All you ever wanted to know about mortgage banking.......

Douglas Winn
Frank Wilary
Michelle Methvin

Wilary Winn Background

Founded in 2003, Wilary Winn provides independent and objective, fee-based, financial advice to credit unions and banks located across the country. We currently have more than 425 clients in 49 states and the District of Columbia, including 30 of the top 100 credit unions.

Wilary Winn LLC

Xceed Financial Credit Union Background

Xceed Financial is a full-service, federally chartered not-for-profit workplace credit union that focuses on meeting the needs of businesses and their employees throughout the United States. With roots going back 85 years, Xceed now has nearly $1 billion in assets and 70,000 members. Xceed Financial partners with more than 300 employers – also called “select employer groups” or SEGs – to deliver personal banking, wealth management services, and financial education to working adults and their families.

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Today’s Presenters

Douglas Winn – President
Wilary Winn LLC

Mr. Winn co-founded Wilary Winn in the summer of 2003 and his primary responsibility is to set the firm's strategic direction.

Mr. Winn is a nationally recognized expert in financial institution accounting and regulatory reporting and has led seminars on the subject for many of the country's largest public accounting firms, the AICPA, the FDIC, the FFIEC and the NCUA. Mr. Winn began his career as a practicing CPA for Arthur Young & Company - now Ernst & Young.

Wilary Winn LLC

Today’s Presenters

Frank Wilary – Principal
Wilary Winn LLC

Mr. Wilary co-founded Wilary Winn in 2003 and has over twenty years of diversified experience in the financial services industry.

His areas of expertise include asset-liability management, capital markets, derivatives, information systems and valuation of illiquid financial instruments. Frank’s primary responsibility is to lead the research, development and implementation of Wilary Winn's new business lines. He works to ensure that new products and services meet our firms' high standards and makes the critical determination of whether to buy or build valuation software and how to best utilize the system selected.

Wilary Winn LLC

Today’s Presenters

Michelle Methvin – Director, Secondary Marketing
Xceed Financial Credit Union

Michelle Methvin is Director of Secondary Marketing for Xceed Financial Credit Union. In this role, she is responsible for the Credit Union’s mortgage products and pricing, pipeline hedging, loan sale execution, mortgage analytics and Investor Relations. She joined the Xceed Financial team in 2015, bringing a distinguished career in Mortgage Banking, with over 15 years of experience in Secondary Marketing. Michelle started her career working for Mortgage Banking firms, including assisting in the growth and success of several start-up Mortgage Banking companies.

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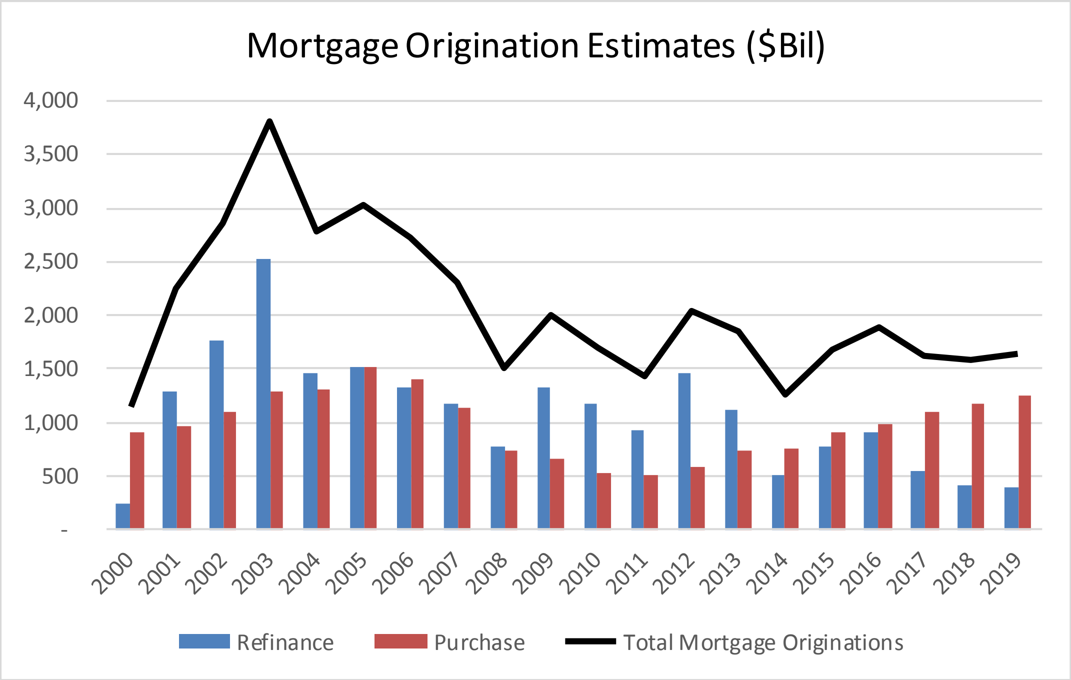
Topics Covered

- Overall Marketplace
- Secondary Market
- Regulatory Environment
- Best Price Execution
- Operational Considerations
- Interest Rate Risk and Hedging
- Mortgage Servicing Rights
- Accounting and Regulatory Reporting

Quarterly Mortgage Originations Estimates



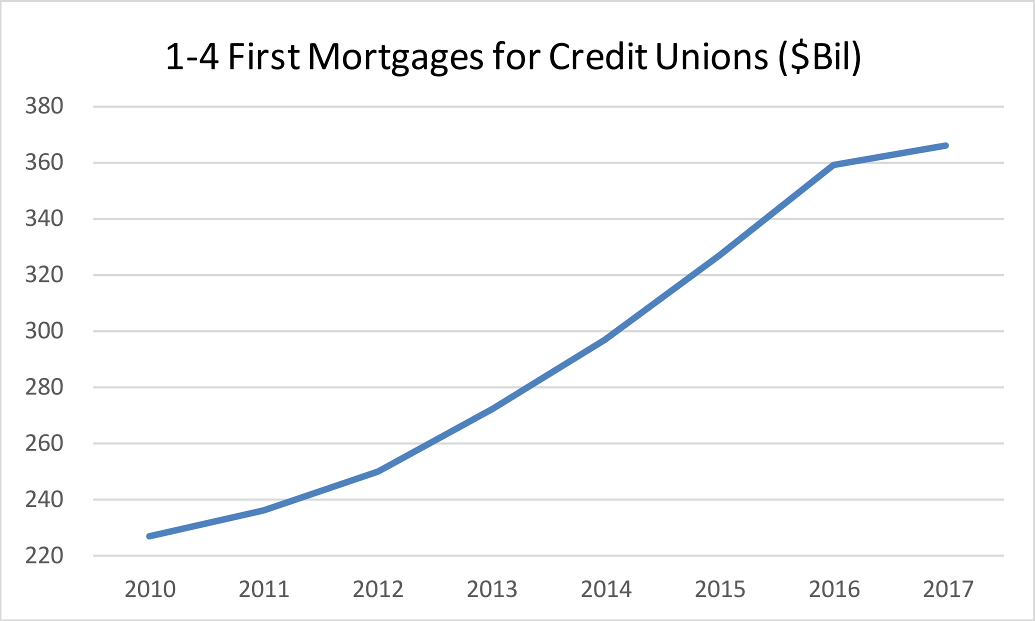
Source: Mortgage Bankers Association

Mortgage Marketplace

(Dollars in Billions)

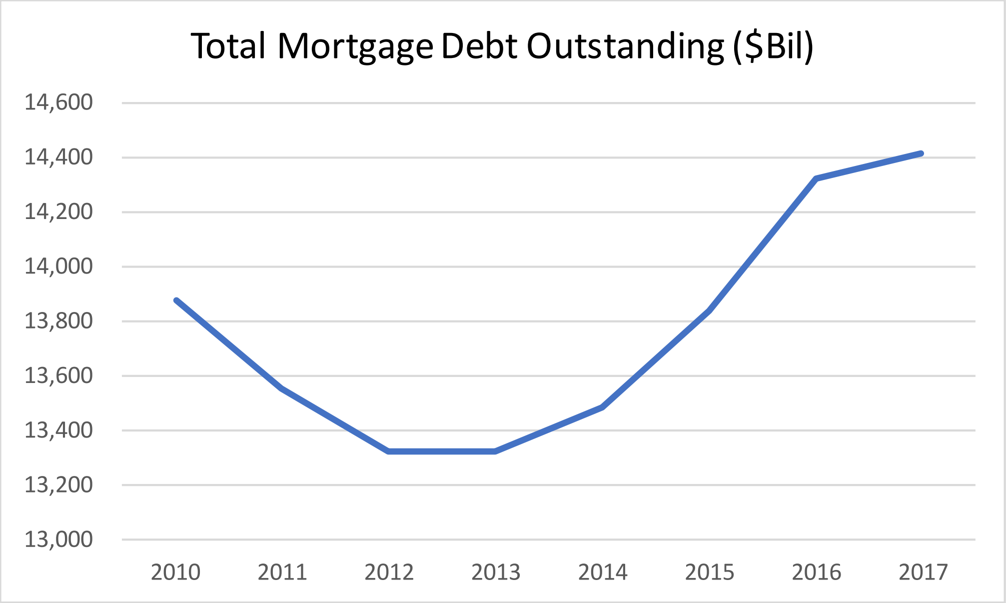
		Volume				
Rank	*Lender*	12M2016	4Q16	3Q16	2Q16	1Q16
1	Wells Fargo & Company, IA	$244.450	$70.910	$68.780	$61.280	$43.480
2	Chase, NJ	$117.401	$33.518	$30.871	$28.631	$24.382
3	Quicken Loans Inc., MI	$95.700	$26.900	$26.700	$22.800	$19.300
4	PennyMac Financial, CA	$69.634	$22.039	$20.597	$16.109	$10.889
5	Bank of America Home Loans, NC	$64.160	$18.350	$16.870	$16.320	$12.620
6	U.S. Bank Home Mortgage, MN	$56.142	$14.330	$15.572	$14.240	$12.000
7	Freedom Mortgage Corp., NJ	$53.958	$14.638	$16.749	$13.265	$9.306
8	Caliber Home Loans, TX	$40.332	$12.084	$12.683	$9.387	$6.178
9	loanDepot.com, CA	$38.094	$11.584	$10.133	$9.422	$6.955
10	PHH Mortgage, NJ	$36.362	$8.721	$9.854	$10.159	$7.628
11	Amerihome Mortgage, CA	$32.530	$9.225	$8.643	$8.225	$6.438
12	Flagstar Bank, MI	$32.416	$8.562	$9.192	$8.320	$6.342
13	Citi, MO	$30.302	$7.152	$8.320	$8.258	$6.573
14	SunTrust Mortgage Inc., VA	$29.310	$8.657	$8.453	$7.300	$4.900
15	Stearns Lending LLC, CA	$25.940	$6.060	$7.630	$7.010	$5.240
16	United Wholesale Mortgage, MI	$23.027	$6.646	$7.103	$5.403	$3.875
17	Guaranteed Rate Inc., IL	$22.739	$5.980	$6.738	$5.974	$4.047
18	BB&T Mortgage, NC	$20.534	$5.160	$6.225	$5.577	$3.573
19	Nationstar Mortgage, TX	$20.316	$5.338	$5.533	$5.204	$4.241
20	Ditech Financial LLC, PA (Walter/GreenTree)	$20.300	$5.300	$5.290	$4.740	$4.970
21	Franklin American Mortgage Company, TN	$19.320	$4.784	$5.291	$5.139	$4.106
22	Finance of America Mortgage, PA	$17.970	$4.970	$5.510	$4.410	$3.080
23	Fairway Independent Mortgage Corp., WI	$17.591	$4.827	$5.279	$4.648	$2.837
24	Guild Mortgage Co., CA	$15.965	$4.390	$4.742	$4.101	$2.732
25	Pacific Union Financial, CA	*$15.625*	*$4.535*	*$4.490*	*$3.900*	*$2.701*

