

# U.S. Real Estate Chart Book: Cycle Questions

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- Portfolio analysis, investment policies, and pacing plans
- Fund analysis and manager selection
- Investment and hold/sell analyses
- Asset management
- Market analysis, target markets, and independent research

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# U.S. Apartment: Market Risk Indicator

	Net Absorption % of Stock Current* Quarter	Completions % of Stock Current* Quarter**	Under Constr % of Stock Current* Quarter***	Occupancy****	Q-o-Q Occupancy Change	Y-o-Y Occupancy Change	Q-o-Q Rent Growth	Y-o-Y Rent Growth
Atlanta	0.4%	0.2%	2.1%	94.5%	0.2%	0.3%	0.7%	3.9%
Austin	0.7%	0.9%	6.9%	94.4%	(0.1%)	(1.0%)	0.6%	4.3%
Chicago	0.2%	0.3%	1.5%	96.5%	(0.1%)	0.1%	0.4%	2.7%
Dallas	0.5%	0.4%	3.7%	95.3%	0.2%	0.0%	0.8%	4.6%
Denver	0.5%	0.7%	5.9%	95.6%	(0.1%)	(0.7%)	0.7%	7.4%
District of Columbia	0.4%	0.2%	5.6%	93.4%	0.2%	(1.0%)	0.1%	1.8%
Houston	0.6%	0.6%	4.8%	94.2%	0.0%	(0.3%)	1.0%	5.2%
Los Angeles	0.2%	0.1%	1.9%	96.8%	0.0%	(0.1%)	0.6%	2.7%
Miami	0.0%	0.0%	4.8%	96.3%	0.1%	0.2%	0.8%	5.0%
Minneapolis	0.3%	0.2%	3.2%	97.1%	0.1%	(0.2%)	0.6%	3.3%
New York Metro	0.3%	0.2%	13.2%	96.9%	0.1%	(0.3%)	0.4%	2.7%
Orange County	0.2%	0.0%	2.2%	97.6%	0.2%	0.3%	0.6%	3.6%
Orlando	0.3%	0.2%	2.4%	94.5%	0.1%	(0.5%)	1.0%	4.2%
Philadelphia	0.2%	0.1%	2.1%	96.9%	0.1%	0.3%	0.6%	2.9%
Phoenix	0.7%	0.3%	2.8%	95.6%	0.3%	0.6%	1.0%	3.9%
San Diego	0.1%	0.2%	1.9%	97.5%	(0.1%)	0.1%	0.0%	2.4%
San Francisco	0.4%	0.4%	3.9%	96.5%	0.0%	(0.3%)	1.9%	7.6%
San Jose	0.3%	0.2%	5.9%	97.6%	0.2%	0.0%	1.4%	8.2%
Seattle	0.6%	0.2%	5.3%	95.7%	0.3%	(0.3%)	0.8%	5.6%
Suburban Maryland	0.3%	0.0%	3.7%	96.3%	0.3%	0.0%	0.4%	2.6%
Suburban Virginia	0.6%	0.7%	4.4%	95.6%	0.0%	(0.2%)	0.3%	2.1%
Tampa-St. Petersburg	0.3%	0.2%	1.8%	95.4%	0.1%	(0.1%)	0.9%	2.9%
United States	0.4%	0.3%	3.0%	95.8%	0.0%	(0.1%)	0.6%	3.6%

\*Current quarter defined as Q1 2015

\*\*Completions highlighted in Red if above 0.25% of Stock

\*\*\*Under Construction highlighted in Red if above 1% of Stock

\*\*\*\*Green if above city's historical average since 1990

Note: Above data includes only market rate rentable apartment space

Note: The markets in the above chart are not necessarily MSAs or central cities, but are Reis-defined real estate markets.

