investment from the borrower, the rate might be higher. Or, the rate might be higher if the loan was a second mortgage, putting your company in second position behind another institution's first mortgage. On the other hand, if the borrower is putting down a sizable down payment and has a very solid credit history, a lower rate may be offered to have that loan on the books. While risk-based pricing has always been part of a pricing strategy, we are seeing more of this type of pricing being used today to attract quality loan production.

Servicing-Released Premiums

A servicing-released premium (SRP) is an amount of money (often expressed as a percentage) that an investor/aggregator will pay to the originating lender over and above the price on the loan in order to incent the lender to release the servicing rights to that investor/aggregator. Often Fannie Mae and Freddie Mac use this method to compensate a lender who wants to deliver a loan to them to be included in a mortgage-backed security.

Other Structures

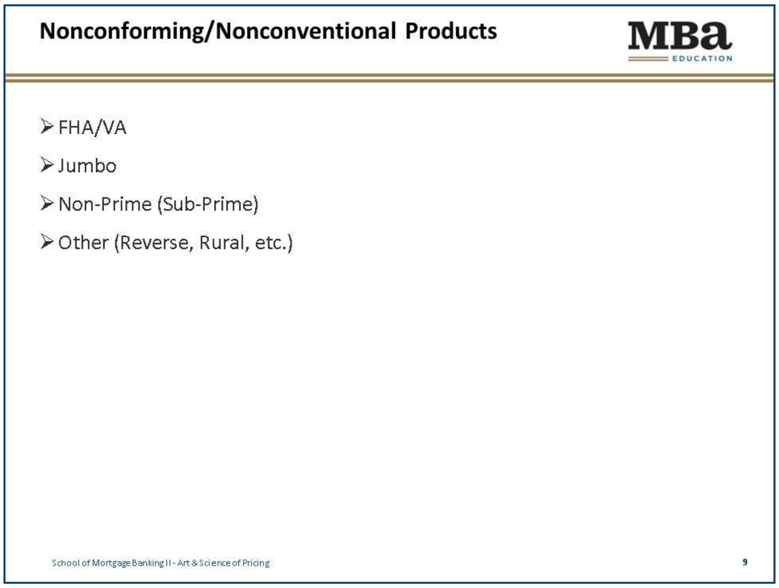
- FHLB – Federal Home Loan Banks
- REITs – Real Estate Investment Trusts
- Best efforts vs. mandatory will be discussed in detail to help you to understand the two delivery methods and the risk and rewards of both when they are used properly.

Different Rate Lock Options

- Float to lock
- Lock with a float down option
- Extended rate lock

We will look at these rate lock options next.

Nonconforming/Nonconventional Products



Traditionally the term nonconforming was used to describe a loan that had a loan amount, a loan-to-value ratio, a term, or some other aspect of the loan that exceeded permissible limits as specified in agency guidelines.

The term conventional loan was used to describe a loan that was not insured or guaranteed by a government agency. For example, Fannie Mae or Freddie Mac loans would be considered conventional – conforming to loan limits, LTVs, terms, and other agency guidelines.

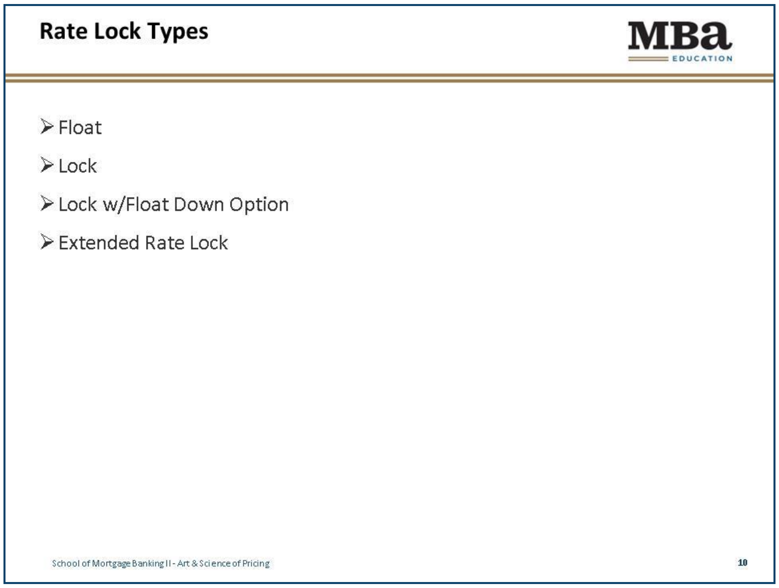
Generally, loans were not referred to as “non-conventional;” they were referred to as government loans because they were ether FHA (insured) or VA (guaranteed) loans.

Rate Lock

In this segment, we will look at the following topics:

- Rate Lock Types

Rate Lock Types



Float

A rate lock is a tool used to give both the lender and the consumer protection that the rate on that loan will not exceed a certain rate. When the market is flat or rates are declining, a borrower is likely to let the rate “float” or adjust with the market changes until just before closing. It is at that time that the lender must lock the rate and terms on the loan in order to accurately disclose to the borrower and prepare the closing documents.

Lock

Locking in a rate for a consumer often has a cost associated with that protection, especially in an upwardly moving rate environment. The originating lender may have to pay the investor who will ultimately buy that loan for a term of 30, 60, or 90 days of protection. Often that rate lock amount is factored into the price the investor/aggregator will pay to buy the loan. Often, the rate lock cost is passed on to the borrower in terms of a fee. In times of real market volatility, the fee is collected up front at the time of origination. By collecting this fee up front, the lender has some protection that the borrower will not walk away. By locking the rate, the borrower has comfort that the interest rate is protected for the appropriate amount of time needed to get the loan closed and delivered.

Lock w/Float Down Option

A lock with a float down option is used when the borrower wants protection on the “up” side but they

also want the ability to take advantage if rates were to move down. The lender enters into a lock in agreement that is signed by the borrower, and protects the rate so that it can never go higher than the rate available at the time of the lock (this is usually done at the time of origination). However, the borrower has the right to let the rate float down if the rates go lower.
There is a cost to the borrower for this rate protection, commensurate with the cost the originator incurs in making that protection available. In times of significant swings in the market, however, it can be money well spent for the borrower.

Extended Rate Lock

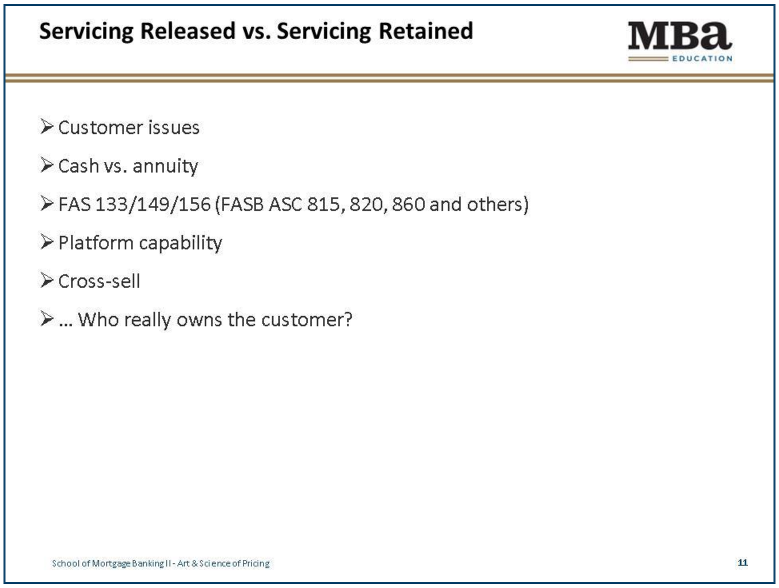
An extended rate lock allows a rate to be locked for a period beyond the normal 30, 60 or 90-day lock period. The extended rate lock is used most often when a borrower has a house to sell or is buying new construction that is not yet completed. On occasion, a builder who wants to attract potential customers to a development that is under construction may purchase an extended rate lock. This may be done just to offer an attractive rate or, during a volatile market, to secure a competitive rate. In order to secure this negotiated, extended rate lock, the builder may pay a sizeable commitment fee.

Servicing Released vs. Servicing Retained

In this segment, we will look at the following topics:

- Servicing Released vs. Servicing Retained

Servicing Released vs. Servicing Retained



Servicing released loans allow a lender to offer preferred pricing to the consumer because the lender is being paid a premium by the investor for releasing the servicing. (The investor is willing to pay for the stream of income represented by the servicing.)

This servicing released premium when paid to an origination firm represents an upfront cash value – usually at least .375 on the loan amount. The investor, however, who pays to have the servicing released to them, now has an annuity – the stream of income it will be paid to service the loan. Many factors impact the decision to originate loans for sale □ servicing released or servicing retained. The most important of these is the infrastructure, the platform upon which to service and the trained human and technical resources necessary to service loans effectively.

With the decline in numbers of mortgage brokers, consumers are turning to community and regional banks to secure mortgage products. This represents a unique opportunity for lenders to expand their footprint and establish relationships with new mortgage customers to whom they can cross sell other bank services.
Changes in accounting guidelines: FAS 133, 149 and 156 represent significant requirements that have to be incorporated into an institution’s financial accounting and reporting if they hold loans for sale vs. the accounting for loans held to maturity.

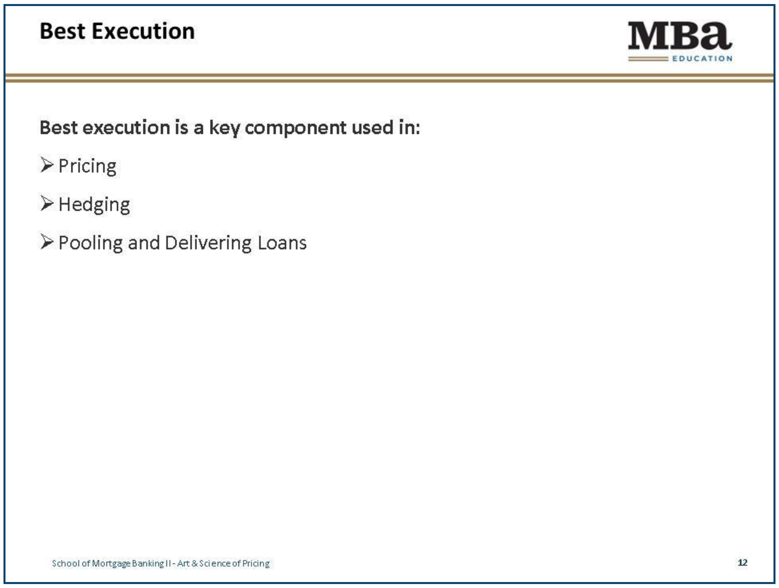
Another big consideration is the platform and the trained, experienced resources it takes to run a servicing operation. Not all institutions have the necessary capital needed to make servicing cost effective. However, having the opportunity, especially if you are a bank to cross sell the customer may be worth the price, especially as more sub- servicers become available.

Best Execution

In this segment, we will look at the following topics:

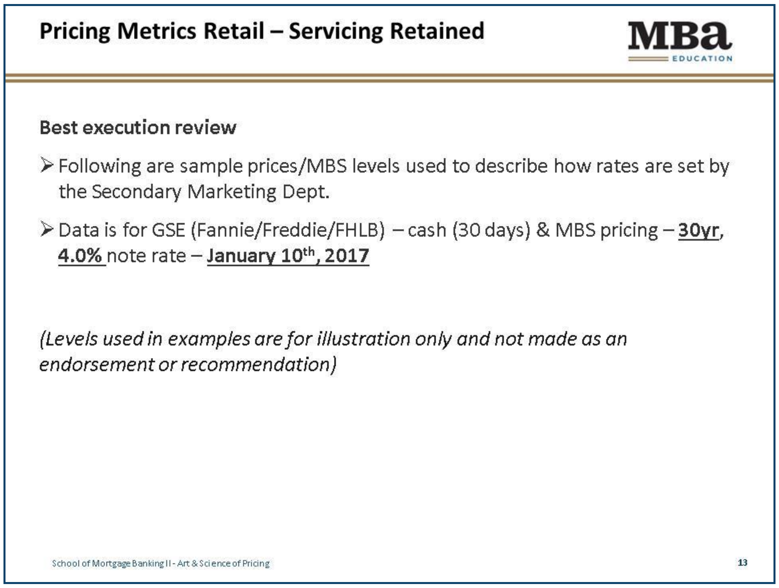
- Best Execution Overview
- Pricing Metrics: Retail – Servicing Retained
- Best Execution Recap
- Best Execution - Other Considerations
- Fannie Mae Loan Level Pricing Adjustments
- Freddie Mac Selling System
- Best Execution Elements
- Pricing Metrics: Retail – Servicing Released

Best Execution Overview



Best execution is a key component used in pricing, hedging, pooling and delivering loans. Because the variables that affect the pricing of a loan during its lifecycle are always changing, the key is best execution at every step along the cycle.

Pricing Metrics: Retail – Servicing Retained



For servicing-retained products, the institution retains the servicing and will sell off only the asset itself and retain the servicing rights.

In the next slide, we will look at three different options and sample prices/MBS levels that a secondary person might consider in order to achieve the right pricing for those loans and, ultimately, “best execution” when selling them.

30-year – 3.75%

Best Execution – 30 yr. – 4.0%
Step 1: Pricing Levels / Discovery

Cash - (30 day)	
Freddie Mac	101.065
Fannie Mae	100.8366
FHLB / MPF	101.411 *
MBS - (1 month out, February 2017) *(Note)*	
Freddie Mac (3.5 coupon)	102 14/32
Fannie Mae (3.0 coupon)	99 13+/32

Note: In real world, would use "interpolated" MBS – using March/April levels
** FHLB uses business days ... need to interpolate here also*

School of Mortgage Banking II - Art & Science of Pricing 14

Freddie 30-year Note Rate

Freddie 30yr Note Rate January 10, 2017

Rate Sheet Results Page 1 of 2

These current Freddie Mac prices for Servicing Retained/CTOS Mandatory pricing were based on the following criteria:

Contract Option:	Mandatory	Servicing Fee Rate:	0.250%
Servicing Option:	Retained/CTOS	Remittance Option:	Gold

Postsettlement Delivery Fees and Cash Adjustor for Relief Refinance Mortgages (if applicable) are not included in the Contract Product prices displayed.

Valid as of 01/10/2017 10:54:14 AM EST

30-Year Fixed Rate Conventional

Note Rate Percent	Contract Period: 15 day	Contract Period: 30 day	Contract Period: 60 day
2.750%	90.895	90.831	90.495
2.875%	92.018	91.954	91.611
3.000%	93.148	93.084	92.736
3.125%	94.205	94.141	93.788
3.250%	95.987	95.904	95.661
3.375%	96.938	96.855	96.606
3.500%	97.873	97.790	97.536
3.625%	98.745	98.662	98.404
3.750%	99.557	99.474	99.212
3.875%	100.288	100.185	99.967
4.000%	101.168	101.065	100.844
4.125%	101.957	101.854	101.631
4.250%	102.659	102.556	102.327
4.375%	103.244	103.141	102.899
4.500%	103.910	103.787	103.683
4.625%	104.622	104.500	104.378
4.750%	105.347	105.225	105.092
4.875%	105.854	105.732	105.595
5.000%	106.259	106.117	106.070
5.125%	106.963	106.821	106.772
5.250%	107.594	107.452	107.401
5.375%	108.005	107.863	107.811
5.500%	108.373	108.231	108.175
5.625%	108.326	108.164	108.105
5.750%	108.875	108.713	108.651

https://sell.freddiemac.com/dispatch 1/10/2017

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Fannie 30-year Pass-Through

Fannie 30yr Pass-Through January 10th, 2017

GRAB
99<GO> Excel, 100<GO> Cropping, 200<GO> Launchpad , <Menu> to Return
97) Settings · Page 1/1 Fannie Mae
Required Net Yields | 10-Year FRM A/A | 15-Year FRM A/A | 20-Year FRM A/A | 30-Year FRM A/A
US Mtge-30-Year FRM A/A
Fannie Mae
Zoom 100%

01-10-17 30-YEAR FIXED RATE <A/A> PREM/DISC 08:15AM EST

PASS-THROUGH	10 DAY YLD	10 DAY PRICE	30 DAY YLD	30 DAY PRICE	60 DAY YLD	60 DAY PRICE	90 DAY YLD	90 DAY PRICE
5.250	N/A		N/A		N/A		4.328	107.8190
5.125	4.192	107.9623	4.204	107.8541	4.226	107.6583	4.253	107.4116
5.000	4.120	107.5218	4.132	107.4136	4.154	107.2179	4.182	106.9712
4.875	4.067	106.9157	4.079	106.8075	4.101	106.6118	4.128	106.3651
4.750	4.022	106.2290	4.034	106.1208	4.056	105.9251	4.084	105.6784
4.625	3.969	105.6163	3.984	105.4841	4.010	105.2545	4.042	104.9764
4.500	3.902	105.1324	3.917	105.0001	3.943	104.7706	3.974	104.4925
4.375	3.852	104.4918	3.867	104.3595	3.893	104.1300	3.924	103.8519
4.250	3.811	103.7658	3.826	103.6335	3.853	103.4040	3.884	103.1259
4.125	3.766	103.0789	3.782	102.9466	3.808	102.7171	3.840	102.4390
4.000	3.709	102.5049	3.724	102.3727	3.750	102.1431	3.782	101.8650
3.875	3.666	101.7947	3.681	101.6625	3.708	101.4329	3.740	101.1548
3.750	3.637	100.9688	3.653	100.8366	3.679	100.6070	3.712	100.3289
3.625	3.609	100.1341	3.625	100.0018	3.652	99.7723	3.684	99.4942
3.500	3.570	99.3971	3.587	99.2529	3.613	99.0354	3.644	98.7730
3.375	3.534	98.6328	3.551	98.4886	3.577	98.2711	3.608	98.0087

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Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2017 Bloomberg Finance L.P.
SN 790144 H016-2315-0 10-Jan-17 10:39:46 EST GMT-5:00

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FHLB – MPF Pricing

FHLB – MPF Pricing

Mortgage Partnership Finance
Archived Origination Fee Schedule

Print

Product: FX30
Remittance Type: Actual/Actual
PFI Number: All - Non Specific PFI

Indicative as of 1/10/2017 8:25:46 AM CT
Note: Data shown is %. All Days are Calendar Days.