Mortgage Marketplace



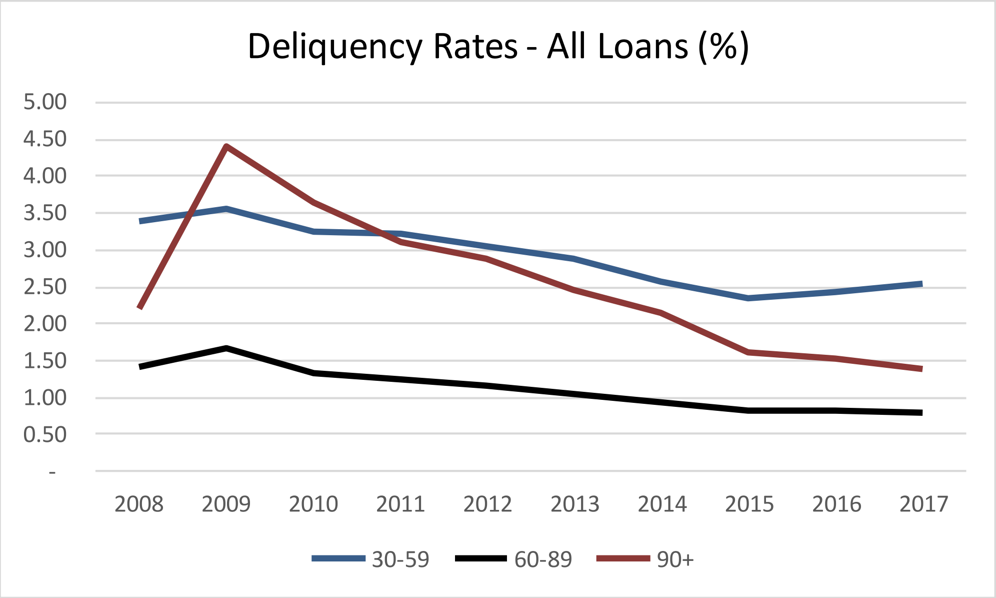
Source: SNL Financial

Mortgage Marketplace



Source: Federal Reserve Bank of St. Louis

Mortgage Marketplace



Source: Mortgage Bankers Association

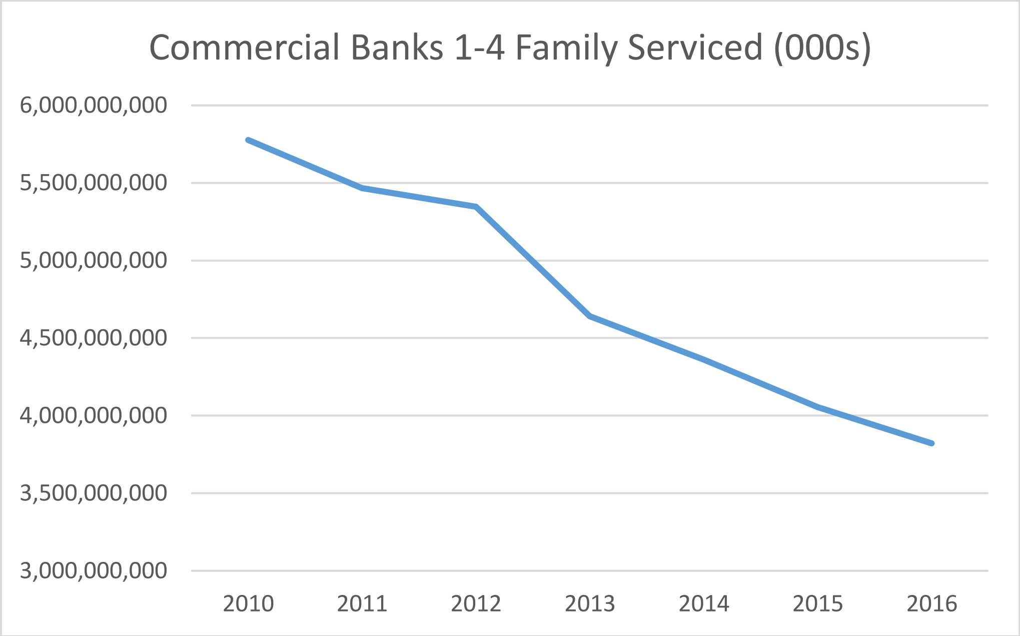
Mortgage Marketplace

Credit Union Advantages

- CFPB and Mortgage Brokers
- Banks and Basel III

Mortgage Marketplace

Banks and BASEL III



Source: SNL Financial

Effect on Mortgage Brokers

Number of Mortgage Brokers

2006	25,000
Jan 2013	5,000

Mortgage Brokers Percentage of Market

2004-2006	30%
2008	20%
2012-2013	10%

Source: NAMB – The Association of Mortgage Professionals

Mortgage Originations Forecast

Rise in interest rates can cause drop in refinance activity and potentially decrease in sales velocity

- Example $200,000 loan at 3.5% payment is $898.09
- $400,000 loan at 7% interest is $2,661.21 nearly 3 times the original payment

Secondary Market

Government Sponsored Entities – GSEs

- Federal National Mortgage Association – FNMA or Fannie Mae
- Federal Home Loan Mortgage Corporation – FHLMC or Freddie Mac
- Government National Mortgage Association – GNMA or Ginnie Mae
  - Federal Housing Agency or FHA
  - Veterans Administration or VA
  - Rural Housing
- Federal Home Loans Banks or FHLBs
- Aggregators
  - Commercial Banks
  - Non-regulated Originators

Secondary Market

- Fannie Mae
  - Chartered in 1938
  - Guarantor of FNMA MBS
    - Balance outstanding at 3/31/17 - $2.8 trillion
- Freddie Mac
  - Chartered in 1970
  - Guarantor of FHLMC PCs
    - Balance outstanding at 3/31/17 - $1.8 trillion

Secondary Market

- Federal Housing Finance Agency
  - Created in 2008
  - Primary regulator of FNMA, FHLMC and the FHLBanks
  - Conservator for FNMA and FHLMC since September 2008
- Federal Home Loan Banks
  - Created in 1932 as a cooperative – 11 banks
  - 7,100 members
  - $48.9 billion in mortgage loans held at 3/31/17

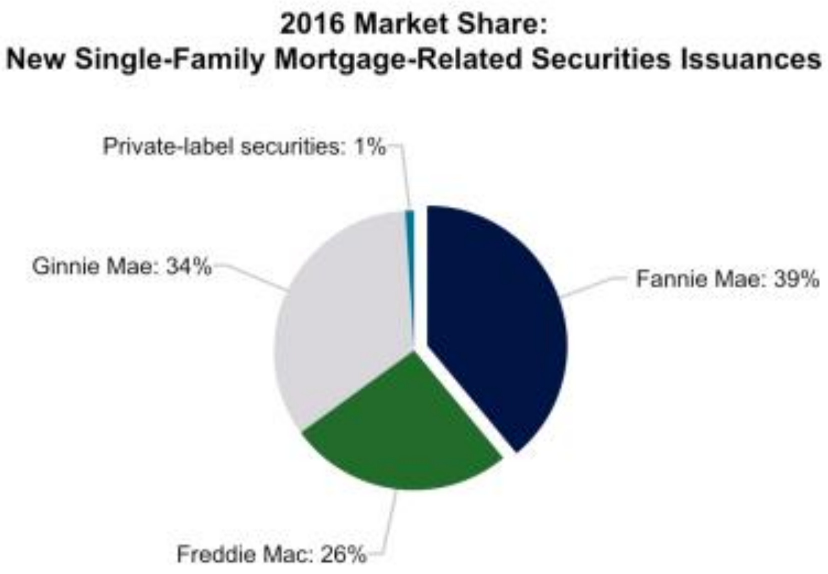
Secondary Market

Ginnie Mae

- Created in 1968 and issued first MBS in 1970
- Guarantees performance of issuer – full faith and credit
- Part of the Department of Housing and Urban Development
- $1.8 trillion of loans guaranteed at March 31, 2017

