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# National Secondary Market Conference— A View From the Street: Wall Street Update

April 8, 2003

New York

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# Themes

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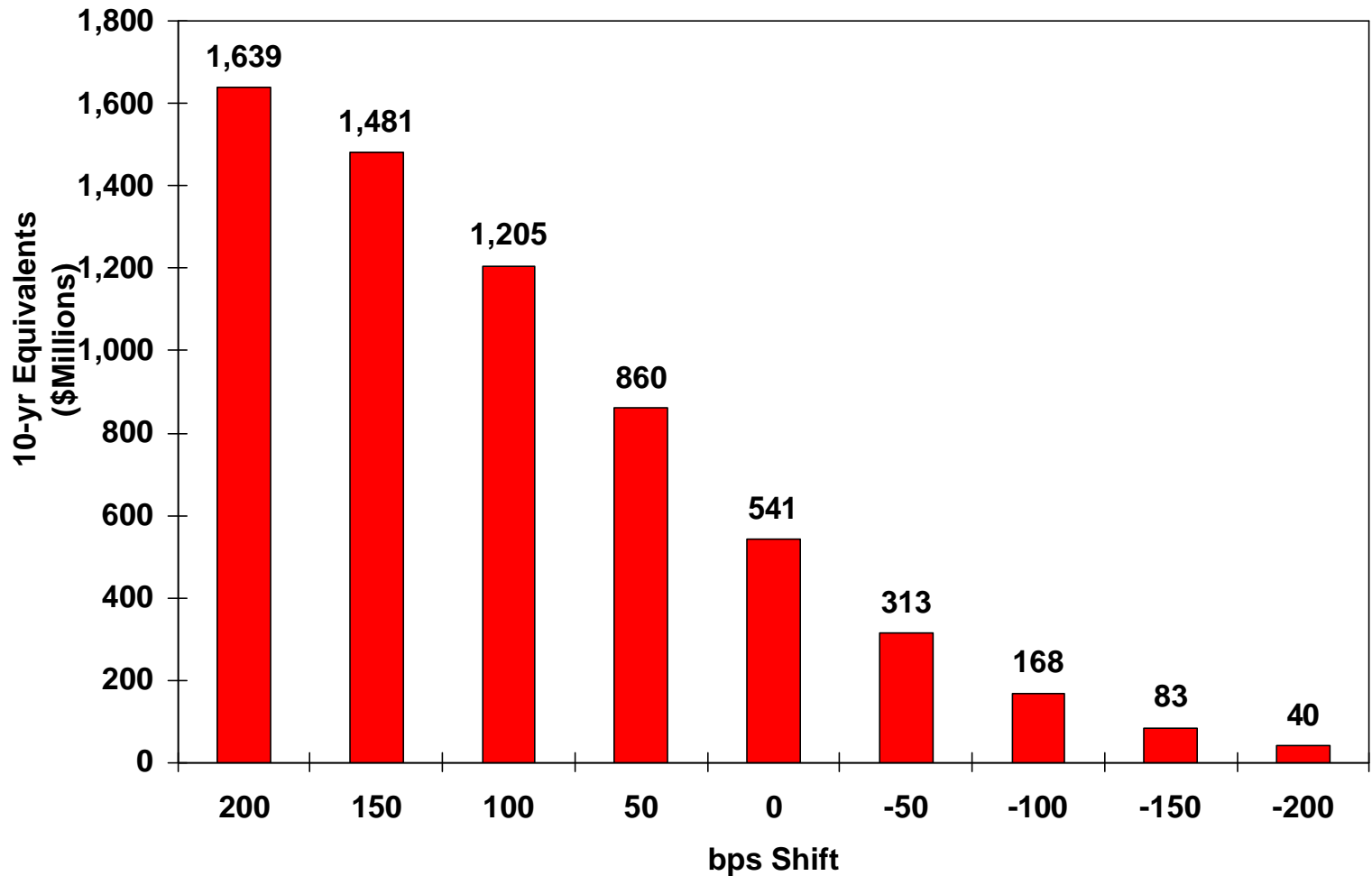
- ◆ Extension Risk is a far larger risk for the market than contraction risk. When the market turns due to a stronger economy:
  - convexity hedgers are likely to drive Treasury market yields higher than would otherwise be the case.
  - lower coupon mortgages are likely to cheapen
- ◆ Every trade that protects against extension risk is a give carry trade. It is very painful to engage in these trades.
- ◆ Recommendation for investors: look to enhance carry while staying reasonably close to your benchmark.
- ◆ Recommendation for originators: look for ways to pool loans with favorable prepayment characteristics, so the pools will command a pay-up.

# The Mortgage Market in 10-yr Equivalents (in thousands)

Sector	Cpn	GNMA 1			GNMA 2			FNMA			FHLMC		
		Bal	HR	10yr Eq	Bal	HR	10yr Eq	Bal	HR	10yr Eq	Bal	HR	10yr Eq
30yr	4.5		0.75	58	42	0.75	31	72	0.70	50	83	0.70	58
	5.0	627	0.65	406	920	0.64	591	3,779	0.63	2,367	2,257	0.63	1,414
	5.5	21,634	0.45	9,832	10,629	0.45	4,780	157,072	0.45	70,037	82,393	0.45	36,738
	6.0	60,105	0.26	15,718	32,269	0.26	8,303	275,346	0.27	73,071	183,723	0.27	48,756
	6.5	92,350	0.15	13,962	38,516	0.15	5,751	289,743	0.15	42,532	215,745	0.15	31,669
	7.0	66,169	0.09	5,782	18,957	0.09	1,657	117,633	0.09	10,267	76,004	0.09	6,634
	7.5	28,186	0.04	1,260	8,108	0.04	305	42,516	0.05	2,050	28,765	0.05	1,387
	8.0	18,382	0.03	474	3,489	0.03	88	18,148	0.01	234	13,069	0.01	169
	>=8.5	14,774	0.01	148	1,106	0.01	11	9,538	0.01	95	9,538	0.01	63
15yr	4.5		0.54	78	21	0.47	10	6,762	0.52	3,549	5,861	0.52	3,076
	5.0	2,785	0.40	1,111	219	0.33	72	85,178	0.40	33,964	76,465	0.40	30,490
	5.5	3,475	0.26	911	347	0.20	69	79,317	0.27	21,621	68,200	0.27	18,591
	6.0	5,661	0.13	757	352	0.09	33	81,294	0.14	11,710	72,152	0.14	10,393
	6.5	3,741	0.05	196	185	0.03	6	35,150	0.07	2,362	29,475	0.07	1,980
	7.0	2,450	0.01	25	129	0.01	1	13,035	0.01	130	10,989	0.01	110
	7.5	972	0.01	10	60	0.01	1	5,329	0.01	53	4,523	0.01	45
	8.0	465	0.01	5	44	0.01	0	1,879	0.01	19	1,566	0.01	16
	>=8.5	224	0.01	2	20	0.01	0	593	0.01	6	487	0.01	5
				<b>FHLMC 5yr</b>									
Bal	4.5				3,106	0.13	404		0.23	351	2,230	0.23	519
	5.0				3,704	0.09	319	3,747	0.14	543	3,147	0.14	456
	5.5				2,663	0.05	131	4,062	0.06	232	3,763	0.06	215
	6.0				1,049	0.03	36	2,225	0.02	36	2,488	0.02	41
	6.5				126	0.01	1	640	0.02	11	585	0.02	10
	>=7.0				17	0.01	0	499	0.01	5	366	0.01	4
Column Totals		322,000		50,734	126,076		22,600	1,233,555		275,297	893,875		192,840
				Grand Total Balance				2,575,507		Grand Total 10yr Eq		541,471	

Note: As of 04/03/03

# Duration of the Mortgage Market in 10-yr Equivalents Given Various Rate Changes



# Mortgage Market In \$Billion 10-yr Equivalents

(Actual Rolling Balances)



# Who are the Convexity Hedgers and How Much Convexity Will They Make Up?

<b>Usually Make up Duration</b>	<b>Rarely Make-up duration</b>
Dealers	Depository institutions
Hedge funds	Insurance companies
Mortgage Servicers	GSE Portfolios
	Index-based mortgage investors (necessary only on overweighted portion)

- ◆ Mortgage Servicers—problem is compounded because of strategy of hedging MSR with pass-throughs rather than bullet hedges
- ◆ Dealers are much smaller than they used to be, as are mortgage hedge funds.
- ◆ Fannie portfolio used to need to make up more duration, some change in operating procedures over the last 6 months.

# Increased Consolidation In Mortgage Servicing

(% market share)

<b>Year</b>	<b>Top 10</b>	<b>Top 25</b>
<b>2002</b>	49.2	61.9
<b>2001</b>	47.1	62.1
<b>2000</b>	44.7	59.7
<b>1999</b>	40.6	55.9
<b>1998</b>	36.4	50.8
<b>1997</b>	30.9	46.8
<b>1996</b>	27.7	41.8
<b>1995</b>	24.7	39.5
<b>1994</b>	21.2	34.8
<b>1993</b>	17.2	30.0
<b>1992</b>	15.2	27.0
<b>1991</b>	13.2	22.5
<b>1990</b>	12.0	20.2
<b>1989</b>	10.7	17.0