Commitment Term	5 Days	15 Days	30 Days	45 Days	60 Days
Last Funding Date	01/17/2017	01/25/2017	02/09/2017	02/24/2017	03/13/2017
Schedule Code	01101700011	01101700012	01101700013	01101700014	01101700015
Note Rate (DC Rate)	Premium/Discount(Agent Fee)				
3.0000%	-5.43072053	-5.47858871	-5.56281138	-5.64703125	-5.75093750
3.1250%	-4.38044350	-4.42940496	-4.51542333	-4.60266276	-4.71089844
3.2500%	-3.33016647	-3.38022122	-3.46803527	-3.55829428	-3.67085938
3.3750%	-2.27988944	-2.33103747	-2.42064722	-2.51392579	-2.63082032
3.5000%	-1.46336240	-1.51560372	-1.60700916	-1.70330730	-1.82453125
3.6250%	-0.68248066	-0.73466251	-0.82582778	-0.92420573	-1.04914063
3.7500%	0.09840109	0.04627869	-0.04464640	-0.14510417	-0.27375000
3.8750%	0.87928283	0.82721990	0.73653497	0.63399739	0.50164062
4.0000%	1.55360208	1.50159861	1.41115385	1.30653645	1.17046875
4.1250%	2.20854829	2.15805345	2.07048757	1.96705078	1.83160156
4.2500%	2.86349450	2.81450830	2.72982128	2.62756510	2.49273437
4.3750%	3.51844072	3.47096314	3.38915500	3.28807942	3.15386718
4.5000%	4.11838693	4.07241799	3.99348872	3.89359375	3.76000000
4.6250%	4.70727717	4.66386983	4.58976621	4.49411458	4.36546875
4.7500%	5.29616741	5.25532168	5.18604370	5.09463541	4.97093750

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TBA Price Indication

TBA Price Indications January 10th 2017

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Freddie PC Review

Freddie PC Review

Pass-through	3.50%
SVG	.25
Guarantee Fee	.50 *(For Illustration only)*
GF Buydown	(.25)
Mortgage Note	4.00%
Price	102 14/32
Cash Price	102.43
Buy Down GF (4X1)	(1.00) *(Estimate of Buy Down factor)*
Adjusted Cash Price	101.43 *

* NOTE – *February MBS delivery is before cash date settlement – Partial offset: MBS Servicing value is higher. Need to consider!*

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Fannie MBS Review

Fannie MBS Review

Pass-through	3.00%	
SVG	.25	
Guarantee Fee	.50	*(For Illustration only)*
GF Buyup	.25	
Mortgage Note	4.00%	
Price	99 13+/32 (99 27/64)	
Cash Price	99.42	
Buy up GF (4X1)	1.00	*(Estimate of Buy up factor)*
Adjusted Cash Price	100.42*	

* NOTE – *February MBS delivery is before cash date settlement – Partial offset: MBS Servicing value is higher. Need to consider!*

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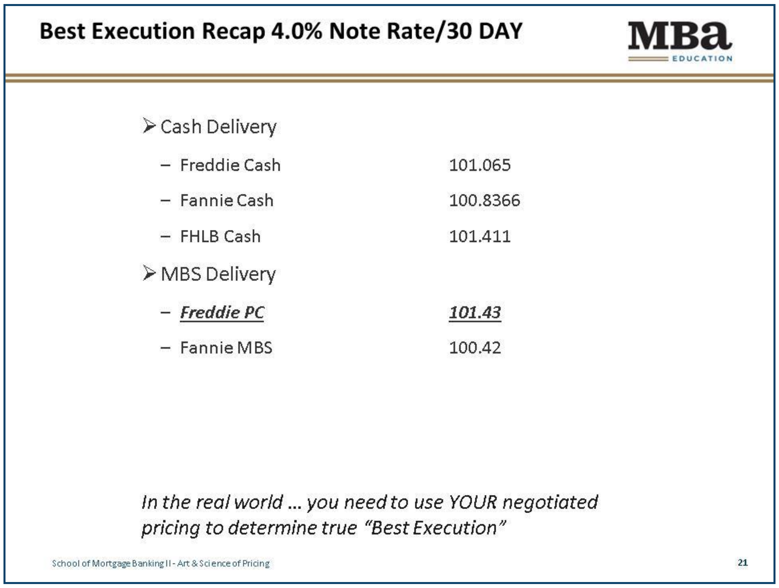
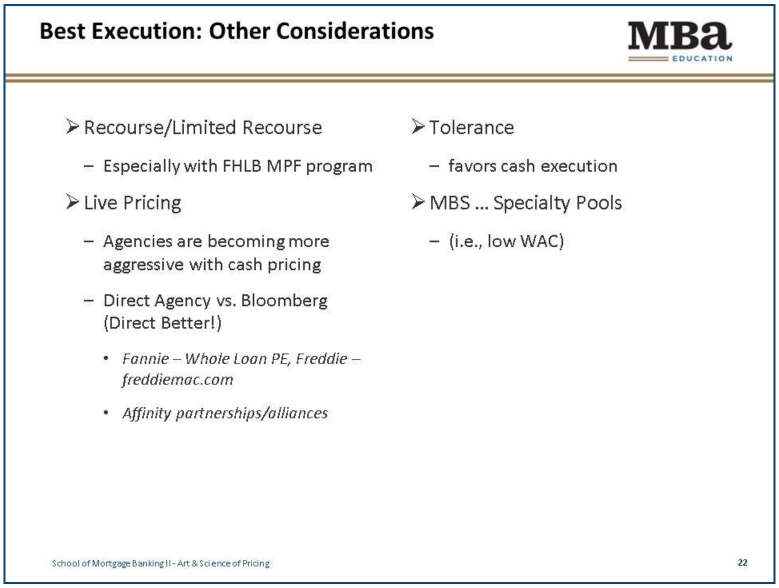
Best Execution Recap



The credit enhancements might be that the originating lender put mortgage insurance on this loan in order to protect the investor from credit risk or is willing to pay a fee to offset liability.

Contingent liability may result on a particular loan or group of loans because of some set of possible circumstances that might affect the performance of that loan or group of loans.

Best Execution - Other Considerations



When talking about other considerations relative to best execution the issue of recourse must be considered. From a secondary perspective, recourse refers to the terms surrounding a loan that the originating lender may have to buy back in the case of default or some other defect in the loan. This is especially important today as the possibility of having to buy back the loan far outweighs any small amount of difference in the pricing of recourse vs. nonrecourse loans. The agencies are hungry for loans made to traditional underwriting guidelines, where loans are fully documented and credit enhancements are offered for anything that has high LTVs. As a result, the agencies are aggressive with their cash pricing for loan packages that fit this model. There may also be special consideration given to MBS where special pools of loans have been created with very low interest rates. The assumption is that there will be very little pre-payment or run-off on those pools.

FHLB – MPF 35 Program

FHLB – MPF 35 Program – Quick Overview of Program

The MPF 35 product allows you to share the risks associated with home mortgage finance with your Federal Home Loan Bank (FHLBank). MPF 35 offers you, a Participating Financial Institution (PFI) the ability to originate, sell and service fixed-rate, conventional residential mortgage loans and receive a credit enhancement fee for your credit expertise. Your FHLBank manages the liquidity, interest rate, and prepayment risks of the loans while you manage the credit risk of the loans. The credit risk sharing feature of MPF 35 allocates any future loan losses, after equity and private mortgage insurance are depleted, between the PFI and its FHLBank.

Features

- Credit Enhancement Fees: A mutually agreed upon amount ranging from 7 basis points (0.07%) up to 14 basis points (0.14%) annualized on the outstanding Master Commitment balances made up of two components:
  - A fixed rate portion paid monthly beginning the month after delivery; and
  - A performance-based portion paid monthly beginning the 13th month after delivery after deducting any losses (up to the amount of the First Loss Account)
- Remittance Options: Actual/Actual, Actual/Actual Single Remittance, and Scheduled/Scheduled
- Servicing Fees: 25 basis points (0.25%) paid monthly

Credit Risk Sharing - How it works

Borrower equity and, for loans with an original loan-to-value ratio greater than 80%, private mortgage insurance are the initial layers to absorb losses. The MPF 35 credit structure has three additional layers of loss protection:

First Loss Account

The first layer of loss, called the First Loss Account or FLA, is absorbed by the FHLBank. The amount of the FLA is typically equal to 35 basis points (0.35%) of the funded amount of all the loans in a Master Commitment.

Credit Enhancement Obligation

Any losses in excess of the FLA are allocated to the second layer Credit Enhancement obligation, or CE, which is provided by the PFI. This loss protection amount is equal to the total credit enhancement for a Master Commitment minus the FLA. The PFI may chose to enter into an agreement with a third party, such as a supplemental mortgage insurer, to obtain coverage that would reduce their exposure to losses resulting from their CE obligation.

Excess Losses

Any loan losses that exceed the FLA and CE layers are absorbed by the FHLBank.

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Fannie Mae Loan-Level Pricing Adjustments

Fannie Mae Loan-Level Pricing Adjustments (LLPA)

- Loan-Level Price Adjustment (LLPA) Matrix
  - LLPAs are assessed based upon certain eligibility or other loan features, such as credit score, loan purpose, occupancy, number of units, product type, etc. Special feature codes (SFCs) that are required when delivering loans with these features are listed next to the applicable LLPAs. ***Refer to the Selling Guide, Eligibility Matrix, and your contracts with Fannie Mae to determine loan eligibility.***
- Pricing Guidelines for LLPAs
  - All LLPAs are cumulative. The LLPAs apply to all loans that meet the stated criteria for the LLPA, unless otherwise noted or excluded.

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Fannie Mae LLPAs Example Table: Mortgages with Subordinate Financing

Fannie Mae LLPAs Example Table: Mortgages with Subordinate Financing

Table 3: Mortgages with Subordinate Financing [4] [5] (excluding MCM)

All mortgages where the CLTV exceeds the LTV		0.375%		SFC: N/A
Applicable for all mortgages that meet these LTV and CLTV ranges and credit score requirements (the LLPAs below are in addition to the LLPA above)				
LTV Range	**CLTV Range**	**Credit Score < 720**	**Credit Score ≥ 720**	**SFC**
≤ 65.00%	80.01% – 95.00%	0.500%	0.250%	N/A
65.01% – 75.00%	80.01% – 95.00%	0.750%	0.500%	N/A
75.01% – 95.00%	90.01% – 95.00%	1.000%	0.750%	N/A
75.01% – 90.00%	76.01% – 90.00%	1.000%	0.750%	N/A
≤ 95.00%	95.01% – 97.00%	1.500%		N/A

(4) If the subordinate financing is a Community Seconds®loan, these LLPAs do **not** apply and the lender must use SFC 118. Refer to the *Eligibility Matrix* for maximum CLTV ratios for loans with Community Seconds.

(5) The LLPAs in this table are based on the CLTV, which does **not** include the undrawn portion of a home equity line of credit.

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Fannie Mae Pricing & Execution – Whole Loan (PE – Whole Loan)

MBA EDUCATION

- Pricing & Execution – Whole Loan (PE – Whole Loan) enhances, replaces, and combines Fannie Mae's current committing applications, eCommitting™ (eC) and eCommitONE® (eC1).
- **PE – Whole Loan Benefits & Features**
  - Mandatory and best efforts execution on a single platform
  - Intuitive committing experience
  - Enhanced views into your pipeline o Upcoming commitment expirations displayed at log-in
  - E-mail notifications for commitments, pair-offs, over-deliveries, and extensions
  - Comprehensive fee reporting
  - Advanced Search functionality

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Fannie Mae Pricing & Execution – Whole Loan (PE – Whole Loan) cont.

MBA EDUCATION


FannieMae

Pricing & Execution – Whole Loan

Pricing & Execution – Whole Loan (PE – Whole Loan) enhances, replaces, and combines Fannie Mae's current committing applications, eCommitting™ (eC) and eCommitONE® (eC1)!

Making it easier to do business with Fannie Mae...

PE – Whole Loan Transition in 2015

- The PE – Whole Loan application retains most of the features available today while introducing some exciting **new features** to the committing and pipeline management experience.
- PE – Whole Loan will be available via a phased rollout throughout 2015.
  - The **transition is seamless**, no registration or process changes will be required, and each lender's commitments and access will be migrated directly from eC and eC1 into PE – Whole Loan. Users will be notified of their transition date via email 60 days in advance.

PE – Whole Loan Benefits and Features...

- Mandatory and best efforts execution on a single platform
- Intuitive committing experience
  - Multi-price download offers pricing and execution efficiency
  - Customized browse pricing templates to better meet rate sheet and committing needs
  - Pass-through rate highlighting enables easy transition from browsing to committing
  - Tailored user experience based on most frequent actions
- Enhanced views into your pipeline
  - Upcoming commitment expirations displayed at log-in
  - Robust committing and delivery activity details
- E-mail notifications for commitments, pair-offs, over-deliveries, and extensions
- Comprehensive fee reporting
- Advanced Search functionality

Feedback from Early Adopters of PE – Whole Loan:

"Being able to look at pricing for more than one product at a time makes setting rates faster every day."

"Makes my job easier!" *"Very user friendly."*

"The transition was seamless, website is easy to navigate, and new features improve daily work function."

PE – Whole Loan Support

Contact the Capital Markets Sales Desk at pe_wholeloansupport@fanniemae.com or 1-800-752-0257.

PE – Whole Loan Resources

- Online Recorded Tutorial
- Job Aids
- FAQs
- And more!

May 2015

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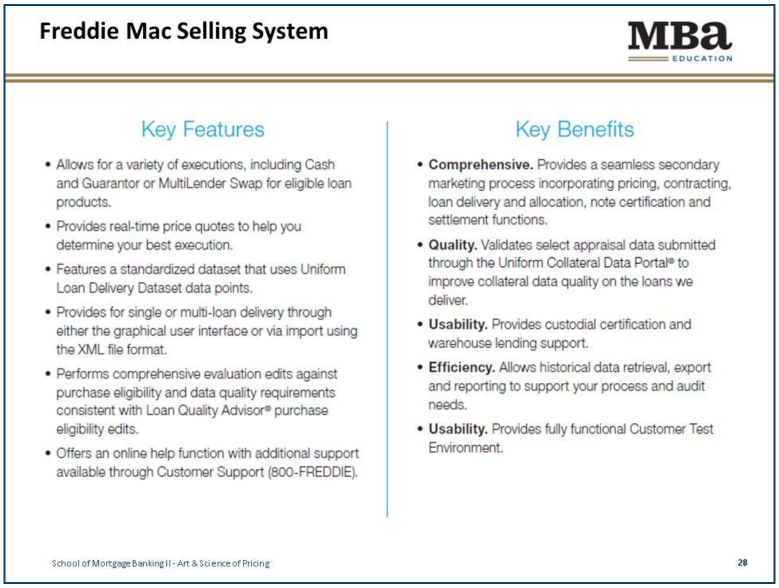
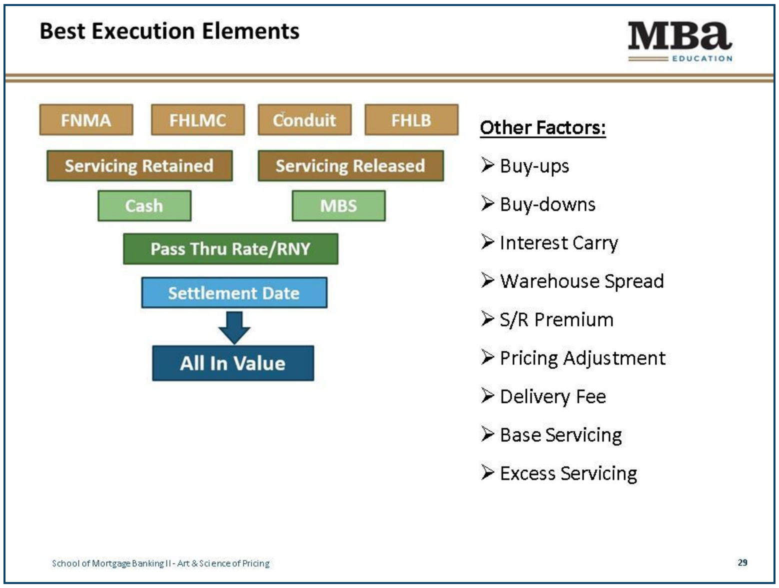
MBA MORTGAGE BANKERS ASSOCIATION

Freddie Mac Selling System

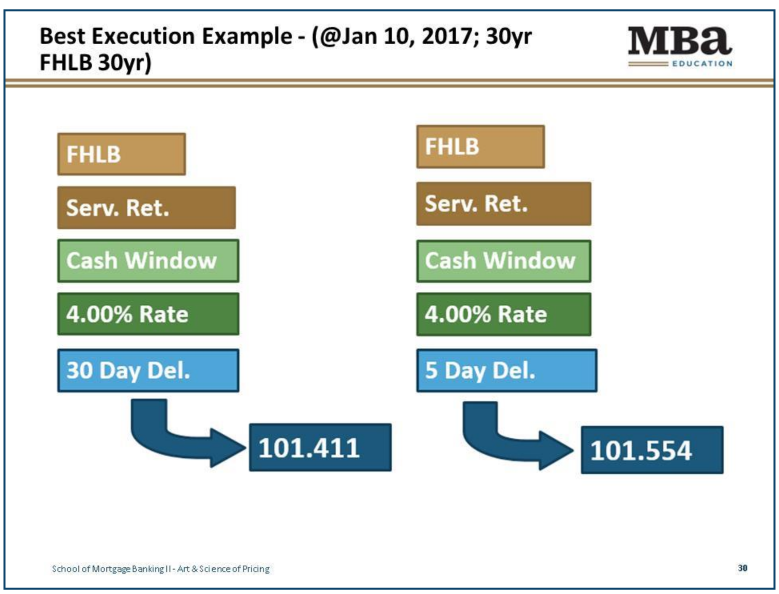


Best Execution Elements



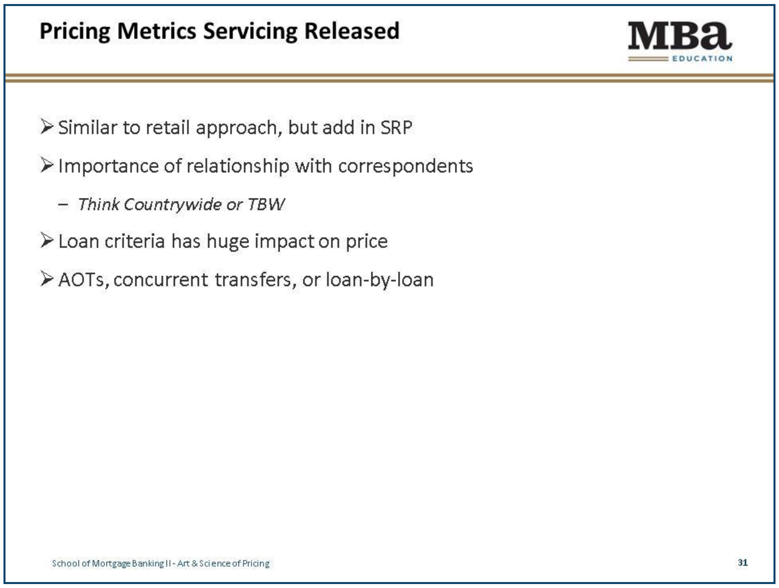
This illustration shows each layer of factors (associated with each of the major players) that should be considered in the decision tree for best execution. Though the chart does not illustrate the dollar difference, it does exemplify the number of elements that go into the decision and the variables that may affect that decision.