Secondary Market

Market Share Estimates



Source: Fannie Mae 10K

Secondary Market

Other Items of Note

- Conforming conventional mortgage limits
  - FNMA and FHLMC $424,150 – certain high cost areas $636,150
- FHA loan limits
  - Varies by county Ramsey County MN $332,350
  - FHA 203(b) – requires 3% down
- VA loan limit
  - No limit but guarantee amount is based on conforming conventional
  - No down payment required
  - Guarantee amount depends on veteran’s level of service

Secondary Market

Retail Loan Origination Profit – Dollars per Loan

Income	**2012**	**2013**	**2014**	**2015**	**2016**
Origination Fees	1,252	1,124	1,283	1,014	1,148
Other Origination-Related Income	557	629	569	521	528
Net Interest Income	34	71	144	138	89
Secondary Marketing Income	5,870	5,802	6,335	7,058	7,385
Total Income	7,713	7,625	8,331	8,730	9,151
Expenses					
Personnel	3,513	4,079	4,837	4,874	5,081
Occupancy	270	317	466	403	387
Other	1,288	1,403	1,578	1,660	1,757
Corporate Allocation	347	392	407	396	418
Total Expenses	5,417	6,191	7,288	7,333	7,643
Net Income	2,296	1,434	1,043	1,398	1,508

Source: Mortgage Bankers Association’s Annual Performance Report 2013 - 2017

Secondary Market

Retail Loan Origination Profit – Basis Points per Loan

Income	**2012**	**2013**	**2014**	**2015**	**2016**
Origination Fees	60.30	56.57	63.27	45.08	51.51
Other Origination-Related Income	26.24	29.35	26.49	22.47	22.82
Net Interest Income	1.54	3.11	6.08	5.64	3.54
Secondary Marketing Income	274.71	269.26	280.78	306.08	312.51
Total Income	362.79	358.29	376.63	379.26	390.38
Expenses					
Personnel	161.07	188.99	217.28	210.72	215.29
Occupancy	12.31	14.77	20.64	17.72	16.74
Other	59.89	66.09	73.75	74.21	76.95
Corporate Allocation	17.05	18.19	18.76	17.39	18.45
Total Expenses	250.32	288.03	330.42	320.04	327.43
Net Income	112.47	70.26	46.21	59.22	62.95

Source: Mortgage Bankers Association's Annual Performance Report 2013 - 2017

Regulatory Environment

Consumer Financial Protection Bureau

- Dodd-Frank Title XIV Rulemaking
  - ATR/QM
  - 2013 HOEPA
  - ECOA Valuations Rule
  - TILA Higher-Priced Loans Appraisal Rule
  - Loan Originator Rule
  - RESPA and TILA Mortgage Servicing Rules
  - TILA Higher-Priced Mortgage Loans Escrow Rule

Regulatory Environment

Consumer Financial Protection Bureau

- Ability to Repay (ATR) and Qualified Mortgage (QM) Rule Effective January 10, 2014 amended several times through March 28, 2016

- General ATR Standard
  - One must make a reasonable, good-faith determination before, or when consummating a ***covered*** mortgage loan, that the consumer has a reasonable ability to repay the loan

Inclusions and Exclusions

Inclusions

- ATR/QM rule applies to almost all closed-ended consumer credit transactions secured by a dwelling including any real property attached to the dwelling.
  - Loans secured by residential structures that contain one to four units
  - Includes condominiums and co-ops
  - NOT limited to first liens or to loans on primary residences

Inclusions and Exclusions

Exclusions

- Open-ended credit plans (HELOCs)
- Time-share plans
- Reverse mortgages
- Temporary or bridge loans with terms of 12 months or less (with possible renewal)
- A construction phase of 12 months or less (with possible renewal) of a construction-to-permanent loan
- Consumer credit transactions secured by vacant land

ATR Underwriting Factors

1. Current or reasonably expected income or assets (other than the value of the property that secures the loan) that the consumer will rely on to repay the loan.

2. Current employment status (if you rely on employment income when assessing the consumer's ability to repay).

3. Monthly mortgage payment for this loan. Calculate this using the introductory or fully-indexed rate, whichever is higher, and monthly, fully-amortizing payments that are substantially equal.

4. Monthly payment on any simultaneous loans secured by the same property.

ATR Underwriting Factors

5. Monthly payments for property taxes and insurance that you require the consumer to buy, and certain other costs related to the property such as homeowners association fees or ground rent.
6. Debts, alimony, and child-support obligations.
7. Monthly debt-to-income ratio or residual income that is calculated using the total of all of the mortgage and non-mortgage obligations listed above, as a ratio of gross monthly income.
8. Credit history.

Who is Exempt from ATR

- Community Development Financial Institutions – HUD Designated:
  - Community Housing Development Organization
  - Down Payment Assistance Provider of Secondary Financing
- 501(c)(3) nonprofits – less than 200 loans of any type per year
- State Housing Agencies and their programs
- Extensions of Credit made under the Economic Stabilization Act

Qualified Mortgage

Types of QM

- General
- Temporary: sales to Fannie Mae and Freddie Mac until the earlier of January 10, 2021 or exit from conservatorship
- Small Creditor
- Small Creditor Balloon Payment

Qualified Mortgage

General QM Loan Features

- No more than 30 years
- No negative amortization or interest only
- Points and fees limited to 3% - higher thresholds for loans < $100,000
- Payment underwriting: based on maximum rate in first five years
- “Old-fashioned” underwriting
- Back-end ratio 43% or less
- No minimum down payment

Temporary QM

Loans under Temporary QM status must meet the same requirements as General QM loans regarding prohibitions on risky features, a max loan term of 30 years, and points-and-fees restrictions. They also must meet at least one of the following requirements:

- Eligible for purchase by Fannie Mae or Freddie Mac while operating under federal conservatorship or receivership
- Eligible to be insured by the Rural Housing Service
- Eligible to be guaranteed by the USDA
- FHA QM loan
- VA QM loan

Temporary QM

- Eligibility for purchase or guarantee by a GSE or insurance or guarantee by an agency can be established by:
  - Valid recommendation from a GSE Automated Underwriting System (AUS) or an AUS that relies on an agency underwriting tool
    - Back-end can exceed 43%
  - GSE or agency guidelines contained in official manuals
  - Written agreements between a GSE or agency and the creditor (or direct sponsor or aggregator of the creditor)
  - Individual loan waivers from a GSE or agency

Small Creditors

Small Creditor Criteria

- Assets below $2 billion (to be adjusted annually for inflation) at the end of the last calendar year
- Organization and its affiliates together originated no more than 2,000 first-lien, closed-end residential mortgages that are subject to the ATR requirements in the preceding calendar year

ATR Requirements with Qualified Mortgages

	ATR Standard	General QM Definition	Agency/GSE QM (Temporary)	Small Creditor QM	Small Creditor Balloon QM[2]
Loan feature limitations	No limitations	No negative amortization, interest-only, or balloon payments	No negative amortization, interest-only, or balloon payments	No negative amortization, interest-only, or balloon payments	No negative amortization or interest-only payments
Loan term limit	No limitations	30 years	30 years	30 years	No more than 30 years, no less than 5 years
Points & fees limit	No limitations	3%[3]	3%[3]	3%[3]	3%[3]
Payment Underwriting	Greater of fully indexed or introductory rate[4]	Max rate in first 5 years	As applicable, per GSE or agency requirements	Max rate in first 5 years	Amortization schedule no more than 30 years
Mortgage-related obligations	Consider and verify	Included in underwriting monthly payment[5] and DTI[6]	As applicable, per GSE or agency requirements	Included in underwriting monthly payment[5] and DTI[6]	Included in underwriting monthly payment[5] and DTI[6]
Income or assets	Consider and verify	Consider and verify	As applicable, per GSE or agency requirements	Consider and verify	Consider and verify
Employment status	Consider and verify	No specific requirement, but Included in underwriting income and DTI[7]	As applicable, per GSE or agency requirements	No specific requirement, but Included in underwriting income and DTI[7]	No specific requirement, but Included in underwriting income and DTI[7]
Simultaneous loans	Consider and verify	Included in underwriting DTI	As applicable, per GSE or agency requirements	Included in underwriting DTI	Included in underwriting DTI
Debt, alimony, child support	Consider and verify	Consider and verify	As applicable, per GSE or agency requirements	Consider and verify	Consider and verify
DTI or Residual Income	Consider and verify	DTI ≤ 43 percent	As applicable, per GSE or agency requirements	Consider and verify	Consider and verify
Credit History	Consider and verify	No specific requirement, but may be included in underwriting debt and DTI[8]	As applicable, per GSE or agency requirements	No specific requirement but may be included in underwriting debt and DTI[8]	No specific requirement but may be included in underwriting debt and DTI[8]

Small Creditor QM Loans

Small Creditor QMs lose QM status if sold or otherwise transferred less than three years after consummation. However, a Small Creditor QM keeps its QM status if it meets one of the following criteria:

- It is sold more than three years after consummation
- It is sold to another creditor that meets the criteria regarding number of originations and asset size, at any time
- It is sold pursuant to a supervisory action or agreement, at any time
- It is transferred as part of a merger or acquisition of or by the creditor, at any time

Rules

Offering the Appropriate Mix to Members

Conforming and Salable Products vs. Portfolio Products

- Conforming Products are those that are eligible for sale to the GSE’s (Fannie, Freddie, FHLB). Many credit unions decide to hold these in portfolio for interest income and balance sheet growth.

- Portfolio products can also include non-conforming loans (i.e non-QM), jumbo loans and ARM products.