Source: Reis, Inc.; RCLCO

# U.S. Office: Market Risk Indicator

	Net Absorption % of Stock Current* Quarter	Completions % of Stock Current* Quarter**	Under Constr % of Stock Current* Quarter***	Occupancy****	Q-o-Q Occupancy Change	Y-o-Y Occupancy Change	Q-o-Q Rent Growth	Y-o-Y Rent Growth
Atlanta	(0.0%)	0.0%	0.8%	80.2%	0.0%	0.1%	1.4%	3.0%
Austin	0.5%	0.4%	7.9%	84.0%	0.2%	(0.2%)	1.0%	3.5%
Boston	0.3%	0.0%	2.5%	86.8%	0.3%	0.3%	0.6%	3.8%
Charlotte	(0.1%)	0.0%	2.3%	83.0%	(0.1%)	0.6%	0.7%	1.7%
Chicago	0.4%	0.2%	0.9%	81.8%	0.2%	0.5%	0.9%	3.2%
Dallas	0.4%	0.0%	4.0%	77.8%	0.4%	0.8%	1.6%	5.3%
Denver	(0.6%)	0.0%	1.8%	82.3%	(0.6%)	1.1%	1.1%	4.1%
District of Columbia	(0.0%)	0.0%	1.7%	90.7%	(0.1%)	0.5%	0.5%	3.0%
Houston	0.0%	0.8%	6.3%	84.9%	(0.7%)	(0.8%)	1.0%	5.2%
Los Angeles	0.3%	0.1%	1.1%	85.0%	0.2%	0.3%	0.6%	3.4%
Miami	(0.0%)	0.0%	0.7%	84.5%	0.0%	1.1%	1.0%	3.4%
Minneapolis	0.3%	0.0%	2.2%	83.7%	0.3%	0.8%	(0.1%)	0.6%
New York Metro	(0.1%)	0.1%	1.0%	90.4%	(0.1%)	0.3%	1.9%	5.1%
Orange County	0.1%	0.0%	0.5%	83.3%	0.1%	0.1%	1.2%	4.4%
Philadelphia	0.0%	0.0%	0.8%	86.3%	0.2%	0.1%	1.1%	3.2%
Phoenix	0.3%	0.1%	1.7%	74.9%	0.3%	0.0%	0.4%	2.5%
San Diego	0.6%	0.0%	1.1%	84.8%	0.7%	1.1%	0.7%	4.0%
San Francisco	0.4%	0.0%	4.3%	88.7%	0.4%	1.6%	1.1%	6.1%
San Jose	1.2%	0.8%	6.1%	82.9%	0.6%	0.9%	2.2%	7.2%
Seattle	0.3%	0.4%	6.1%	87.5%	0.0%	1.2%	3.3%	6.4%
Suburban Maryland	0.2%	0.0%	0.4%	83.7%	0.2%	(0.6%)	0.6%	1.5%
Suburban Virginia	(0.3%)	0.0%	2.0%	82.2%	(0.3%)	(0.7%)	0.2%	1.0%
United States	0.2%	0.1%	1.7%	83.4%	0.1%	0.3%	1.0%	3.3%

\*Current quarter defined as Q1 2015

\*\*Completions highlighted in Red if above 0.25% of Stock

\*\*\*Under Construction highlighted in Red if above 1% of Stock

\*\*\*\*Green if above market's historical average since 1990

Note: Above data does not include Medical Office

Note: The markets in the above chart are not necessarily MSAs or central cities, but are Reis-defined real estate markets.

Source: Reis, Inc.; RCLCO

## U.S. Retail (N/C Centers): Market Risk Indicator

	Net Absorption % of Stock Current* Quarter	Completions % of Stock Current* Quarter**	Under Constr % of Stock Current* Quarter***	Occupancy****	Q-o-Q Occupancy Change	Y-o-Y Occupancy Change	Q-o-Q Rent Growth	Y-o-Y Rent Growth
Atlanta	0.1%	0.0%	0.0%	87.2%	0.1%	0.6%	(0.1%)	0.5%
Chicago	0.2%	0.0%	0.5%	87.6%	0.1%	0.5%	0.8%	0.9%
Dallas	0.8%	0.8%	1.6%	87.8%	0.0%	0.7%	0.3%	1.8%
Denver	(0.1%)	0.0%	0.6%	89.3%	(0.1%)	0.2%	0.5%	1.0%
Houston	0.6%	0.3%	1.0%	88.7%	0.3%	0.5%	0.8%	3.1%
Los Angeles	0.0%	0.0%	0.8%	94.1%	0.0%	0.2%	1.1%	3.6%
Miami	1.2%	1.2%	0.0%	93.3%	0.1%	0.4%	0.5%	4.0%
Minneapolis	0.2%	0.0%	0.8%	88.4%	0.1%	(0.4%)	0.1%	1.7%
Orange County	0.3%	0.0%	0.5%	95.1%	0.3%	0.5%	1.0%	2.6%
Orlando	0.2%	0.2%	0.2%	88.4%	0.1%	0.8%	0.2%	2.1%
Phoenix	0.0%	0.1%	0.0%	89.7%	(0.1%)	0.2%	0.4%	2.1%
San Diego	0.1%	0.0%	0.0%	93.9%	0.1%	0.2%	0.1%	2.9%
Seattle	0.2%	0.0%	0.0%	93.5%	0.3%	0.8%	0.7%	1.4%
United States	0.2%	0.1%	0.8%	89.9%	0.1%	0.3%	0.5%	2.0%

\*Current quarter defined as Q1 2015

\*\*Completions highlighted in Red if above 0.25% of Stock

\*\*\*Under Construction highlighted in Red if above 1% of Stock

\*\*\*\*Green if above city's historical average since 1990

Note: Above data includes only Neighborhood/Community centers; does NOT include power centers, regional malls, or lifestyle retail centers

Note: The markets in the above chart are not necessarily MSAs or central cities, but are Reis-defined real estate markets.