Best Execution Example



In this example, the difference in price is illustrated by changing only one of the factors mentioned on the previous slide. A common mistake by many lenders is taking down a 30-day commitment for all loans, even if some of the loans being sold have already been closed and could be shipped in a much shorter time frame. This illustrates that doing what is comfortable (i.e., what they are used to or easy), may not be the best execution for a particular trade.

Pricing Metrics: Retail – Servicing Released



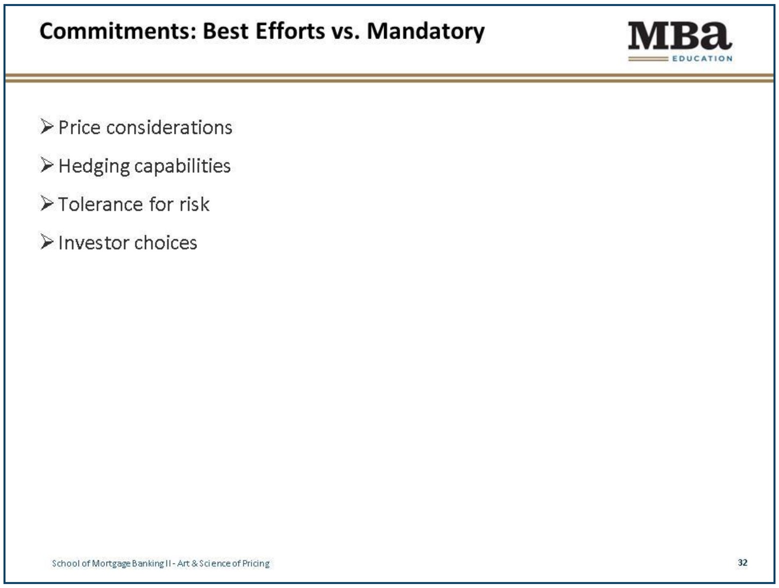
When an institution chooses to do business with a broker or correspondent, they must pay them a servicing released premium in order to have control over the whole loan. Both the asset and the servicing rights have a value and paying for the loan is fairly straight forward; however, deciding what to pay them to release the servicing rights may be a matter of appetite for a certain product and a willingness to service or not. Assignment of trade (AOT) is the term used when a loan is replaced in a pool that would be a mandatory delivery.

Commitments: Best Efforts vs. Mandatory

In this segment, we will look at the following topics:

- Commitments: Best Efforts vs. Mandatory

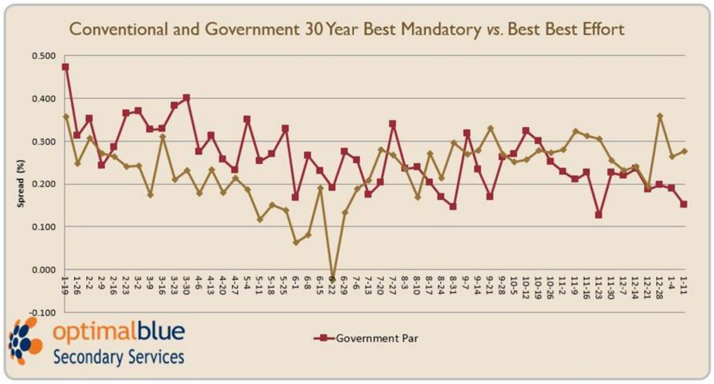
Commitments: Best Efforts vs. Mandatory



An institution using “best efforts” will never know exactly what the profit or loss will be on a loan until it is sold. This method relies heavily on secondary marketing manager’s expertise and the market conditions at delivery.

A mandatory delivery on the other hand represents a bilateral commitment on the part of the originating lender (to deliver) and on the part of the investor/aggregator (to buy) that loan at a predetermined price. The price is negotiated at the time the lender registers the loan, with the investor. At this time, the investor agrees to buy the loan at a specific rate and price. If an institution uses mandatory deliveries, it has the ability to substitute a loan with similar terms in the event a loan should fall out. In a group of loans, this substitution is called an assignment of trade (AOT).

Commitments: Best Efforts vs. Mandatory



School of Mortgage Banking II - Art & Science of Pricing

33

Pricing Engines

In this segment, we will look at the following topics:

- Pricing Engines: Product, Pricing, Eligibility (PPEs)
- QM Check
- PPE with Best Execution Strategy
- The Holy Grail: Historical Pricing
- PPEs & Compliance

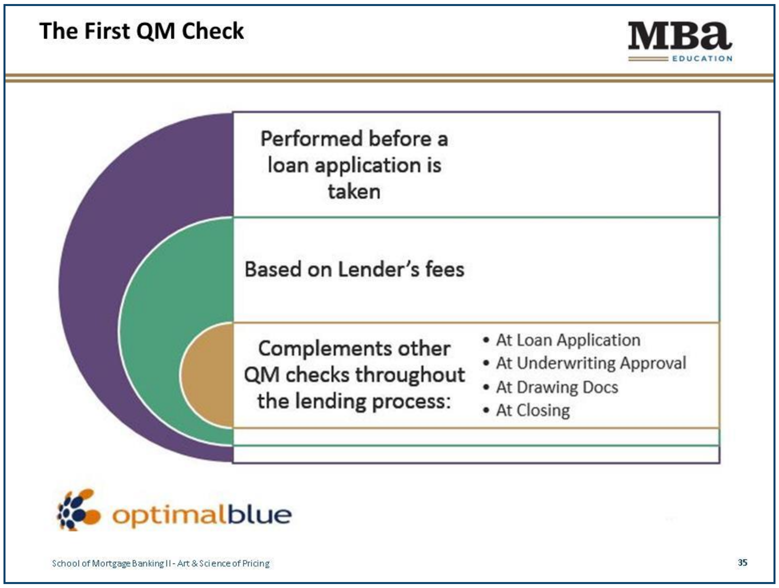
Pricing Engines: Product, Pricing, Eligibility (PPEs)

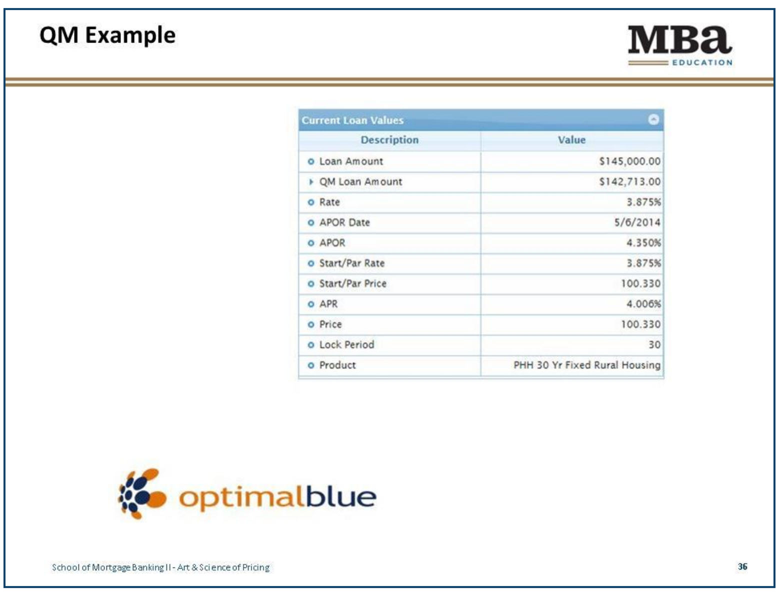
Pricing Engines: Product, Pricing, Eligibility (PPEs)

MBa EDUCATION

- Automates Price considerations
- Real Time
- Maximize Profitability & Competiveness
- Customize Pricing at
  - Originator
  - Investor
  - Business Channel
- **Enterprise Lending Services** A PPE Is More Than Just Pricing
- *(**OptimalBlue** is one of several vendors in PPE space)*

QM Check





Description	Value
Loan Amount	$145,000.00
QM Loan Amount	$142,713.00
Rate	3.875%
APOR Date	5/6/2014
APOR	4.350%
Start/Par Rate	3.875%
Start/Par Price	100.330
APR	4.006%
Price	100.330
Lock Period	30
Product	PHH 30 Yr Fixed Rural Housing

QM Example

QM Trace Information

Description	Value	Lender Limit	CFPB Limit	Passes Lender Limit
Toxic Features				✔
HPML (APR Minus APOR)	-0.344%	1.500%	1.500%	✔
DTI	28.000%	43.000%	43.000%	✔
Points and Fees	$2,287.00 / 1.577%	$4,281.39 / 3.000%	$4,281.39 / 3.000%	✔
Excludable Bona Fide Discount Points	$0.00 / 0.000%	$2,900.00 / 2.000%	$2,900.00 / 2.000%	

QM Points and Fees

Description	Current Amount	QM Impact Amount
Finance Charges	$2,287.00 / 1.577%	$2,287.00 / 1.577%
Total Bona Fide Discount Points	$0.00 / 0.000%	$0.00 / 0.000%
Non-Bona Fide Discount Points	$0.00 / 0.000%	$0.00 / 0.000%
LO Comp Dollars	$1,700.00 / 1.172%	$0.00 / 0.000%
LLPAs/SRPs	$0.00 / 0.000%	$0.00 / 0.000%
Total QM Points and Fees:		**$2,287.00 / 1.577%**

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PPE and Best Execution Strategy

PPE and Best Execution Strategy

- PPE gives Secondary Marketing global view of pipelines
- Identifies/calculates best execution
  - Best Efforts vs.
  - Mandatory vs.
  - AOT/Direct Trade
- Can co-mingle portfolio, aggregator, agency products at one time.

School of Mortgage Banking II - Art & Science of Pricing 38

Best Execution – Secondary

Best Execution-Secondary

Links	Investor	Eligible Product	Rate	Price	Days	Spread	Profit	Detail
MI	Flagstar Mandatory -	Fannie Mae 30 Year Fixed (5301)	4.000	101.146	45	.880	$2,023	Show
MI	Flagstar -	Fannie Mae 30 Year Fixed (5301)	4.000	100.926	45	.660	$1,517	Show
MI	Flagstar Mandatory -	Freddie Mac 30 Year Fixed Rate (5302)	4.000	100.807	45	.541	$1,244	Show
MI	US Bank National Correspondent -	Conforming FHLMC 30 Yr Fixed (3601)	4.000	100.692	45	.426	$980	Show
MI	US Bank National Correspondent -	FNMA Conforming 30 Yr Fixed (3501/3505)	4.000	100.692	45	.426	$980	Show
MI	BB&T -	Conforming 30 Yr Fixed (101)	4.000	100.671	45	.405	$932	Show
MI	Flagstar -	Freddie Mac 30 Year Fixed Rate (5302)	4.000	100.587	45	.321	$738	Show
MI	Citi Mandatory -	Agency 30 Yr Fixed	4.000	100.455	45	.189	$435	Show
MI	US Bank National Correspondent -	Conforming Home Possible 95% LTV (w/3% Cash Downpayment) 30 Yr Fixed (3698)	4.000	100.442	45	.176	$405	Show
MI	US Bank National Correspondent -	Conforming Home Possible 95% LTV 30 Yr. (3687)	4.000	100.442	45	.176	$405	Show
MI	GMAC -	Conforming 30 Yr Fixed FHLMC (348)	4.000	100.376	45	.110	$253	Show
MI	GMAC -	Conforming 30 Yr Fixed FHLMC - NO 4.99 (348)	4.000	100.376	45	.110	$253	Show
MI	GMAC -	Conforming 30 Yr Fixed FNMA (346)	4.000	100.376	45	.110	$253	Show
MI	GMAC -	Conforming 30 Yr Fixed FNMA - NO 4.99 (346)	4.000	100.376	45	.110	$253	Show
MI	Mortgage Services III -	Conforming 30 Yr Fixed (300000)	4.000	100.268	45	.002	$5	Show

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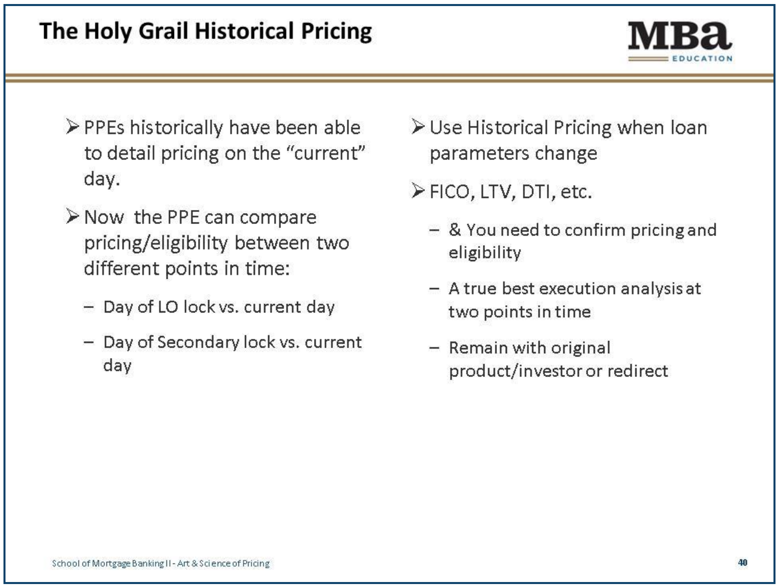
School of Mortgage Banking II - Art & Science of Pricing 39

The Holy Grail: Historical Pricing



PPEs and Compliance

PPEs and Compliance

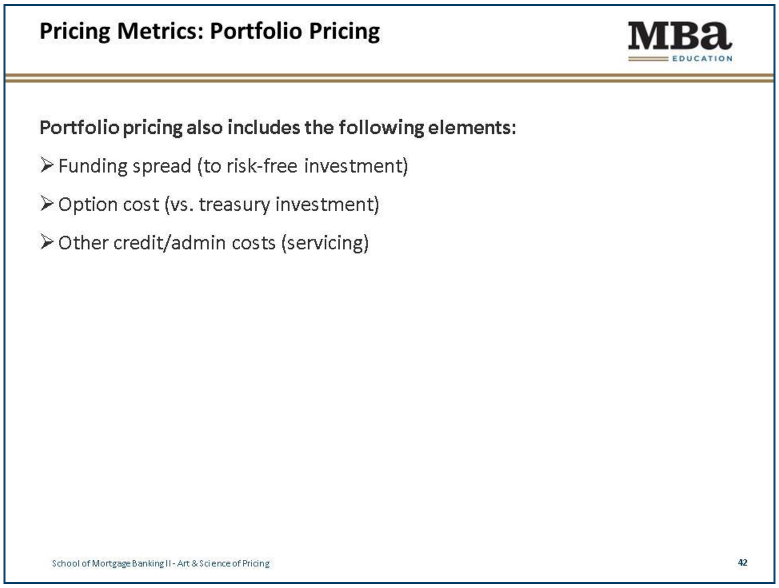
- Fully integrating a PPE into LO workflows can improve compliance with fair lending policies.
  - Compare LO performance against lender policies.
  - Creates a historical record attached to the loan.
- Your PPE should be able to help monitor fair lending risk.
  - Can highlight "exception" loans, those outside of normal (higher rates and minority borrowers).
  - Helps define the market at time of lock; what other products were available and at what rate & price.
- Gives Compliance Officer a chance to audit before closing avoiding a non-compliant loan.

Pricing Metrics: Portfolio Pricing

In this segment, we will look at the following topics:

- Pricing Metrics: Portfolio Pricing

Pricing Metrics: Portfolio Pricing



When a particular product is developed in order to attract mortgage loans which an institution intends to keep in its own portfolio, the pricing is usually set to attract that production. For example, an institution might make the strategic decision to invest in community redevelopment and offer CRA loans that they will also service.

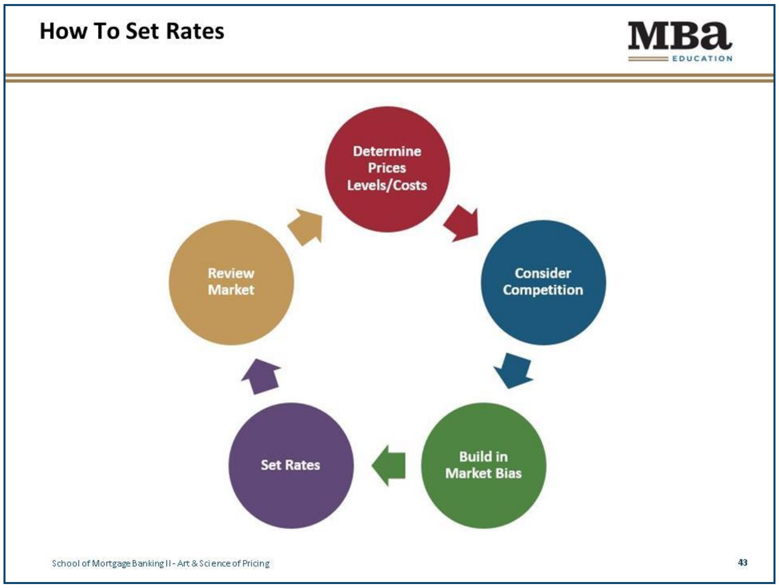
Often a bank or bank holding company will make a decision to retain both the loan and the servicing on specific products in order to establish relationships with particular consumers to cross sell other bank products and services. This practice of retaining all loans – if it were done exclusively – would limit the bank's liquidity and eventually its ability to continue to lend.