Safe Harbor and Rebuttable Presumption

Safe Harbor and Rebuttable Presumption for First-Lien Residential Mortgages

- If APR less than Average Prime Offer Rate (APOR) plus 1.5%

  ⟶ safe harbor

- If APR greater than APOR plus 1.5%

  ⟶ rebuttable presumption

http://www.ffiec.gov/ratespread/

Safe Harbor and Rebuttable Presumption

Safe Harbor and Rebuttable Presumption for Subordinate-Lien Residential Mortgages

- If APR less than APOR plus 3.5%

  ⟶ safe harbor

- If APR greater than APOR plus 3.5%

  ⟶ rebuttable presumption

Points and Fees

- Limited to 3% if loan is greater than $100,000
- Defined under the Home Ownership and Equity Protection Act (HOEPA)
- Percentage limits go up for smaller loan sizes

Points and Fee Caps for Smaller Loans

Loan Amount	Percentage Cap of the Total Loan Amount	Dollar Amount Cap
>= $100,000	3%	N/A
>= $60,000 and < $100,000	N/A	$3,000
>= $20,000 and < $60,000	5%	N/A
>= $12,500 and < $20,000	N/A	$1,000
< $12,500	8%	N/A

Points and Fees Definitions

- LLPAs are points and fees
- Bona fide discount points are not subject to APOR limitations
- Finance Charge - for the limit, you do not have to include:
  - Interest Differential
  - MIPs
  - Federal or State MIPs
- Points and Fees include direct or indirect compensation paid to a loan originator – does not include employee compensation

Points and Fee Definitions

- Real estate fees generally excluded unless there is compensation or the fee is paid to an affiliate
- Credit Life and other premiums rolled into loan amount are included unless consumer is sole beneficiary
- Maximum prepayment fee included

Operational Considerations

Pricing and Developing a Rate Sheet

- Target profit margin
  - Net of Loan Officer Compensation
  - Includes Servicing Value (released or retained)
- Pricing methodology
  - Salable loans priced based off of live pricing issued by GSE
  - Portfolio products based on specified index plus margin
- Rate Volatility
  - Margins are sensitive to market movements. Pricing should be monitored and adjusted daily.

Operational Considerations

Rate Sheet Examples

30/25 Year Fixed Rate Conforming			
Interest Rate	15 Day Lock	45 Day Lock	60 Day Lock
3.375	2.250	2.375	2.625
3.500	1.250	1.375	1.625
3.625	0.500	0.625	0.875
3.750	(0.125)	0.000	0.250
3.875	(0.625)	(0.500)	(0.250)
4.000	(1.250)	(1.125)	(0.875)
4.125	(2.000)	(1.875)	(1.625)
4.250	(2.625)	(2.500)	(2.250)

7/1 CMT ARM *Caps: 5/2/5 Margin: 2.75*			
Interest Rate	15 Day Lock	45 Day Lock	60 Day Lock
3.000	0.750	0.875	1.125
3.125	0.125	0.250	0.500
3.250	(0.125)	0.000	0.250
3.375	(0.500)	(0.375)	(0.125)
3.500	(1.000)	(0.875)	(0.625)
3.625	(1.375)	(1.250)	(1.000)
3.750	(1.500)	(1.375)	(1.125)
3.875	(1.625)	(1.500)	(1.250)

Operational Considerations

Compensation Structures

- Mortgage Loan Officers are generally compensated based on the volume and number of loans originated.
  - Anti-Steering (Product Selection)
  - Department of Labor overtime rules
    - Exempt vs. Non-Exempt
  - Tiered MLO compensation structure
    - Units Closed
    - Volume Originated

Loan Originator Qualification and Compensation

- The Secure and Fair Enforcement for Mortgage Licensing Act of 2008 “SAFE”
- Fairly broad definition of loan originator – Credit Unions
- Compensation:
  - Prohibits loan officers’ compensation from being based on the terms of a transaction
  - Prohibits loan officers in a transaction from being compensated by both a consumer and another person
  - Allows certain contributions to certain retirement plans and bonus pools based on mortgage-related profits

Loan Originator Qualification and Compensation

- Qualifications:
  - Loan originators must be registered under the National Mortgage Licensing System “NMLS”
  - Requires non-loan originator employees who are not required to be licensed be trained and pass a criminal background check
- Requires loan originator identification on loan documents
- Requires written procedures
- Restricts the use of mandatory arbitration clauses

Operational Considerations

Regulatory Compliance

- NCUA
  - Generally assumes standard industry guidelines with overlays on product terms held in portfolio
  - Guideline variations
- GSE’s
  - Establish industry standard for guidelines in origination mortgage loans
- Originator is responsible for ensuring compliance with HMDA, TILA, RESPA and ATR/QM Requirements.

Mortgage Banking

Reasons to Originate Residential Mortgage Loans:

- Business opportunity
- Important customer relationship

Mortgage Banking

After a Financial Institution Has Committed to Making Residential Mortgage Loans It Has Two Choices:

- Hold the loans on the balance sheet
- Sell the loans

Mortgage Banking

Benefits of Holding Prime Credit, Fixed Rate Residential Mortgages

- Relatively low credit risk
- Higher yield than MBS and other Agency investments
- Higher yield than vehicle loans (generally)
- GSE loans are fungible
- QM versus non-QM

Financial Institution Risks

- Credit Risk
- Liquidity Risk
- Interest Rate Risk
  - Repricing Risk
  - Basis Risk
  - Yield Curve Risk
  - Option Risk
- Operations Risk
- Legal Risk
- Reputation Risk

Originating and holding fixed rate residential mortgages entails risk

Interest Rate Risk

Interest Rate Risk for Holding Fixed Rate Residential Mortgages

- Potential for a gap or mismatch between asset and liability durations because of the longer term and market volatility

- Difficult to accurately estimate prepayment speeds and effectively offset the optionality component in residential mortgages

Interest Rate Risk

ALM Profile Example for Residential Mortgages

Economic Value of Equity							
Asset	-200	-100	Base	+100	+200	+300	+400
Fixed rate 1st mortgage - fair value	104.23%	103.42%	99.16%	93.78%	88.58%	84.04%	79.62%
Change from base case	5.08%	4.26%		-5.37%	-10.58%	-15.11%	-19.54%
Conditional prepayment rate %	39.42	19.36	7.58	5.77	4.97	4.85	4.51

Fair value gains are limited in the falling rate environment due to the forecasted increased prepayments from refinancing activity.

Interest Rate Risk

Option Risk

- High coupon residential mortgage loans relative to the current market have more call risk – likely to refinance

- Low coupon mortgage loans relative to the current market have more extension risk – likely to be held longer than originally expected

Interest Rate Risk

FDIC Roundtable Discussion on IRR Management

“From an investor’s perspective, there is a “flaw” in the basic mortgage that is used here in the United States: it has an option in it.”

“When you invest in a mortgage, there are three things that can happen -and two of them are bad. One event is that rates go up and the value of the loan goes down. A second event is that rates go down and the customer pays off the loan. A third event is that rates stay exactly the same and you earn exactly what you thought you were going to earn.”

“…asset liability management is an art, not a science. I think you have to look at your models as a series of tools that help you build a circle around what your real exposures are and what your opportunities are.”

Interest Rate Risk

Utilize ALM Models to Measure, Monitor and Control Overall IRR Exposure (partial ALM positions shown)

Account	Weighted Avg. Coupon	Avg. Life	Modified Duration	Book Value	Fair Value	Fair Value Percent
Fixed Rate Mortgage 5 year	3.23	0.65	0.63	5,256,820	5,260,753	100.07%
Fixed Rate Mortgage 10 year	3.37	2.77	2.56	35,801,822	36,104,434	100.85%
Fixed Rate Mortgage 15 year	3.57	3.65	3.29	46,488,398	46,298,242	99.59%
Fixed Rate Mortgage 20 year	3.72	4.62	3.94	50,939,710	50,405,424	98.95%
Fixed Rate Mortgage 30 year	4.00	5.94	4.95	71,928,900	71,376,690	99.23%
Total Assets	**3.78**	**2.94**	**2.31**	**1,398,844,944**	**1,402,094,864**	**100.23%**
Free Checking	0.00	3.61	3.56	111,615,697	107,051,315	95.91%
Regular Savings	0.15	4.37	4.28	243,434,541	235,875,983	96.90%
High Yield Savings (MMDA)	0.80	3.05	3.00	201,178,565	202,605,421	100.71%
Share Certificates	1.69	2.04	1.97	288,615,659	292,777,642	101.44%
Total Liabilities	**0.72**	**3.25**	**3.18**	**1,187,918,287**	**1,178,926,563**	**99.24%**
Total Equity				**210,926,657**	**223,168,302**	**105.80%**

Manage duration when holding long term fixed rate mortgages

Interest Rate Risk

Overall ALM Position in a Shocked Environment

Economic Value of Equity - WWRM Assumptions

Scenario	Fair Value of Assets	Fair Value of Liabilities	Fair Value of Equity	% Change from Base	NCUA Risk Level
-300	1,414,993,595	1,199,928,829	215,064,765	-3.63%	Low
-200	1,415,086,641	1,204,302,001	210,784,640	-5.55%	Low
-100	1,416,112,956	1,205,751,816	210,361,140	-5.74%	Low
Base	1,402,094,864	1,178,926,563	223,168,302		
100	1,374,803,536	1,153,085,305	221,718,232	-0.65%	Low
200	1,345,125,584	1,128,911,068	216,214,516	-3.12%	Low
300	1,316,687,447	1,106,279,504	210,407,943	-5.72%	Low
400	1,289,984,606	1,085,076,426	204,908,180	-8.18%	Low

ALM results measured against pre-determined risk policy thresholds

Mortgage Banking

Residential Mortgage Sales Have Benefits and Risks

- Benefits
  - Reduce interest rate and credit risks
  - Generate potential gains
- Risks
  - Reinvestment risk
  - Repurchase risk
  - Generate potential losses if the loan sales are not hedged or loans have been priced incorrectly
  - Potential loss of customer relationships if the loan is sold servicing released

Operational Considerations

Quality Control

- The Loan Quality Initiative (LQI), established by the GSE's, outlines the requirements for monitoring the origination of a mortgage loan.
  - Internal Audits
    - Pre-Closing QC Review
    - Post Closing QC Review
  - Third Party Monitoring
    - Monthly review of targeted samplings of originated loans
      - Vendors:
        - » TenA, The StoneHill Group, New Oak

Operational Considerations

Loan Origination Software

- The Loan Origination System is needed to support:
  - Eligibility
  - Pricing/Product availability
  - Generation of the loan application (automated)
  - Generation of Loan Closing Documents
  - Incorporation of third-party vendors to include: appraisal orders, income and asset verification, e-signing, etc.
- Software Vendors
  - Optimal Blue
  - Mortgage Cadence
  - ALM First (hedge software)
  - Mortgage Capital Management (hedge software)

Operational Considerations

Use of Third Parties

- Compliance
- Underwriting
- CUSO Fulfillment

Operational Considerations

Control Over Origination Flow

- All internal loan procedures are aligned to Secondary Market requirements and guidelines to ensure eligibility for loan sale.
  - Product guidelines
  - Data Quality
  - Lock Policy
  - Pipeline Management
  - Lock desk

Best Price Execution

Residential Mortgage Sales Decision Should be Based on a Best Price Execution Analysis

- Where do I sell?
- How do I sell?
- What is my true economic sales price?