Source: Reis, Inc.; RCLCO



# U.S. Warehouse: Market Risk Indicator

	Net Absorption % of Stock Current* Year	Completions % of Stock Current* Year**	Under Constr % of Stock Current***	Occupancy****	Q-o-Q Occupancy Change	Y-o-Y Occupancy Change	Q-o-Q Rent Growth	Y-o-Y Rent Growth
Atlanta	1.3%	0.8%	1.7%	86.2%	0.3%	0.7%	1.0%	3.6%
Baltimore	3.1%	2.8%	1.3%	90.3%	0.3%	1.0%	0.6%	1.7%
Boston	0.8%	0.2%	0.0%	89.7%	0.2%	0.5%	0.4%	0.9%
Central New Jersey	2.4%	2.4%	0.8%	89.5%	0.2%	0.2%	0.4%	1.3%
Chicago	1.9%	1.0%	0.8%	86.9%	0.1%	0.7%	0.8%	3.1%
Dallas	3.3%	4.1%	3.4%	86.4%	0.7%	0.8%	0.8%	2.7%
Denver	0.6%	0.6%	0.6%	90.3%	0.1%	0.8%	0.5%	2.3%
Fort Lauderdale	0.8%	0.4%	1.1%	90.2%	(0.1%)	(0.2%)	0.2%	1.4%
Houston	2.2%	3.0%	2.0%	91.4%	0.0%	0.4%	1.1%	4.4%
Indianapolis	1.8%	2.7%	0.4%	88.5%	0.1%	0.2%	0.0%	0.6%
Los Angeles	1.2%	0.2%	0.3%	93.5%	0.2%	0.4%	0.5%	2.7%
Memphis	0.7%	0.8%	0.0%	83.9%	(0.2%)	0.1%	0.4%	2.7%
Miami	1.7%	1.5%	0.3%	92.8%	(0.4%)	0.2%	0.3%	1.6%
Northern New Jersey	1.0%	0.8%	0.3%	88.3%	0.2%	0.4%	0.4%	1.0%
Oakland-East Bay	1.2%	1.3%	1.6%	89.7%	(0.2%)	0.8%	0.2%	2.4%
Orange County	0.1%	1.0%	0.1%	90.7%	0.3%	0.9%	0.5%	1.6%
Phoenix	1.5%	1.5%	0.7%	83.1%	0.2%	(0.4%)	0.8%	2.5%
San Bernardino/Riverside	2.1%	3.2%	2.2%	88.8%	(0.5%)	(0.2%)	0.8%	4.0%
San Diego	1.6%	0.4%	0.0%	90.2%	0.4%	1.1%	0.6%	0.9%
San Francisco	0.7%	0.0%	0.0%	92.3%	0.2%	1.5%	0.3%	1.5%
Seattle	0.6%	0.5%	2.2%	91.3%	0.2%	0.9%	0.5%	1.6%
United States	1.4%	1.2%	0.5%	88.8%	0.1%	0.4%	0.7%	2.1%

\*Current quarter defined as Q1 2015; current year defined as 2014.

\*\*Completions highlighted in Red if above 1% of Stock

\*\*\*Under Construction highlighted in Red if above 1% of Stock

\*\*\*\*Green if above city's historical average since 1990

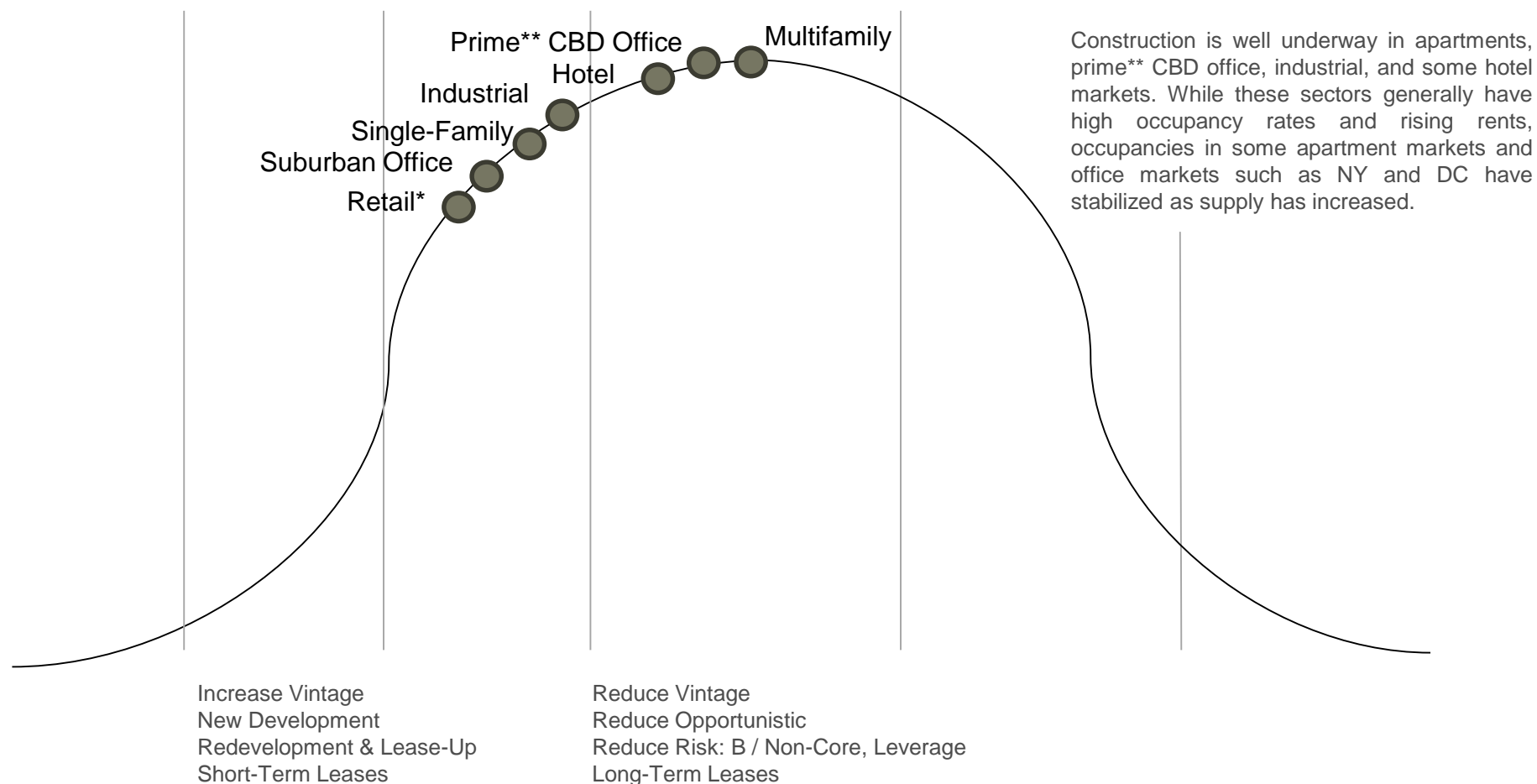
Note: Above data includes only Warehouse's; does NOT include other industrial buildings

