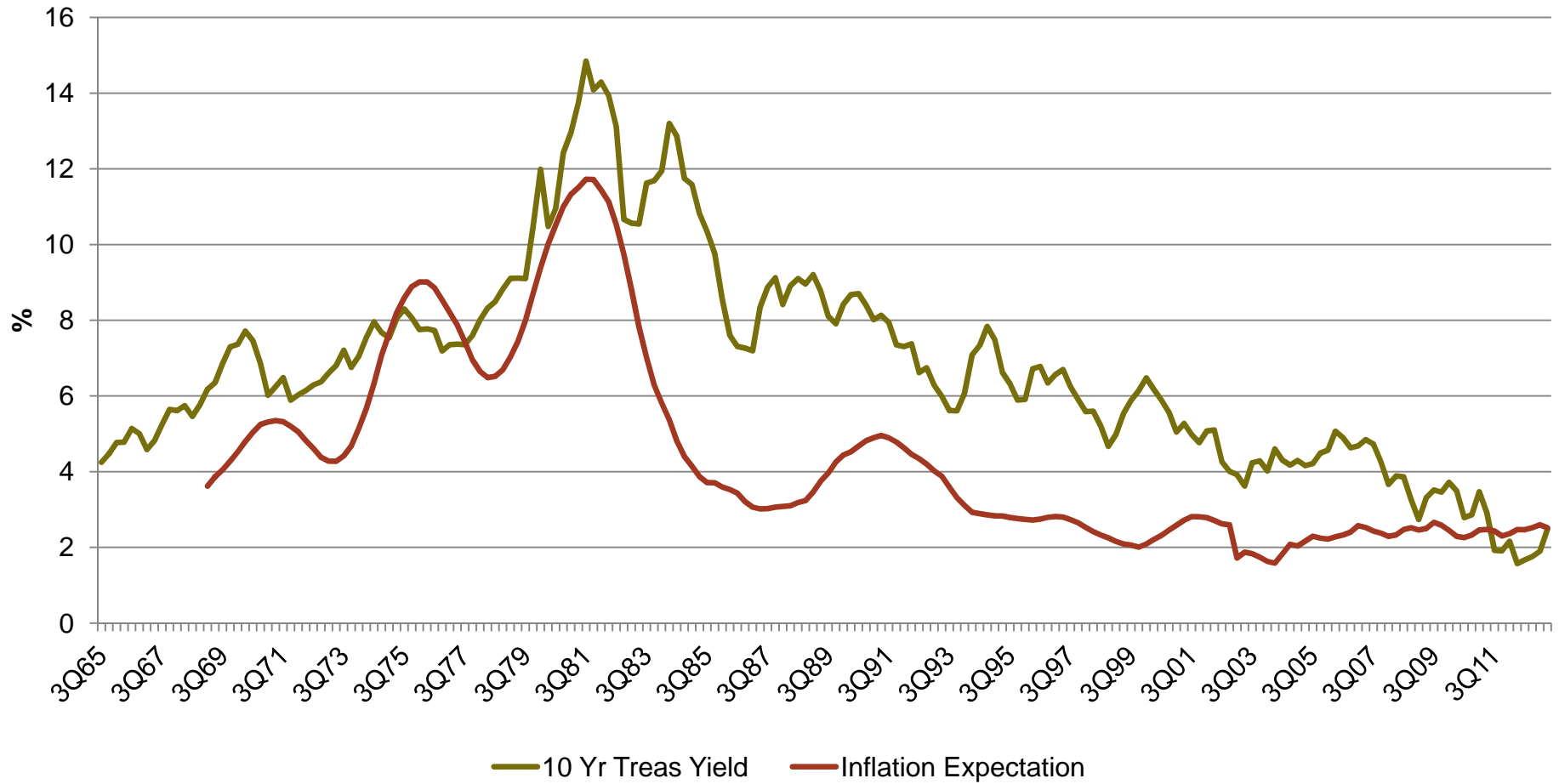


Real Estate in a Rising Interest Rate Environment ULI Small Scale Development Council