Best Price Execution

Where Do I Sell?

- GSE
- Aggregator

Best Price Execution

How Do I Sell?

- Loan by loan or bulk
- Servicing released or retained
- Best efforts or mandatory

Best Price Execution

Bulk Mandatory versus Best Efforts

	Mandatory	Best Efforts
Commitment Type	Multiple loans	Single loan
Loan Substitution	Permitted	Not allowed
Price Level	Higher	Lower
Pair-off Fee	Yes	No, unless loan closes and is not delivered
Risk Level	High	Low

Best Price Execution

Servicing Released

- Receive service release premium at time of sale
- Transfer of customer information to potential competitor
- Potential required repurchases

Best Price Execution

Pricing Components

- Interest rate / coupon
- Loan type
- Term
- Lock length
- Value of servicing
- Loan-level price adjustments
- Buy ups and buy downs
- Loan size
- Other adjustments

Best Price Execution

Best Efforts vs. Mandatory TBA

- 30 year fixed rate, conventional
- $200,000 loan amount
- 4.00% interest rate
- 30 day interest rate lock
- 80% LTV
- 720 FICO
- Single family residence
- Purchase transaction
- No subordinate financing
- With escrows

Best Price Execution

Best Execution Analysis

	Best efforts 30 day cash price (SRP excluded)	Best efforts 30 day cash price (SRP included)	Mandatory TBA forward FNMA price
4.00% loan price	100.996	102.664	
4.00% loan / 3.50% security price			102.594
Loan Level Price Adjustment	-0.75	-0.75	-0.75
Servicing Release Premium (SRP)	1.841		
Retained Servicing Value			1.208
Price	102.087	101.914	103.052
Difference	(0.965)	(1.138)	

Best Price Execution

TBA Forwards

- Although bulk mandatory delivery offers the best mortgage pricing execution and greater potential profitability, this delivery method presents numerous operational challenges.

- Achieving profitability is highly dependent on proper estimation of pull-through / fallout on the locked mortgage pipeline.

Best Price Execution

Mandatory Positions and Inaccurate Pull-Through Assumptions

Accurate Pull-Through Forecast	
IRLC position	10,000,000
Expected fallout 20%	2,000,000
Expected pull-through	8,000,000
Actual pull-through	8,000,000
TBA forward position	8,000,000
TBA Price advantage	77,180
Pair-off loss	0
Net impact	77,180

Rate Decrease 50 bps, Low Pull-Through	
IRLC position	10,000,000
Expected fallout 20%	2,000,000
Expected pull-through	8,000,000
Actual pull-through	2,000,000
TBA forward position	8,000,000
TBA Price advantage	19,295
Pair-off loss	(170,625)
Net impact	(151,330)

Mortgage Banking

Servicing Costs

- You can compete with the giant servicers on cost by keeping it simple – limit the number of investors, use one remittance method, service fixed rate loans only and use existing employees to service the loans

- Smaller servicers have historically generated less ancillary income per loan than the giant servicers, providing them with an opportunity to increase income and broaden their customer relationships on retained loans.

Mortgage Banking

Retained Mortgage Servicing Rights

- MSRs are a modified interest only strip
- Valuation is relatively complex
- Maintain contact with member – second most important product

Hedging

Hedging with TBAs (Bulk Mandatory Forwards)

- An interest rate lock commitment (IRLC) is a cross between an option and a forward commitment
- Pricing and risk
- Mitigate risk by hedging
  - Estimate fall-out on locked pipeline
  - Control interest rate with lock-in agreements
  - Manage pair-offs and market movement
  - Prepare mark-to-market and position reports
  - Potentially engage 3rd party expertise

Hedging

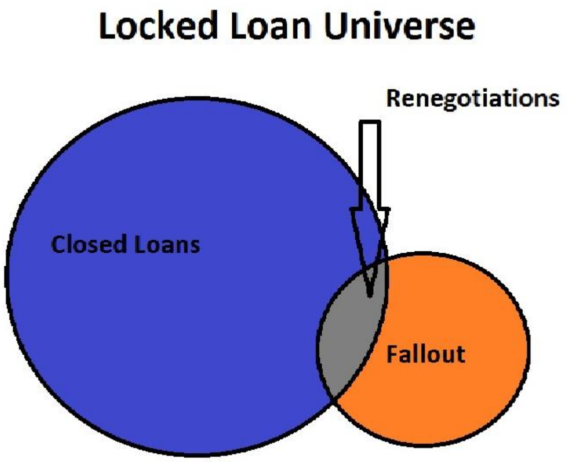
Hedging – Mortgage Capital Management

To a mortgage originator, hedging refers to the purchase or sale of financial instruments designed to neutralize the risk of interest rate movement on the mortgage pipeline.

Hedging

Fallout Risk

- Rate lock does not close
- Borrower renegotiates rate or discount points
- Loan closing date is extended



Hedging

Factors Affecting Pull-through

- Market interest rates
- Type of origination – retail or wholesale
- Length of lock
- Purpose of loan – purchase or refinance
- Type of loan – fixed or variable
- Processing status of loan

Hedging

Unexpected Outcomes – Mortgage Capital Management

Fallout risk is realized when an excess amount of mandatory (MBS TBA) coverage is used to hedge a price protected (optional) pipeline in a declining interest rate environment. After interest rates drop significantly, loans that have been locked-in by borrowers may cancel or be renegotiated at lower rates leaving the mandatory (MBS TBA) coverage unfillable with closed loans. This situation usually requires that the (MBS TBA) coverage trades be bought back from investors at a loss. Or conversely, when rates rise and not enough mandatory (MBS TBA) coverage was placed to hedge the ever increasing amount of loans closing from reduced fallout in a rising rate environment.

MCM
Mortgage Capital Management

Hedging

Sample Fallout Review

MONTH	LOCKS	CLOSINGS	FALLOUT	FALLOUT %	REN AMT	RF%	TOTAL FALLOUT	ACTUAL TOT FALL %	WAD FORCAST	Variance
Jul	154,482,706	123,689,458	29,197,231	18.9%	3,537,654	2.3%	32,734,885	21.2%	18.5%	2.7%
Aug	141,346,521	113,043,168	27,209,205	19.3%	5,060,205	3.6%	32,269,411	22.8%	21.0%	1.8%
Sep	167,818,927	141,195,830	24,333,744	14.5%	4,816,403	2.9%	29,150,148	17.4%	18.7%	-1.3%
	463,648,154	**377,928,456**	**80,740,181**	**17.4%**	**13,414,263**	**2.9%**	**94,154,444**	**20.3%**	**19.4%**	**0.9%**

MCM
Mortgage Capital Management

Hedging

Sample Position Report

LOCKS BY STATUS

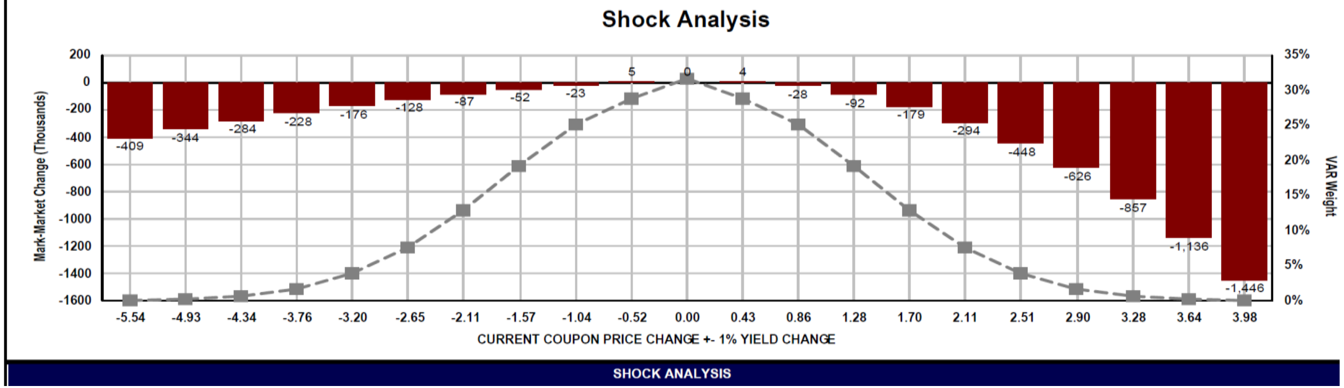
PROGRAM	DOCUMENTS IN	DOCUMENTS OUT	APPROVED	SUBMITTED	IN PROCESS	GRAND TOTAL
FHLMC30	0	451,600	154,000	223,462	417,000	1,246,062
FNMA15	0	1,210,600	4,894,745	773,500	3,367,532	10,246,377
FNMA20	0	0	341,600	89,500	557,700	988,800
FNMA30	1,978,260	23,091,499	72,028,697	16,241,540	48,184,945	161,524,941
GNMA15	0	114,977	0	0	141,498	256,475
GNMA30	312,730	5,305,439	9,242,229	1,187,598	8,796,479	24,844,475
GNMAII30	2,520,808	9,165,667	34,441,638	10,149,866	25,809,442	82,087,421
GRAND TOTAL	**4,811,798**	**39,339,782**	**121,102,909**	**28,665,466**	**87,274,596**	**281,194,551**

MCM
Mortgage Capital Management

Hedging

SAMPLE DYNAMIC HEDGE RECOMMENDATION

Mand Coverage:	2,724,076	&	**Puts ATM:**	7,264,732	&	**Calls ATM:**	16,196,490	OR	**Delta Hedge:** (1,741,804)
	(POS=SELL/NEG=BUY)			(POS=BUY/NEG=SELL)			(POS=BUY/NEG=SELL)		(POS=SELL/NEG=BUY)