Note: The markets in the above chart are not necessarily MSAs or central cities, but are Reis-defined real estate markets.

Source: Reis, Inc.; CoStar; RCLCO

# The 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

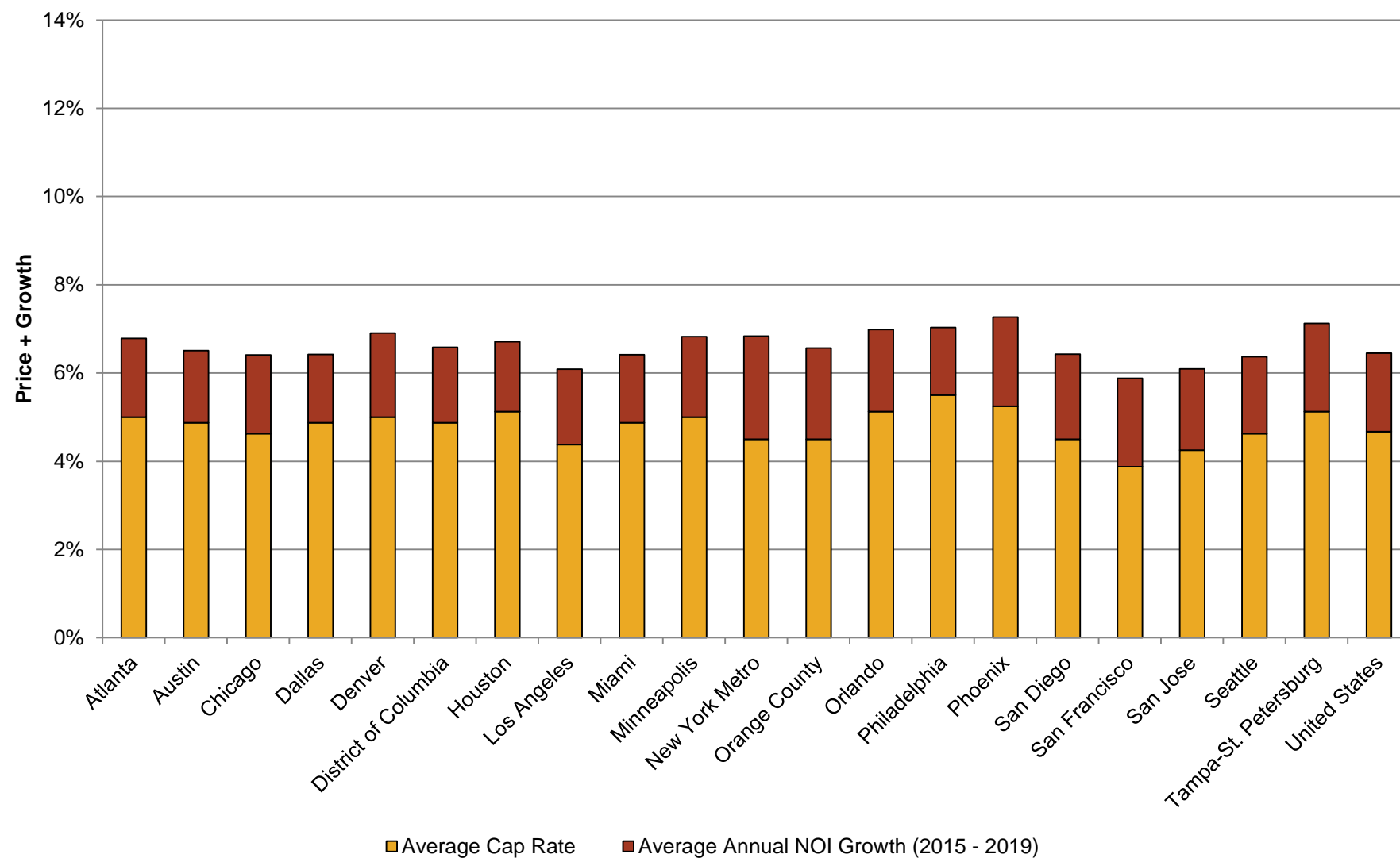


\*neighborhood & community centers

\*\*includes New York, Washington, D.C., San Francisco, Seattle, Los Angeles, and Boston