Prepared by Paige Mueller, Managing Director, RCLCO | November 2013

LOW TREASURY YIELDS ARE NOT SUSTAINABLE

10 Year Treasuries and Inflation, 1965 – 2013

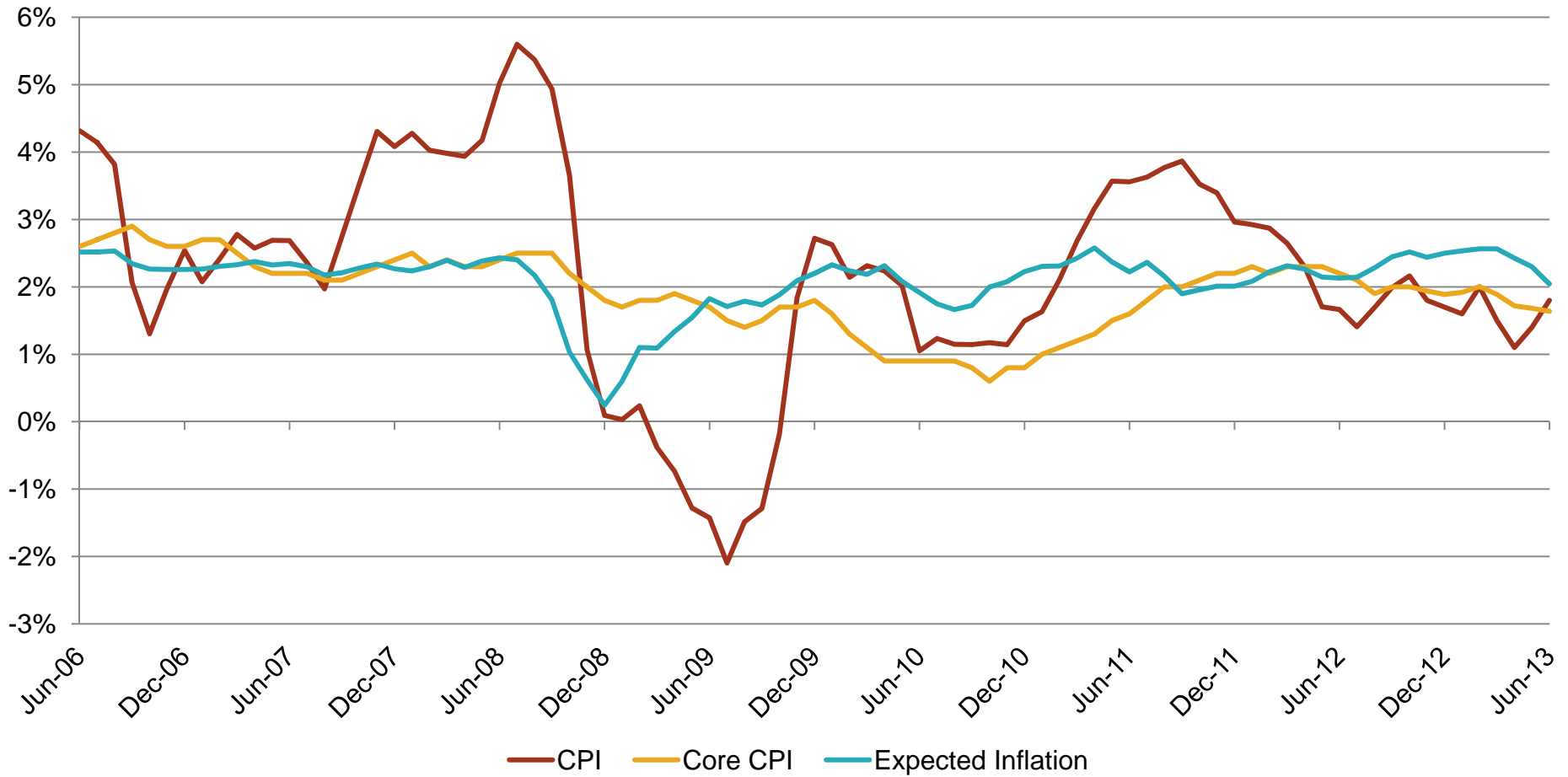


Inflation expectation = average of previous 3 years inflation before 2003 and the difference between 10-yr TIPS and 10-yr Treasuries after 2003

Source: Federal Reserve, BLS

TREASURY YIELDS OF 3.5-4.5% CONSISTENT WITH 2% INFLATION EXPECTATIONS

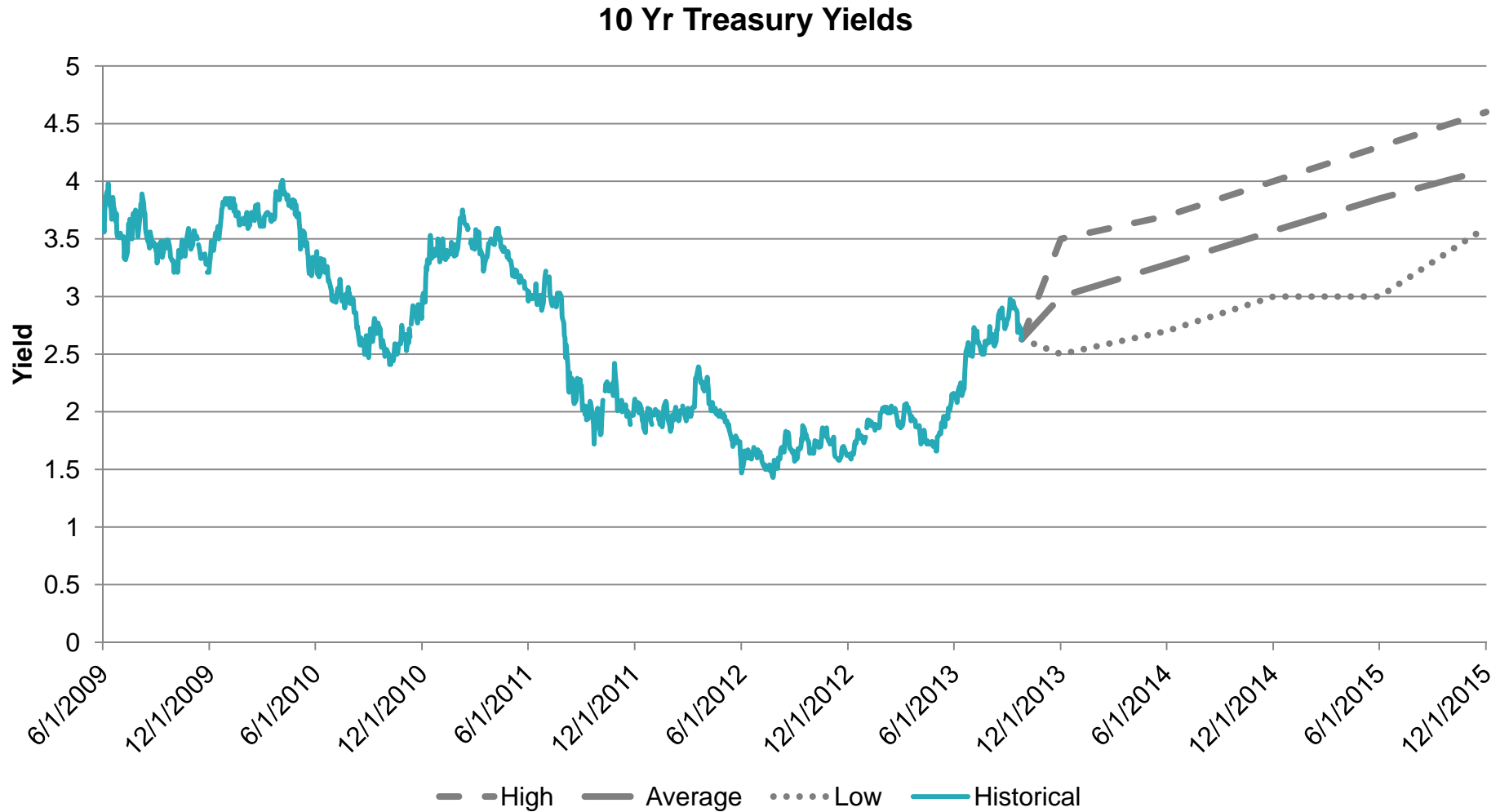
Inflation and Fed Funds Rate, 2006 – 2013



Expected inflation is the difference between the 10-year TIPS and 10-year treasury yield

