MBA Mortgage Finance Forecast

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March 15, 2004

	2003		2004				2005				
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	2003	2004	2005
Housing Measures (Thous)											
Housing Starts	1,884	2,033	1,891	1,869	1,816	1,755	1,680	1,682	1,848	1,833	1,651
Single-Family	1,523	1,661	1,535	1,526	1,461	1,411	1,349	1,337	1,500	1,483	1,316
Two or More	361	372	357	343	354	343	331	344	348	349	335
Home Sales											
Existing Homes	6,420	6,297	5,890	5,853	5,970	5,865	5,632	5,556	6,101	5,894	5,568
New Homes	1,155	1,128	1,046	1,071	1,075	1,019	956	979	1,091	1,053	974
Median Price of Existing Homes (Thous $)	176.9	172.2	170.2	177.2	180.3	176.6	177.4	183.7	169.6	176.1	183.0
Median Price of New Homes (Thous $)	190.9	198.2	194.0	199.4	197.6	204.9	202.4	206.3	191.2	199.0	206.0
Interest Rates (%)											
30-Year Fixed Mortgage	6.0	5.9	5.5	5.4	5.6	5.9	6.0	6.2	5.8	5.6	6.3
10-Year Treasury Yield	4.2	4.3	4.0	3.9	4.1	4.3	4.4	4.6	4.0	4.1	4.7
1-Year Treasury ARM	3.7	3.8	3.6	3.6	3.7	3.8	4.0	4.1	3.8	3.7	4.2
1-Year Treasury Yield	1.2	1.3	1.1	1.1	1.2	1.4	1.6	1.7	1.2	1.2	2.0
Mortgage Originations											
Total 1- to 4-Family (Bil $)	1,199	633	543	751	709	486	388	552	3,810	2,489	1,947
Refinance Share (%)	68	49	51	49	45	35	30	30	66	46	30
ARM Share (%)	18	27	30	29	29	28	30	30	19	29	30

Housing starts and home sales are seasonally adjusted at annual rate.

Total 1- to 4-family originations and refinance share are MBA estimates. These exclude second mortgages and home equity loans.

Refinance share is percent of total dollar volume of closed loans.

ARM share is percent of total number of closed conventional purchase loans.

RBC Mortgage

How Mortgage Banking Works in the U.S.

1. Mortgage Origination → **2. Rate Lock and Secondary Marketing** → **3. Underwriting** → **4. Loan Close and the Warehouse Line** → **5. Sale to Investors**

- **Start of the process**
- **Originated through retail (loan officer in branch) or wholesale (broker) channel**
- **Client and Loan Officer negotiate**
- **New purchases or refinances**
- **Client is pre-qualified**
- ***Miscellaneous fee income (application fees, credit reports, etc..) recorded in non-interest income***

Legend: RISK, $ in italics

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Hedge expires

- Client and Loan Officer agree to proceed (not legally bound).
- Mortgage rate commitment is given to the client (15-60 days). An interest rate put option to enter in a mortgage at a preset rate is written to the client (short put). The rate lock is treated as a derivative.
- Hedged by Secondary Marketing using QRM.
- <u>From the rate lock to the time that the loan is sold, the originator is exposed to interest rate risk</u>. Hedges are used to minimize the risk of impairment loss in the warehouse loan & commitment portfolios due to changes in the fair market value as a result of changes in interest rates.

  <u>The risks that must be hedged can be classified into 2 segments:</u>

  1) <u>Risks related to rate locks</u>: Originators hedge rate locks with forward sales of mortgages as well as derivatives. Hedging the option risk in rate locks requires taking offsetting positions on some other derivative contracts. As the mortgage option market is relatively illiquid, recourse to other option markets is common, giving rise to basis risk. In addition, some of the rate locks are for products for which no liquid derivative exists, which again gives rise to exposures related to cross hedging.

  2) <u>Risks related to the future sale of the mortgage loans to investors</u>: In order to minimize exposure the impact of interest rate movements can have on the value of the loans, secondary market usually sells forward a certain amount of mortgages (app. 70% of rate commitments) based on historical pull-through (i.e closing rate) per type of product, maturity and other factors. Some of the mortgages are sold on a best effort basis, thus eliminating risk.

  No revenue earned

Legend: <u>RISK,</u> $ in italics

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- **Loan is analyzed for risk (loan-to-value, debt-income, etc..)**
- **Unique criteria are required for certain programs (e.g. conforming to Fannie Mae or Freddie Mac requirements)**

No revenue earned

Legend: RISK, $ in italics

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Commitment to client expires or loan closes

- ***Non-interest income is earned through the collection of closing fees and captive reinsurance premiums***

The originator funds the mortgage through its line of credit (warehouse line) until the loan is sold to Investors in the secondary market (usually 15 – 60 days)

- ***From funding, interest income is earned on the spread between the rate of the funded mortgage while holding the mortgage on the warehouse line, and the interest rate paid on the warehouse line (funding cost)***
- ***Servicing revenues while the mortgage is on the warehouse line***

Legend: RISK, $ in italics

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The sale includes two different components: 1) the mortgage and 2) the mortgage servicing rights ("MSR").