Source: RCLCO

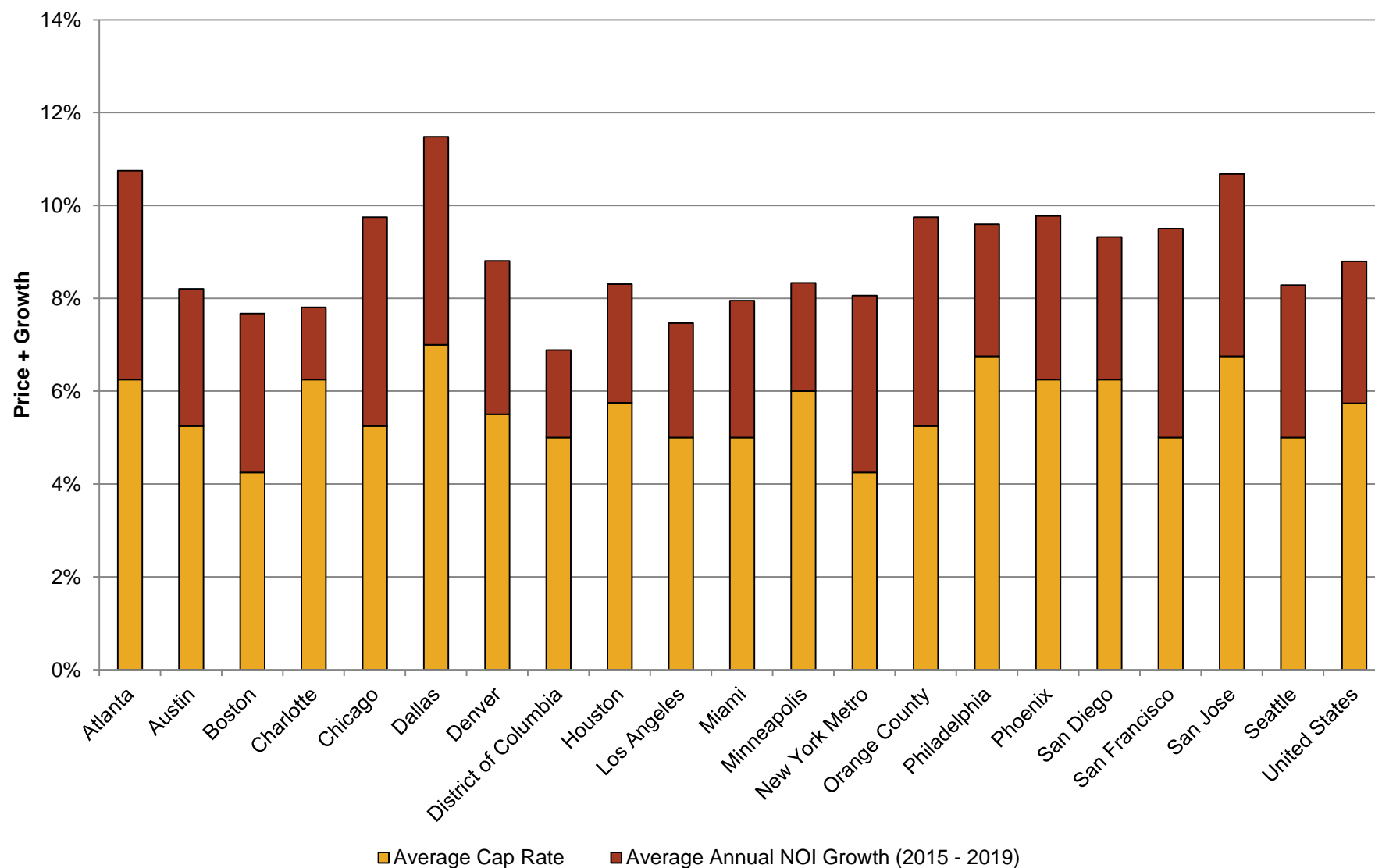
## Apartment Price + Growth



Source: Reis, Inc.; CBRE; RCLCO