Wrap Up

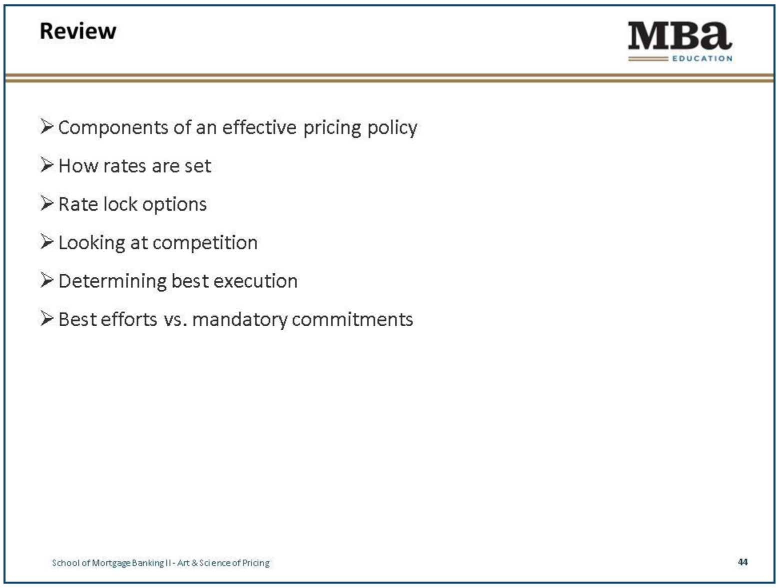
In this segment, we will look at the following topics:

- How to Set Rates

How to Set Rates



Review



Objectives Review

Upon completion of this module, you will be able to:

- Determine what factors drive rates and how those factors affect how prices are set.
- Identify rate lock options, how they are used and when they are necessary.
- Define who your competition is and in what areas you are really competing.
- Understand what is meant by “Best Execution,” when it should be employed and why.
- Understand the difference between “Best Efforts” and Mandatory deliveries.

Session Evaluation

Class:

Module: Instructor: Date:

Instructor Evaluation

Please respond to the following statements using the numeric scale of:

4 - Strongly Agree **3 =** Agree **2 =** Disagree **1** = Strongly Disagree **N/A** = Not applicable

The instructor demonstrated a superior knowledge of the subject material.	
The instructor provided clear, comprehensive, and satisfactory answers to questions and allotted enough time to answer all questions.	
The instructor used a delivery and presentation style that inspired my attention and interest in the topic.	
The instructor successfully managed the session's time allotment.	

Course Materials and Content

The session felt well paced and allowed for effective knowledge, acquisition, and retention.	
The session content increased my comfort level with the subject matter.	
Interactive exercises such as practice and discussion questions, case studies, quizzes, etc., were engaging and helped me learn the material.	

Overall

With regard to overall content, presentation and delivery, I am satisfied with the value of this session.	

If there was any information you believe is erroneous or out-of-date that should be reviewed by a subject matter expert, please indicate the page number and/or slide title.

Please use the back of this page to provide any additional feedback you have.

Additional Feedback

Please add any additional comments you have.

Thank you for your valuable feedback!

Pipeline Hedging

School of Mortgage Banking II

Table of Contents

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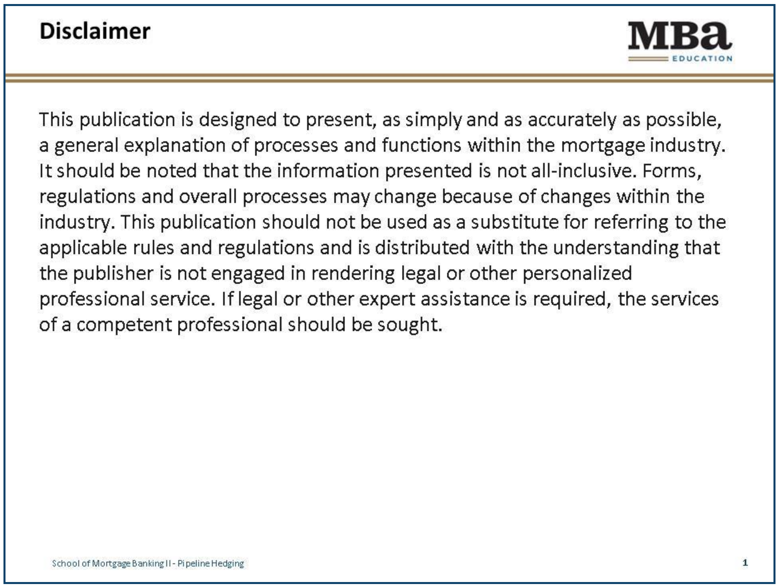
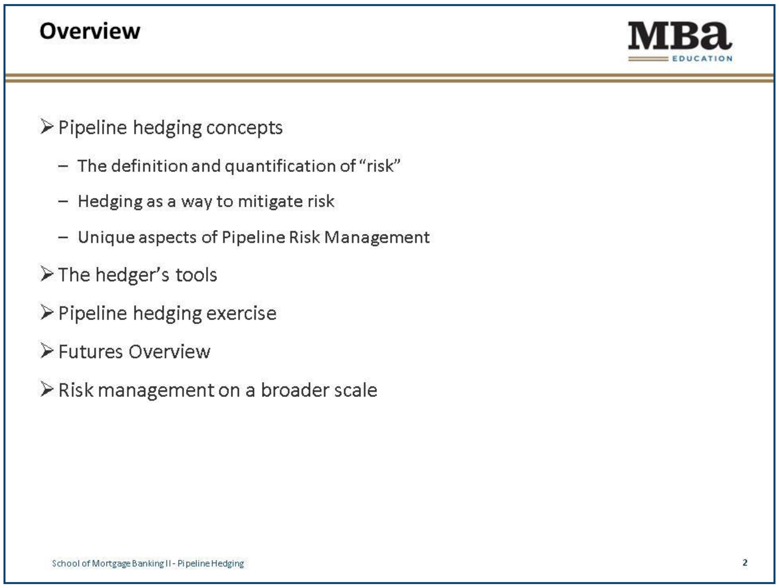


This publication is designed to present, as simply and as accurately as possible, a general explanation of processes and functions within the mortgage industry. It should be noted that the information presented is not all-inclusive. Forms, regulations and overall processes may change because of changes within the industry. This publication should not be used as a substitute for referring to the applicable rules and regulations and is distributed with the understanding that the publisher is not engaged in rendering legal or other personalized professional service. If legal or other expert assistance is required, the services of a competent professional should be sought.

Overview and Objectives

Overview



This module is designed to identify risks involved in originating and locking in rates on mortgage loans. We will discuss pipeline management in detail and consider how to mitigate the risks associated with managing the pipeline.

We will also describe the methods used to minimize those risks and address the policies and procedures that need to be in place to manage risk effectively.

Objectives

Upon completion of this module, you will be able to:

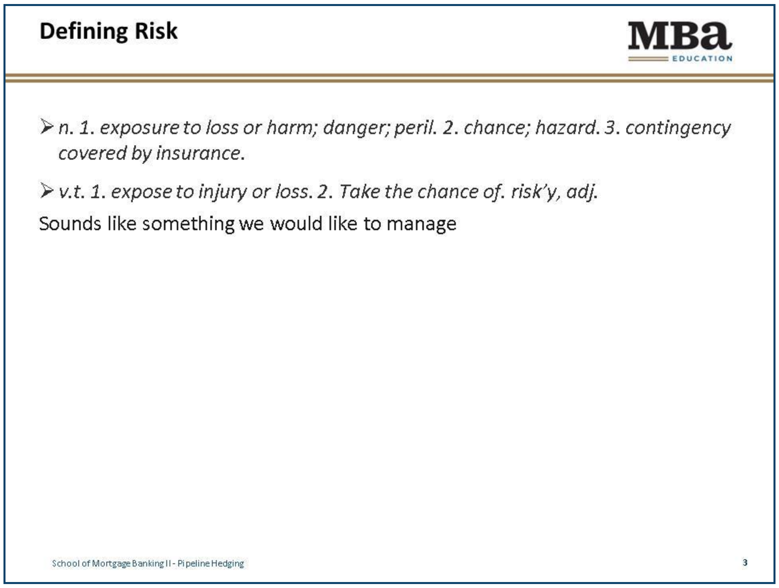
- Understand the risks involved in managing a pipeline.
- Understand why pipeline management is so important.
- Explain the types of pipeline risk.
- Monitor a pipeline and measure fallout by type.
- Determine what to "hedge" and why.
- Perform a market analysis.
- Complete a pipeline exercise.
- Demonstrate a basic understanding of futures and how they are used to hedge a pipeline.

Hedging a Rate Lock

In this segment, we will cover the following topics:

- Defining Risk
- Three Steps in Risk Management
- Four Primary Types of Risk
- Pipeline Hedging – A Very Specific Case of Risk Management
- Two Big Risks for Pipeline and Warehouse Managers
- Fallout
- Hedge Costs

Defining Risk



The risk associated with committing to a borrower to do a specific mortgage loan at a specific rate and terms is a calculated risk that mortgage lenders take on every day. How lenders deal with that risk and how much it costs to insure their ability to perform profitably is what hedging is all about.

Three Steps in Risk Management

Four Primary Types of Risk

Four Primary Types of Risk

Market Risk	Credit Risk	Operational Risk	Business Risk
➢ Exposure to movements in the markets in which the institution participates ➢ Interest rate risk ➢ Commodity risk	➢ Exposure to default of obligors ➢ Default risk ➢ Credit spread risk ➢ Counterparty risk	➢ Exposure to risks associated with inadequate controls ➢ Rogue traders ➢ Legal risk ➢ Procedural risk	➢ Exposure to inability to generate profitable transactions in the future ➢ Poor product development ➢ Overreliance on a single funding source / investor execution

School of Mortgage Banking II - Pipeline Hedging 5

Measurement Depends on Type of Risk

Measurement Depends on Type of Risk

Market Risk	Credit Risk	Operational Risk	Business Risk
➢ Amenable to quantification, but proper quantification can require robust models	➢ Amenable to quantification, but proper quantification can require robust models	➢ Difficult to quantify ➢ Either constant, low-level events or rare catastrophic events	➢ Difficult to quantify

School of Mortgage Banking II - Pipeline Hedging 6

Mitigation Depends on Type of Risk

Mitigation Depends on Type of Risk

Market Risk	Credit Risk	Operational Risk	Business Risk
➢ Can be **hedged** relatively cheaply	➢ Diversification ➢ Contract structure (for example, indentures) ➢ Institutional structure (for example, clearinghouses) ➢ Hedging (credit derivatives) is relatively more costly	➢ Common-sense procedures ➢ Oversight ➢ Internal and external audits	➢ Contingency planning ➢ Stress testing

School of Mortgage Banking II - Pipeline Hedging 7

Interest Rate Risk

Interest Rate Risk: a Subset of Market Risk

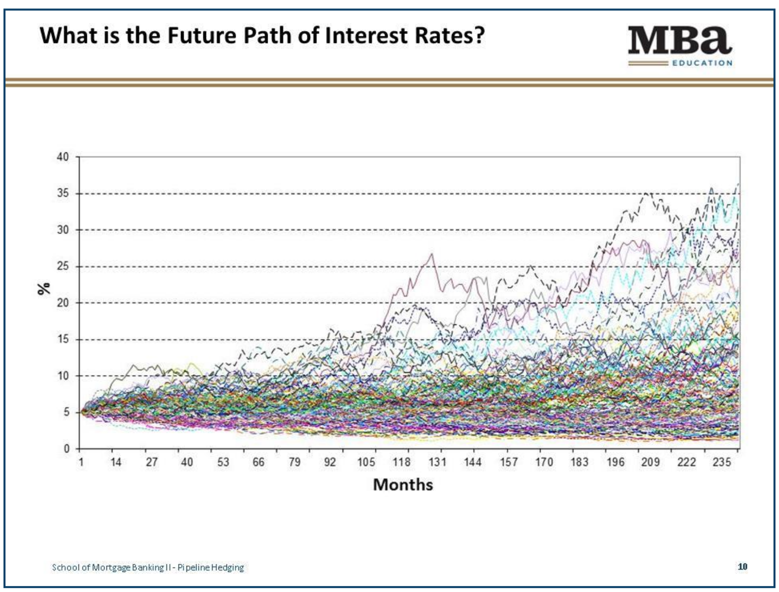
Interest Rate Risk - a Subset of Market Risk

- Interest rate risk is the uncertainty in earnings or market value resulting from ignorance of the future course of interest rates
- Mortgage valuations (rate locks [the pipeline]) and closed loans [the warehouse]) are sensitive to changes in interest rates
- In order to effectively communicate and mitigate interest rate risk, it is necessary to have quantitative measures
- Proper use of those measures helps us construct the proper hedge

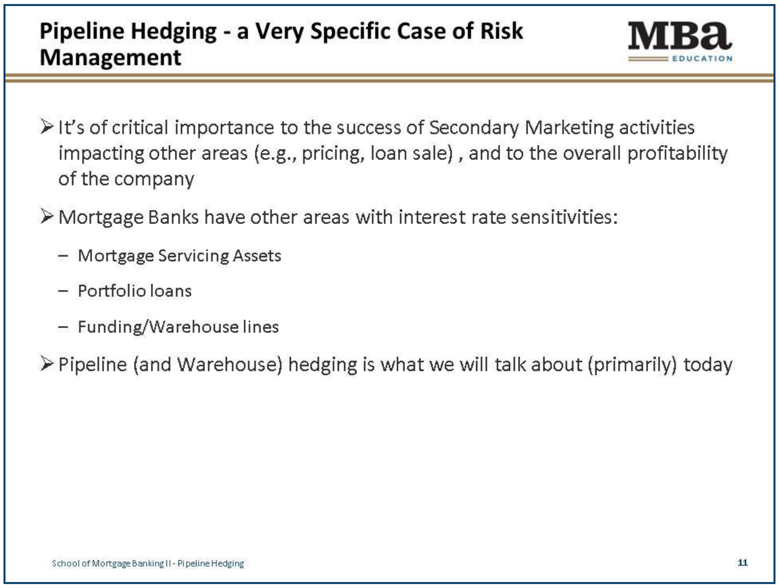
School of Mortgage Banking II - Pipeline Hedging 8

Rate Review

What is Future Path of Interest Rates?

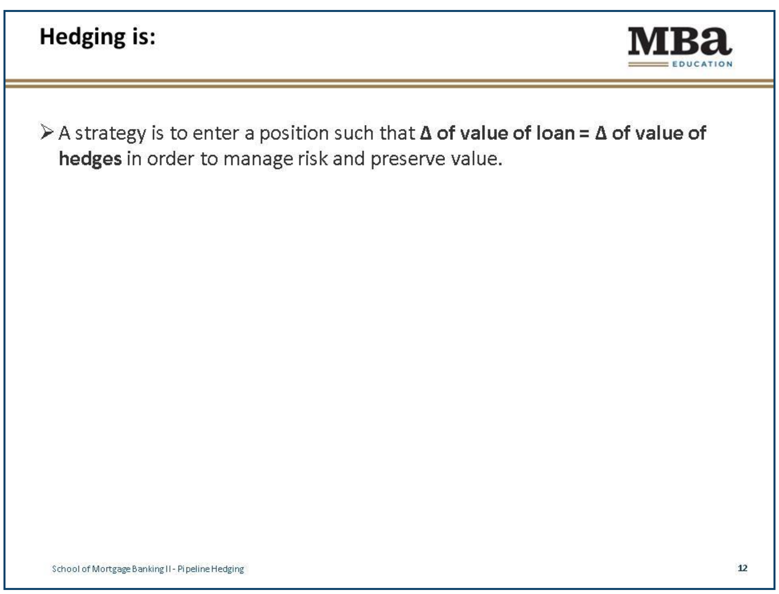


Pipeline Hedging – A Very Specific Case of Risk Management



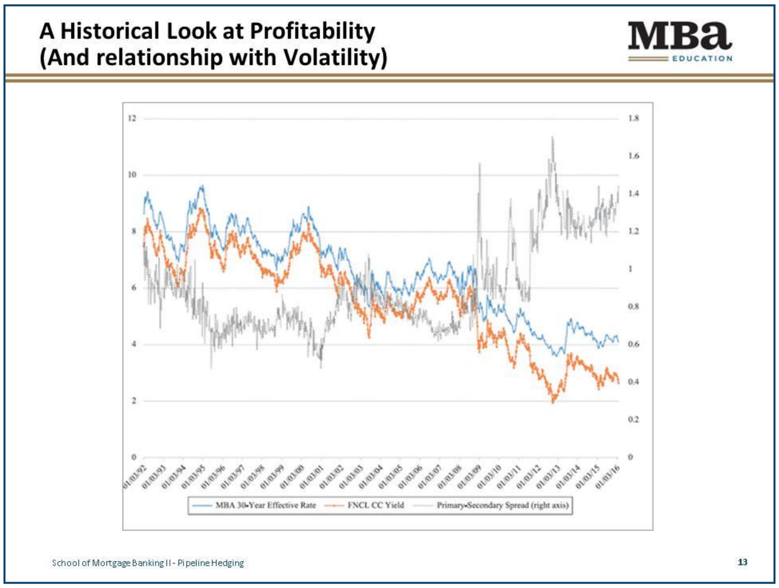
Managing a pipeline to ensure that the value is protected and the interest rate risk is minimized requires vigilance on the part of the secondary marketing team of any institution. Such vigilance will ensure that the pipeline management issues are adequately addressed and understood from a strategic and practical level within your organization; thus minimizing the risk associated with an underdeveloped hedging plan.

Hedging – Definitions

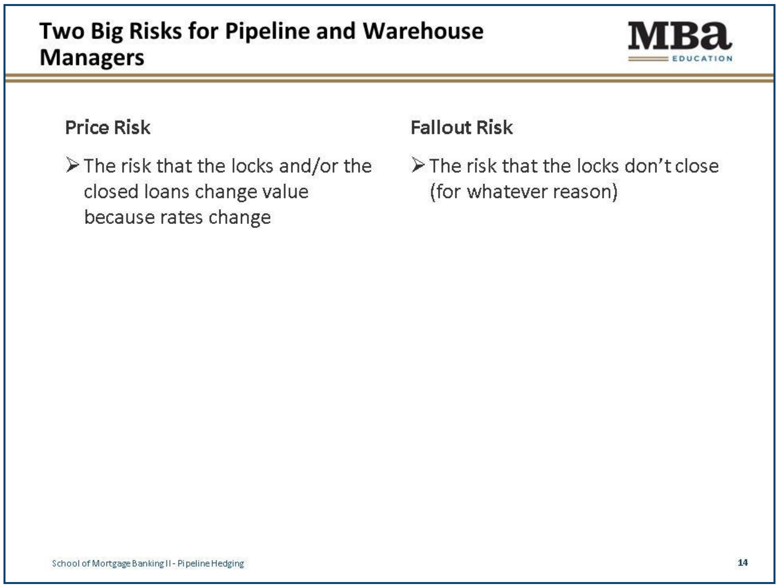


MBA's *Mortgage Banking Terms, A Working Glossary 10th Edition (2004)* defines hedging as marketing strategy that reduces or transfers risk of loss from changes in market interest rate.