1) Mortgages sold forward in "step 2" (locked in spread) should now be delivered as hedge expires. If unable to deliver (either documentation deficiencies or backlog), the hedge must be rolled over, impacting negatively *non-interest income earned through secondary marketing execution.* Loans with minor deficiencies could be sold at a discount, *decreasing non-interest income earned through secondary marketing execution.*

A potential exposure risk could also arise at this point as a different percentage (higher or lower) of the committed mortgages could end up being effectively closed, thus resulting in two scenarios:

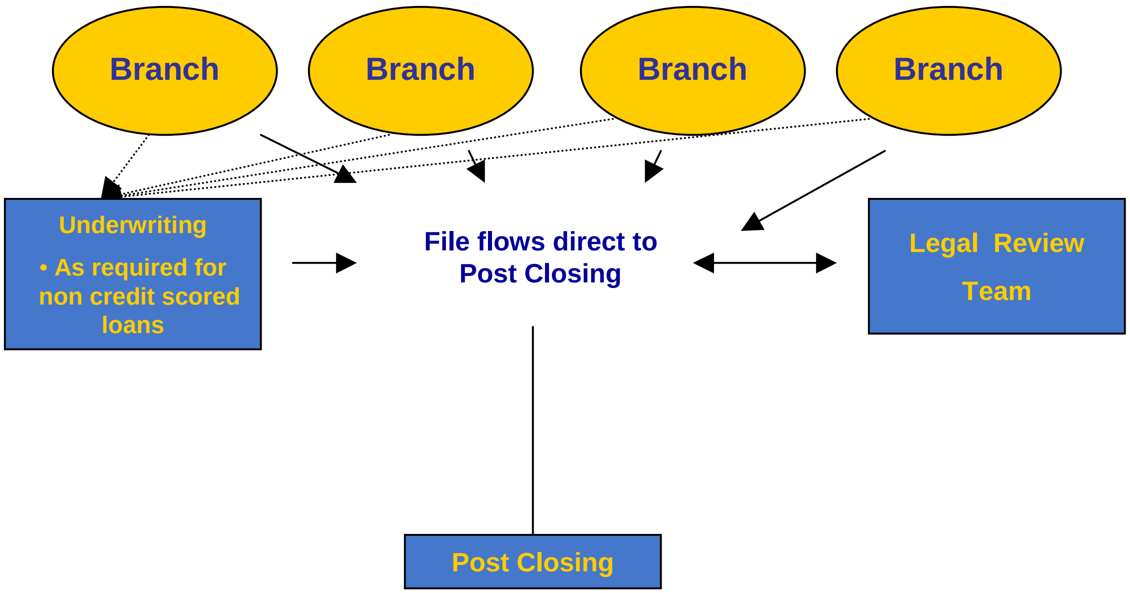
- ✓ Having to sell more than actually closing (lower close rate/"over-hedged") *through a cash settlement impacting non-interest income earned through secondary marketing execution.*
- ✓ Selling less than actually closed (higher closing rate/"under-hedged") *incurring interest rate risk and gain or loss on sale impacting non-interest Income earned through secondary marketing execution.*

2) *The MSR could either be sold or retained for a servicing company. If sold, it is recognized as a gain in non-interest income through secondary marketing execution. If kept, it would be capitalized on the balance sheet.*

Legend: RISK, *$ in italics*

Technology
Supporting Retail "Localness" Strategy

Retail Model



BRANCH

- Loan Officers and Loan Coordinators responsible for processing, underwriting, closing and funding file through Empower, leveraging legal review team through system

Operational Support

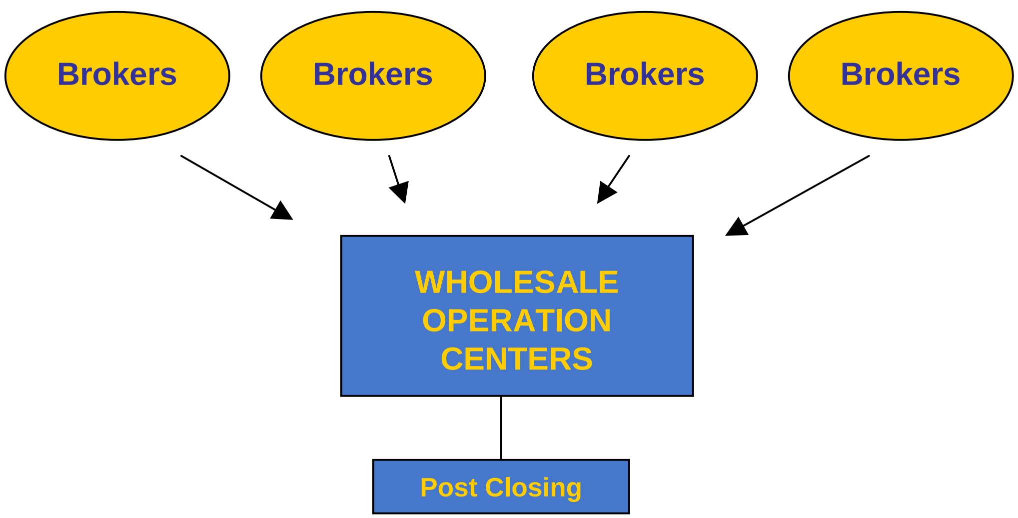
- Division, Regional and Branch Managers accountable for total unit including operations and operational risk.
- Division & Regional Operations Managers responsible for:
  - Volume
  - Staff
  - Training
  - Issues
  - Systems
  - Policies and procedures

Operational Risk Support (MICR)

- Regional Operations Risk Advisors
- Support to branches, post closing and servicing platforms
  - Delegation of Authorities
  - Privacy
  - Policies / Procedures
  - Fraud
  - Loan Quality
  - Support to Account Executive, Operations Centers and Post Closing/Servicing sites

Technology
Supporting Wholesale Strategy

Wholesale Model



Operational Support

- Head of Wholesale division accountable for overall business, working in conjunction with National Wholesale Operations Manager to oversee Wholesale Ops Centers
- Operations Center Managers responsible for:
  - Volumes
  - Processes
  - Training
  - Staffing
  - Measures & Metrics
  - Loan Quality
  - Policy Implementation

Operational Risk Support (MICR)

- Regional Operations Risk Advisors
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