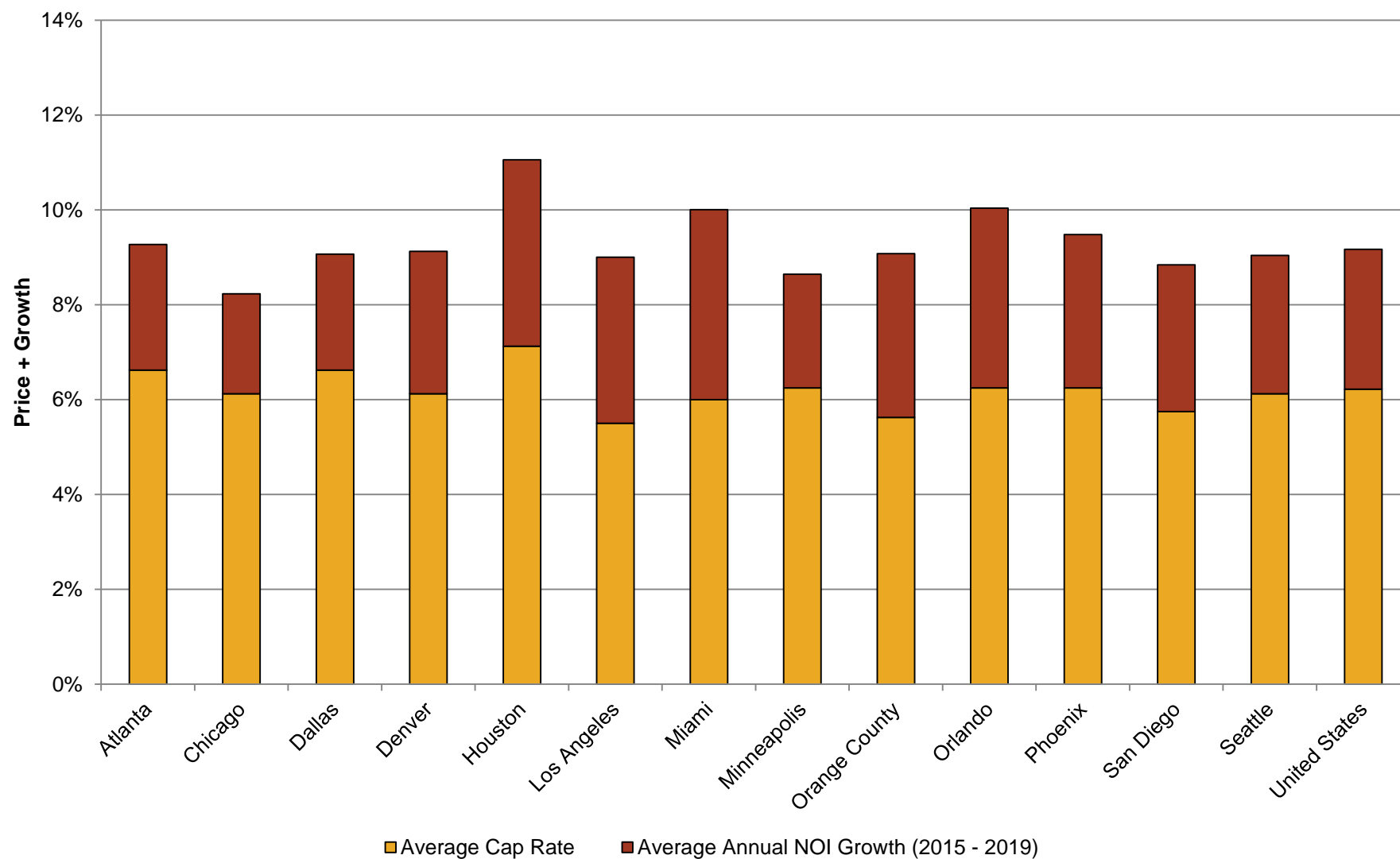


## Class A Office Price + Growth



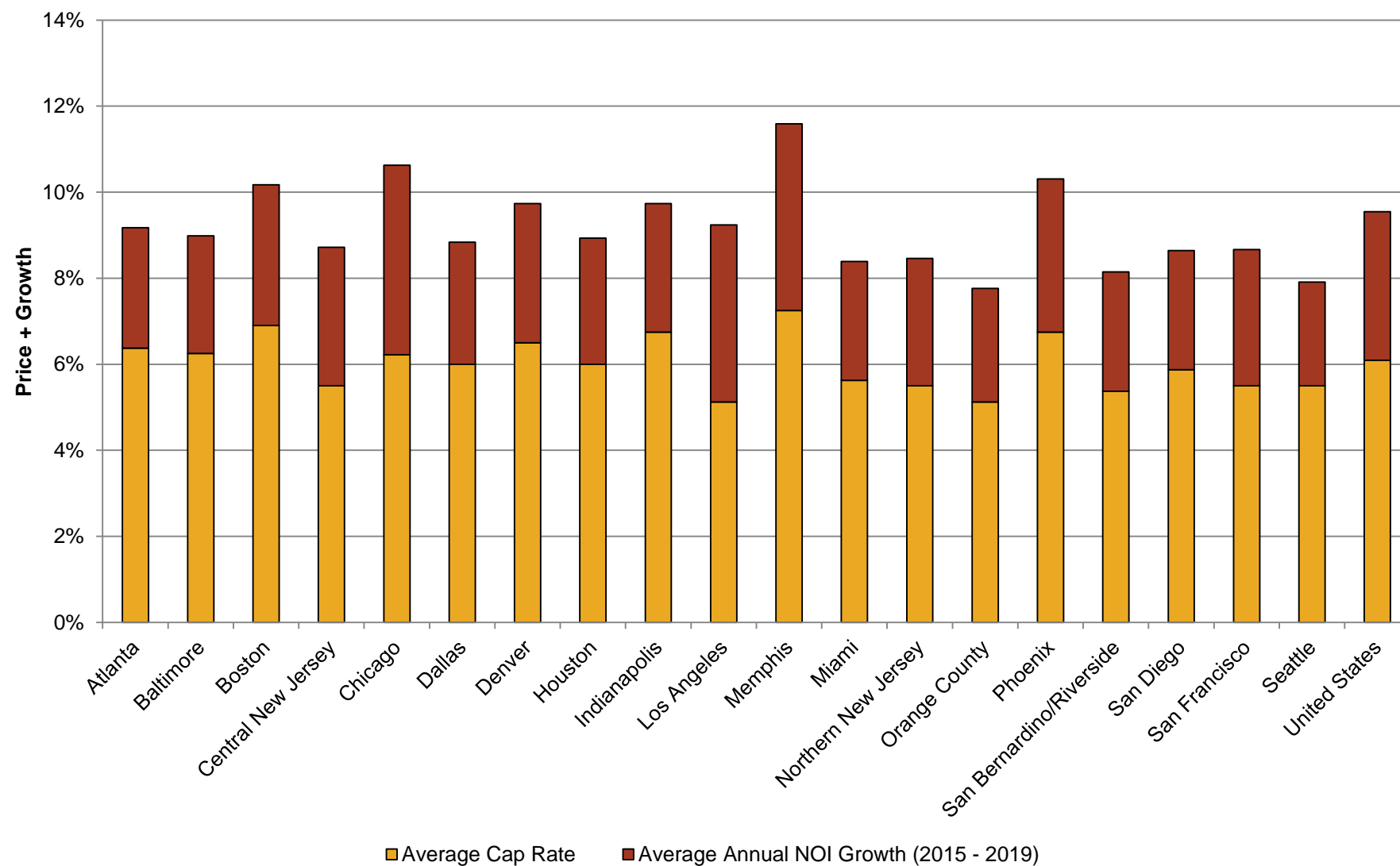
Source: Reis, Inc.; CBRE; RCLCO