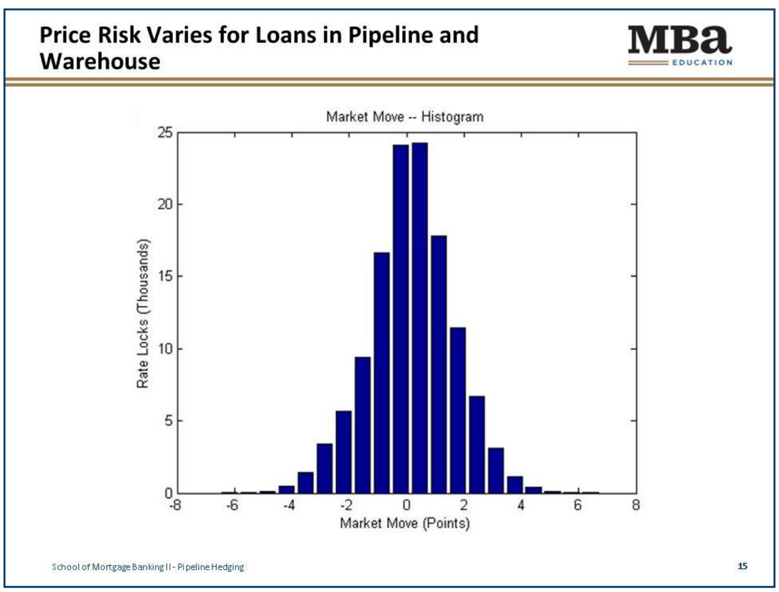
A Historical Look at Profitability



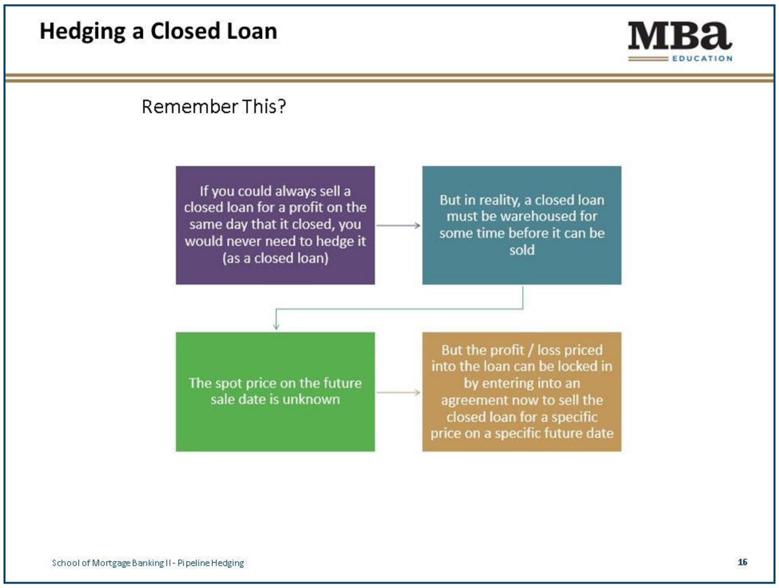
Two Big Risks for Pipeline and Warehouse Managers

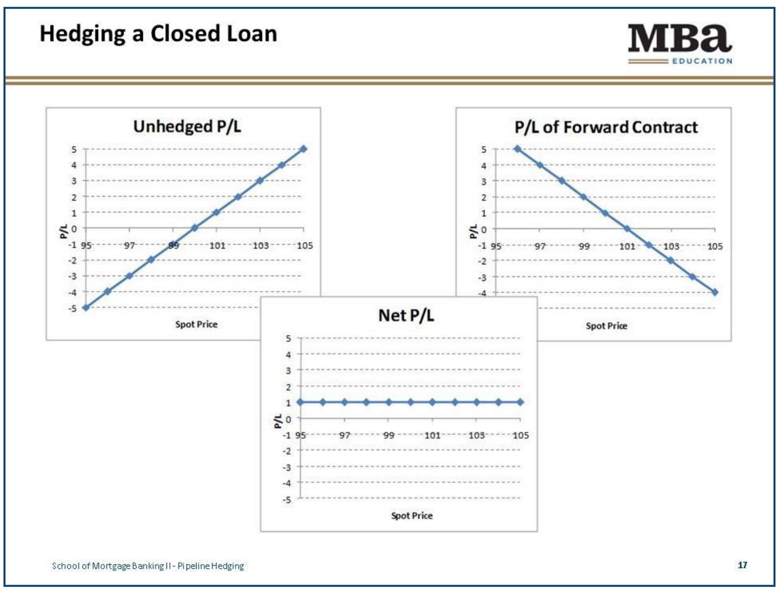


Price Risk Varies for Loans in Pipeline and Warehouse



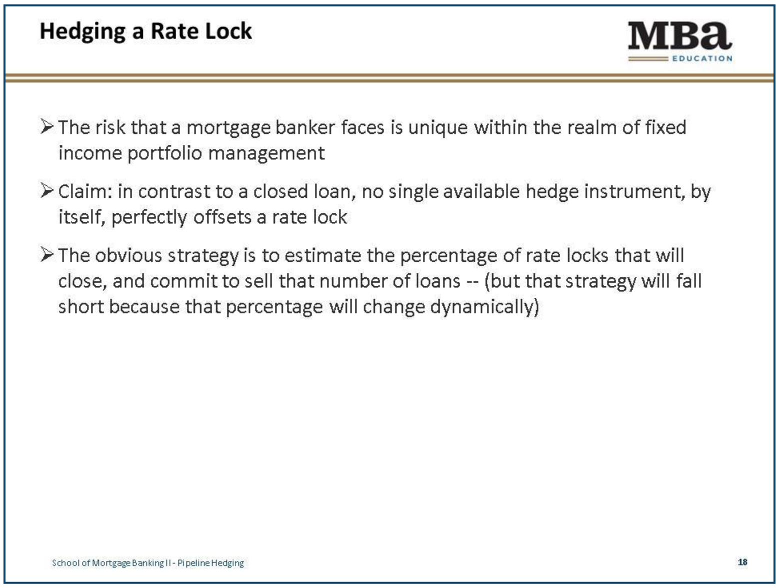
Hedging a Closed Loan



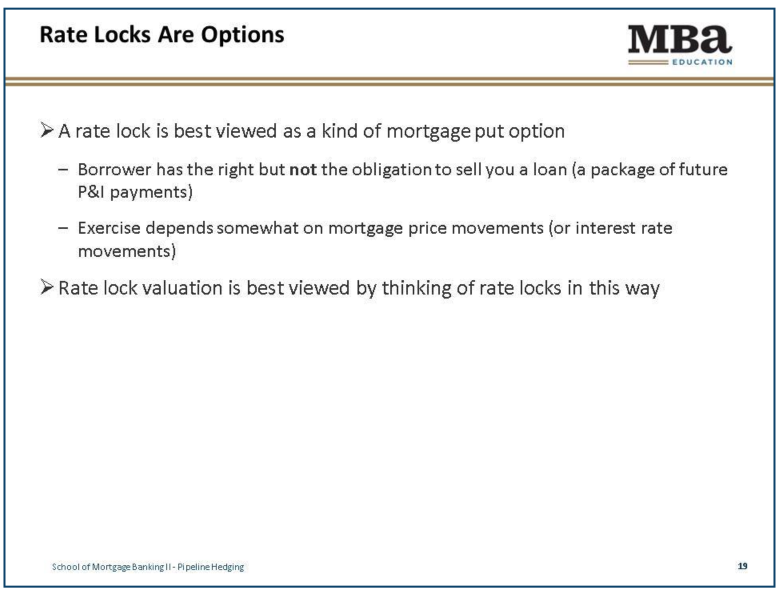


MBa MORTGAGE BANKERS ASSOCIATION

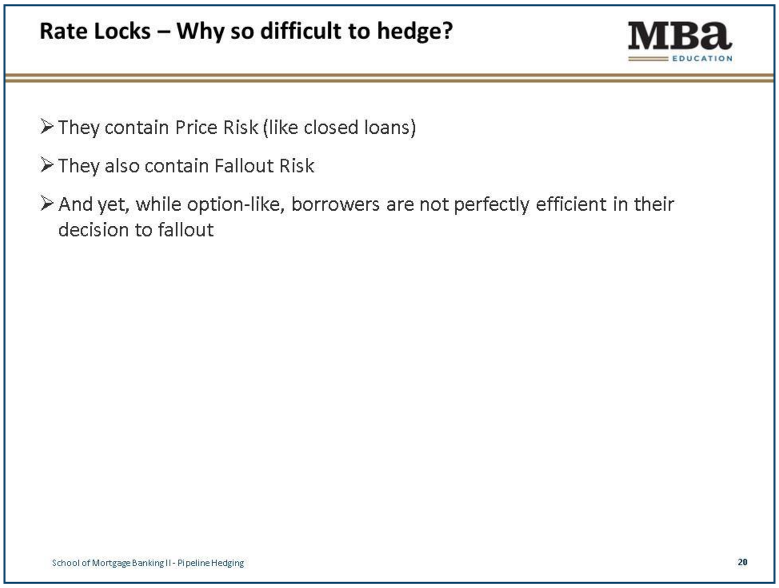
Hedging a Rate Lock



Rate Locks Are Options

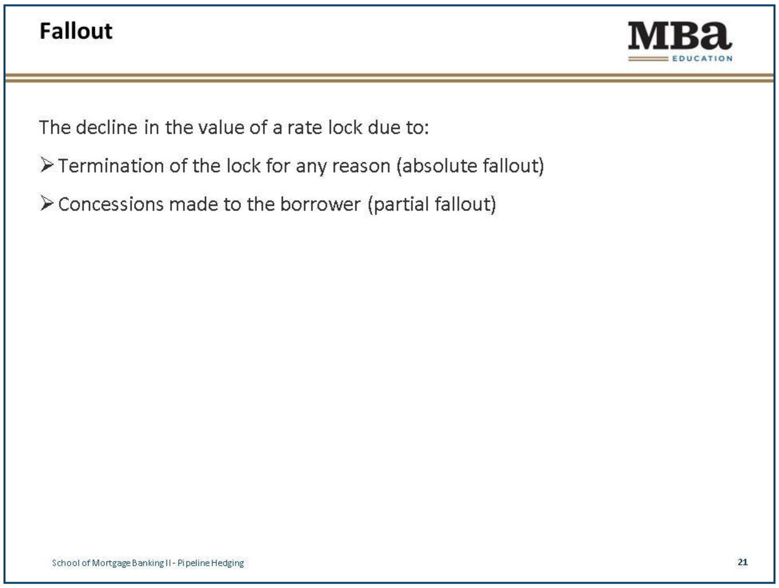


Rate Locks: Why So Difficult to Hedge?



Fallout

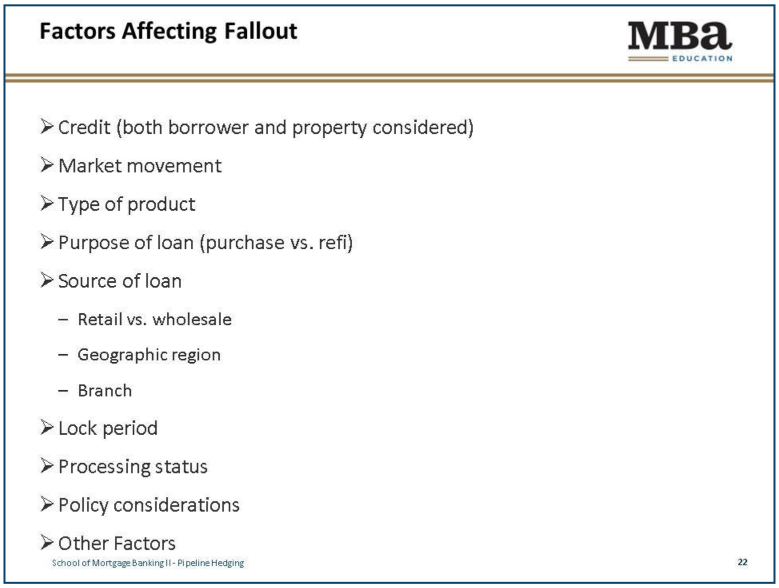
Fallout Definition



Fallout is a term used to describe those loans that do not complete the life cycle that begins with registration and origination and ends with the sale of a closed loan.
The decline in value of a rate lock may happen because a borrower does not qualify for the loan they applied for or they simply withdraw an application (absolute fallout).

Alternatively, it may be that rates fall dramatically and a customer who was locked in at a higher rate, despite the rate lock, refuses to close at the higher rate. The lender may make a concession knowing that it would be better to close and deliver that loan rather than have it fall out completely.

Factors Affecting Fallout



Product, purpose, source, lock period, processing status and policy consideration all have influence on the ability to deliver under the agreement made with both the borrower and the investor.

As an example, consider the fact that a loan is a refinance and the borrower is only refinancing in order to reduce the loan rate. If interest rates go up, the refi may no longer be appropriate.

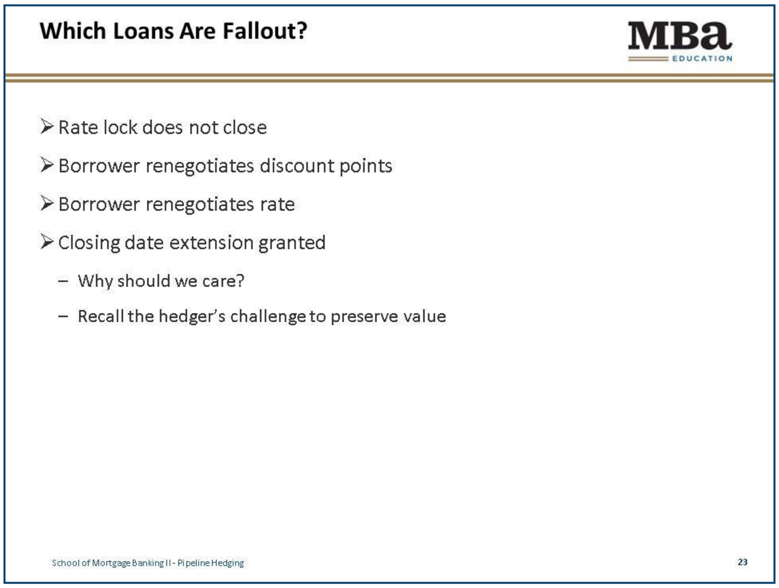
Other factors include:

- Qualification – The borrower did not qualify for the program for which he or she applied or changes his or her mind
- Rate movement – The loan was locked at a higher rate (with no float down capability), rates go down, and buyer walks to secure a lower rate.
- Changes in product guidelines – Product guidelines may limit the time a particular program is available.

During the origination process, it is extremely important for the origination/processing teams to work closely together to monitor fallout in a pipeline so that monies are not being spent to "hedge" a loan that is no longer expected to close. Any adverse action issued to a borrower should be noted and accounted for. *(Adverse action is a disclosure to the borrower of some reason why the loan cannot be completed as applied for, such as a lack of requested documentation.)*

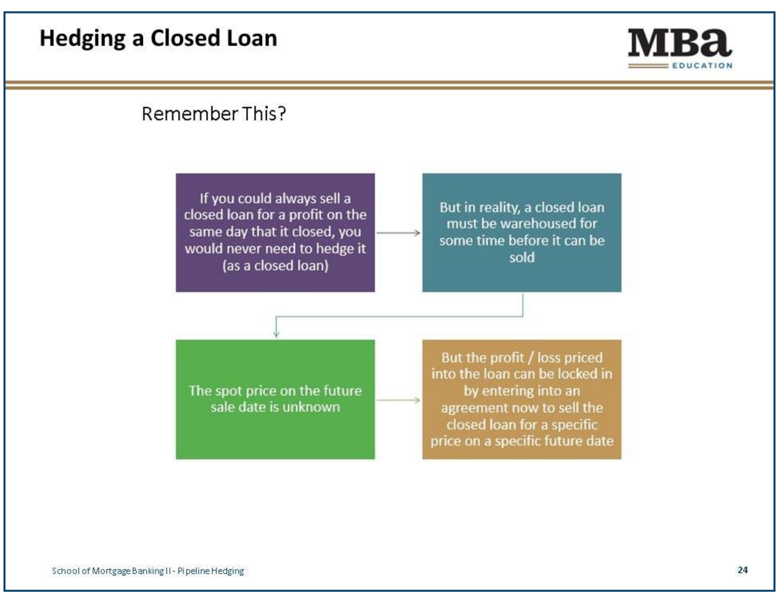
The concept of a loan vs. a lock is especially important. In environments where rates are rising, it can give you a very good indication of the portion of the pipeline that needs to be hedged. If a lender has committed to a borrower to deliver a particular rate, the lender must have the funds available to deliver on that commitment at that rate. However, in a market like we are seeing today that enjoys very low and stable rates, fewer people may choose to lock in, which makes it difficult to determine the portion of the pipeline that needs to be hedged.

Which Loans are Fallout?