Source: Federal Reserve, BLS

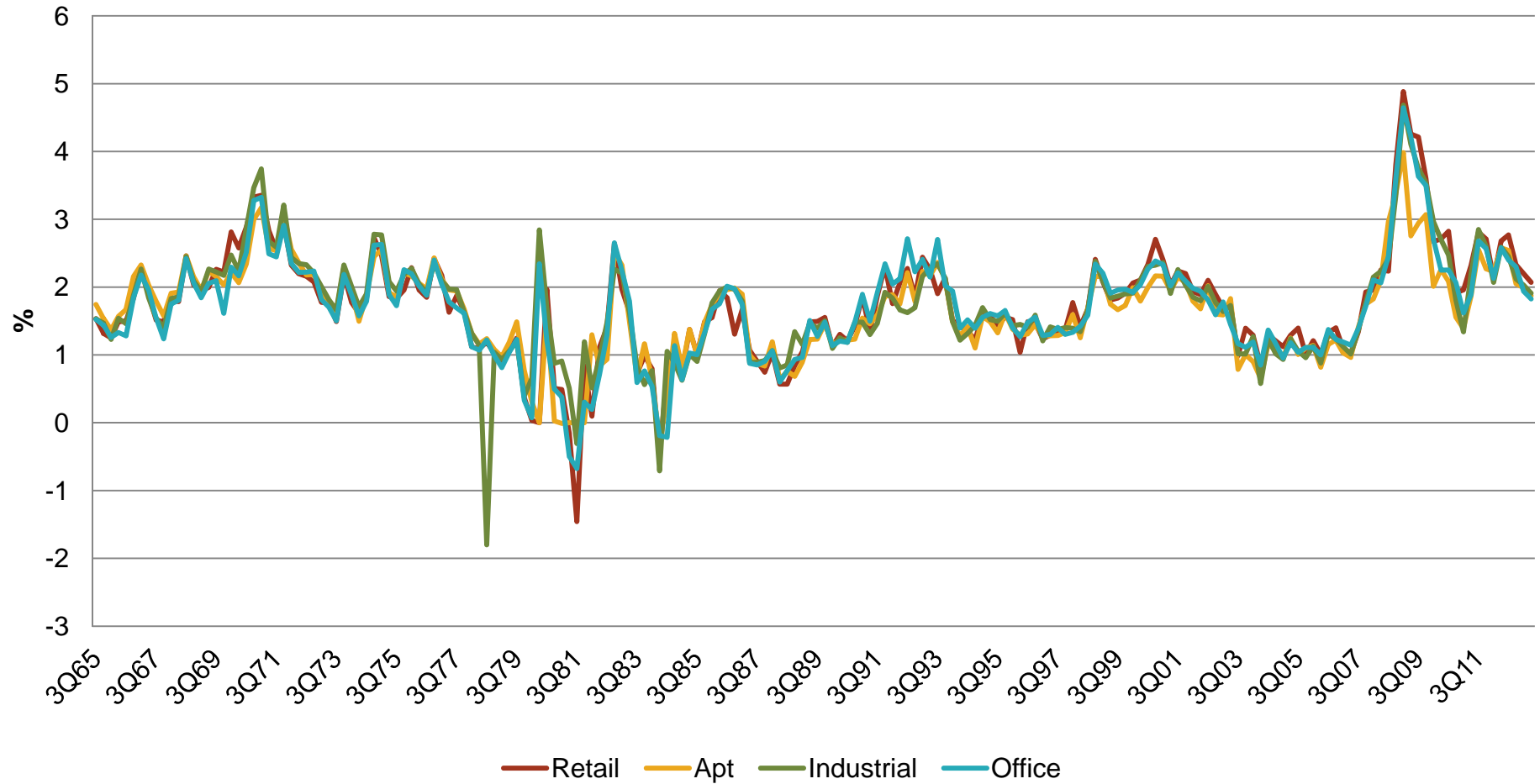
3.5%-4.5% TREASURY YIELDS CONSISTENT WITH FORECASTS



Source: Federal Reserve; WSJ

MORTGAGE SPREADS APPROACHING LONG-TERM AVERAGES

Mortgage Spreads to Treasuries



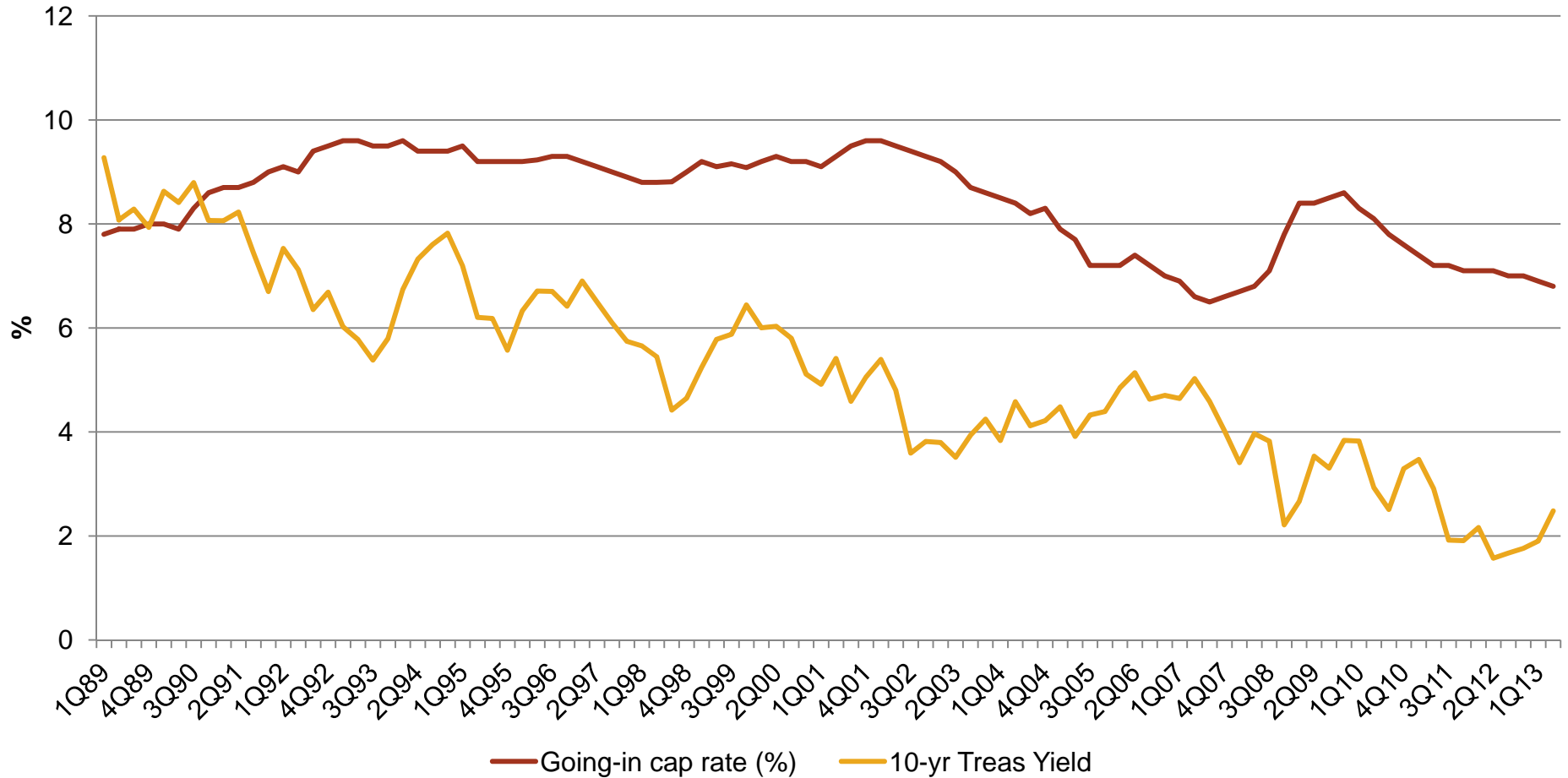
Source: ACLI

MORTGAGE RATES MOVING WITH TREASURIES

Property Type	Apr Rate	Sep Rate	Apr Spread	Sep Spread
Anchored Retail	3.9%	5.1%	200	220
Strip Center	4.1%	5.3%	220	240
Multifamily non-agency	3.6%	4.9%	175	205
Multifamily agency	3.6%	5.0%	175	215
Warehouse	3.9%	5.1%	205	220
Flex/R&D	4.1%	5.2%	220	235
Office	3.8%	5.0%	190	210
Full Service Hotel	4.4%	5.6%	255	270
10-Yr Treasury	1.9%	2.9%		