Source: Inside Mortgage Finance

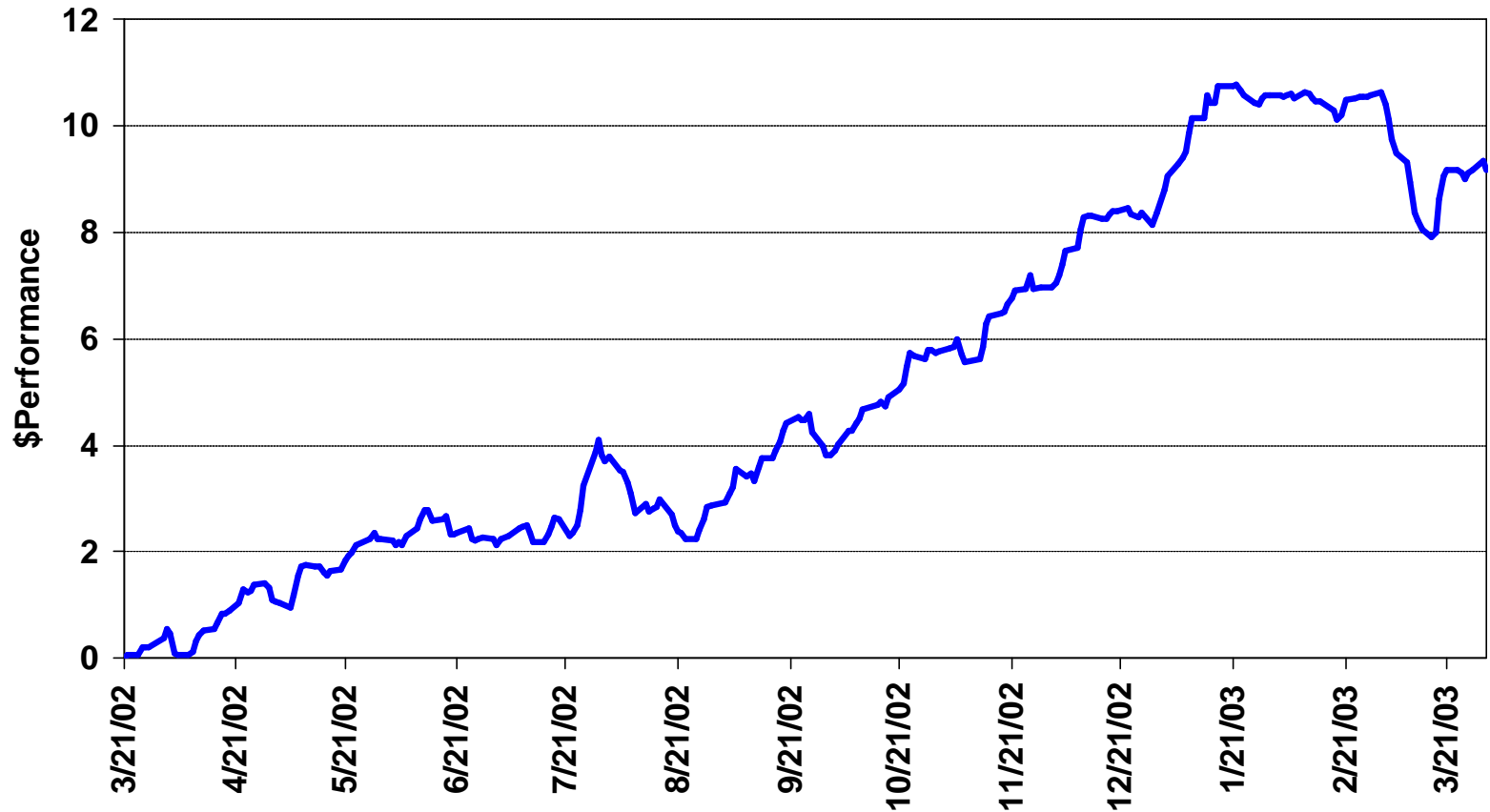
# Hedged Performance of FNS 322 IO vs. 10-yr Treasury (using 20-day empirical hedge ratios)



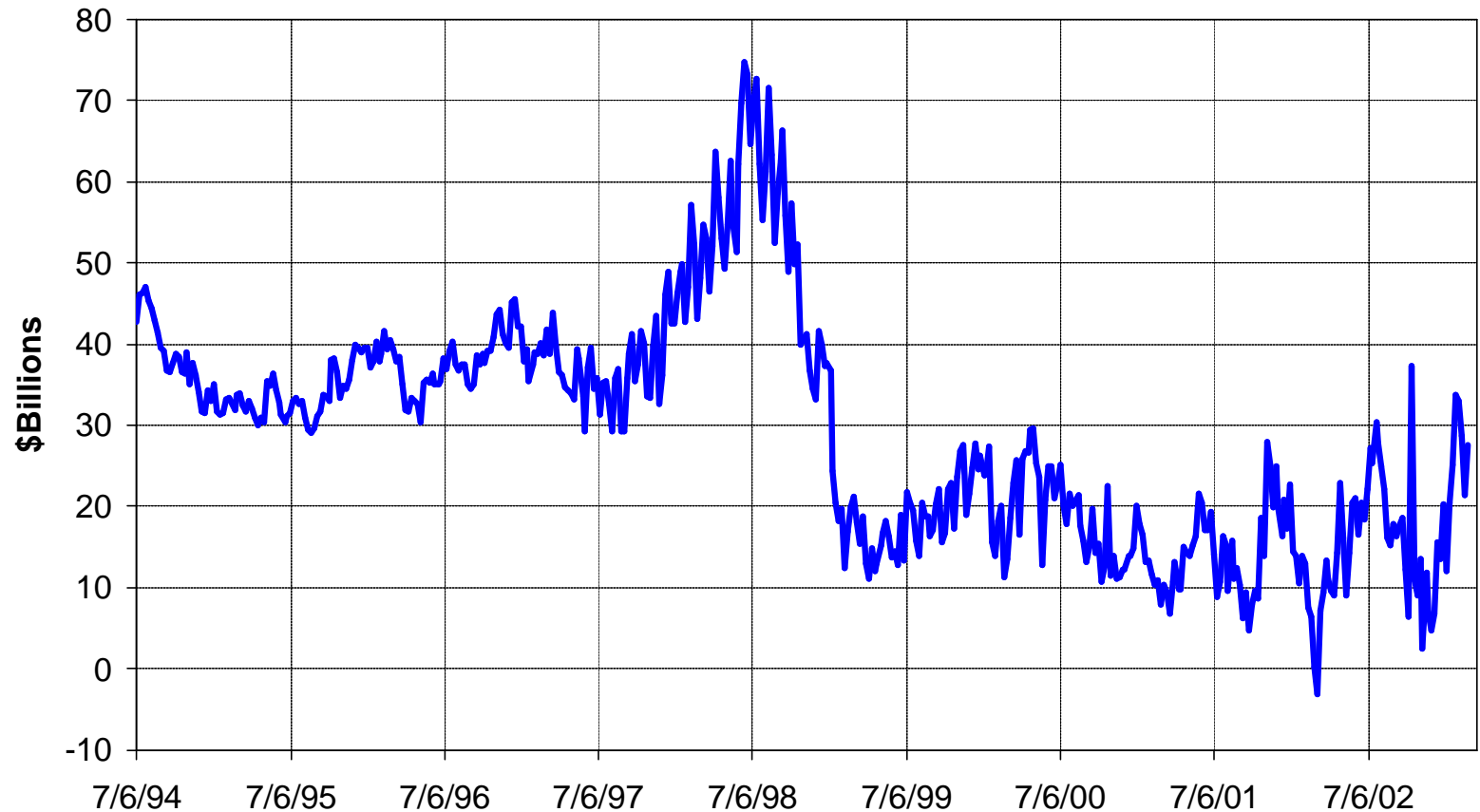
# Hedged Performance of FNS 322 IO vs. 10-yr Swaps (using 20-day empirical hedge ratios)



# Hedged Performance of FNS 322 IO vs. 30-yr FN 5.5% (using 20-day empirical hedge ratios)



# Dealer Positions - Agency MBS (Not Seasonally Adjusted)



# Growth of FN and FH Retained Portfolios

Year	FNMA		FHLMC	
	YrEndBal*	Rate (An)**	YrEndBal*	Rate (An)**
1988	\$103,013	10.21%	\$12,129	34.92%
1989	\$107,756	4.60%	\$15,697	29.42%
1990	\$113,875	5.68%	\$16,328	4.02%
1991	\$126,486	11.07%	\$22,515	37.89%
1992	\$156,021	23.35%	\$31,718	40.87%
1993	\$189,892	21.71%	\$54,090	70.53%
1994	\$220,525	16.13%	\$72,203	33.49%
1995	\$252,588	14.54%	\$107,424	48.78%
1996	\$286,259	13.33%	\$137,755	28.23%
1997	\$316,316	10.50%	\$164,421	19.36%
1998	\$415,223	31.27%	\$255,009	55.10%
1999	\$522,780	25.90%	\$324,443	27.23%
2000	\$607,399	16.19%	\$385,693	18.88%
2001	\$705,167	16.10%	\$491,719	27.49%
2002	\$790,800	11.85%	\$568,173	15.55%
Jan-03	\$810,609	34.57%	\$568,494	0.68%
Feb-03	\$816,747	21.37%	\$561,534	-6.81%

\* Amounts in \$Millions.

\*\* Growth Rate = ((Current Balance/Last Years Balance)^(12/current month))-1

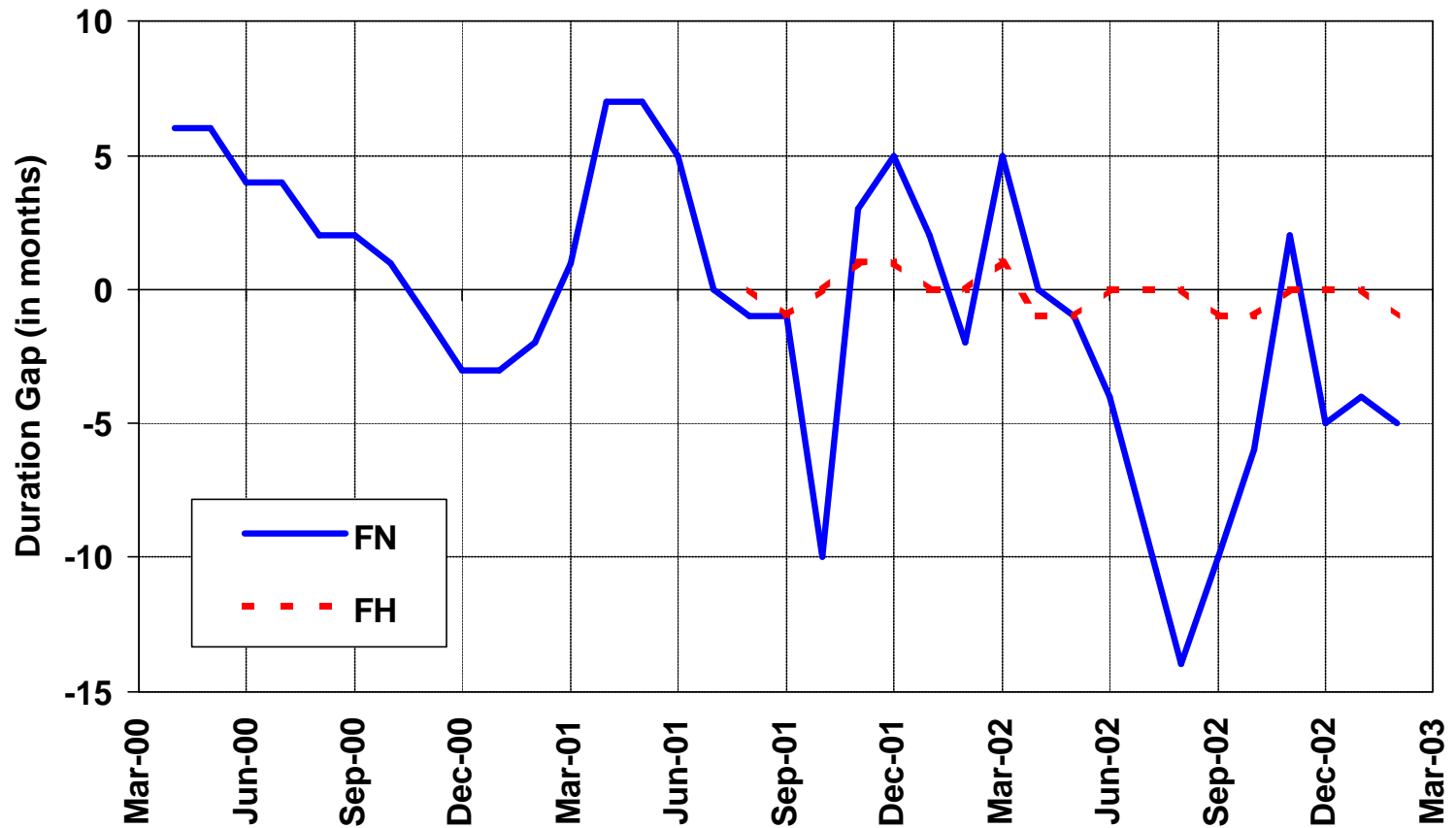
# Mortgage Assets Covered With Callable Debt or Equivalent