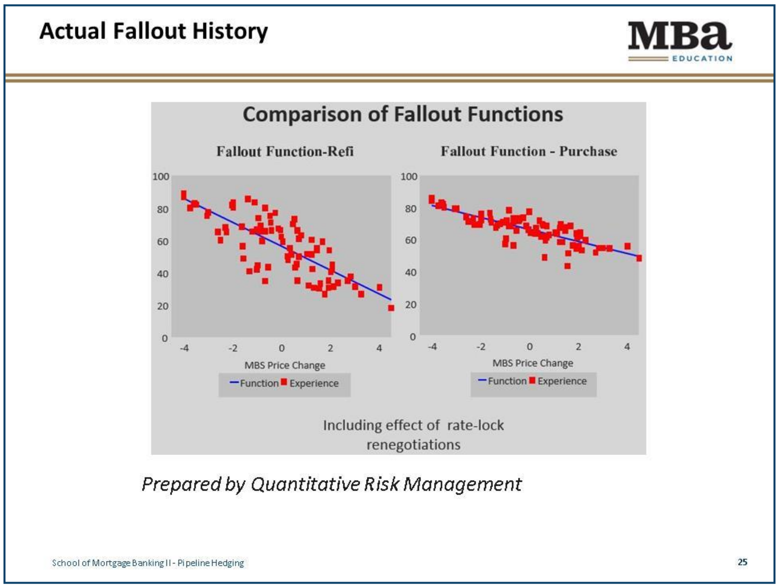


Strong, reasonable policies need to be established around rate locks and loan re-pricing. Timely communication needs to take place between the origination staff and secondary marketing department in order to negotiate allowable changes, document the system, and ensure that proper documentation has been secured to allow borrowers, as well as other stakeholders, to be advised of the change. Otherwise, the cost of a hedge will compromise already slim margins.

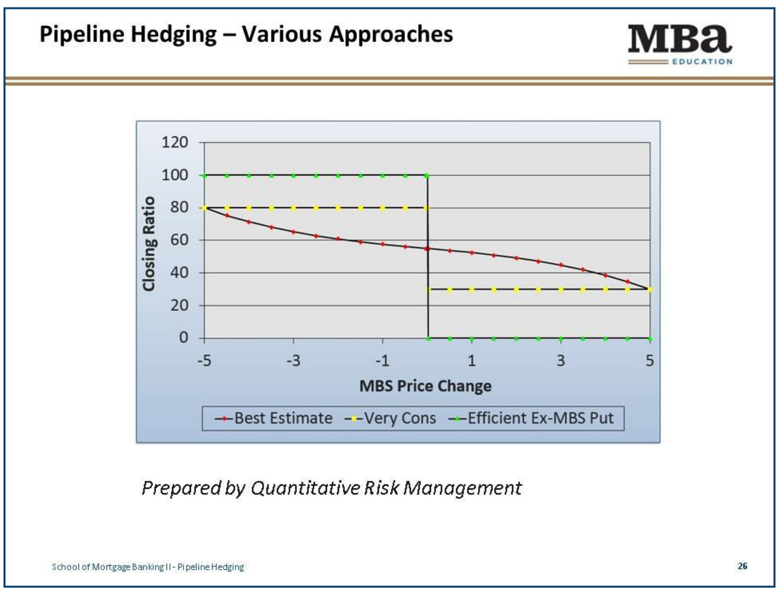
Remember This?



Actual Fallout History

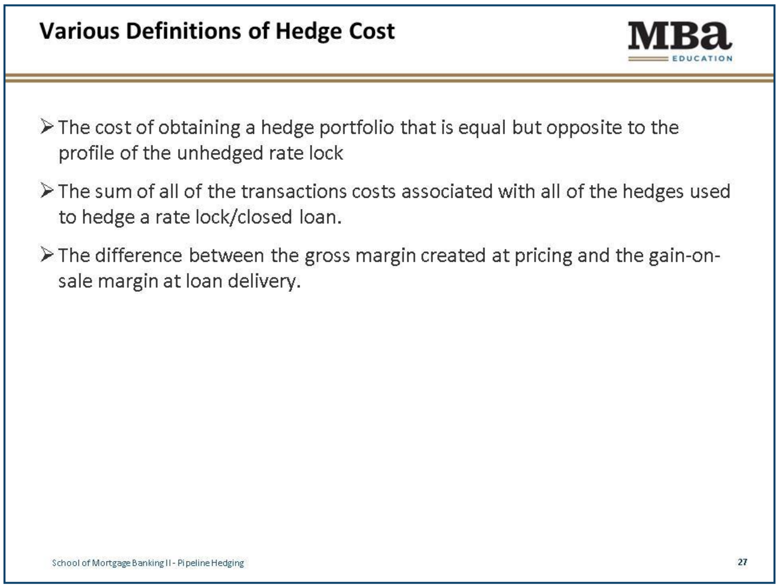


Pipeline Hedging – Various Approaches

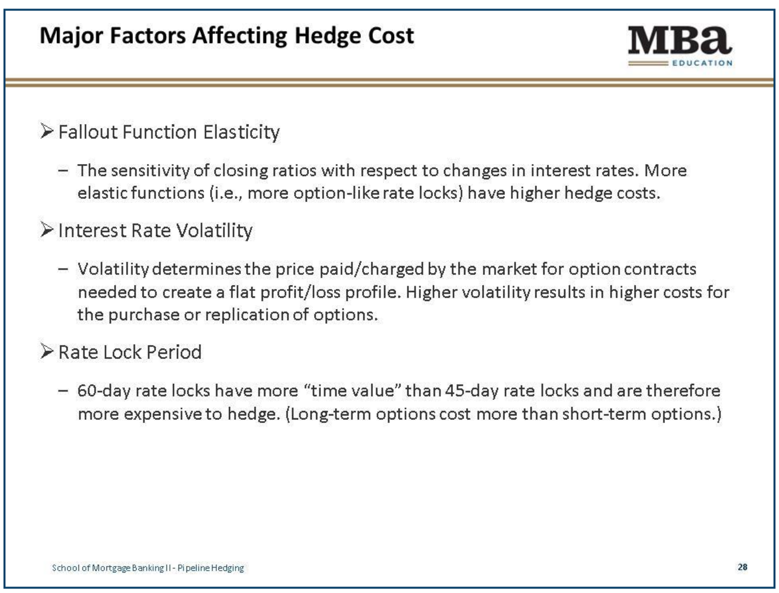


Hedge Costs

Definitions of Hedge Costs



Factors Affecting Hedge Costs

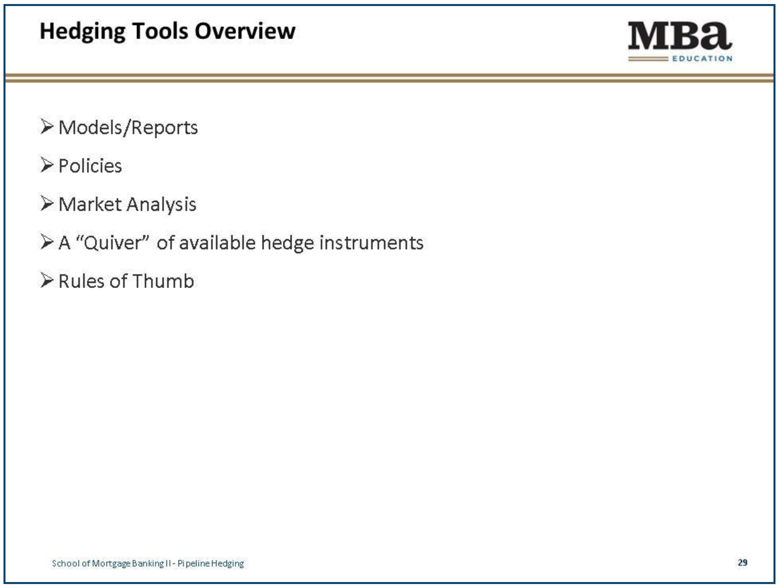


Hedger's Tools

In this segment, we will cover the following topics:

- Hedging Tools Overview
- Models/Reports
- Hedging Policies
- Market Analysis
- Quiver of Available Hedge Instruments
- Rules of Thumb
- Pipeline Hedging Exercise

Hedging Tools Overview



Models/Reports

Models/Reports

A strong hedging team should have:

- Robust models for determining the interest rate sensitivity of all locks, loans and hedges
- Robust models for determining a loan's best execution (highest delivery value)
- Actionable reports to aid in structuring the hedges and reporting the resulting sensitivity to senior management
- Reports showing compliance with Hedge Policies

School of Mortgage Banking II - Pipeline Hedging 30

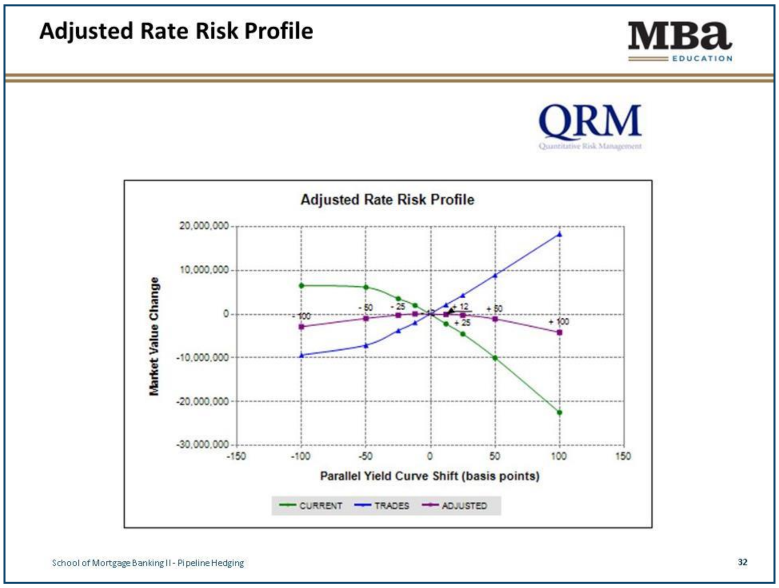
Loan Slotting and Coverage Report

Loan Slotting and Coverage Report Just One Example of "Actionable"

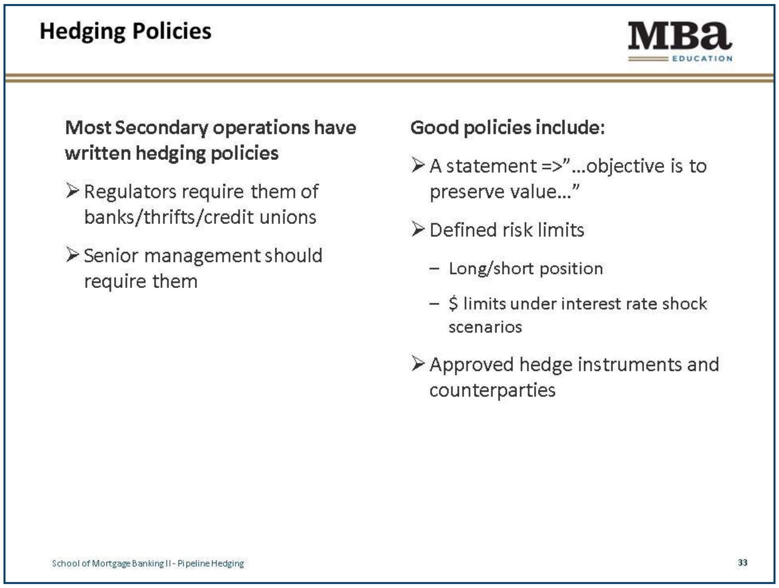
		April 20##			May 20##				June 20##			Total			
Delivery Class	Coupon	Clsd Loans	MBS Frwd	Net	Rate Locks	Clsd Loans	MBS Frwd	Net	Rate Locks	MBS Frwd	Net	Rate Locks	Clsd Loans	MBS Frwd	Net
15yr Fixed	2.500					0.1		0.1	1.5		1.5	1.5	0.1		1.6
	3.000					10.3		10.3	24.4	-43.2	-18.8	24.4	10.3	-43.2	-8.5
	3.500					39.9		39.9	46.7	-107.9	-61.2	46.7	39.9	-107.9	-21.3
	4.000					10.1		10.1	12.7	-16.5	-3.8	12.7	10.1	-16.5	6.3
	4.500					0.8		0.8	0.7		0.7	0.7	0.8		1.4
	5.000					-		-	-		-	-	-		-
	Total					61.2		61.2	85.9	-167.5	-81.6	85.9	61.2	-167.5	-20.4
30yr Conv. Conf.	4.250				1.2			1.2				1.2			1.2
	4.375	0.8		0.8	1.8			1.8				1.8	0.8		2.6
	4.500	56.8	-116.4	-59.6	30.9	86.2	-116.4	0.8	108.4	-116.4	-8.0	139.4	143.0	-349.1	-66.7
	4.625	8.2		8.2	14.0			14.0				14.0	8.2		22.2
	4.750	44.6	-24.1	20.5	23.2		-72.3	-49.1				23.2	44.6	-96.5	-28.6
	4.875	11.0		11.0	15.0			15.0				15.0	11.0		26.0
	5.000	42.0	-9.4	32.5	23.4	3.5	-18.9	8.1	7.3		7.3	30.7	45.5	-28.3	47.9
	5.125	17.1		17.1	19.2			19.2				19.2	17.1		36.3
	5.250	19.6		19.6	12.9			12.9				12.9	19.6		32.5
	5.375	6.2		6.2	4.8			4.8				4.8	6.2		11.0
	5.500	7.8		7.8	8.0	2.5		10.5	6.8		6.8	14.8	10.3		25.1
	Total	214.1	-149.9	64.1	154.5	92.3	-207.6	39.2	122.6	-116.4	6.2	277.1	306.3	-473.9	109.6

School of Mortgage Banking II - Pipeline Hedging 31

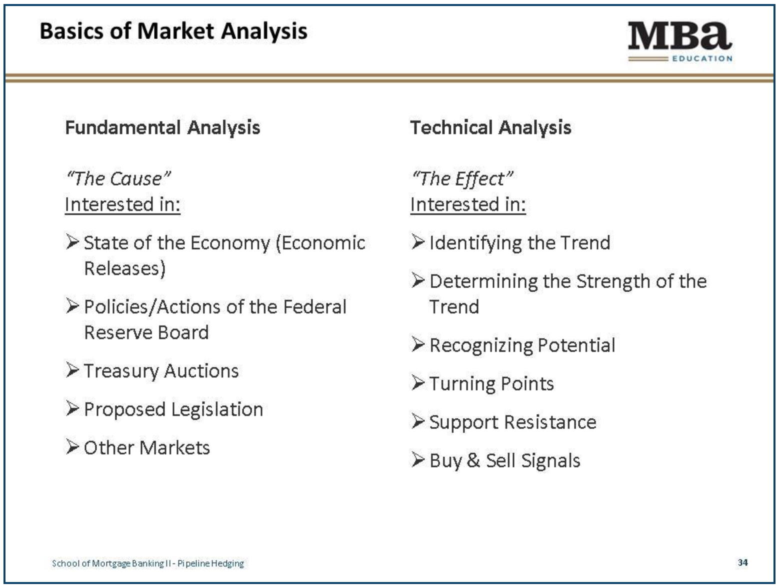
Adjusted Rate Risk Profile



Hedging Policies



Market Analysis



Fundamental market analysis is something that needs to be considered at multiple levels. Consider what is going on nationally and the local impact. Current supply and demand characteristics of a commodity in a given geographic/economic setting.

Technical market analysis might entail a securities valuation strategy based on the philosophy that past price movement patterns are useful for predicting future price movements.

Quiver of Available Hedge Instruments

Quiver of Hedge Instruments

Delivery-based Instruments

- Best Efforts Commitments (no hedging required)
- Cash/Bulk Trades
- Assignment of Trade (AOT)
- MBS Forwards and Options

Cross Hedges

- Treasury Futures/Options
- Eurodollar Futures/Options
- Swaps/Swaptions/Caps/Floors

School of Mortgage Banking II - Pipeline Hedging 35

What tools are available in our quiver of optional arrows?

- Basic approach – would be to sell the loans for cash i.e. through the Fannie and Freddie cash windows or to sell an MBS.
- Advanced tools – might involve selling futures or buying puts
- Most basic of tools – just use best efforts

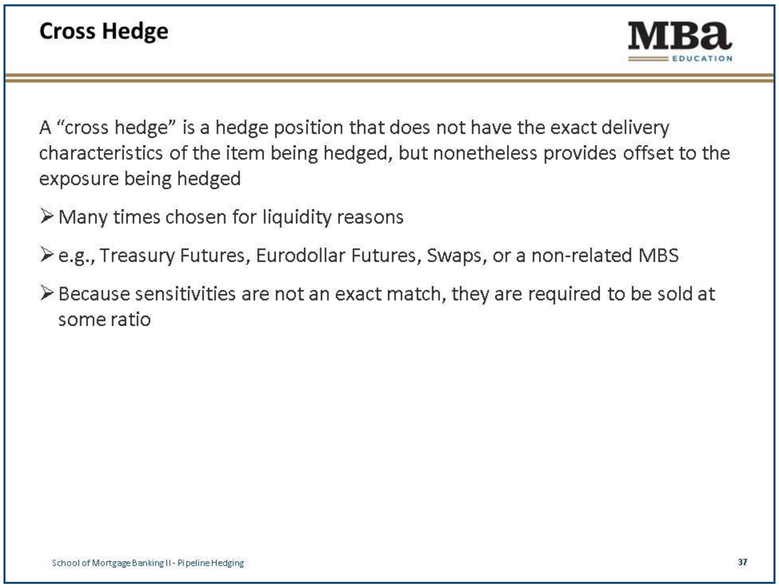
Delivery Instrument Comparison

Delivery Instrument Comparison

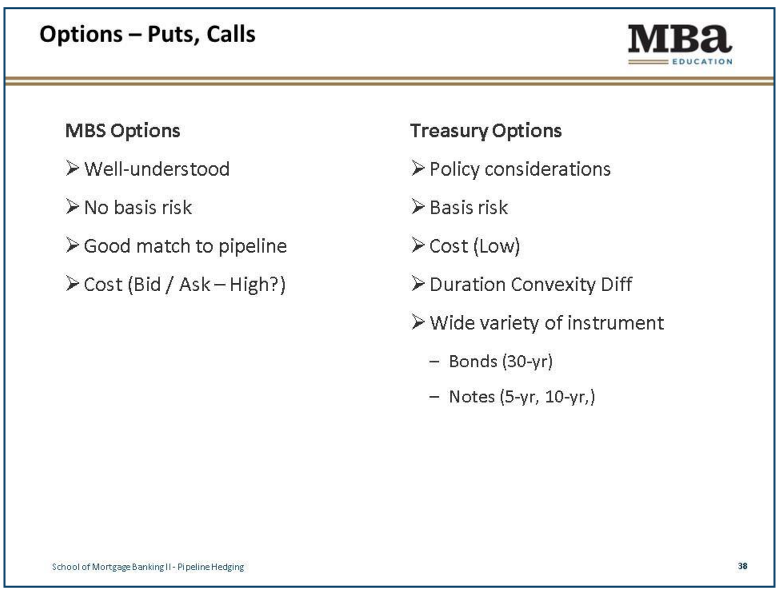
	Price Risk?	Fallout Risk?	Servicing Released?	Pairoff Costs	Gain on Sale
Best Efforts	No	No	Yes	High	Lowest
Cash/ Direct/ Bulk	Yes	Yes	Maybe	High	Low
AOT	Yes	Yes	No	Low	Higher
MBS Forward	Yes	Yes	Maybe	High	Highest

School of Mortgage Banking II - Pipeline Hedging 36

Cross Hedge

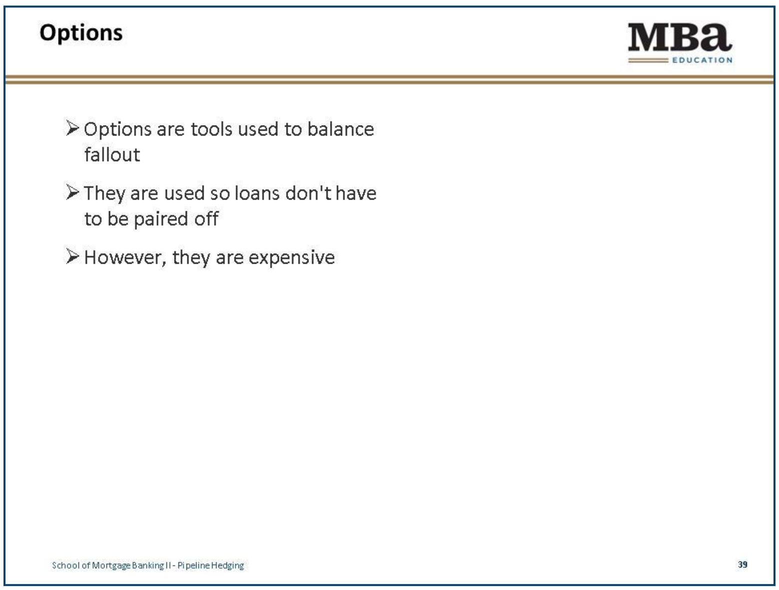


Options – Puts, Calls



- *Option:* A contract granting a right to purchase, sell or otherwise contract for the use of a property at a stated price within a stated period of time. In secondary marketing, an instrument used to hedge marketing risk. Examples are the over the counter mortgage options, or Treasury bond futures options.
- *Puts:* A contract granting the right, **but not the obligation,** to sell the underlying security at a specified price (the strike price) at any time prior to the expiration date.
- *Calls:* A contract gaining the right, **but not the obligation,** to purchase a security at a specified strike price on a particular date.