GOING-IN YIELDS ARE AT A WIDE SPREAD TO TREASURIES

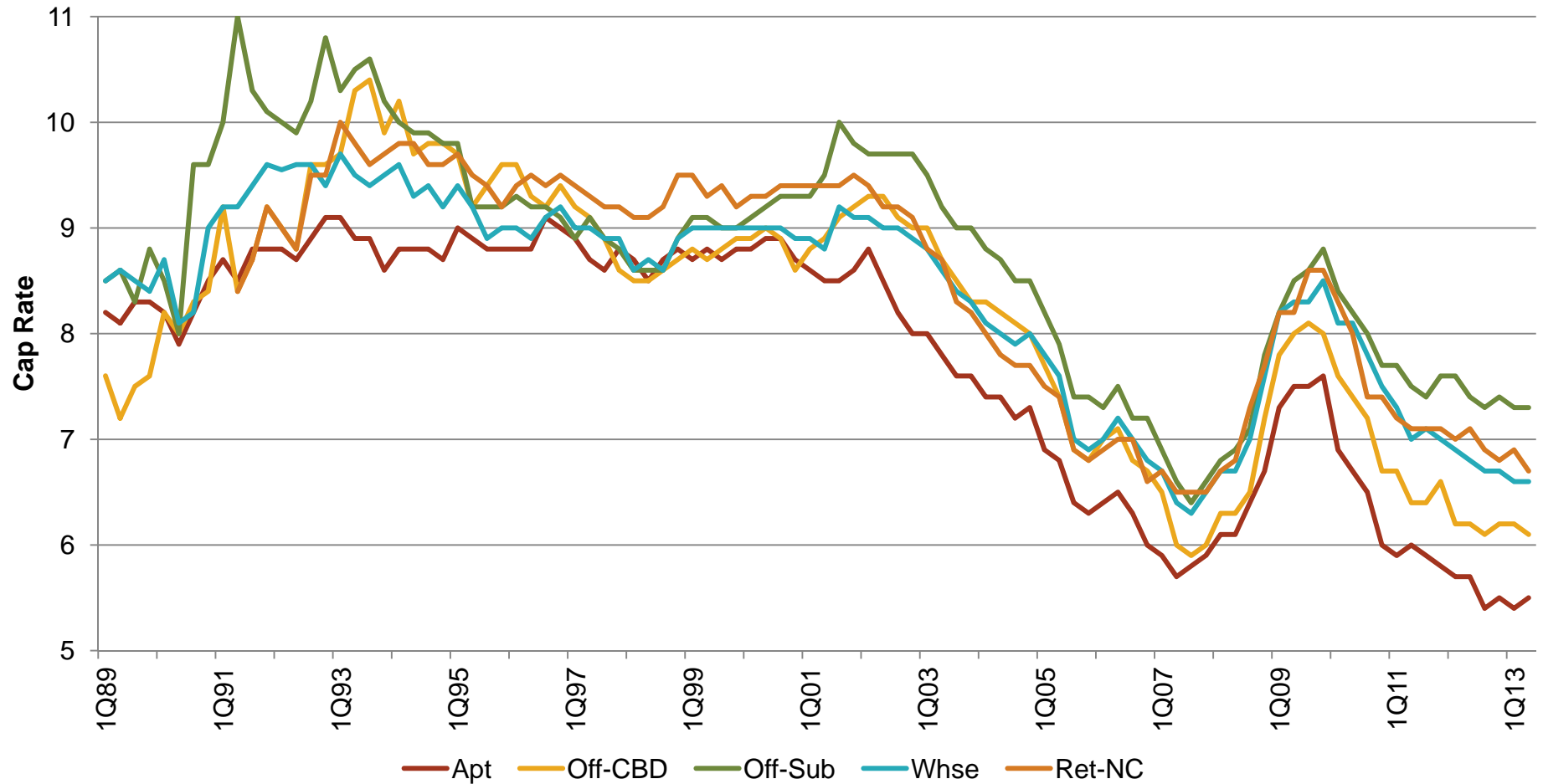
Going-in Cap Rate and 10 Year Treasury Yield, 1989 – 2013