Operational Risk

- Clean data
- Ability to deliver loans when agreed
- Recourse and repurchase risk
  - SRP refunds
  - Violation of origination representations and warranties
- Software
- Third party hedging providers
  - MCM
  - Optimal Blue
  - Compass Analytics
  - ALM First

Mortgage Banking

Guidance

- Interagency advisory on mortgage banking – February 2003
- Interagency advisory on accounting and reporting for commitments to originate and sell mortgage loans – May 2005
- OCC Comptroller’s Handbook Mortgage Banking February 2014

Mortgage Banking Derivatives

Interagency Advisory on Accounting and Reporting for Commitments to Originate and Sell Mortgage Loans

- Issued May 3, 2005
- Provides guidance on accounting and reporting for commitments to:
  - Originate mortgage loans that will be held for resale; and
  - Sell mortgage loans under mandatory and best efforts sales contracts

Mortgage Banking Derivatives

Noncompliance Issues Noted in the Advisory

- Reporting the value of derivative loan sales agreements as assets, when in fact they were liabilities, and vice-versa
- Failing to report the derivatives and their changes in fair value on the balance sheet and income statement

Mortgage Banking Derivatives

Interest Rate Lock Commitments (IRLCs)

- Interest rate lock in commitments on mortgage loans that will be held for resale are derivatives

- Commitments to originate mortgage loans to be held for investment and other types of loans are generally not derivatives

Mortgage Banking Derivatives

IRLC Value

- IRLCs should be initially recorded at fair value
- Subsequent changes in fair value are to be measured and reported on the balance sheet and income statement

Mortgage Banking Derivatives

Value of IRLC – Example

• Loan Amount	$250,000
• Price to the borrower at lock-in:	Par or 100
• Locked Interest Rate	4.375%
• Market Interest Rate	4.000%
• Sales Price (locked with investor)	101.50
• Value of Servicing	1.000% or $2,500
• Projected Origination Costs	1.000% or $2,500

Mortgage Banking Derivatives

Value of IRLC – Example

		Inception	Rates Increase 50 bp	Loan Has Been Processed	Rates Drop 100 bp	Loan Has Been Approved	Loan at Close
Loan Amount	(A)	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000
Lock In Interest Rate		4.375%	4.375%	4.375%	4.375%	4.375%	4.375%
Market Interest Rate		4.000%	4.500%	4.500%	3.500%	3.500%	3.500%
Market Value	(B)	101.50%	99.50%	99.50%	103.50%	103.50%	103.50%
Servicing Value	(C)	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Origination Costs	(D)	1.00%	1.00%	0.50%	0.50%	0.25%	0.00%
Borrower Price	(E)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Value as a Percent of Loan (B)+(C)-(D)-(E)	(F)	1.50%	-0.50%	0.00%	4.00%	4.25%	4.50%
Dollar Value (A)*(F)	(G)	$ 3,750	$ (1,250)	$ -	$ 10,000	$ 10,625	$ 11,250
Pull-through Percentage	(H)	30.00%	30.00%	60.00%	60.00%	80.00%	100.00%
Net Value (G)*(H)	(I)	$ 1,125	$ (375)	$ -	$ 6,000	$ 8,500	$ 11,250
Value Recorded		$ 1,125	$ (1,500)	$ 375	$ 6,000	$ 2,500	$ 2,750

Mortgage Banking Derivatives

Additional Economic Considerations for IRLCs

- Changes in interest rates can also affect the value of the servicing asset

- Pull-through assumptions in the marketplace are more complex than the simplified example

Mortgage Banking Derivatives

Mandatory Delivery Commitment

- Has a “specified underlying” - the specified price
- Requires little or no initial net investment
- Has a “notional amount” - the principal amount of the loan
- Requires or permits net settlement by paying a pair-off fee based on then current market prices
- Is a derivative

Mortgage Banking Derivatives

Best Efforts Delivery Commitment

- An institution commits to deliver an individual loan of a specified principal amount and quality to an investor if the loan to the underlying borrower closes
- Generally not considered a derivative until the loan closes because it does not meet the net settlement criteria
- The result is that the change in the value of best efforts contracts will not offset the change in the value of the IRLCs for accounting purposes unless fair value is elected
- An institution will want to elect fair value if they want a “hedge” against the fluctuation in the value of the IRLC

Mortgage Banking Derivatives

Value of Forward Loan Sales Commitment – Valuation Example

		Inception	Rates Increase 50 bp	Loan Has Been Processed	Rates Drop 100 bp	Loan Has Been Approved	Loan at Close
Loan Amount	(A)	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000
Lock In Interest Rate		4.375%	4.375%	4.375%	4.375%	4.375%	4.375%
Market Interest Rate		4.000%	4.500%	4.500%	3.500%	3.500%	3.500%
Market Value	(B)	101.50%	99.50%	99.50%	103.50%	103.50%	103.50%
Servicing Value	(C)	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Sales Price including SRP	(D)	102.50%	102.50%	102.50%	102.50%	102.50%	102.50%
Value as a Percent of Loan (D)-(B)-(C)	(E)	0.00%	2.00%	2.00%	-2.00%	-2.00%	-2.00%
Dollar Value (A)*(F)	(F)	$ -	$ 5,000	$ 5,000	$ (5,000)	$ (5,000)	$ (5,000)
Pull-through Percentage	(G)	30.00%	30.00%	60.00%	60.00%	80.00%	100.00%
Net Value (G)*(H)	(H)	$ -	$ 1,500	$ 3,000	$ (3,000)	$ (4,000)	$ (5,000)
Value Recorded		$ -	$ 1,500	$ 1,500	$ (6,000)	$ (1,000)	$ (1,000)

Mortgage Banking Derivatives

Netting of Derivatives for Reporting Purposes

- May net gains and losses of individual derivative commitments only under certain conditions, generally only under the legal right of offset
- The value of sales commitments covering the pipeline may not be netted against the value of the IRLCs, they must be reported separately
- The value of sales commitments covering the warehouse may not be netted against the value of the warehouse loans, they must be reported separately

Mortgage Banking Derivatives

Loans Held for Sale – Valuation Example

		Loan at Close	Rates Increase 50 bp	Rates Drop 100 bp	Loan at Sale
Loan Amount	(A)	$ 250,000	$ 250,000	$ 250,000	$ 250,000
Lock In Interest Rate		4.375%	4.375%	4.375%	4.375%
Market Interest Rate		4.000%	4.500%	3.500%	3.500%
Market Value	(B)	103.50%	101.50%	105.50%	101.50%
Servicing Value	(C)	1.00%	1.00%	1.00%	1.00%
Borrower Price	(D)	100.00%	100.00%	100.00%	100.00%
Value as a Percent of Loan (B)+(C)-(D)	(E)	4.50%	2.50%	6.50%	2.50%
Dollar Value (A)*(F)	(F)	$ 11,250	$ 6,250	$ 16,250	$ 6,250
Pull-through Percentage	(G)	100.00%	100.00%	100.00%	100.00%
Net Value (G)*(H)	(H)	$ 11,250	$ 6,250	$ 16,250	$ 6,250
Value Recorded		$ 11,250	$ (5,000)	$ 10,000	$ (10,000)

Risk Weighting Loans

Single Family One-to-Four

- Prudently underwritten first 50% (if bank holds first and second and no intervening, liens treated as first)
- Seconds, 90 day+, non-accrual, modified – 100%
  - HAMP loans are not modifications

Mortgage Banking Derivatives

Income Statement Effect

Changes in the fair value of the IRLCs, sales commitments and LHFS (depending on the circumstances) are reported as “other noninterest income” or “other noninterest expense.”

Off Balance Sheet Exposure

- Over the counter derivative contracts (e.g. mortgage banking derivatives)
  - If less than one year and interest rate risk: 0% risk weight

Mortgage Banking Derivatives

NCUA Call Report

- Derivative information should be entered in Sections 1 – 5 of Appendix D in the 5300

- Detailed instructions for these entries can be found in our Accounting and Regulatory Guidance for the Mortgage Partnership Finance® Program manual that can be downloaded from our website at www.wilwinn.com in the Insights and Resources section

Mortgage Servicing Rights

Regulatory Perspective

- Inter-Agency Advisory Mortgage Banking February 2003
  - Need to comply with rules on interest rate risk
  - Need to consider how mortgage banking affects strategic, business and asset/liability plans
  - Establish asset/capital limits for mortgage banking

Mortgage Servicing Rights

Retained Mortgage Servicing Rights (MSRs)

- MSRs are a modified interest only strip
- Many types of underlying loans
- Value varies significantly by type of MSR

Mortgage Servicing Rights

Major Valuation Components

- Loan amount
- Servicing fee percentage – varies by investor and type of loan
- Ancillary income
- Expected loan life – prepayment and loan term
- Discount rate
- Costs to service – market costs
- Delinquency rate and foreclosure losses – recourse versus non-recourse

Mortgage Servicing Rights

Valuation Components Detail

- Servicing fees are earned monthly based on remaining principal balance
- Servicing costs should be calculated in dollars per loan
- Ancillary income includes late fees, insurance income and other fees earned
- Float and escrows (impounds) add value

Mortgage Servicing Rights

PWC Assumption Survey – Range of Assumptions

Ancillary Income	Low	High	Average	Median
FNMA / FHLMC				
Fixed	15.68	69.17	36.58	37.20
ARM	13.46	65.95	37.45	39.00
GNMA				
Fixed - FHA	27.87	68.70	49.60	48.00
Fixed - VA	24.91	69.99	48.94	48.54
ARM	32.19	70.00	53.02	53.00
Discount Rate				
FNMA / FHLMC				
15 Yr. Fixed	8.77%	10.85%	9.56%	9.32%
30 Yr. Fixed	9.00%	10.85%	9.72%	9.48%
ARM	9.50%	14.22%	11.39%	11.67%
GNMA				
Fixed - FHA	9.82%	13.26%	10.94%	10.45%
Fixed - VA	9.82%	13.26%	11.01%	10.74%
ARM	9.90%	15.70%	12.64%	12.67%
Servicing Costs				
FNMA / FHLMC				
Fixed	40.36	77.94	62.00	62.29
ARM	44.56	85.00	67.61	67.34
GNMA				
Fixed - FHA	48.76	122.98	81.07	78.81
Fixed - VA	49.11	98.77	73.88	74.38
ARM	50.00	119.69	78.82	78.79