Options



Rules of Thumb

Rules of Thumb

Experienced traders may develop rules of thumb to place some discipline around a trading response – typically as a reaction from experience about liquidity or other types of transaction costs

- No MBS trade < $1m
- Transactions < $1m are assigned to best efforts commitments
- Loans slotting to illiquid coupons may be cross-hedged with the "Current Coupon" FNMA MBS

Result must stay within Risk Policy

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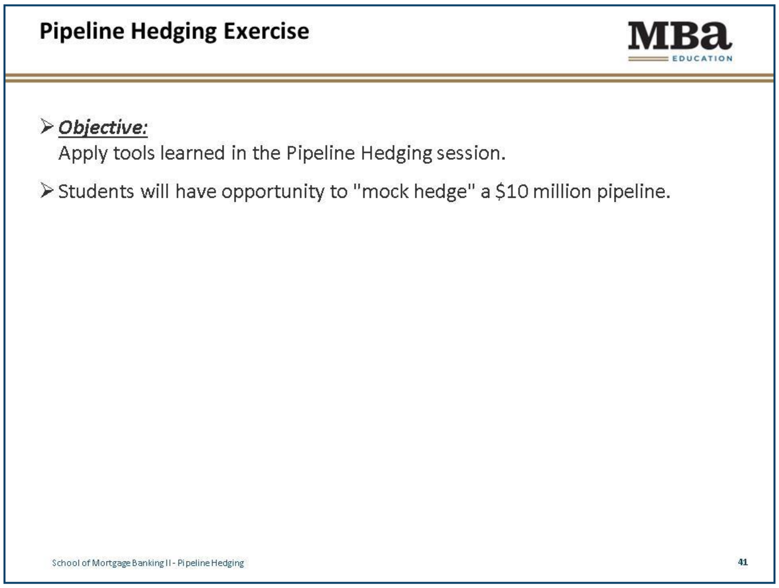
Pipeline Hedging Exercise

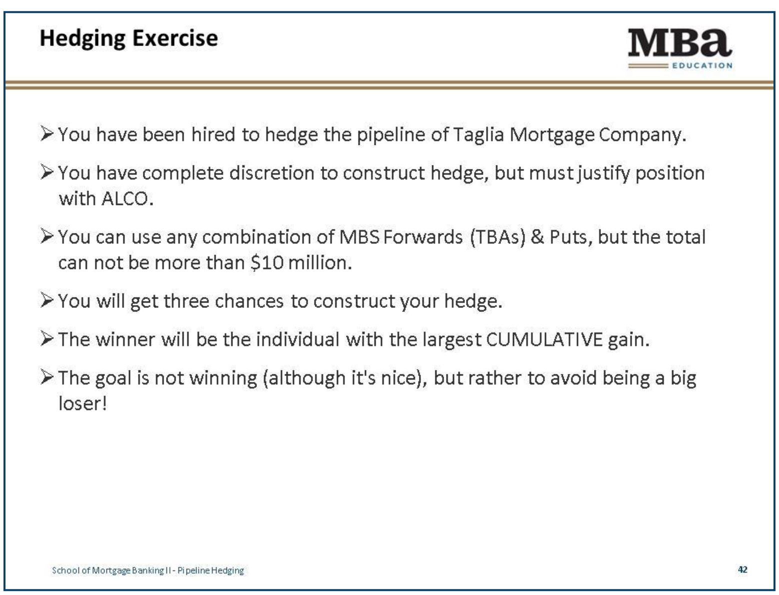
Introduction



Please refer to the last few slides in this section of your notebook, as well as the hedging exercise worksheet.

Now let’s get ready to apply the tools we have been talking about….

Hedging Exercise



Hedging Exercise

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EXPOSURE

- $10 Million Pipeline. 100% newly originated 60 day rate locks - all 30 yr conforming product
- Your preliminary reports show that you will close 70% in a flat market.
- You make your determination as to what coverage should be taken.

NOTE: The 70% Closing Ratio MAY change based on market direction!
Be willing to defend your action based on your "read" of the market and risk tolerance.

COVERAGE TAKEN

MBS Forwards:	Sell	($1MM each / Sell @ Par)	#____A____MM
MBS Put Options:	Buy	($1MM Put At The Money / Cost, 1pt)	#____B____MM

School of Mortgage Banking II - Pipeline Hedging 43

Hedging Exercise

MBa EDUCATION

MARKET ACTION

Pete to give us "market breaking news" and impact on fixed income markets.

MARK TO MARKET

Effect on Pipeline:		______pt Change X _____MM = ($10MM X Actual Closing Ratio)	$________
Effect on Coverage:			
MBS		______pt Change X ___A___MM =	$_________
Puts	(=> $ 0)	______pt Change X ___B___MM =	$_________
	Cost of Puts	1 pt X ___B___MM =	$(_________)
			$______ ___
NET PIPELINE IMPACT:			$____ ____

School of Mortgage Banking II - Pipeline Hedging 44

Please see the worksheet located at the end of the Hedging section. Additional copies will be available as you have three chances to construct your hedge. Don't forget that you will want to consult with your ALCO committee to be sure they are on board with the decisions being taken. The asset liability committee will be expecting to approve the expense associated with the hedging strategy and you may have to justify the cost of your strategy by explaining the balance of risk.

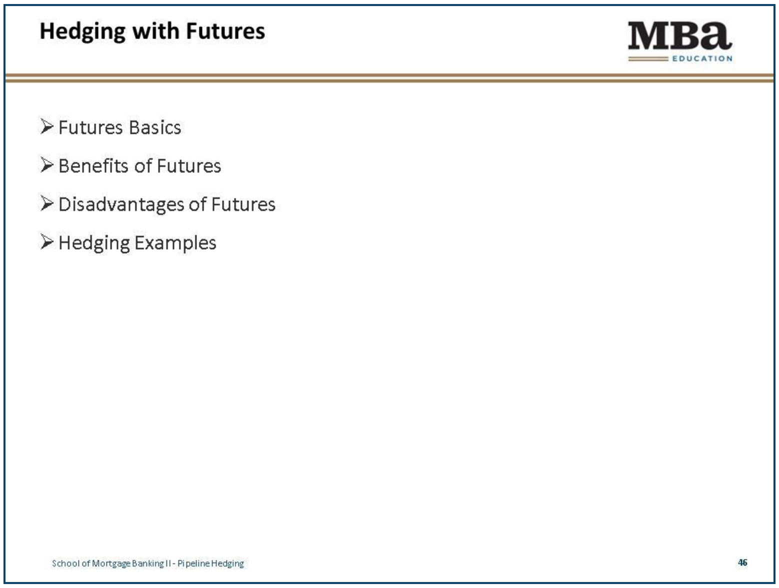
Futures

In this segment, we will cover the following topics:

- Futures Overview
- Hedging with Futures
- Futures Basics
- Futures Contract
- The Futures Clearing System
- Hedge Objective
- Benefits of Futures
- Disadvantages of Futures
- Basis Risk
- Hedging with Futures: Examples
- Evaluating ARM Hedge Instruments
- Eurodollar Futures
- Key Rate Exposure Report

Futures Overview

Hedging with Futures

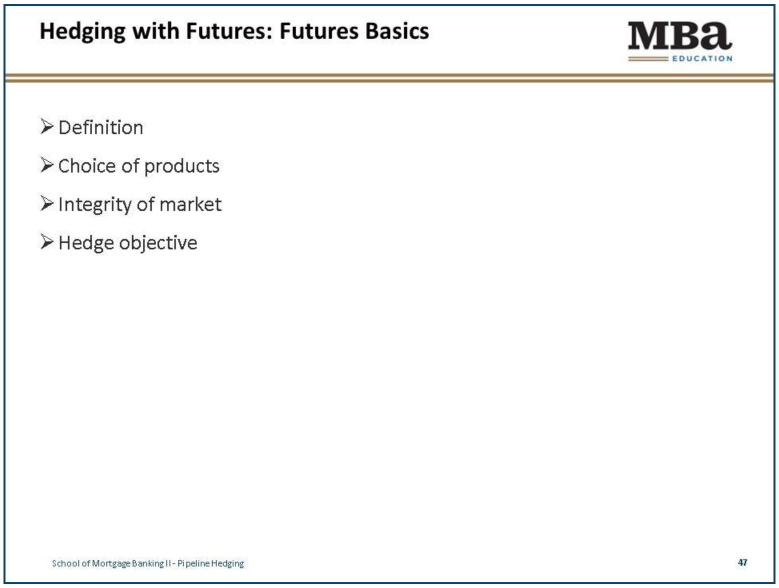


IMPORTANT NOTE: The purpose of this futures discussion is to introduce students to the world of futures and their respective functions in the hedging process. Case studies are provided to help illuminate how futures are used. Examples are included in back for review purposes, but they will not be reviewed in class.

If there is sufficient interest, the case studies will be reviewed immediately AFTER the class session.

This section is for informational purposes ONLY.

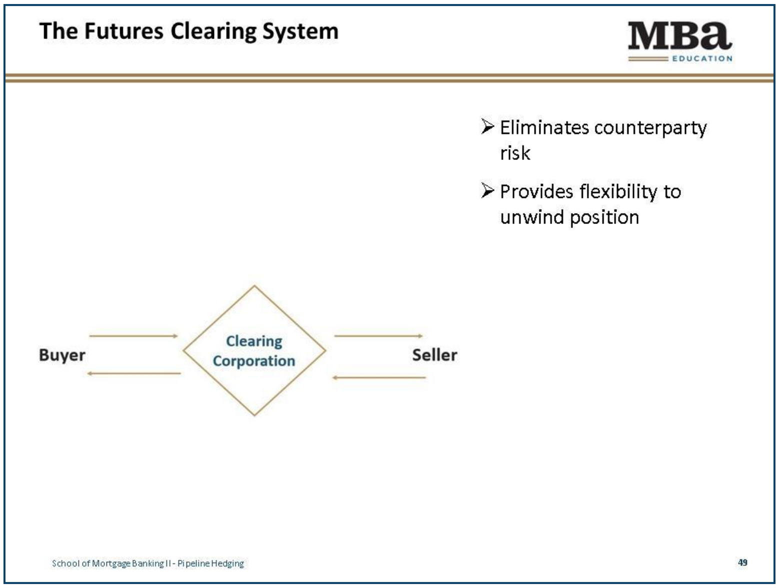
Futures Basics



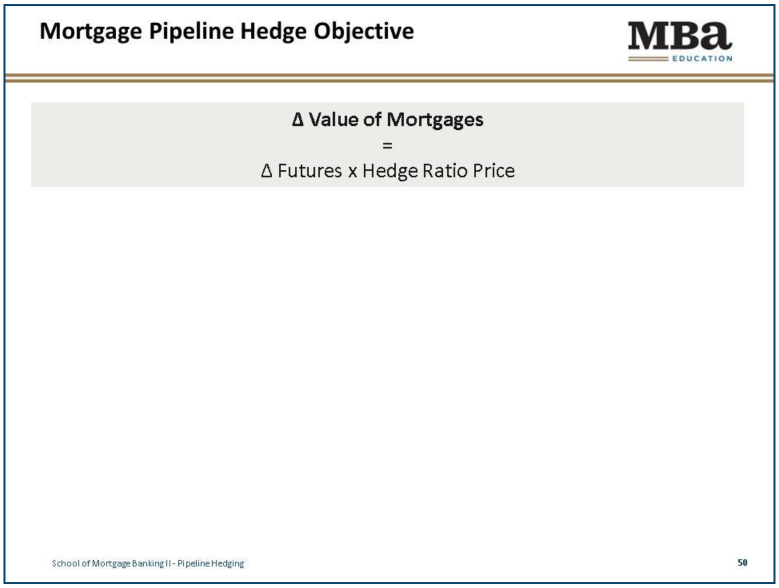
Futures Contract

Futures are contracts for the purchase or sale of commodities in the future, usually on or before a particular date. Futures contracts on fixed-income instruments, such as Treasury bills, are referred to as financial futures.

The Futures Clearing System



Hedge Objective



Benefits of Futures

Hedging with Futures: Benefits of Futures

- Ease of Execution
- Liquidity
- Scheduling
- Transferability
- Convergence

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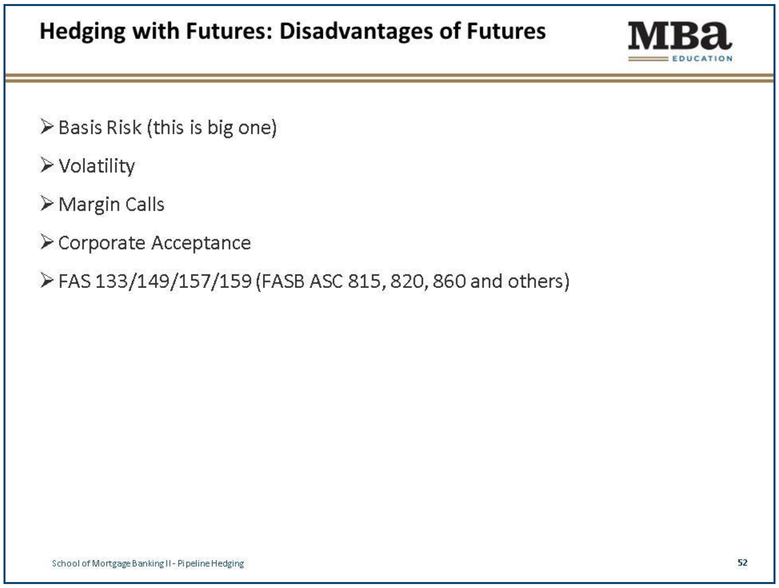
Disadvantages of Futures

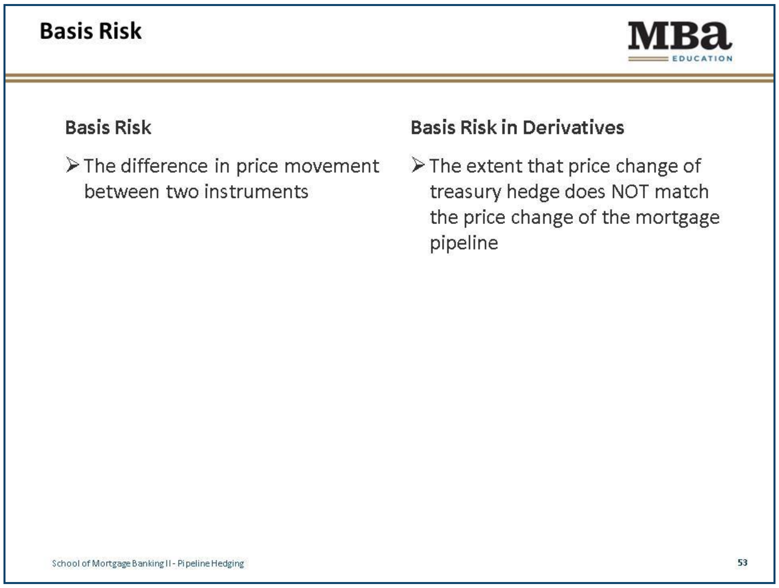


There are also inherent disadvantages to hedging with futures, such as:

- *Basis risk* – The difference in price movements between two instruments.
- *Volatility* – The sensitivity of a security's price to changes in the overall market. Also, interest rate fluctuations resulting from an unstable market.
- *Margin calls* – A call by a clearing organization of an exchange for the deposit of additional funds or collateral to offset trading losses on an outstanding position that is subject to margin.

Corporate acceptance/FAS 133, 149, 157, 159 – The accounting guidelines that have to be followed relative to accounting for pipeline sales and values. It is important to understand their application is based on principals of loans in the "held for sale" category and loans "held to maturity" category.

Basis Risk


Basis Risk
MBA EDUCATION
Basis Risk
➢ The difference in price movement between two instruments
Basis Risk in Derivatives
➢ The extent that price change of treasury hedge does NOT match the price change of the mortgage pipeline
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53

Hedging with Futures: Examples

Hedging with Futures: Hedging Examples

- 30yr Freddie 3% MBS example
- Case Study – ARM Hedge

Freddie Mac Scenario

Scenario

A secondary market manager is expecting to sell $1,300,000 Freddie 3s in the secondary market within the next week. The manager is concerned about the current interest rate volatility in the marketplace. If rates were to rise, the value of the loans would decline and he would have to sell them at a discount.