Source: RERC

ALTHOUGH APARTMENT AND CBD OFFICE ARE AT LOW SPREADS

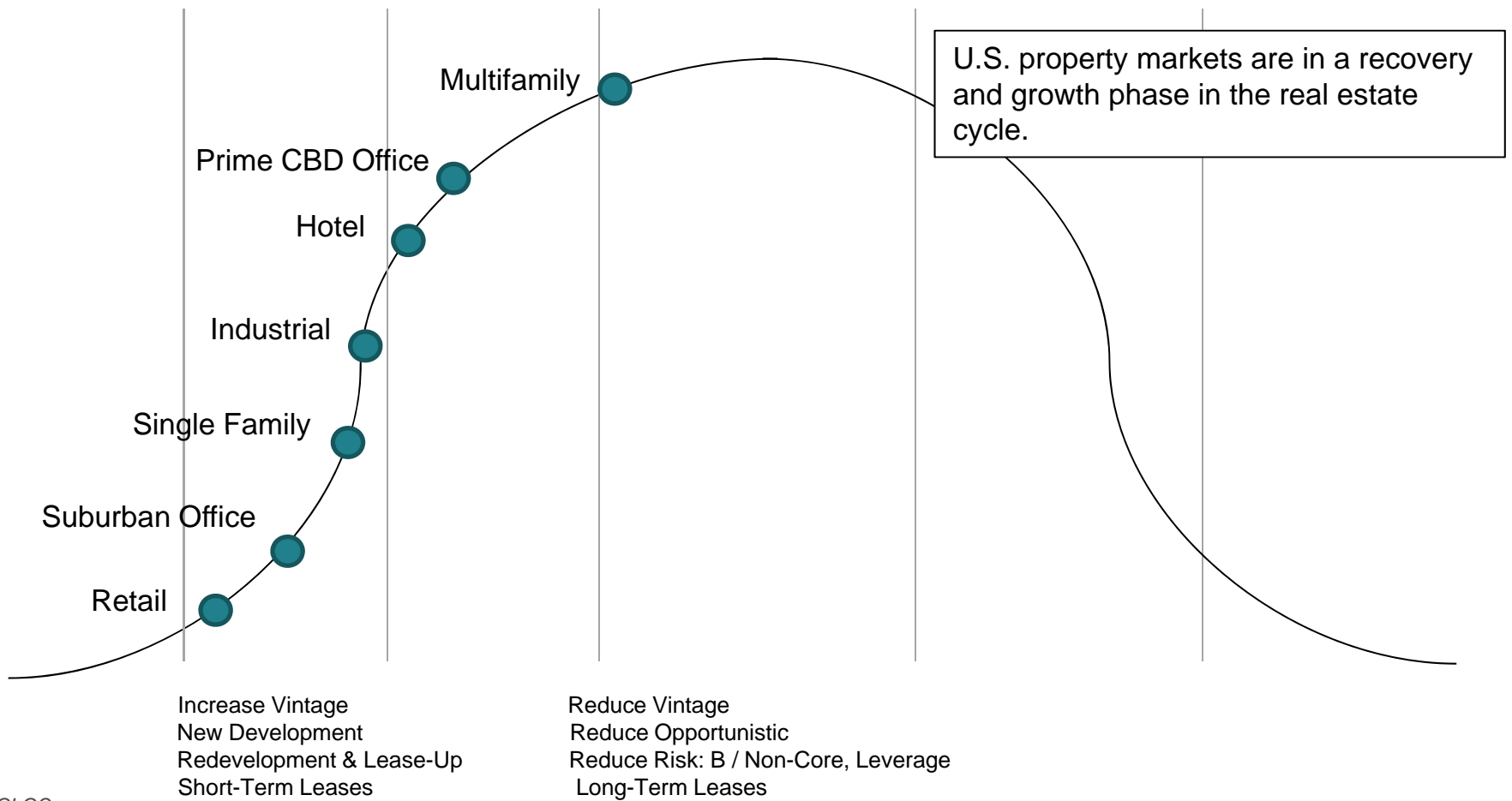
Cap Rates by Property Type, 1989 – 2013



Source: RERC

U.S. REAL ESTATE CYCLE

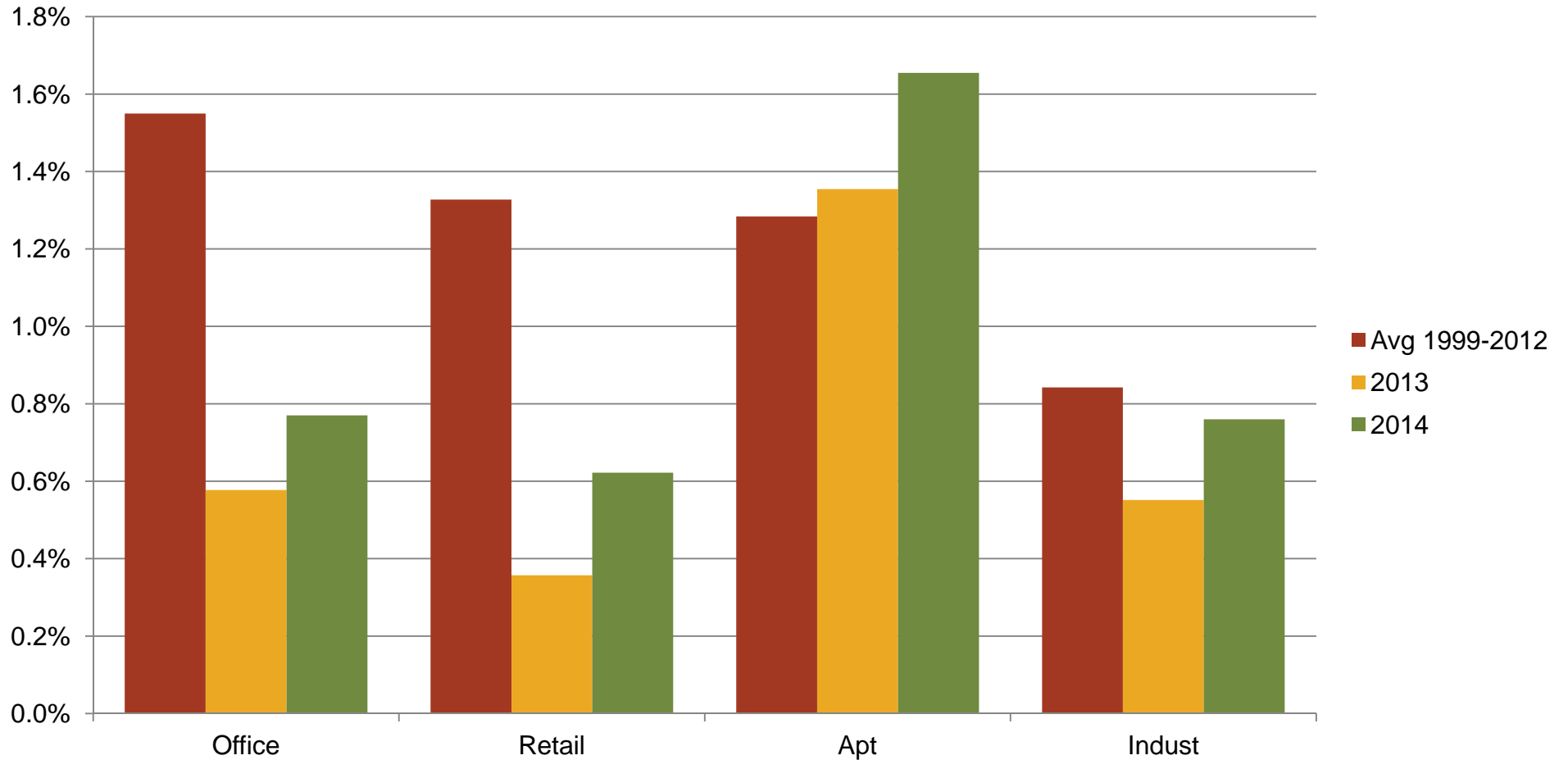
Occupancy Low	Occupancy Rising	Occupancy Rising	Occupancy High	Occ. Above Average	Occupancy Low
Demand Improving	Demand Improving	Demand Improving	Occupancy Flattening	Occupancy Falling	Occ. Flat to Down
Rents Flat to Down	Rents Rising	Rents Rising	Rents Flattening	Rents Falling	Rents Flat to Down
No Construction	Limited Construction	Construction	Construction	Construction	No Construction