## N/C Retail Price + Growth



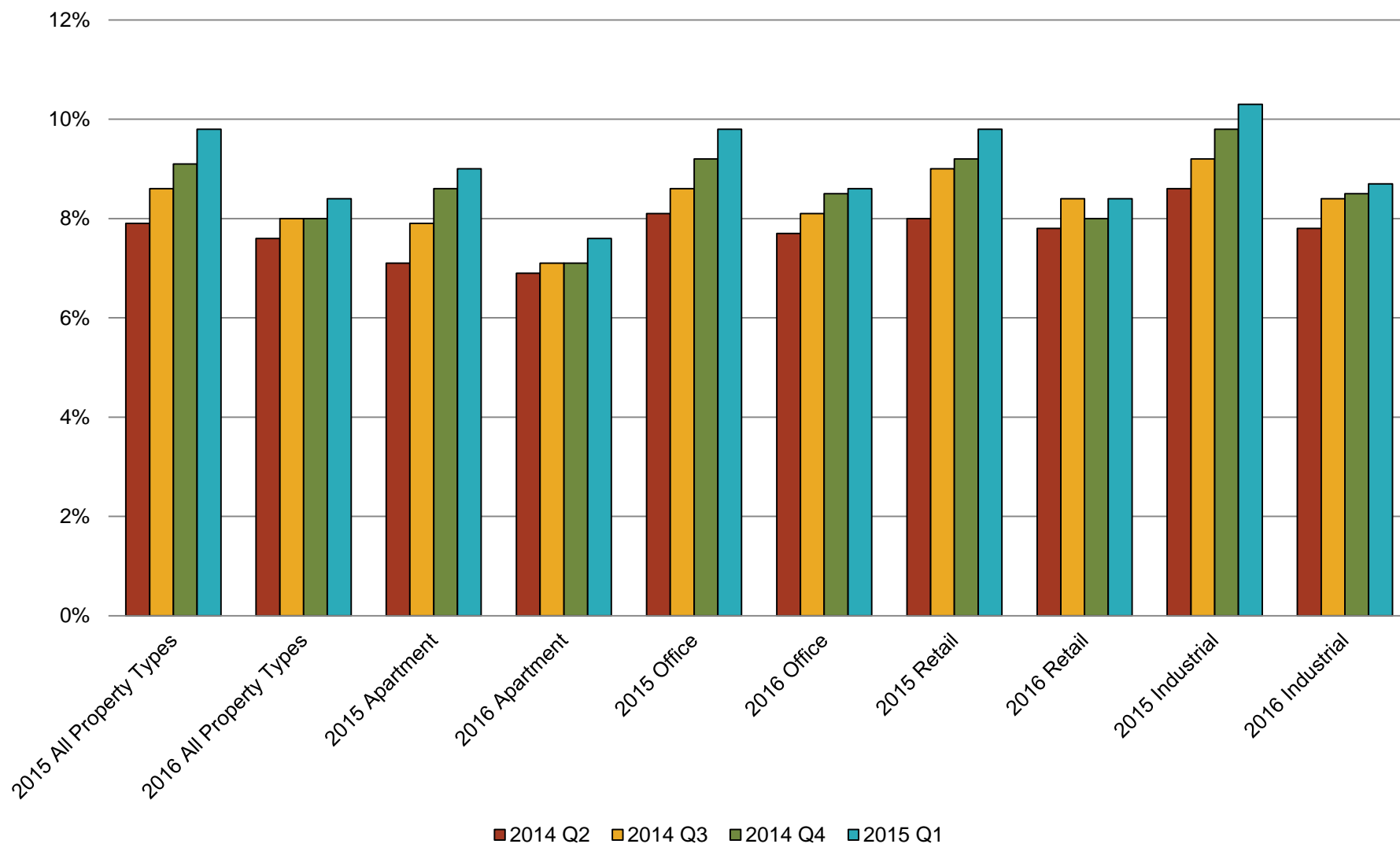
Source: Reis, Inc.; CBRE; RCLCO