Action:

Hedge this price risk by selling the Treasury Note Futures to protect the loans from a decline in value.

Example Note

Futures Hedging Example Note

- Knowing how many futures contracts should be used to hedge a mortgage pool can be complicated to figure out.
- The goal of hedging is to offset with a futures position as much of the change in value of the pool as possible.
- Figuring appropriate hedge ratios depends on:
  - The characteristics of the mortgage to be hedged
  - The futures contract selected
  - The level of current interest rates

School of Mortgage Banking II - Pipeline Hedging 56

Knowing how many futures contracts should be used to hedge a mortgage pool can be complicated to figure. The goal of hedging is to offset with a futures position as much of the potential change in value of the pool as possible. This example is based on purely hypothetical prices.

Futures Hedging Example Note, cont.

- Advantage with futures is the liquidity, security, and diversity of government bond markets with U.S. Treasury futures and options from CME Group.
- Available on the 2-year, 5-year, 10-year, and 30-year tenors, U.S. Treasuries are standardized contracts on U.S. government notes or bonds that offer a wide variety of strategies for Secondary Managers looking to hedge pipeline risk on interest rate market exposure.
- Benefit from a liquid marketplace and sufficient market volume as well as easy-to-access leverage capital and operational efficiencies with CME Group's U.S. Treasuries.

School of Mortgage Banking II - Pipeline Hedging 57

Futures Hedging Example Note, cont.

The three Treasury futures contracts that are most useful for hedging 30-year MBS:

- **Treasury bond futures** (most responsive, but most basis risk)
- **10-Year Treasury note futures** *(Contract usually used by Secondary Managers)*
- **5-Year Treasury note futures** (least responsive, but also least basis risk)

The number of bond futures contracts used to hedge a pool of mortgages is generally less than the number of 10-Year T-Note futures used, which itself is less than the number of 5-Year T-Note futures.

Futures Hedging Example Note, cont.

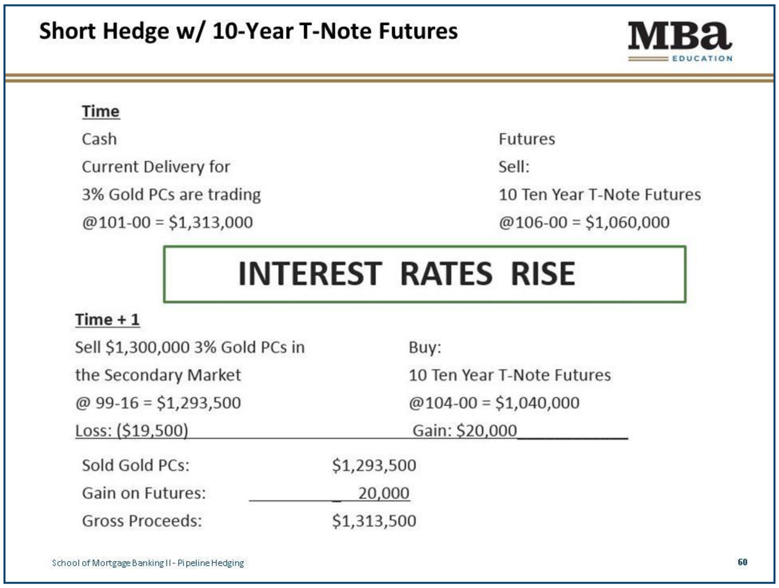
10-Year T-Note contracts used to hedge $1.3 million of new mortgages.

10-Year T-Note futures moved more in price than the Gold 3’s. The mortgages were not hedged on a dollar for dollar basis. The relationship of dollar value of futures to the dollar value of mortgages is referred to as ***the hedge ratio (this is NOT a static number – it can, and will, change as the market moves)***

10 contracts ($1 million) of 10-Year T-Note futures to
$1.3 million Gold 3’s

Hedge Ratio is 1:1.3 – or 7.6 futures contracts for every $1M Freddie Gold 3’s

Short Hedge


Short Hedge w/ 10-Year T-Note Futures
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Time
Cash
Current Delivery for
3% Gold PCs are trading
@101-00 = $1,313,000
Futures
Sell:
10 Ten Year T-Note Futures
@106-00 = $1,060,000
INTEREST RATES RISE
Time + 1
Sell $1,300,000 3% Gold PCs in
the Secondary Market
@ 99-16 = $1,293,500
Loss: ($19,500)
Buy:
10 Ten Year T-Note Futures
@104-00 = $1,040,000
Gain: $20,000
Sold Gold PCs: $1,293,500
Gain on Futures: 20,000
Gross Proceeds: $1,313,500
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60

Evaluating ARM Hedge Instruments

Case Study

Case Study

Hedging Short and Intermediate Term ARMs

- When (If?) the Yield Curve steepens, ARMs become more attractive
  - ARMs comprise increased percentage of pipeline
  - Lenders faced with decision of whether to hedge them (for sale into the secondary market) or simply put into the portfolio
- Hedge Considerations – Basis and Liquidity
  - Loans are priced based on the short term yields
  - What instruments are available?

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Evaluating ARM Hedge Instruments

Evaluating ARM Hedge Instruments

- 15 and 30 Yr MBS
  - liquid but large basis risk, different part of the yield curve
- 5 & 10 Yr CME Swap Futures
  - questionable liquidity, basis risk, limited flexibility
- Cash Swaps
  - flexible and liquid, but excessive transaction cost (and pair-off cost) for many lenders
- CME Treasury Futures
  - flexible and liquid but mortgage/treasury, swap/treasury basis risk
- CME Eurodollar Futures
  - extremely liquid, flexible and limited swap/mortgage basis risk

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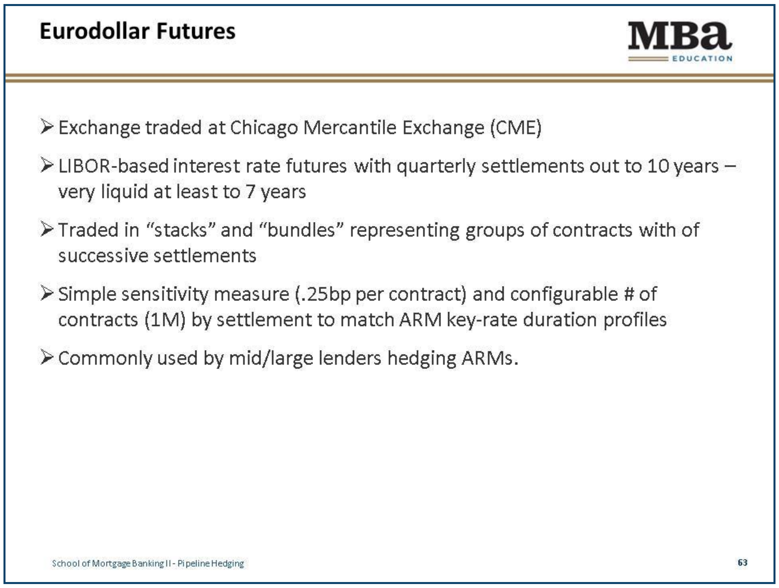
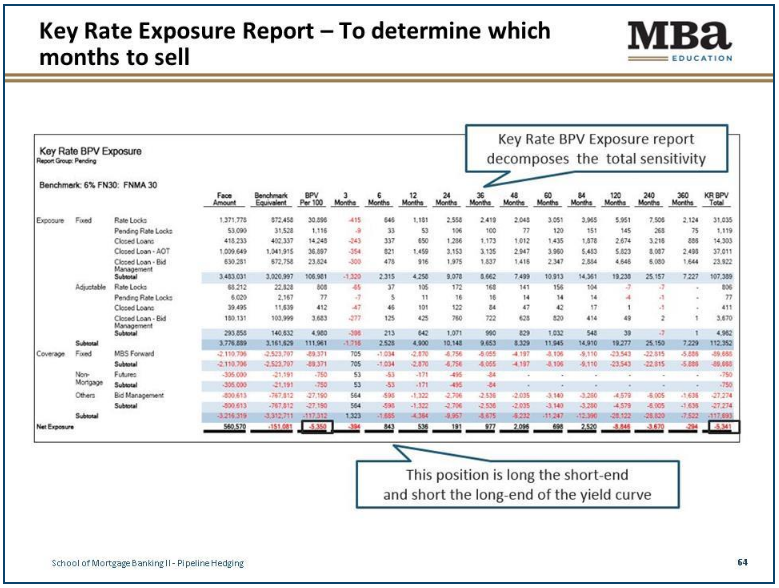
- *MBS* – Despite being mortgage product, MBS are too far out on the yield curve. Hedgers are killed in flattening; they may lose money on both the hedge and the loans.
- *CBOT SWAP Futures* – Chicago Board of Trade Swap Futures – Have very limited open interest – still retain basis on inflexible swap term, mortgage/swap basis still exists although better than treasury/mortgage basis, lack flexibility of variable terms.
- *CASH Swaps* – Need huge AAA balance sheet to transact cash swaps efficiently; usually transacted between dealer/brokers and mega-lenders.

Eurodollar Futures



Key Rate Exposure Report



Key Rate BPV Exposure
Report Group: Pending

Benchmark: 6% FN30: FNMA 30

			Face Amount	Benchmark Equivalent	BPV Per 100	3 Months	6 Months	12 Months	24 Months	36 Months	48 Months	60 Months	84 Months	120 Months	240 Months	360 Months	KR BPV Total
Exposure	Fixed	Rate Locks	1,371,778	872,458	30,896	-415	646	1,181	2,558	2,419	2,048	3,051	3,965	5,951	7,506	2,124	31,035
		Pending Rate Locks	53,090	31,528	1,116	-9	33	53	106	100	77	120	151	145	268	75	1,119
		Closed Loans	418,233	402,337	14,248	-243	337	650	1,286	1,173	1,012	1,435	1,878	2,674	3,216	886	14,303
		Closed Loan - AOT	1,009,649	1,041,915	36,897	-354	821	1,459	3,153	3,135	2,947	3,960	5,483	5,823	8,087	2,498	37,011
		Closed Loan - Bid Management	630,281	672,758	23,824	-300	478	916	1,975	1,837	1,416	2,347	2,884	4,646	6,080	1,644	23,922
		Subtotal	3,483,031	3,020,997	106,981	-1,320	2,315	4,258	9,078	8,662	7,499	10,913	14,361	19,238	25,157	7,227	107,389
	Adjustable	Rate Locks	68,212	22,828	808	-65	37	105	172	168	141	156	104	-7	-7	-	806
		Pending Rate Locks	6,020	2,167	77	-7	5	11	16	16	14	14	14	-4	-1	-	77
		Closed Loans	39,495	11,639	412	-47	46	101	122	84	47	42	17	1	-1	-	411
		Closed Loan - Bid Management	180,131	103,999	3,683	-277	125	425	760	722	628	820	414	49	2	1	3,670
		Subtotal	293,858	140,632	4,980	-396	213	642	1,071	990	829	1,032	548	39	-7	1	4,962
	Subtotal		3,776,889	3,161,629	111,961	-1,716	2,528	4,900	10,148	9,653	8,329	11,945	14,910	19,277	25,150	7,229	112,352
Coverage	Fixed	MBS Forward	-2,110,706	-2,523,707	-89,371	705	-1,034	-2,870	-6,756	-6,055	-4,197	-8,106	-9,110	-23,543	-22,815	-5,886	-89,688
		Subtotal	-2,110,706	-2,523,707	-89,371	705	-1,034	-2,870	-6,756	-6,055	-4,197	-8,106	-9,110	-23,543	-22,815	-5,886	-89,688
	Non-Mortgage	Futures	-305,000	-21,191	-750	53	-53	-171	-495	-84	-	-	-	-	-	-	-750
		Subtotal	-305,000	-21,191	-750	53	-53	-171	-495	-84	-	-	-	-	-	-	-750
	Others	Bid Management	-800,613	-767,812	-27,190	564	-598	-1,322	-2,706	-2,536	-2,035	-3,140	-3,280	-4,579	-6,005	-1,638	-27,274
		Subtotal	-800,613	-767,812	-27,190	564	-598	-1,322	-2,706	-2,536	-2,035	-3,140	-3,280	-4,579	-6,005	-1,638	-27,274
	Subtotal		-3,216,319	-3,312,711	-117,312	1,323	-1,685	-4,384	-9,957	-8,675	-6,232	-11,247	-12,390	-28,122	-28,820	-7,522	-117,693
Net Exposure			560,570	-151,081	$\boxed{-5,350}$	-394	843	536	191	977	2,096	698	2,520	-8,846	-3,670	-294	$\boxed{-5,341}$

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Risk Management on a Broader Scale

In this segment, we will cover the following topics:

- Risk Management on a Broader Scale
- Measurement and Monitoring of IRR
- Scenarios

Risk Management on a Broader Scale

Risk Management on a Broader Scale

- ***Published Inter-Agency Guidelines*** issued on January 6, 2010 (still relevant today!). Summarizes the guidance of Federal Reserve, FDIC, NCUA, OCC, OTS (may they rest in peace), and state regulators
- Describes selected IRR management techniques used by effective risk managers
- Re-emphasizes the importance of
  - Corporate governance
  - Policies and procedures
  - Risk measuring and monitoring systems
  - Stress testing
  - Internal controls related to IRR exposure

Measurement and Monitoring of IRR

Measurement and Monitoring of IRR

- Institutions are expected to have a robust IRR measurement process and system to assess exposures relative to established risk tolerances
- Perform comprehensive simulations of the potential impact of changes in market rates
- Use in conjunction with economic value-based methodologies to measure the degree of change under different interest rate scenarios

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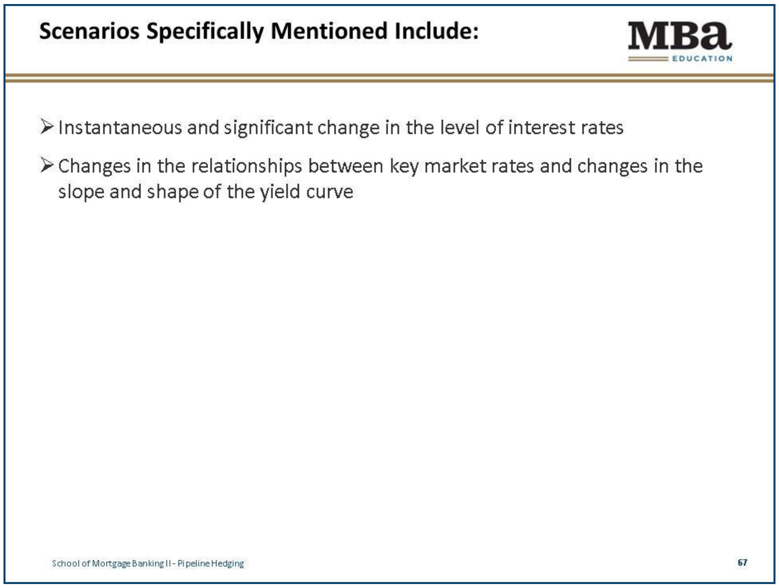
Scenarios


Scenarios Specifically Mentioned Include:
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➢ Instantaneous and significant change in the level of interest rates
➢ Changes in the relationships between key market rates and changes in the slope and shape of the yield curve
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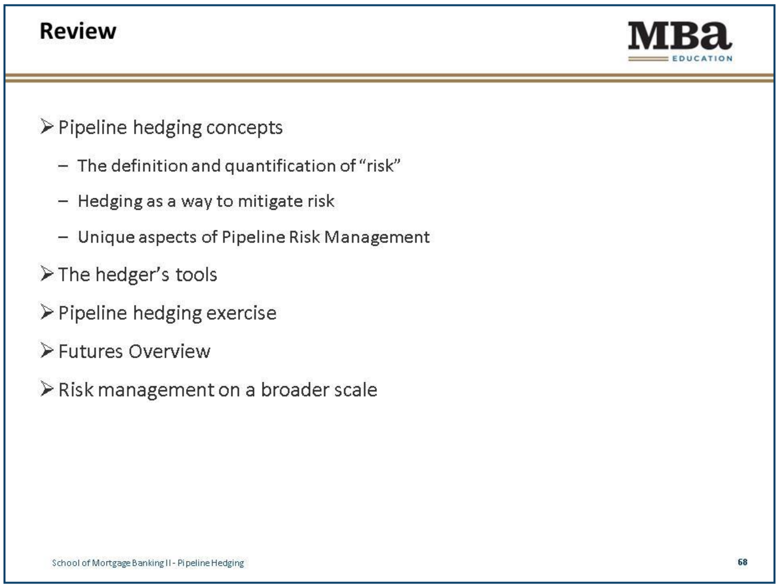
67

Review



Objectives Review

Upon completion of this module, you will be able to:

- Understand the risks involved in managing a pipeline.
- Understand why pipeline management is so important.
- Explain the types of pipeline risk.
- Monitor a pipeline and measure fallout by type.
- Determine what to "hedge" and why.
- Perform a market analysis.
- Complete a pipeline exercise.
- Demonstrate a basic understanding of futures and how they are used to hedge a pipeline.

Session Evaluation

Class:
Module:
Instructor:
Date:

Instructor Evaluation

Please respond to the following statements using the numeric scale of:
4 - Strongly Agree **3** = Agree **2** = Disagree **1** = Strongly Disagree **N/A** = Not applicable

The instructor demonstrated a superior knowledge of the subject material.	
The instructor provided clear, comprehensive, and satisfactory answers to questions and allotted enough time to answer all questions.	
The instructor used a delivery and presentation style that inspired my attention and interest in the topic.	
The instructor successfully managed the session’s time allotment.	

Course Materials and Content

The session felt well paced and allowed for effective knowledge, acquisition, and retention.	
The session content increased my comfort level with the subject matter.	
Interactive exercises such as practice and discussion questions, case studies, quizzes, etc., were engaging and helped me learn the material.	

Overall

With regard to overall content, presentation and delivery, I am satisfied with the value of this session.	

If there was any information you believe is erroneous or out-of-date that should be reviewed by a subject matter expert, please indicate the page number and/or slide title.

Please use the back of this page to provide any additional feedback you have.

Additional Feedback

Please add any additional comments you have.

Thank you for your valuable feedback!