Source: RCLCO

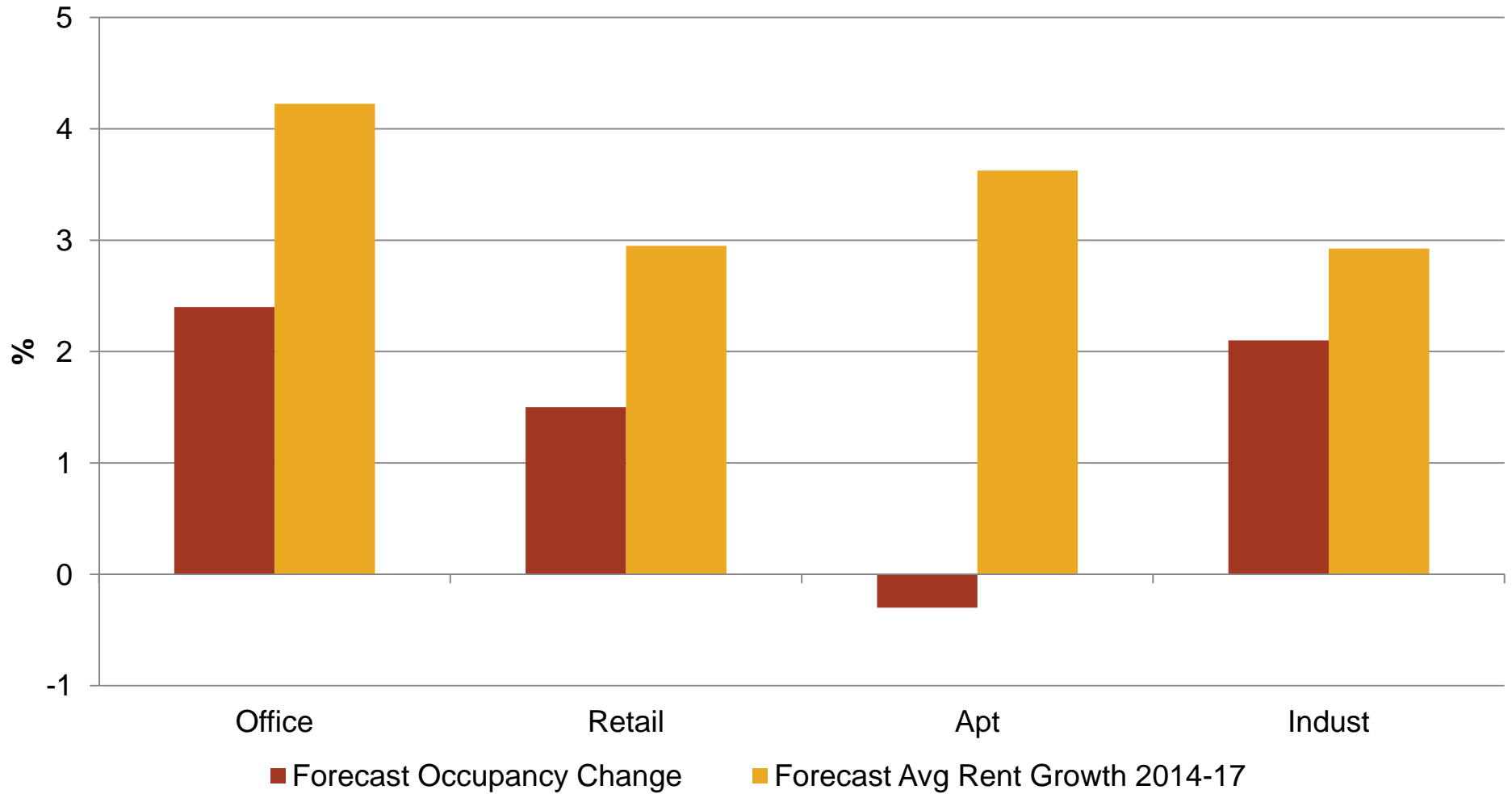
CONSTRUCTION REMAINS SUBDUED IN MOST PROPERTY SECTORS

New Completions % of Stock



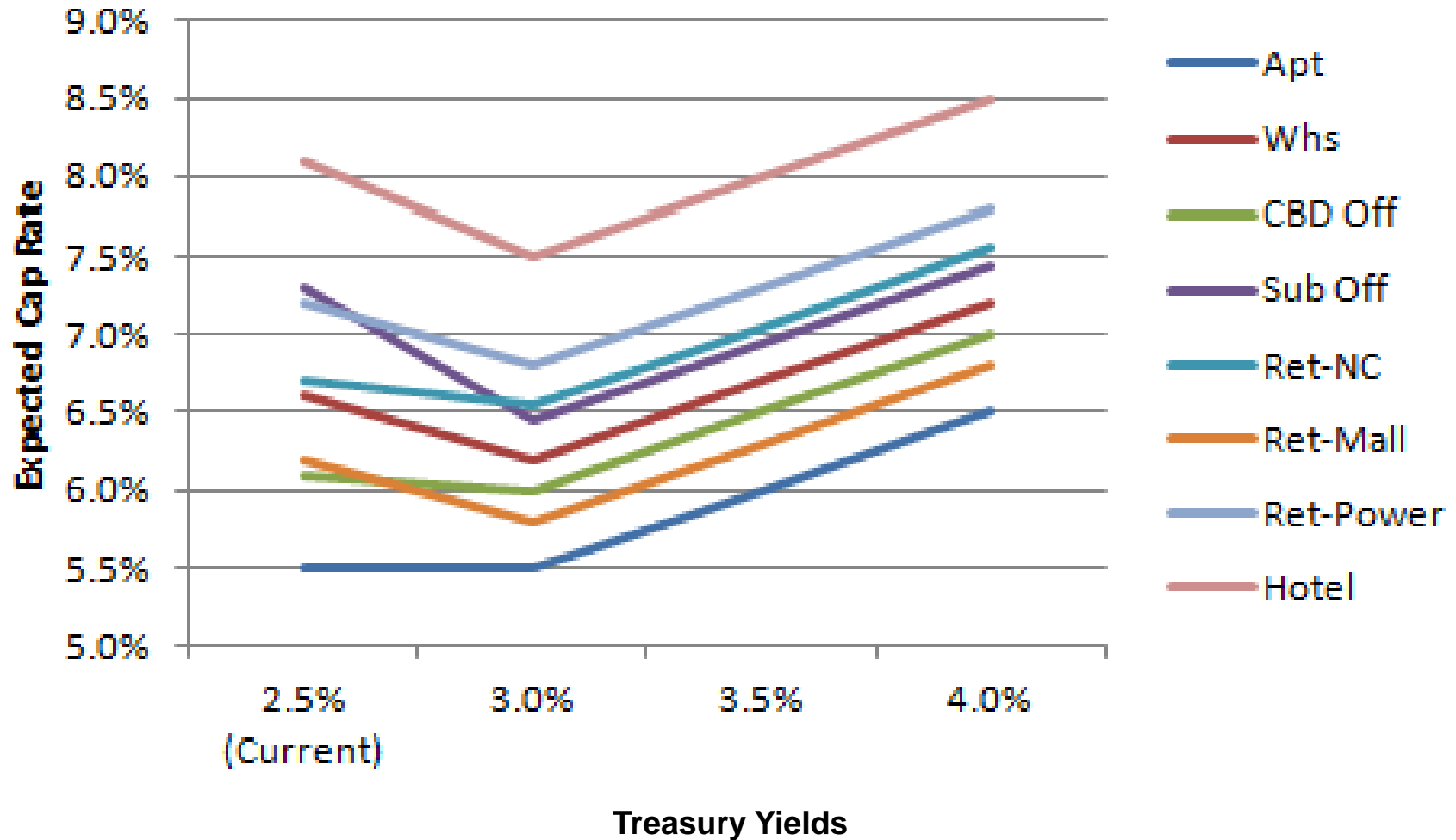
Source: REIS

INCOME GROWTH EXPECTATIONS ARE POSITIVE



Source: REIS

APARTMENT AND PRIME CBD MOST AT RISK



Source: RERC; RCLCO

GENERAL RULES FOR EXIT CAP RATES

- Stabilized exit cap rates should be higher than entry cap rates to account for pricing (term) risk. The market generally builds in a 50 bp increase in exit caps (RERC 1989-2013), although this has been running closer to 60 bp since 2011.
- Other estimation checks for stabilized exit cap rates:
 - Forward rates on 10-year Treasuries + a premium
 - Historical average rates in similar interest rate environments