Survey as of November 30, 2016

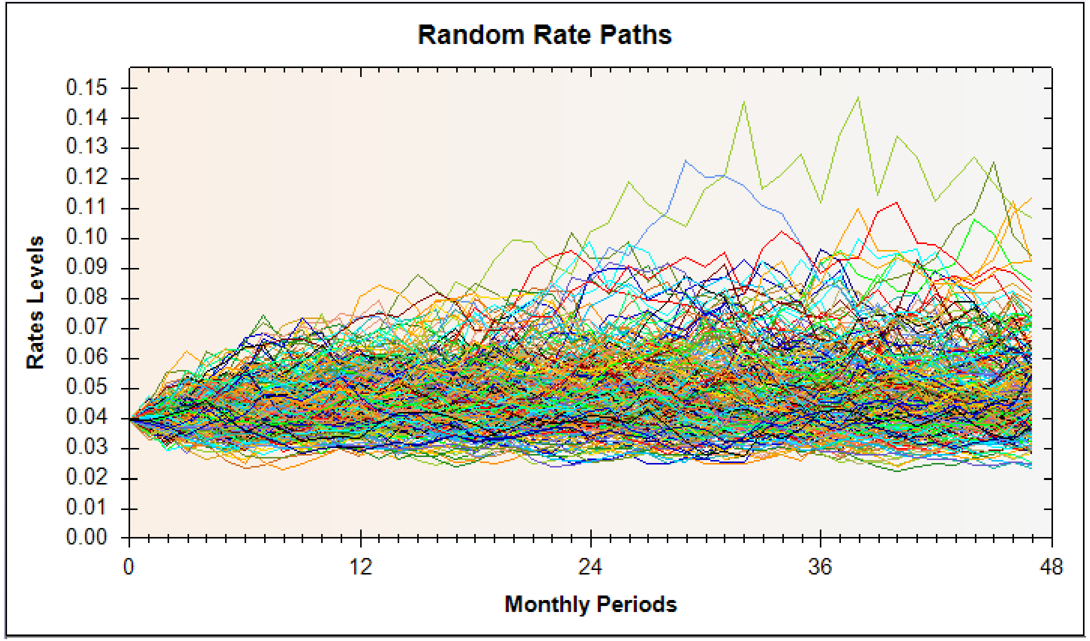
Mortgage Servicing Rights

Stochastic Modeling

- Supply prices to solve for option adjusted spread (“OAS”) with a Monte Carlo Simulation
- Works best with residential mortgage loans and securities
- Interest rate movement is random
- Multiple simulations (thousands) of interest rate movements are performed for estimating probability distributions

Mortgage Servicing Rights

Random Paths Assuming a 4% Starting Rate and Mean Reversion



Mortgage Servicing Rights

OAS Advantages

- Use of a probabilistic model consistent with the current term structure of interest rates and the assumed level of volatility
- Development of explicit pricing and valuation for embedded options, such as the prepayment option
- Use of simulation methodology that is more theoretically sound, approximating the methodologies used to value hedge instruments and mortgage securities

Mortgage Servicing Rights

OAS Disadvantages

- Lack of precise market prices for specific MSAs. The OAS used in the model, like the discount rate used in static analysis, is arbitrary.
- Requirement of more resources than static analysis in terms of computing power, software, and model sophistication.
- Lack of set standards for OAS computation. OAS model results are highly dependent on input assumptions such as volatility, prepayment speed, default rates, inflation, the appropriate risk-free rate (Treasury or LIBOR), and the setting of model parameters, all of which can result in different OAS and MSA values.
- Lack of consistency in OAS model methodology that may result in asset valuation differences.

Mortgage Servicing Rights

Other Key Valuation Variables

- Production channel – retail versus wholesale
- Current economic conditions in the region
- Recent changes in home prices

Mortgage Servicing Rights

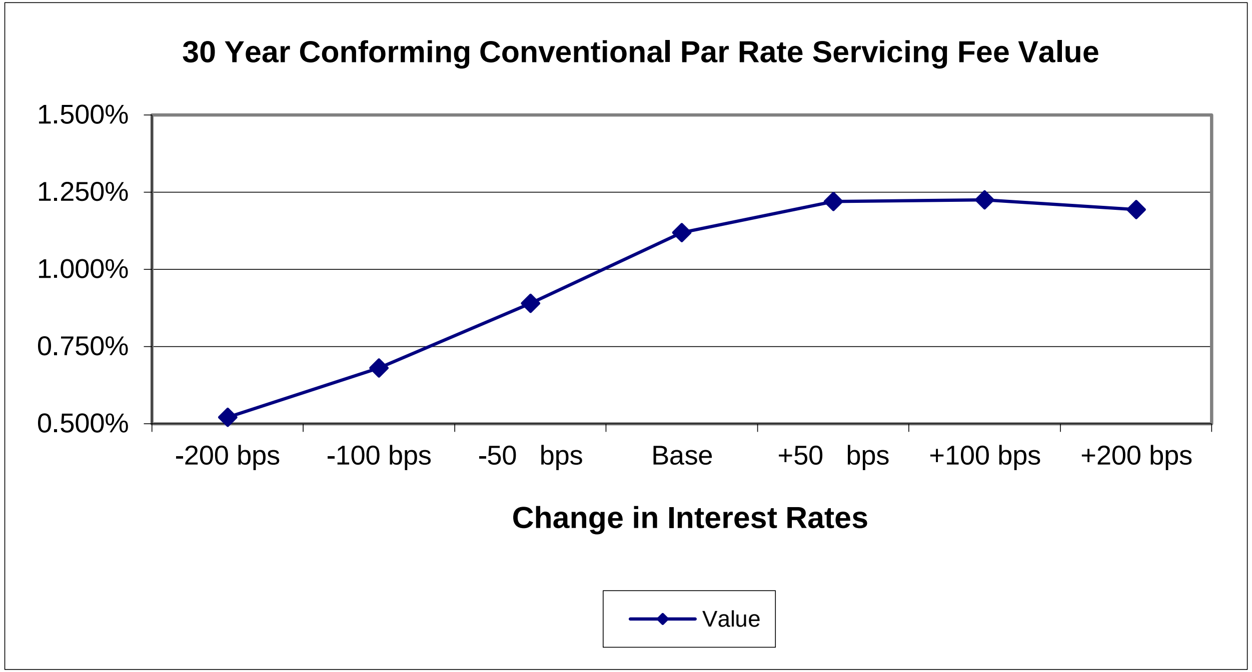
Valuation of Conforming Conventional

	Value	Change	% Change
Base	1.119%		
Prepayments increase 30%	1.014%	-0.104%	-9.3%
Servicing costs increase 30%	1.058%	-0.061%	-5.4%
Delinquencies increase 30%	1.115%	-0.003%	-0.3%
Discount rate increases 30%	0.997%	-0.122%	-10.9%

Source: Wilary Winn, June 30, 2017

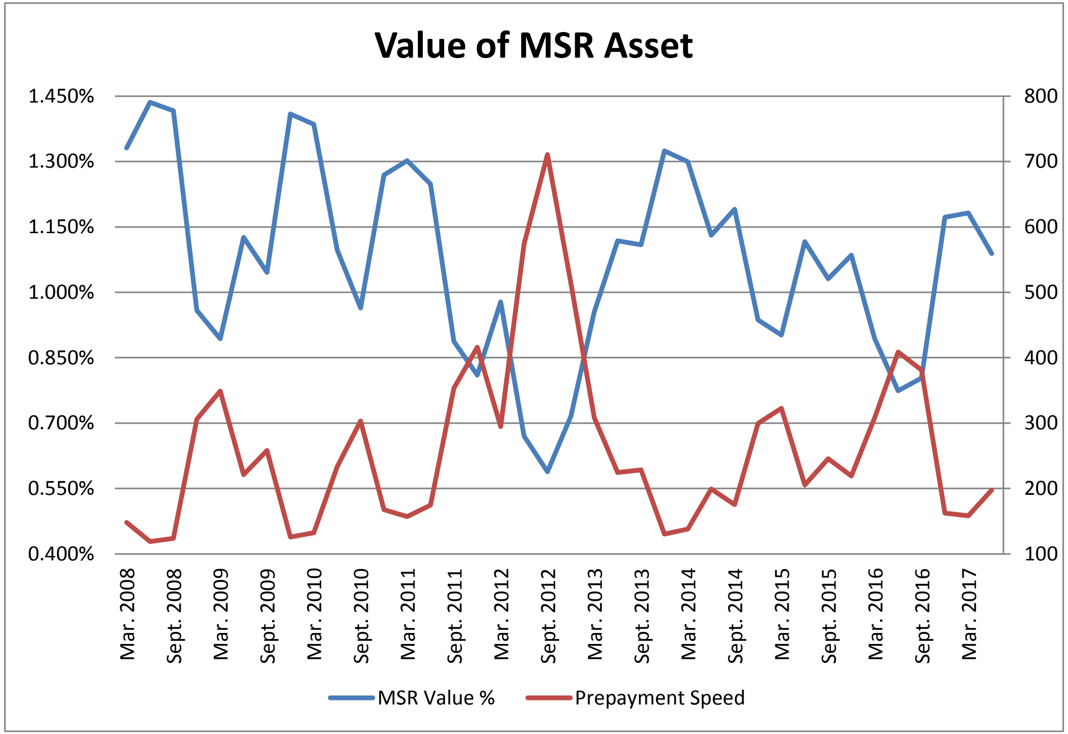
Mortgage Servicing Rights

MSR Yield Curve and Negative Convexity



Source: Wilary Winn, June 30, 2017

Mortgage Servicing Rights



Mortgage Servicing Rights

Managing Run-Off Risk

- The operational / macro hedge
- Hedge with derivatives
- Utilize appropriate amortization methodology

Mortgage Servicing Rights

Accounting Implications

Accounting and reporting for MSRs is set forth in FAS ASC 860-50

Mortgage Servicing Rights

Strategic Alliances

- Have loans sub-serviced as you build scale
- Contract with others to generate ancillary income
- Consider outsourcing specialized functions such as foreclosure
- Join industry alliances
- Hire an expert to assist with hedge

Mortgage Servicing Rights

Existence of Servicing - FAS ASC 860-50-25-1

A servicing asset or liability arises each time an institution undertakes an obligation to service a financial asset by entering into a servicing contract in connection with –

1. A transfer that meets the requirements for true sale

or

2. The acquisition or assumption of a servicing obligation not related to the financial assets of the servicer.

Mortgage Servicing Rights

MSR Asset or Liability - FAS ASC 860-50-30

The benefits of the servicing, including the servicing fees, ancillary income, float, etc. must exceed “adequate compensation” in order to have a servicing asset. If not, the servicer has a liability. Adequate compensation includes a profit and is determined by the marketplace. It is based on marketplace costs, not the servicer’s internal costs.