Year-Qtr	Fannie Mae Unadjusted	Fannie Mae Adjusted (%)	Freddie Mac Adjusted (%)
1993 Q4	49.01		70
1994 Q4	45.88	49.61	72
1995 Q4	41.84	44.50	76
1996 Q1	41.55	43.99	71
Q2	42.94	45.26	73
Q3	44.14	46.35	74
Q4	44.18	46.24	74
1997 Q1	44.58	46.55	75
Q2	44.25	46.25	77
Q3	43.64	45.48	79
Q4	43.08	44.69	82
1998 Q1	43.80	45.52	86
Q2	44.50	46.01	89
Q3	41.20	42.51	87
Q4	41.90	43.14	76
1999 Q1	49.60	51.00	71
Q2	49.70	51.05	70
Q3	47.50	48.76	67
Q4	47.30	48.57	73
2000 Q1	48.00	49.53	69
Q2	49.40	51.68	64
Q3	49.00	51.31	64
Q4	46.20	48.33	65
2001 Q1	39.40	41.03	61
Q2	44.60	46.24	59
Q3	46.90	48.42	64
Q4	53.60	55.25	68
2002 Q1	55.50	56.97	71
Q2	58.00	59.57	75
Q3	67.90	69.72	75
Q4	75.40	77.66	

Unadjusted; mortgage assets divided by callable debt or equivalent

Adjusted; fixed rate mortgage assets divided by callable debt or equivalent

# Duration Gap — FN vs. FH

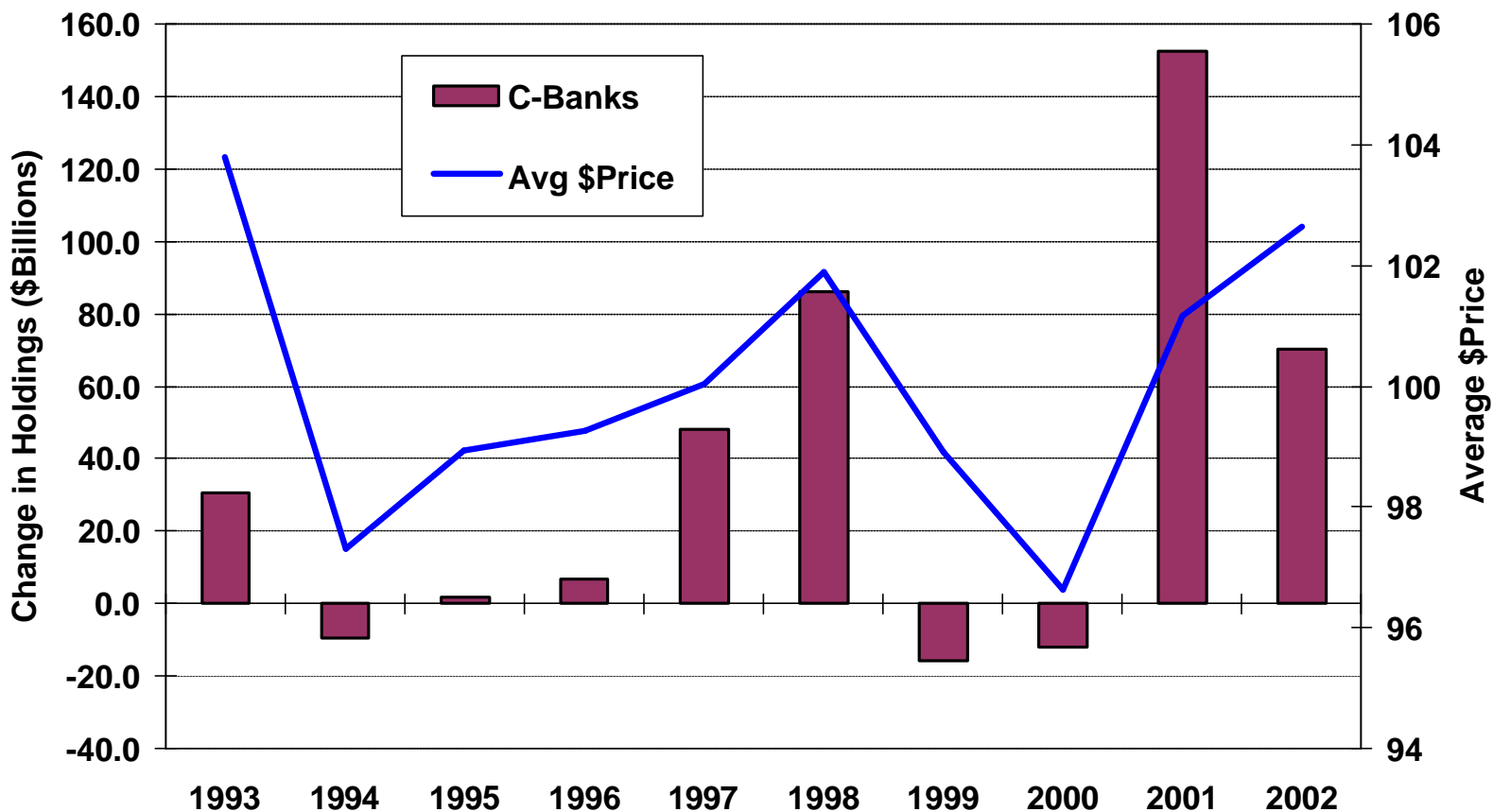


## In a Sell-Off, Lower Coupon Mortgages are Likely to Cheapen

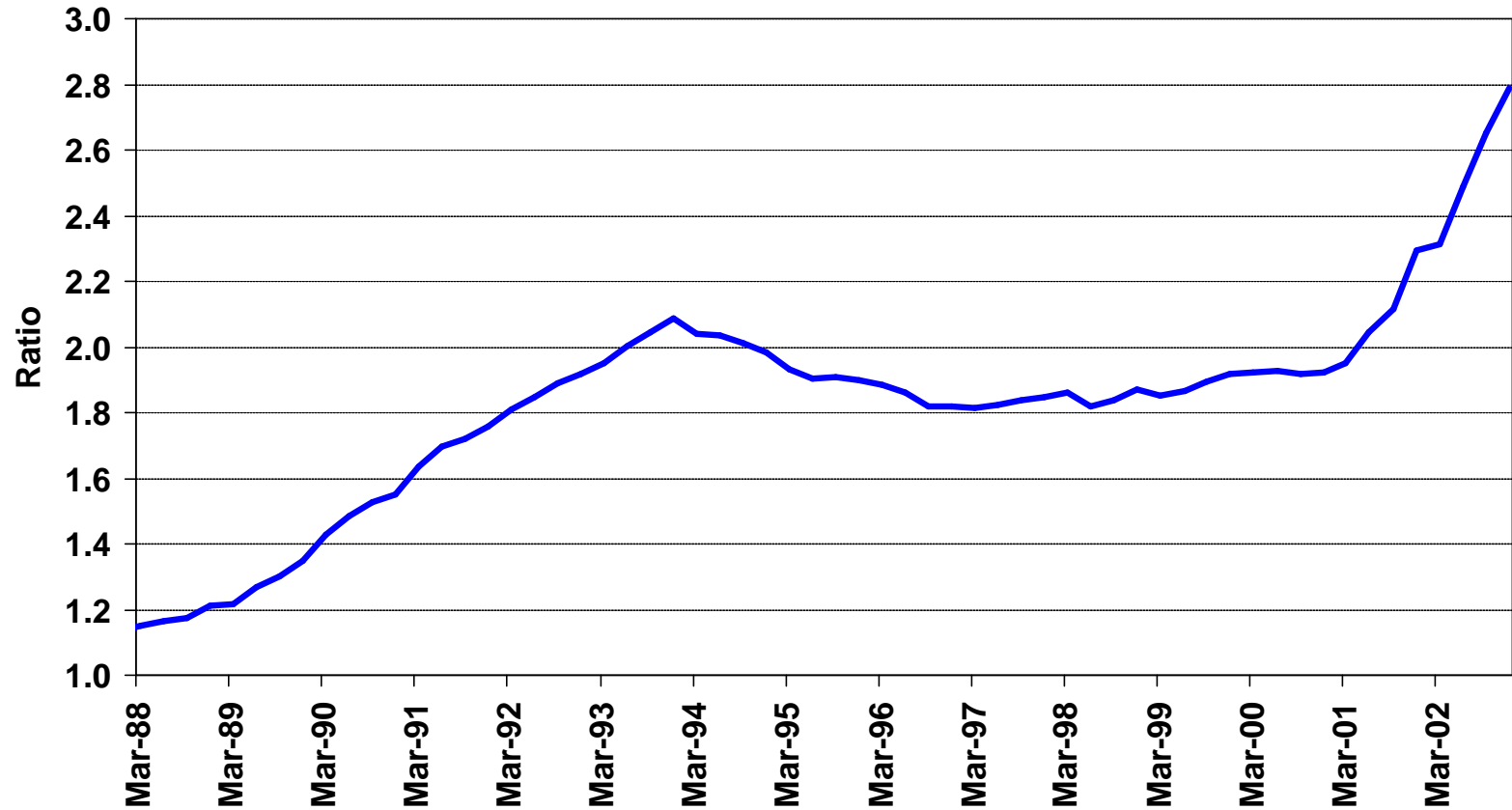
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- ◆ Banks are likely to turn from net buyers to net sellers
- ◆ Servicers are apt to sell their pass-through hedges, which are primarily current coupon mortgages
- ◆ Certainly 1998-99 confirms that experience