Value-Add Investment with a 5 Year Hold

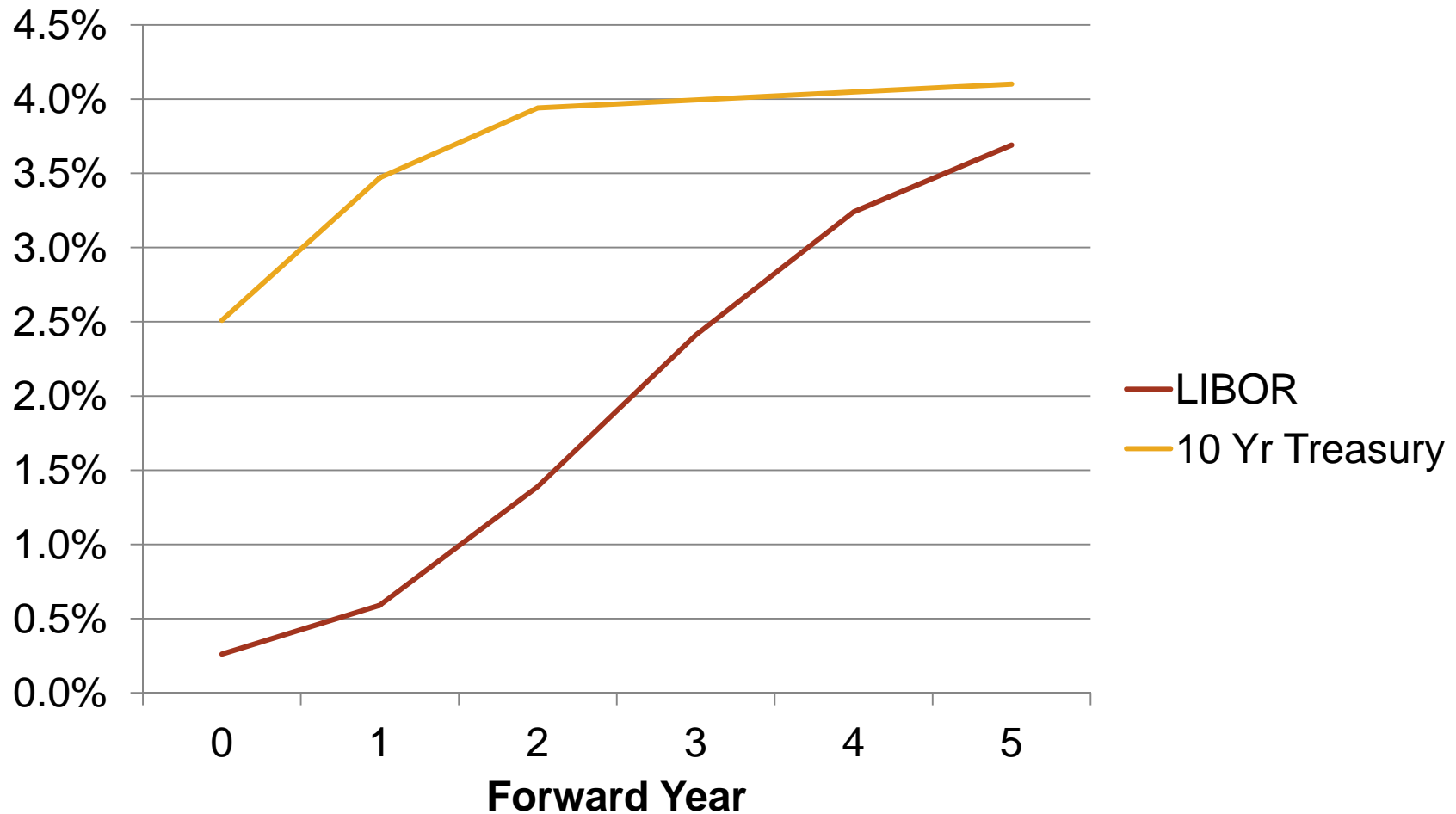
Financing Options:

Option A: 5 Yr Term, 2.6% rate, floating, 30 year amortization

Option B: 5 Yr Term, 3.9% rate, fixed, 30 year amortization

Option C: 10 Yr Term, 4.2% rate, fixed, 30 year amortization

FORWARD CURVES ARE STEEP



REFINANCE EARLY AND LOCK IN RATES?



\$10 million loan balance due in 2016
6.0% interest rate, fixed rate I/O
Defeasance cost: \$170,000

New loan: 4.9%, fixed rate I/O

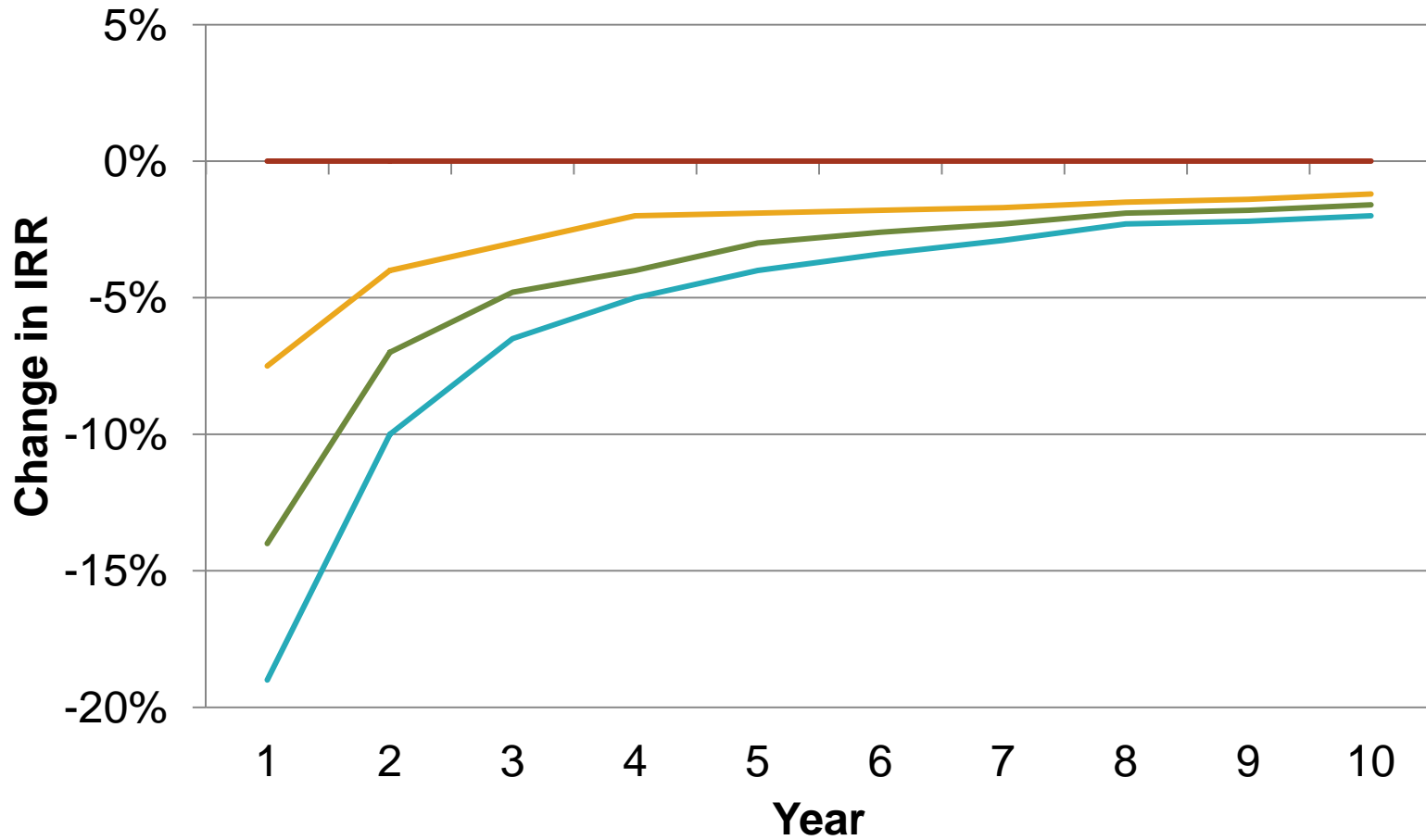
Would you pay the defeasance cost and refinance early?