Mortgage Servicing Rights

Initial Recording

- Servicing assets and liabilities must be reported separately
- A servicing asset can become a servicing liability over its life and vice versa

Mortgage Servicing Rights

Initial Recording

- Record MSR at fair value – quoted price for exact or similar asset would be best – discounted cash flow can be used in the absence of trade information
- Industry believes MSRs are Level 2 or Level 3 assets based on a discounted cash flow model
- Value excess servicing separately - true IO
  - Creation of the IO does not violate true sale, if part of overall consideration for the 100% sale of the loan

Mortgage Servicing Rights

How to Account for the MSR After Initial Recording?

- FAS ASC paragraph 860-50-35-1 allows the asset to be measured and reported in one of two ways:
    1. Amortization Method
    2. Fair Value Method
- A servicer can select either method, but cannot switch methodologies unless it moves to the Fair Value method at the beginning of the fiscal year before interim financial statements have been released. A servicer cannot go back to the amortization method after it has elected Fair Value.

Mortgage Servicing Rights

Amortization Method

Amortize the MSR in proportion and over the period of estimated net servicing income (level yield method) and assess servicing assets for impairment based on fair value at each reporting date.

Mortgage Servicing Rights

Impairment

- Impairment is best measured at the loan level and is reported at the predominant risk characteristic stratum
- There is a difference between temporary impairment, which is accounted for through an allowance and permanent impairment, which requires a direct write-off

Mortgage Servicing Rights

ABC Credit Union – 202.5 Million Servicing Portfolio Valuation as of June 30, 2017

ABC Credit Union - $202.5 MM Servicing Portfolio Valuation
as of June 30, 2017

		Principal Balance	# of Loans	WAC	WAM	Age	Average Life	Service Fee	T&I Total	Prepayment PSA	Servicing Multiple	Fair Value %	Fair Value $	Book Value $	Fair Value - Book Value	Bal. Sheet Impact
30 & 25 year	less than 4.000%	77,446,553	410	3.675%	332	28	8.67	0.250%	182,814	119	4.95	1.237%	957,775	926,832	30,943	-
	4.000% - 6.000%	74,728,349	480	4.266%	330	30	7.36	0.250%	188,353	161	4.36	1.090%	814,517	787,706	26,812	-
	greater than 6.000%	-	-	0.000%	0	0	0.00	0.000%	-	0	0.00	0.000%	-	-	-	-
	Total 30 & 25 year	152,174,903	890	3.965%	331	29	8.03	0.250%	371,167	140	4.66	1.165%	1,772,292	1,714,538	57,754	-
20 year	less than 3.625%	2,361,247	13	3.413%	211	29	6.62	0.250%	4,094	111	4.13	1.032%	24,380	21,676	2,703	-
	3.625% - 5.625%	3,151,886	25	3.873%	212	28	6.37	0.250%	8,612	130	3.97	0.992%	31,274	25,638	5,635	-
	greater than 5.625%	-	-	0.000%	0	0	0.00	0.000%	-	0	0.00	0.000%	-	-	-	-
	Total 20 year	5,513,132	38	3.676%	212	28	6.48	0.250%	12,706	122	4.04	1.009%	55,654	47,315	8,339	-
15 year	less than 3.250%	23,477,226	158	2.934%	150	30	4.82	0.250%	57,841	127	3.34	0.834%	195,894	209,675	(13,782)	(13,782)
	3.250% - 5.250%	20,025,222	178	3.448%	147	33	4.56	0.250%	59,793	147	3.10	0.774%	155,049	124,077	30,972	-
	greater than 5.250%	-	-	0.000%	0	0	0.00	0.000%	-	0	0.00	0.000%	-	-	-	-
	Total 15 year	43,502,449	336	3.171%	149	31	4.70	0.250%	117,633	136	3.23	0.807%	350,942	333,752	17,190	(13,782)
12 year & less	less than 3.000%	827,612	6	2.805%	93	30	3.28	0.250%	3,358	124	2.61	0.653%	5,400	6,366	(966)	(966)
	3.000% - 5.000%	475,934	8	3.164%	87	35	2.93	0.250%	840	134	1.69	0.422%	2,008	2,174	(165)	(165)
	greater than 5.000%	-	-	0.000%	0	0	0.00	0.000%	-	0	0.00	0.000%	-	-	-	-
	Total 12 year & less	1,303,547	14	2.936%	91	32	3.15	0.250%	4,198	128	2.27	0.568%	7,409	8,539	(1,131)	(1,131)
Grand Total		202,494,030	1,278	3.780%	287	30	7.24	0.250%	505,704	138	4.32	1.080%	2,186,297	2,104,145	82,152	(14,913)
															Current Impairment Reserve	-
															(Additional) / Excess Impairment Reserve	(14,913)

Mortgage Servicing Rights

Fair Value Method

- The fair value is determined at each reporting period
- The asset is adjusted to equal its fair value
- The difference is taken into income or expense for that reporting period
- Institutions that hedge their servicing rights portfolios can benefit from the fair value method because the accounting is less complex than under FAS ASC Topic 815 – Derivatives and Hedging. Institutions that do not hedge their portfolios and that elect the fair value method could experience earnings volatility.

Mortgage Servicing Rights

Inter-Agency Advisory – MSRs

- Requires comprehensive documentation of valuation process
- Valuation must be based on reasonable and support-able assumptions and major changes to assumptions must be approved
- Compare assumptions to actual results
- Use appropriate amortization and recognize impairment timely

Mortgage Servicing Rights

Recommendations

- Understand the major assumptions used in the model
- Mark to the model and run shock analyses at least quarterly
- Understand the current market
- Seek expert advice when needed

Mortgage Lending

CFPB National Servicing Standards

- Effective January 10, 2014
- Exempts small servicers - - under 5,000 loans

Mortgage Servicing Rights

NCUA Call Report Requirements for Mortgage Servicing Rights

1. Servicing fees are included in Non-Interest Income – Page 5, line 12.
2. Loan servicing expenses are included in Non-Interest Expense – Page 5, line 25.
3. Total amount of 1st mortgage loans sold into the secondary market year-to-date is reported on Schedule A, line 16.
4. Amount of real estate loans sold but serviced by the credit union (dollar amount of servicing) is reported on Schedule A, line 18.
5. The MSR book value is reported on Schedule A, line 19.
6. MSR book value risk weighted at 250% under new risk-based capital rule.

Updated Accounting and Regulatory Guide

Accounting and Regulatory Guidance for the Mortgage Partnership Finance ® Program

May 2016, Version 9

Federal Home Loan Banks

MPF Credit Enhancement Fee

- Paid to member for assuming a portion of the credit risk (credit obligation) on mortgage defaults
- Determined by the quality of the loans at the pool level and the MPF program selected
- Fee paid monthly over the life of the loans
- Sensitive to prepayments

Federal Home Loan Banks

Credit Enhancement Obligation Variables

- Cumulative prepayment rate (CPR)
- Cumulative default rate (CDR)
- Severity of actual losses
- First loss account
- Obligation cap percentage

Federal Home Loan Banks

Credit Enhancement Economics

	Annual Losses after First Loss Account					
CPR %	**0.00%**	**0.02%**	**0.04%**	**0.08%**	**0.16%**	**0.32%**
6%	0.49%	0.42%	0.34%	0.17%	0.05%	-0.03%
9%	0.43%	0.37%	0.30%	0.12%	-0.01%	-0.09%
12%	0.38%	0.33%	0.26%	0.13%	-0.05%	-0.13%
15%	0.34%	0.29%	0.23%	0.11%	-0.09%	-0.17%
18%	0.31%	0.26%	0.21%	0.10%	-0.11%	-0.21%
21%	0.28%	0.24%	0.19%	0.09%	-0.10%	-0.24%
24%	0.25%	0.21%	0.17%	0.08%	-0.09%	-0.26%

Mortgage Servicing Rights

How Wilary Winn Can Help

- Wilary Winn can perform a valuation of a servicer’s entire mortgage servicing portfolio. The valuation will include determining the **values** of the MSR at the Loan Level and assisting with any questions related to the accounting for the portfolio.

- For those electing the amortization method for MSRs, Wilary Winn will incorporate the MSR into a **loan level basis roll forward file**, that will provide information necessary to produce the amortization **journal entries** going forward. The file will also include a section where newly sold loans can be added and the amount of the new MSR will be calculated; the amortization for these loans will also be calculated.

Wilary Winn LLC

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October 23, 2017

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Valuation of Illiquid Financial Instruments

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- A GUIDE TO REPORTING UNDER BASEL III FOR FHLB MPF® PROGRAM PARTICIPANTS
- ACCOUNTING AND REGULATORY GUIDANCE FOR THE MORTGAGE PARTNERSHIP FINANCE® PROGRAM (UPDATED MAY 2016)
- ACCOUNTING AND REGULATORY REPORTING FOR MORTGAGE SERVICING RIGHTS
- ACCOUNTING AND REGULATORY REPORTING FOR MORTGAGE BANKING DERIVATIVES
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Thank you