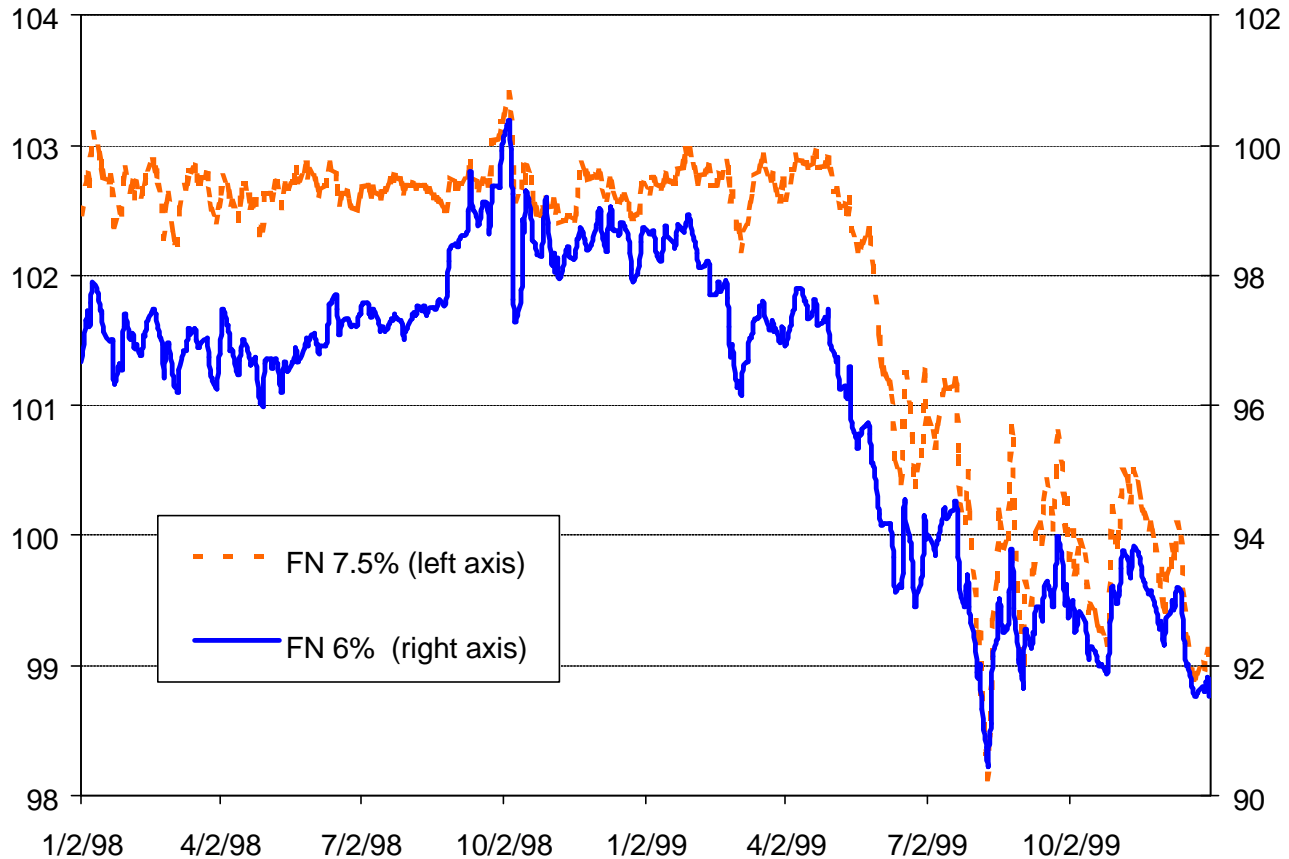
# Change In Commercial Bank Holdings of MBS vs. Average \$Price of Collateral



# (MBS + Mortgage Loans)/C&I Loans



# Historical Price—30-year FNMA 6s & 7.5s



# 30-yr FNMA Coupon Distribution Comparison

(10/98 vs. 7/03)

Cpn	Actual	Projected
	10/98	7/03
4.0	0.00	0.01
4.5	0.00	0.31
5.0	0.00	7.19
5.5	0.06	26.87
6.0	5.47	27.86
6.5	28.99	22.78
7.0	30.56	9.24
7.5	18.67	3.40
8.0	9.31	1.51
8.5	3.38	0.47
9.0	1.91	0.21
9.5	1.12	0.10
10.0	0.52	0.05
<b>Total</b>	<b>100.00</b>	<b>100.00</b>

<b>% 7.5 &amp; Above</b>	<b>35%</b>	<b>6%</b>
<b>% 6.5 &amp; Above</b>	<b>94%</b>	<b>38%</b>

# The Problem

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- ◆ Every extension protection trade is a give carry trade.

# Carry Enhancing Trades: The Investor's Perspective

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- ◆ Roll Where You Can
- ◆ Low Gross WAC, Low WALA
- ◆ Low Loan Balance

# Dollar Rolls

		Roll Apr/May	Expected CPR	Breakeven Roll	Specialness of Rolls	0% Funding
<b>30-yr GNMA</b>	<b>5.5</b>	12.5	13	9.6	2.9	13.0
<b>30-yr Conv</b>	<b>5.5</b>	12.0	19	10.4	1.6	14.0
<b>15-yr Conv</b>	<b>5.0</b>	12.5	19	7.8	4.7	11.2
<b>30-yr GNMA</b>	<b>6.0</b>	10.0	40	6.4	3.6	9.8
<b>30-yr Conv</b>	<b>6.0</b>	8.5	60	4.9	3.6	8.9
<b>15-yr Conv</b>	<b>5.5</b>	11.0	48	4.1	6.9	7.7
<b>30-yr GNMA</b>	<b>6.5</b>	3.5	60	0.9	2.6	4.5
<b>30-yr Conv</b>	<b>6.5</b>	2.5	69	0.6	1.9	4.7
<b>15-yr Conv</b>	<b>6.0</b>	3.0	56	1.2	1.8	4.9
<b>30-yr GNMA</b>	<b>7.0</b>	1.0	64	-2.9	3.9	0.8
<b>30-yr Conv</b>	<b>7.0</b>	0.0	75	-5.1	5.1	-0.8
<b>15-yr Conv</b>	<b>6.5</b>	3.0	56	-0.8	3.8	2.9
<b>Memo: 2002 production</b>						
<b>30-yr GNMA</b>	<b>6.0</b>	10.0	39	6.5	3.5	10.0
<b>30-yr Conv</b>	<b>6.0</b>	8.5	45	7.5	1.0	11.3
<b>15-yr Conv</b>	<b>5.5</b>	11.0	42	5.2	5.8	8.7

As of the close on Wednesday, April 2, 2003.

# Speeds For Selected Coupon Buckets—March 2003

GWAC		WALA				
		0-3	4-6	7-9	10-11	12-30
<b>30-yr Gold 6s</b>						
< 6.375	1-mo CPR	6.9	15.6	28.9	22.9	25.2
	Cur Bal	5,056.96	8,293.27	897.39	295.96	2,650.45
6.375 < 6.50	1-mo CPR	13.7	27.1	33.6	35.5	34.8
	Cur Bal	4,895.61	17,802.36	5,018.27	558.80	11,096.15
6.50+	1-mo CPR	11.4	34.9	37.9	40.3	46.4
	Cur Bal	2,745.22	14,573.44	13,004.61	4,030.47	46,999.81
<b>30-yr Gold 6.5s</b>						
< 6.875	1-mo CPR	17.6	31.8	46.1	48.9	50.8
	Cur Bal	40.34	367.46	5,366.57	3,508.10	13,635.33
6.875 < 7.00	1-mo CPR	11.4	36.7	44.5	48.8	55.6
	Cur Bal	67.86	563.73	11,905.36	9,712.90	37,160.27
7.00+	1-mo CPR	15.2	34.5	44.4	52.2	62.9
	Cur Bal	392.15	939.53	5,314.94	4,632.29	43,806.21
<b>15-yr Gold 5.5s</b>						
< 5.875	1-mo CPR	7.8	19.6	14.5	12.6	21.2
	Cur Bal	2,367.53	4,334.78	308.68	179.57	3,165.03
5.875 < 6.00	1-mo CPR	8.2	31.5	24.7	28.3	28.7
	Cur Bal	1,318.91	7,232.47	1,056.66	758.54	15,158.76
6.00+	1-mo CPR	10.5	40.0	40.3	33.5	39.0
	Cur Bal	558.20	3,031.44	4,350.62	1,811.41	14,246.42
<b>15-yr Gold 6s</b>						
< 6.375	1-mo CPR	10.2	31.1	41.4	45.0	45.5
	Cur Bal	50.87	124.35	1,302.25	1,645.83	4,873.55
6.375 < 6.50	1-mo CPR	0.9	35.5	39.6	38.8	44.8
	Cur Bal	17.04	293.67	2,661.11	3,482.95	13,723.70
6.50+	1-mo CPR	35.1	44.3	42.2	43.2	49.9
	Cur Bal	4.49	48.82	283.39	652.87	2,532.55
<b>GNMA 6s</b>						
	1-mo CPR	7.8	24.0	26.7	21.2	25.1
	Cur Bal	7,826.99	13,617.57	5,629.41	2,187.07	15,796.14
<b>GNMA 6.5s</b>						
	1-mo CPR	10.6	36.3	41.5	44.9	51.1
	Cur Bal	898.16	2,641.21	8,632.50	8,965.59	31,908.38
<b>GNMA 7s</b>						
	1-mo CPR	12.7	43.8	48.2	48.2	57.6
	Cur Bal	168.58	667.27	2,727.99	4,626.32	19,537.60