What if the loan was due in 2017?

FINANCING ALTERNATIVES

	<u>Current Financing</u>		<u>New Financing</u>		
Loan Size	10	Mil		10	Mil
Interest Rate	6.0%			4.9%	
Term	30	Yrs		30	Yrs
Due	2016			2023	
Annual Pmt	\$719,461			\$536,872	
Defeasance Cost	170,000				
		0	1	2	3
Defeasance Cost	(170,000.00)				
Old Pmt			\$719,461	\$719,461	\$719,461
New Pmt			(\$636,872)	(\$636,872)	\$636,872
Total Cash Flow	(170,000.00)		82,588.57	82,588.57	82,588.57
2 yr IRR		-2%			
3 yr IRR		21%			

SHORTER HOLD PERIODS AMPLIFY INTEREST RATE RISK



Change in Exit Cap

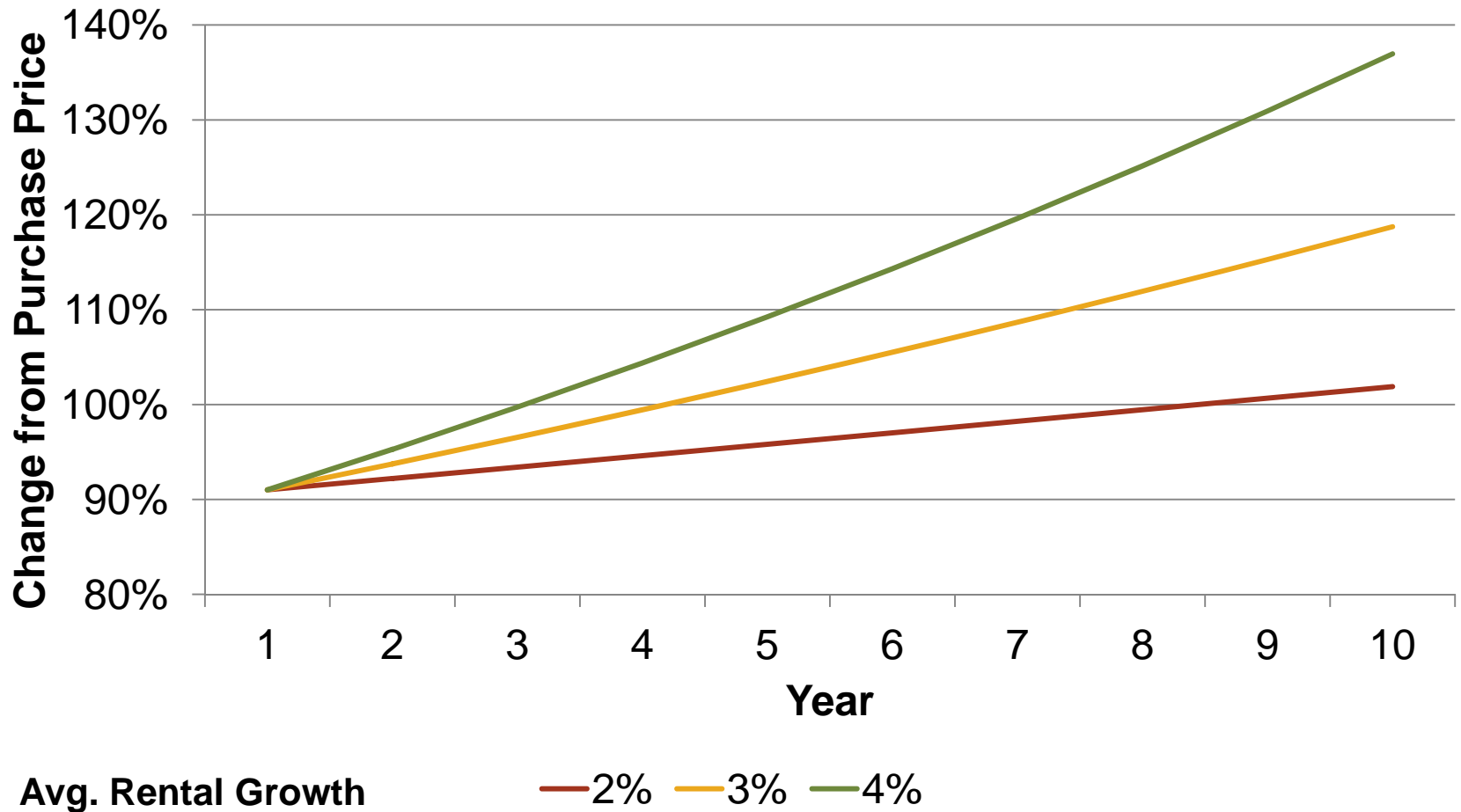
— 0 — +50 bp — +100 bp — +150 bp

WHICH WILL PERFORM BETTER IN A HIGH INFLATION ENVIRONMENT?



HIGHER GROWTH OFFSETS CAP RATE RISK

Change in value if cap rates increase by 100 bp that year



- **Watch list:**
 - Investments with low growth or unstable cash flows
 - High leverage, low debt coverage ratios, interest reserves
 - Short hold periods
 - Mortgage terms that don't match the hold period
 - Variable rate financing and near-term financing needs

- **Action items:**
 - Watch forward treasury curves and bank lending standards for expected changes in mortgage rates.
 - Build in mortgage rate increases of up to 200 bp in scenario analyses for refinancing needs (with the higher end of this range more likely the further out in time).
 - Build in exit cap rates of 60 bp +
 - Identify interest rate risk in allocation and risk planning, including evaluation of effect of mix of short-term and long-term leases, given that short-term leases are riskier but potentially permit rent increases in a higher interest rate and inflation rate environment.

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