# Pay-Ups on Specified Collateral (in ticks)

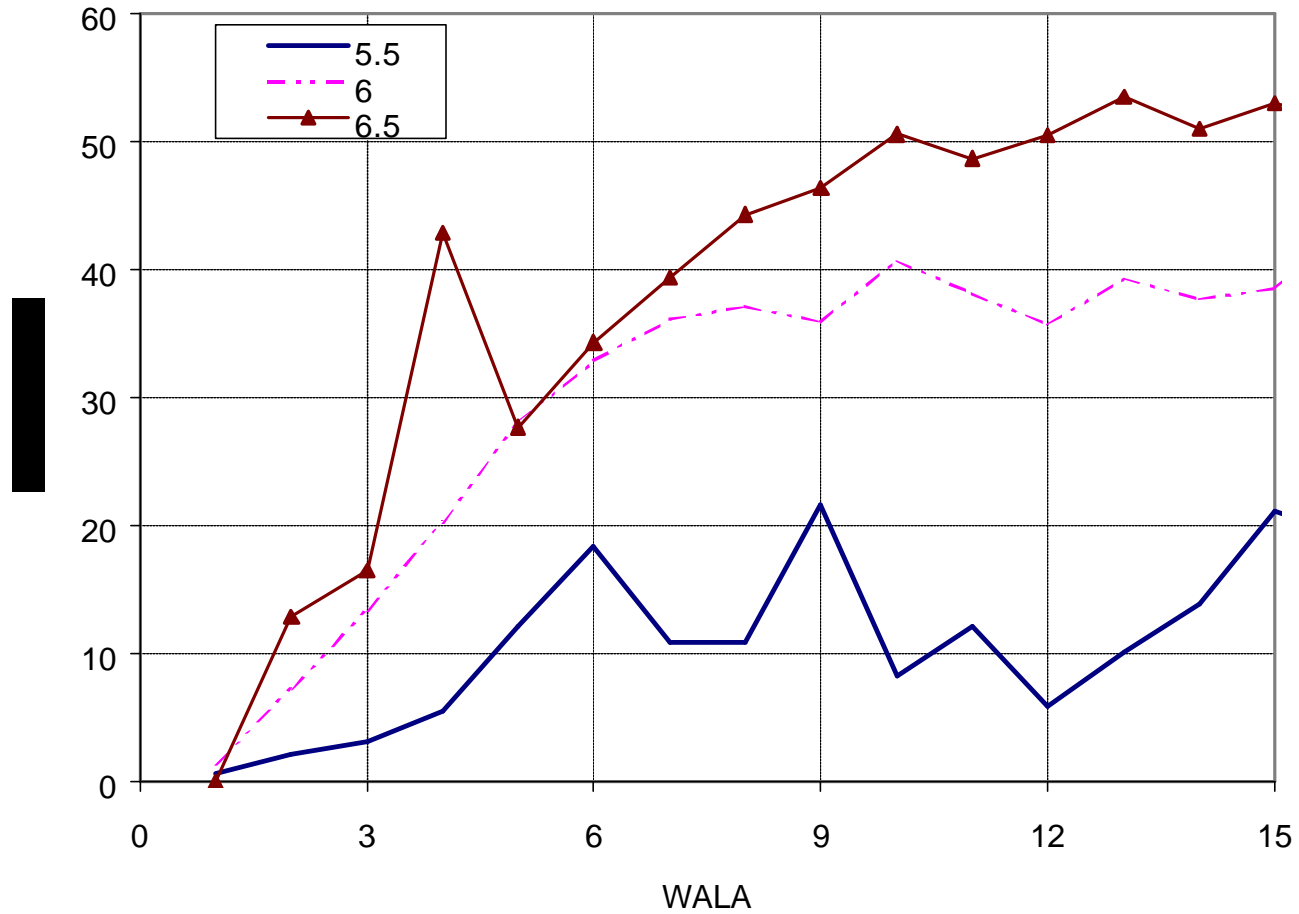
	5.50	6.00	6.50
<b>I. Low Gross WAC/Low WALA (LGW/LW)</b>			
Low Gross WAC	≤ 5.875	≤ 6.375	-
Low WALA	0-3	0-3	4-6
LGW/LW Pay-Up	+ to 1	6	8
<b>II. Low Loan Size</b>			
Intermediate Low Loan Balance (110 max)	2	12	18
Low Loan Balance (85 max)	4	18	26

# Value in Specified Pools: Examples

	<b>6.00</b>	<b>6.50</b>
Pay-up in Low Gross WAC/Low WALA (LGW/LW)	6 ticks	8 ticks
LGW/LW CPR	7%	35%
Breakeven Roll on LGW/LW	12 ticks	9 ticks
Generic Collateral CPR	46%	63%
Breakeven Roll on Generic Collateral	8 ticks	2+ ticks
Differential: LGW/LW vs. Generic	4 ticks	6+ ticks
Pay-back period for LGW/LW (non-rollers)	1.5 mo	1.2 mo
Actual Roll	9+ ticks	2+ ticks
Differential: LGW/LW vs. Actual Roll	2+ ticks	6+ ticks
Pay-back period for LGW/LW (if rollers)	2.4 mo	1.2 mo

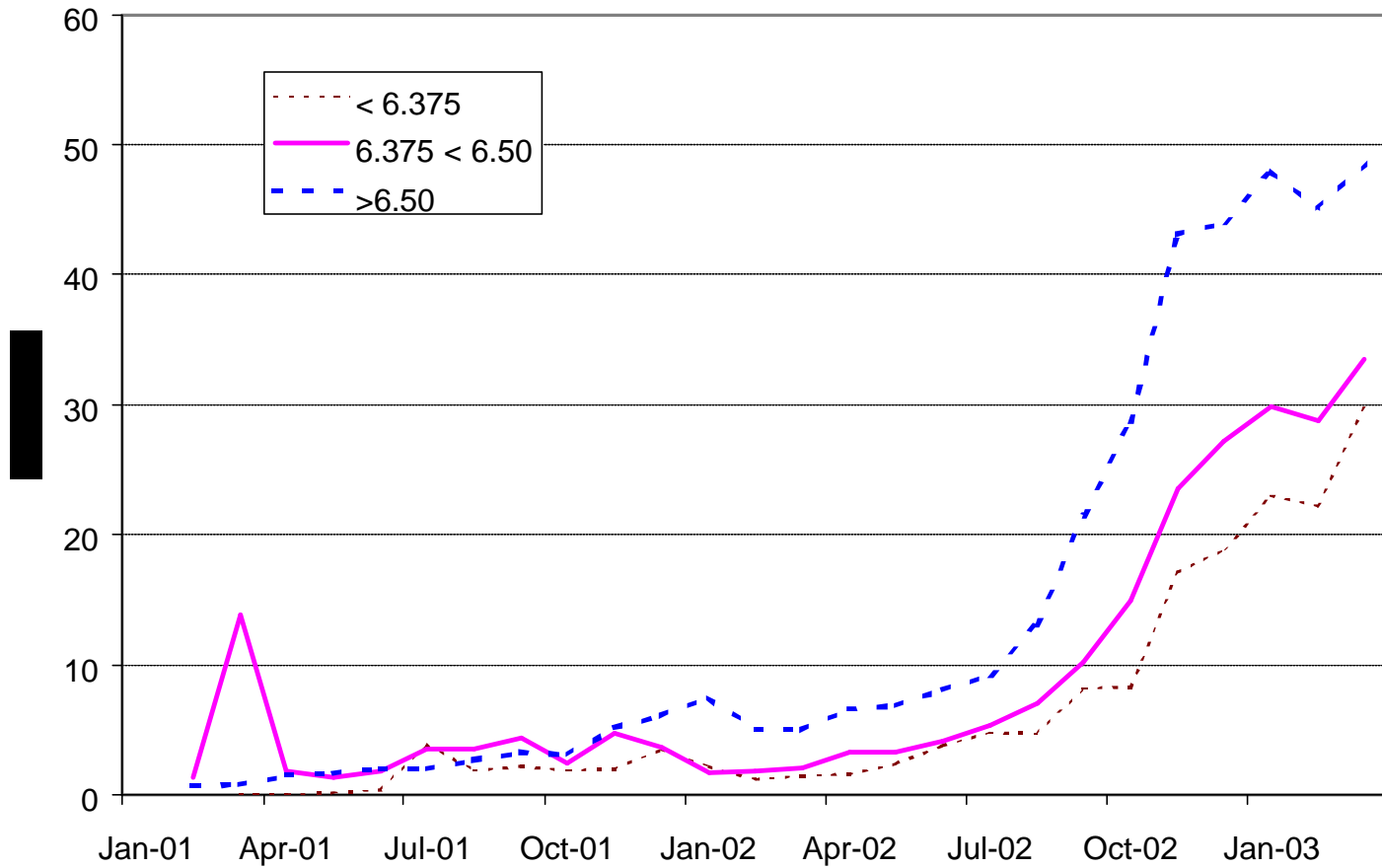
# Refi Ramp: Gold 6-7s

Mar-03



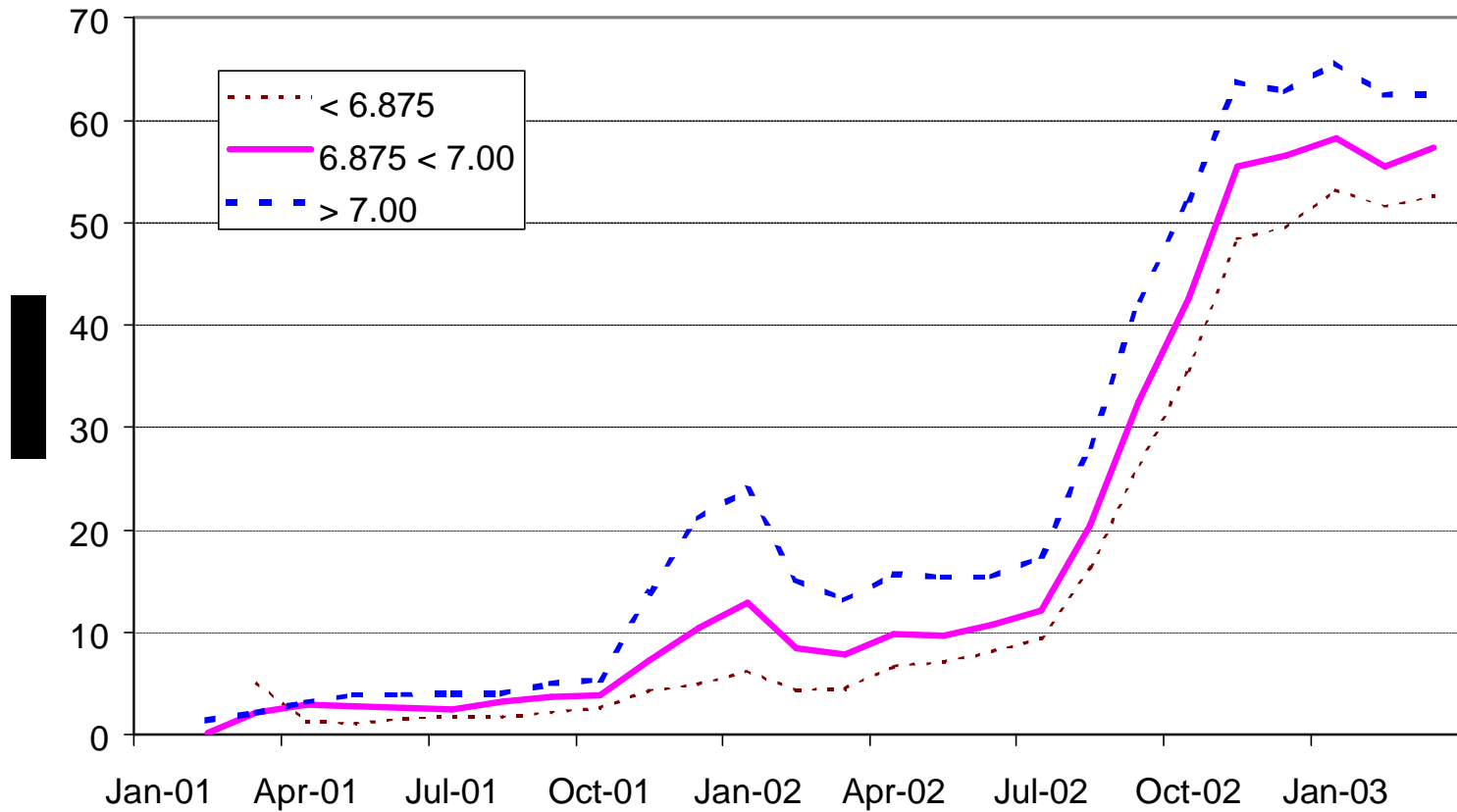
# 2001-origination FNMA 6%

(by Gross WAC)



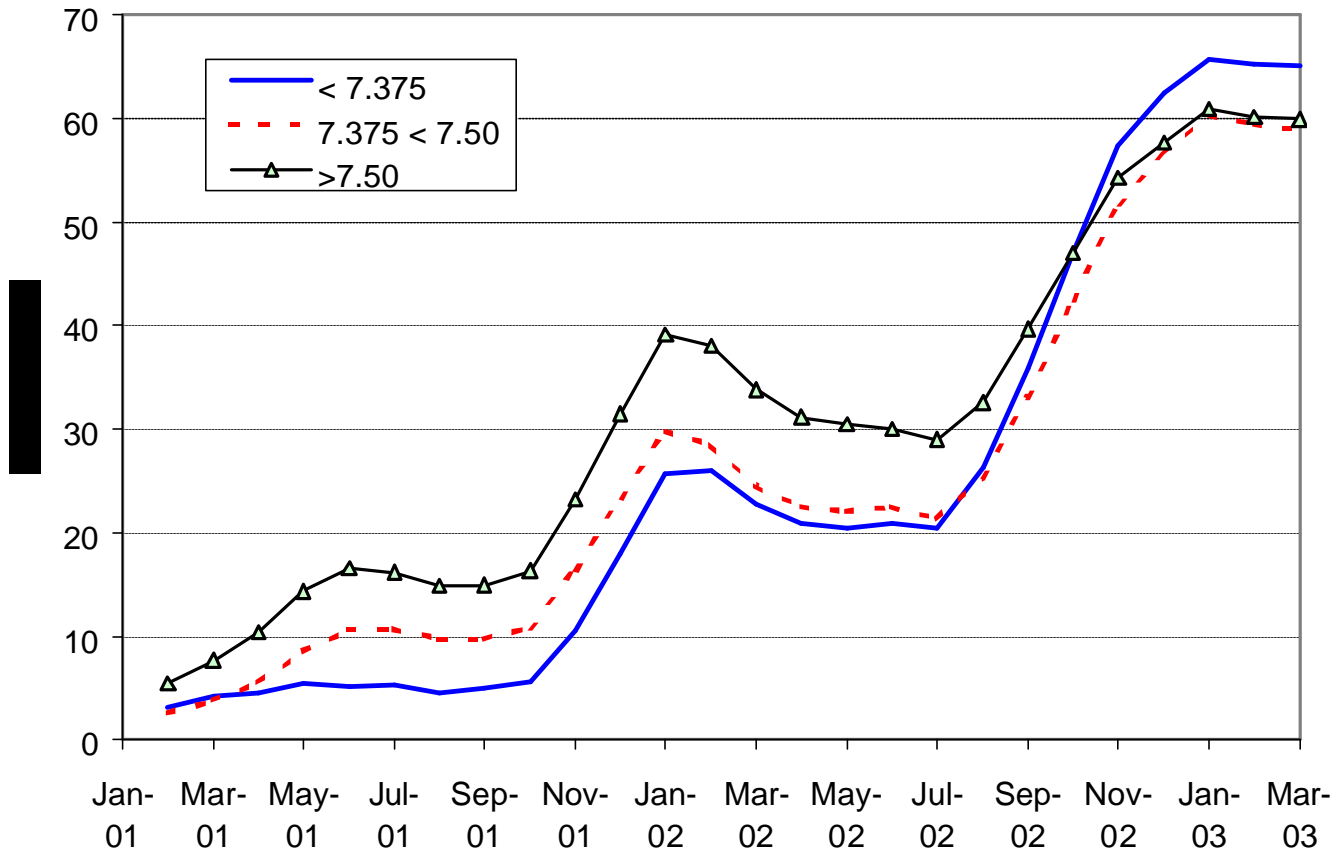
# 2001-origination FNMA 6.5%

(by Gross WAC)



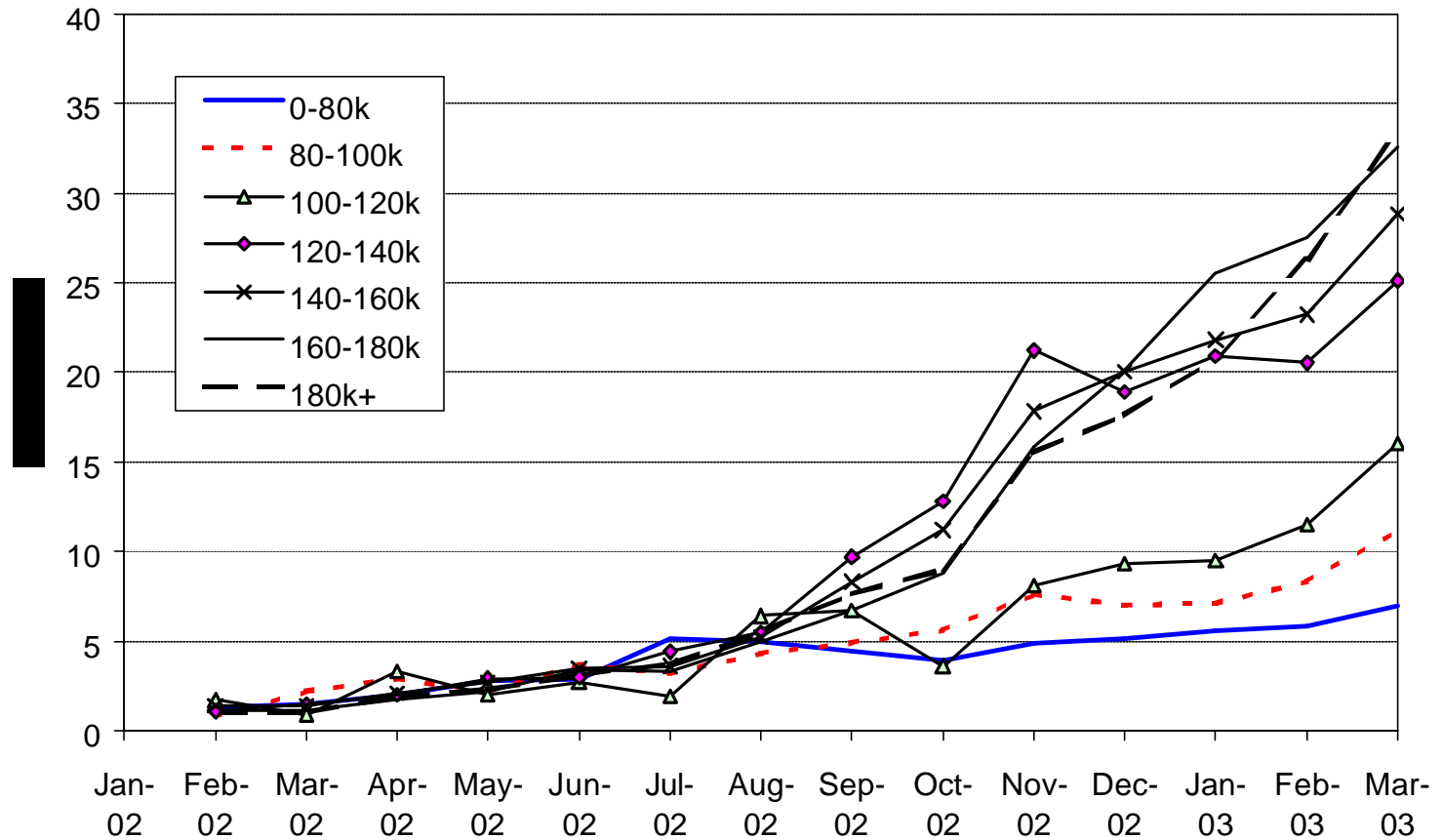
# 2001-origination FNMA 7.0%

(by Gross WAC)



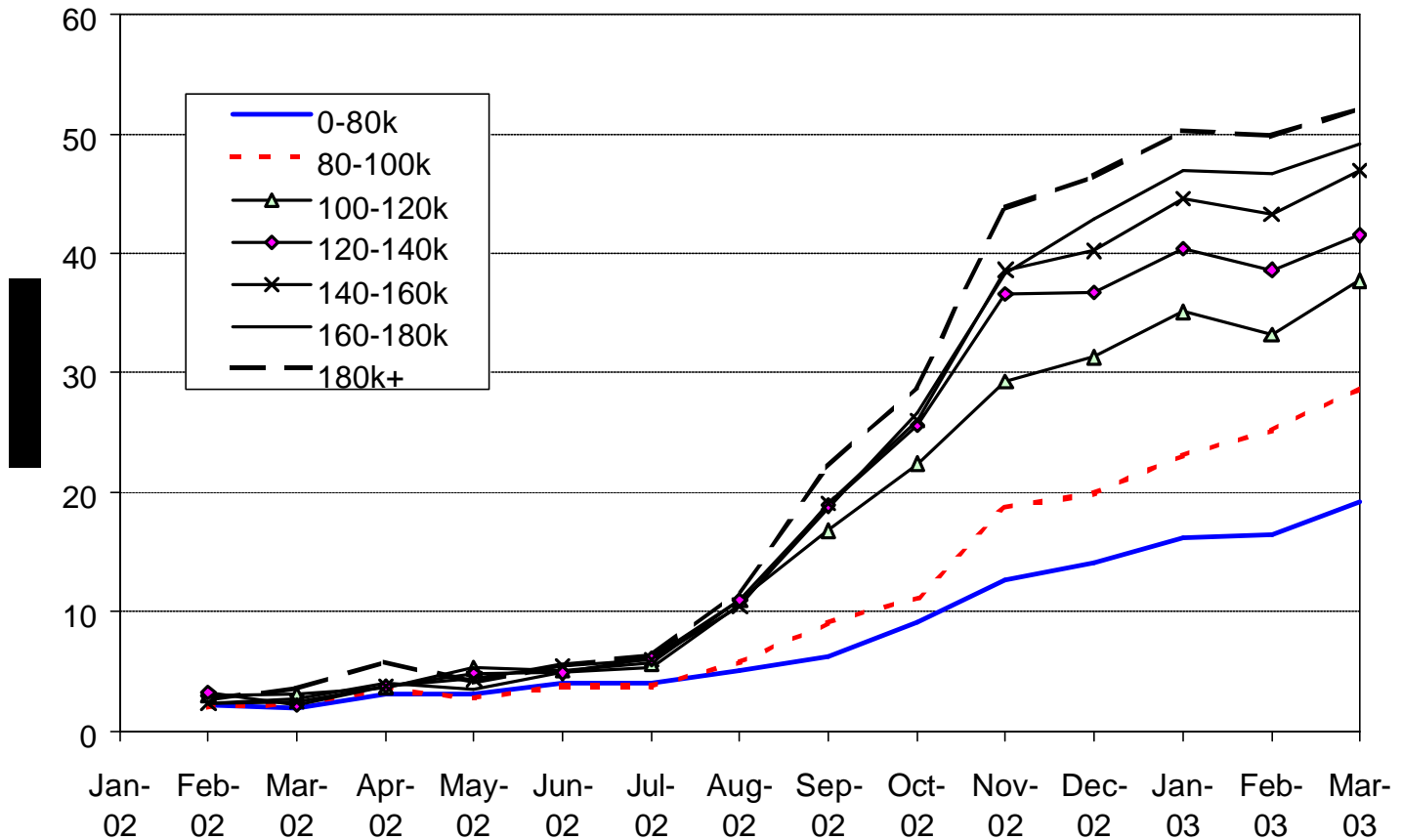
# 2002 FNMA 6.0%

(by Average Loan Size)



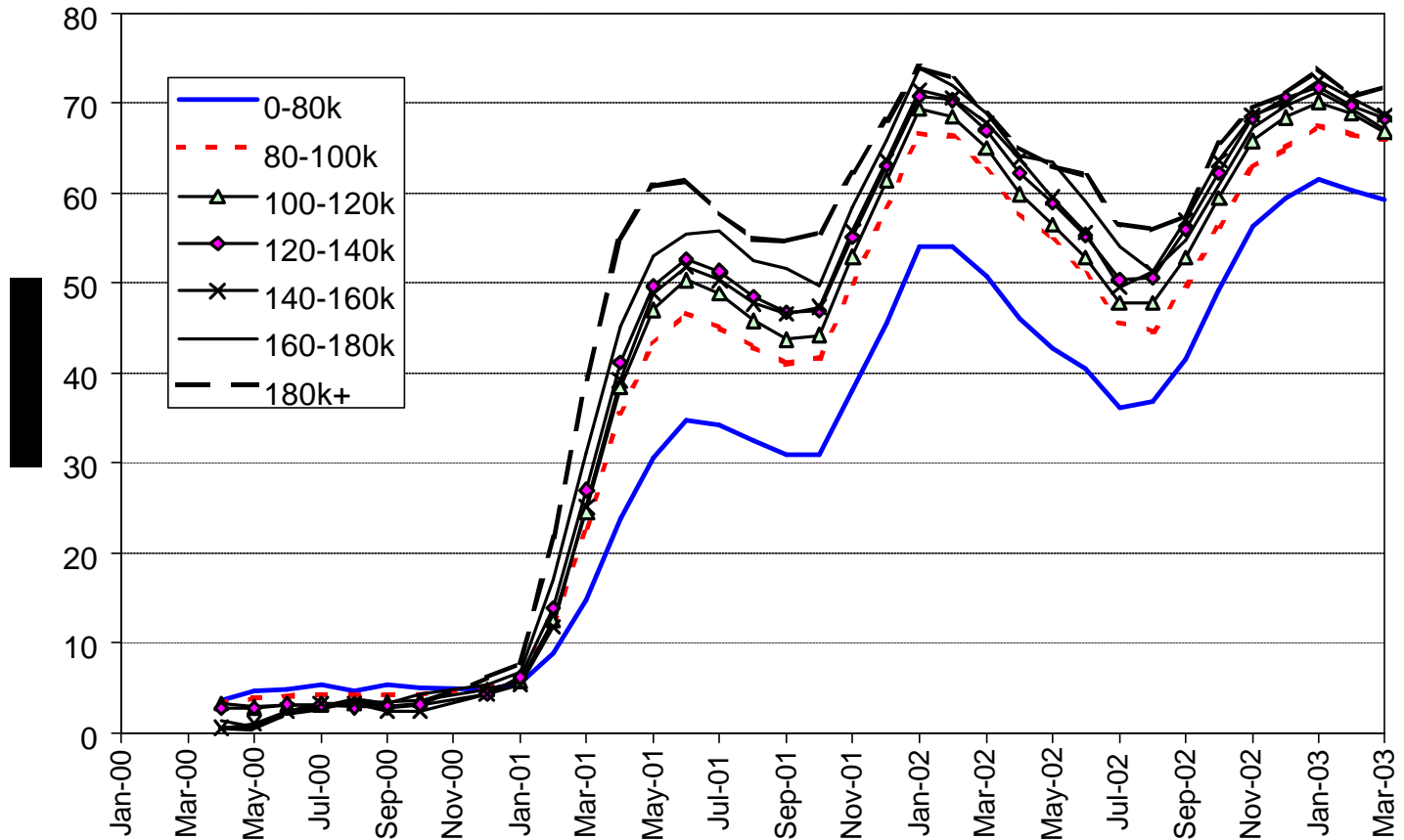
# 2002 FNMA 6.5%

(by Average Loan Size)



# 2000 FNMA 7.5

(by Average Loan Size)

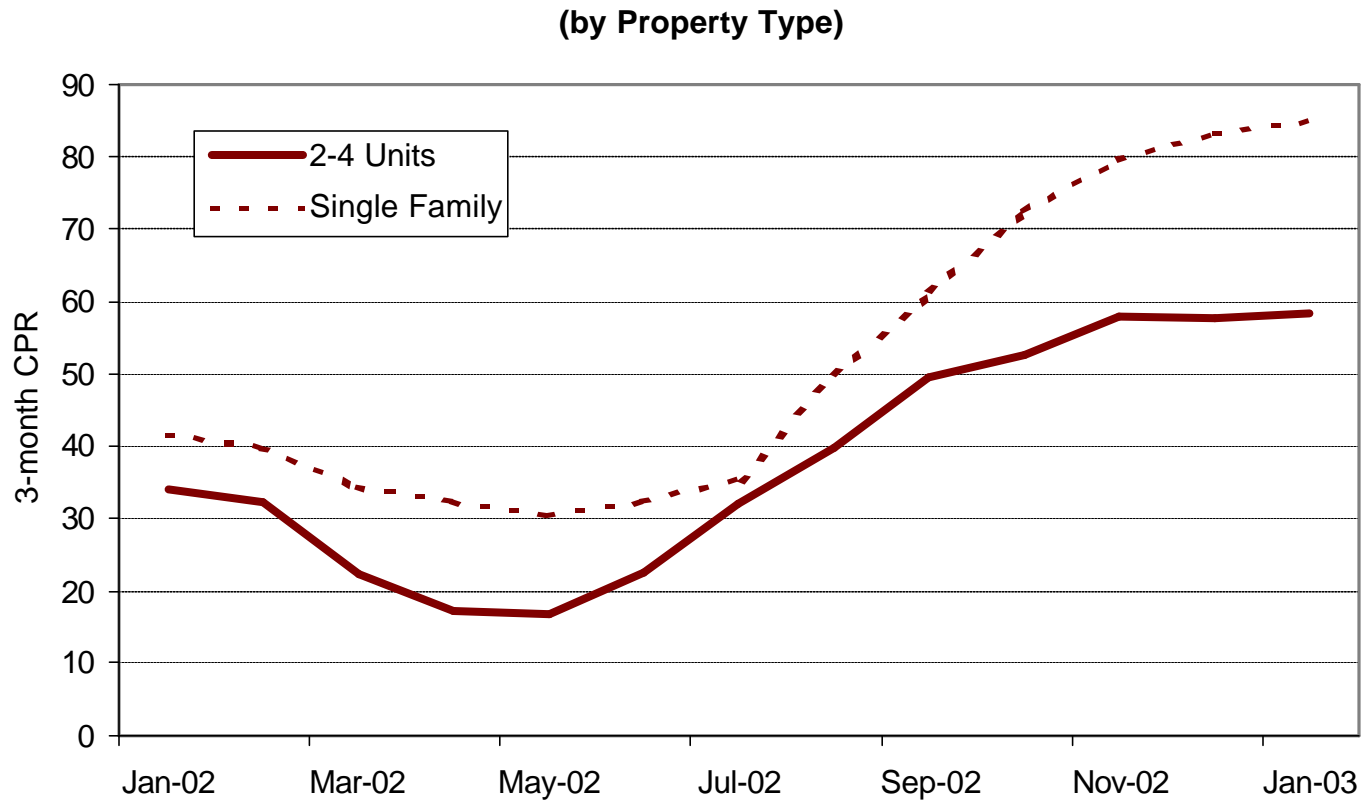


# The Originator's Perspective

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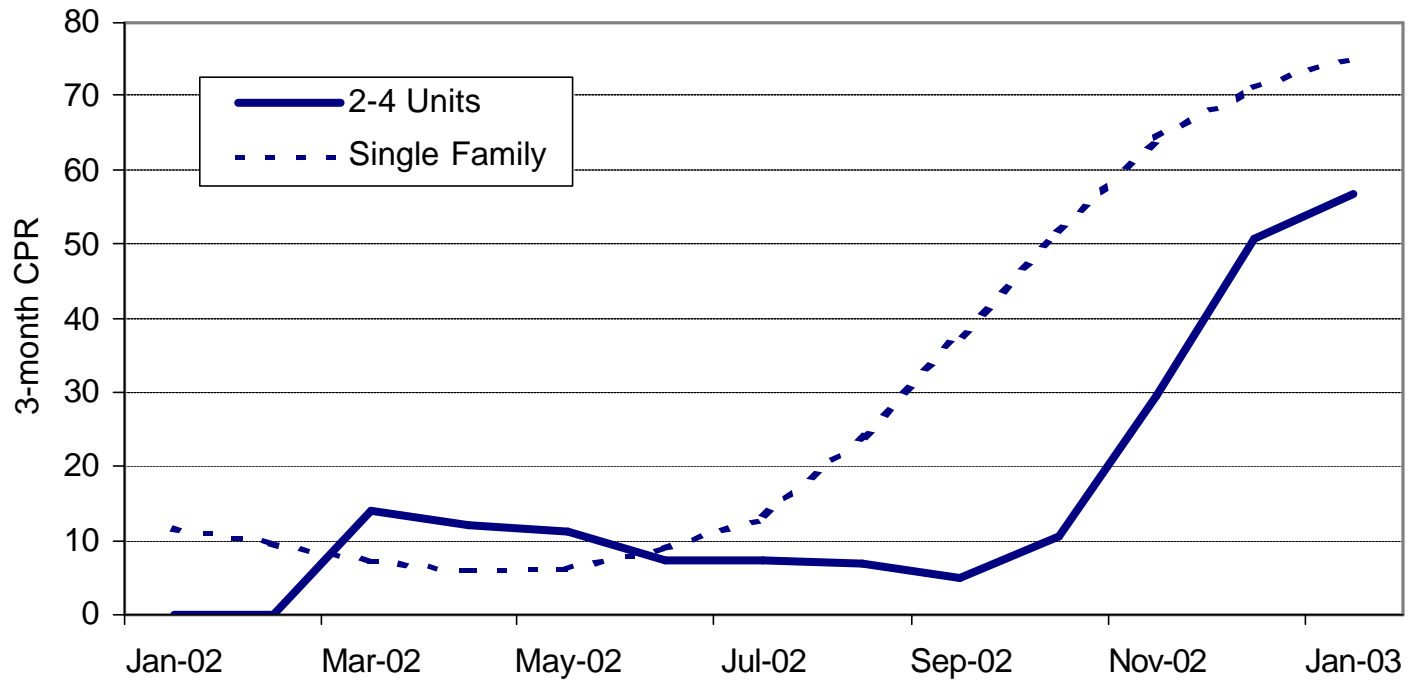
- ◆ Be aware of where pay-ups are available for paper with more favorable prepayment characteristics, and pool accordingly
  
- ◆ The new disclosures:
  - Property type (single unit, 2-4 units)
  - Original LTV (weighted average, quartile)
  - Occupancy type (principal, second home, investor)
  - Credit score (weighted average, quartile)
  - Loan purchase (purchase or refi)
  - Servicer & Seller
  
- ◆ First 4 should generate new specified pool markets, with pays ups for pools with high proportions of multi-family, high LTV, investor, or credit impaired mortgages.

# Property Type Matters—2001 7.25-7.75 WAC Jumbos

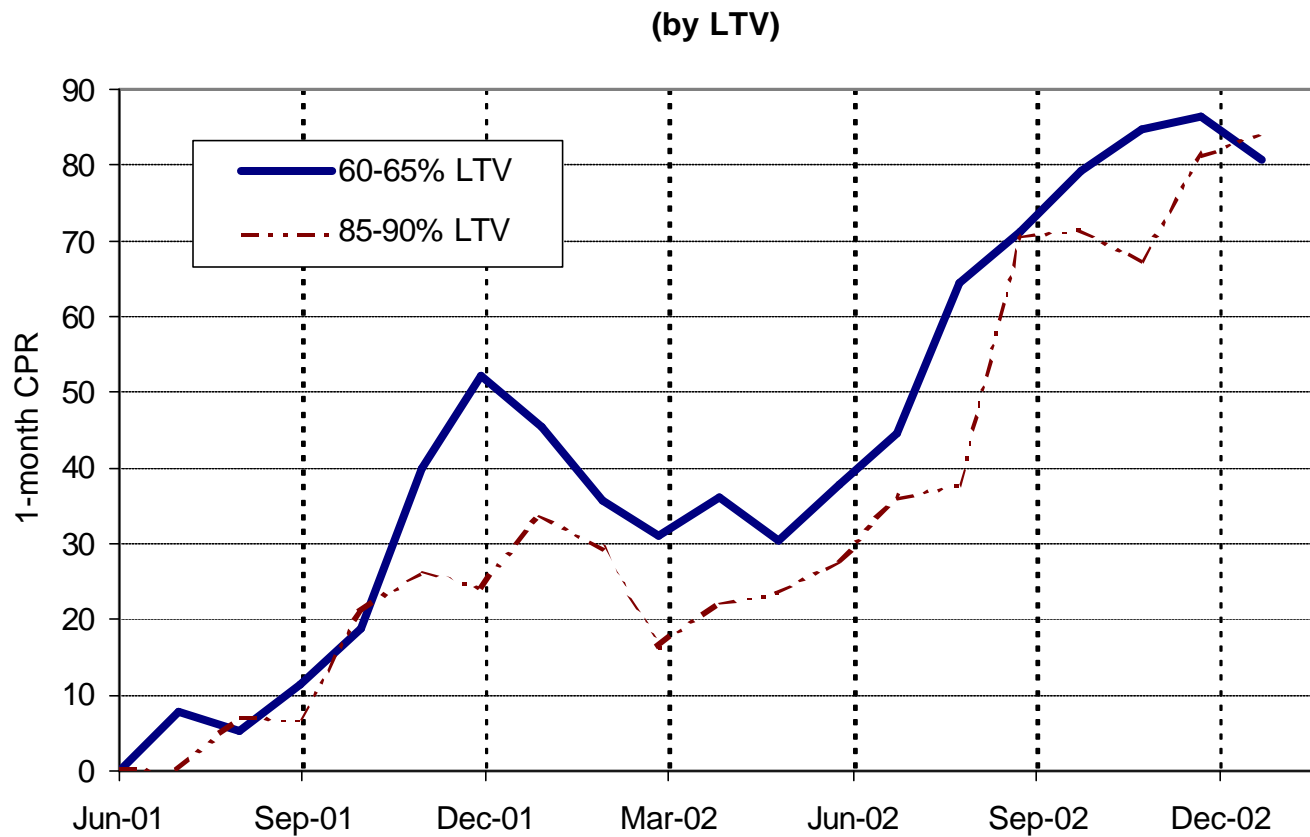


# Property Type Matters—2001 6.75-7.25 WAC Jumbos

(by Property Type)



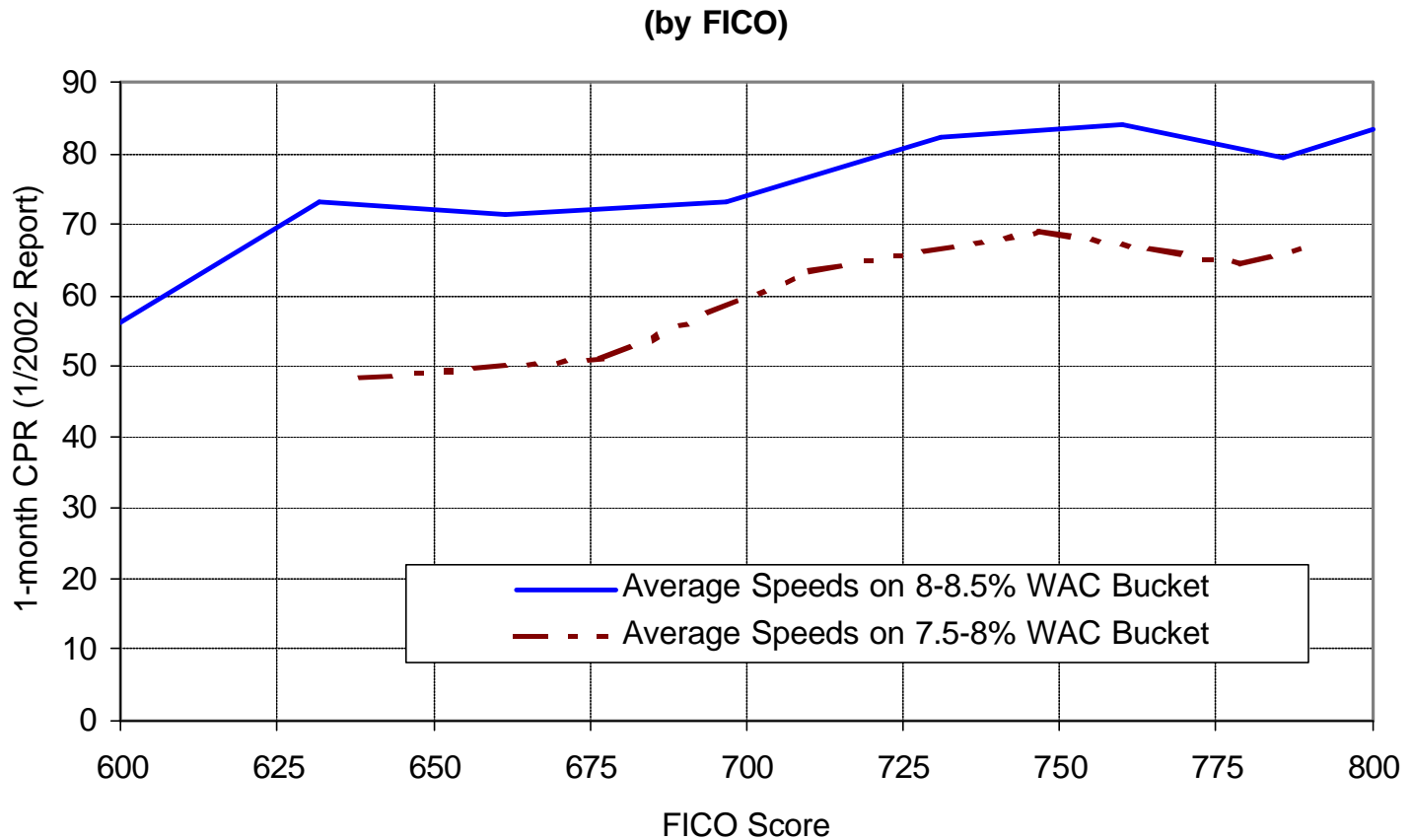
# LTV Matters—2001 7.25-7.75 WAC Jumbos



# Occupancy Type Matters—Non-conforming Investor & Non-Investor Speeds

	Wac Bucket	WAC	Vintage	Balance (\$MM)	Investor	1-year CPR Same-WAC Non-Investor	50bp Lower WAC Non-Investor
<b>Alt-A</b>	7.25	7.51	1998	5.5	29.2	60.3	50.0
	7.75	7.91	1998	8.1	46.3	58.4	60.3
	7.25	7.48	2001	12.6	18.7	42.2	23.6
	7.75	7.91	2001	15.6	20.9	46.9	42.2
	8.25	8.41	2001	10.6	49.9	48.6	46.9
	8.75	8.85	2001	6.3	51.7	52.1	48.6
<b>Jumbo</b>	7.75	7.46	1998	9.7	31.6	59.7	44.5

# FICO Matters—2000 Jumbo Speeds



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