## Industrial Apartment Price + Growth



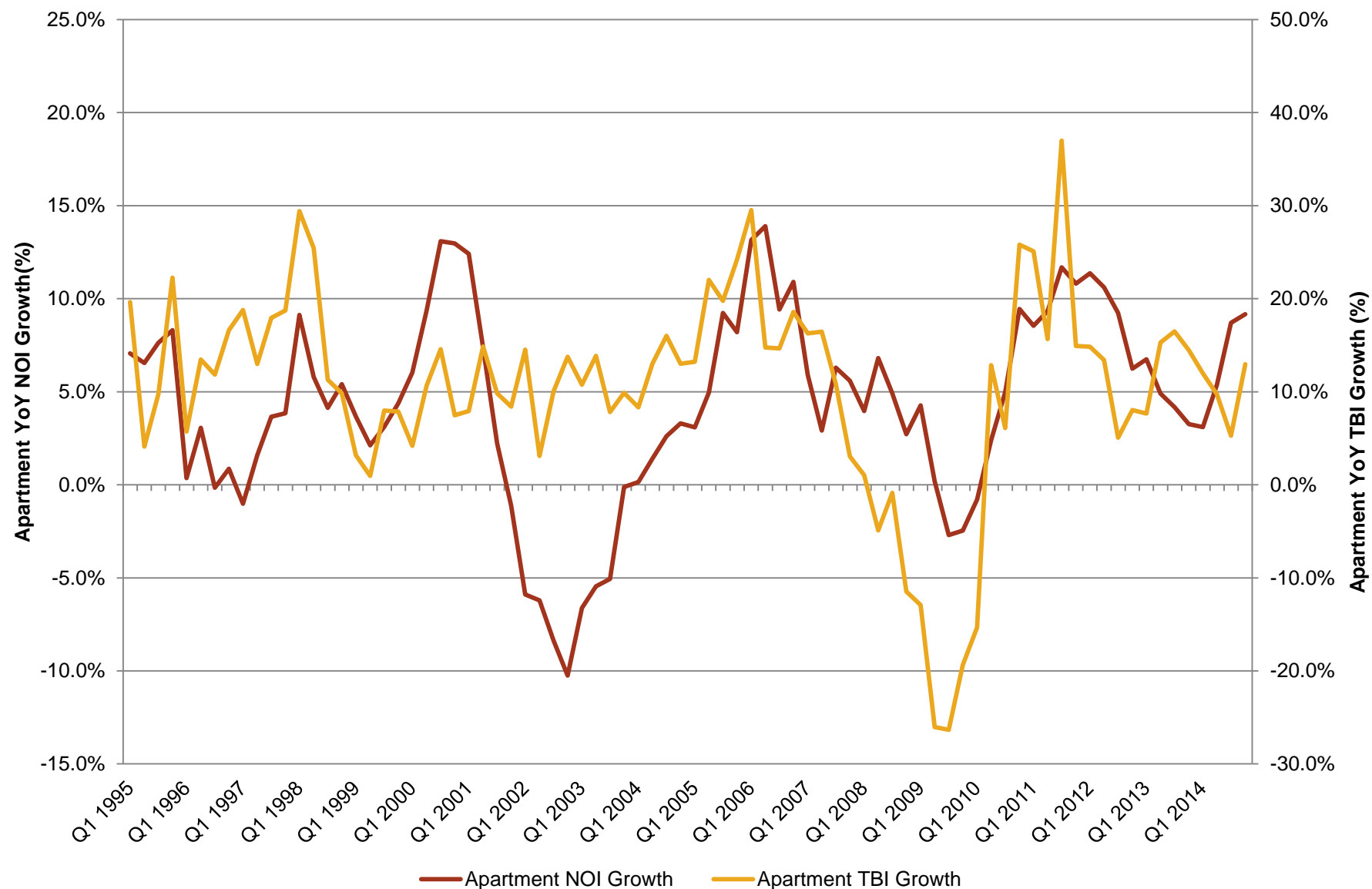
Source: Reis, Inc.; CBRE; RCLCO

## PREA NCREIF Projections



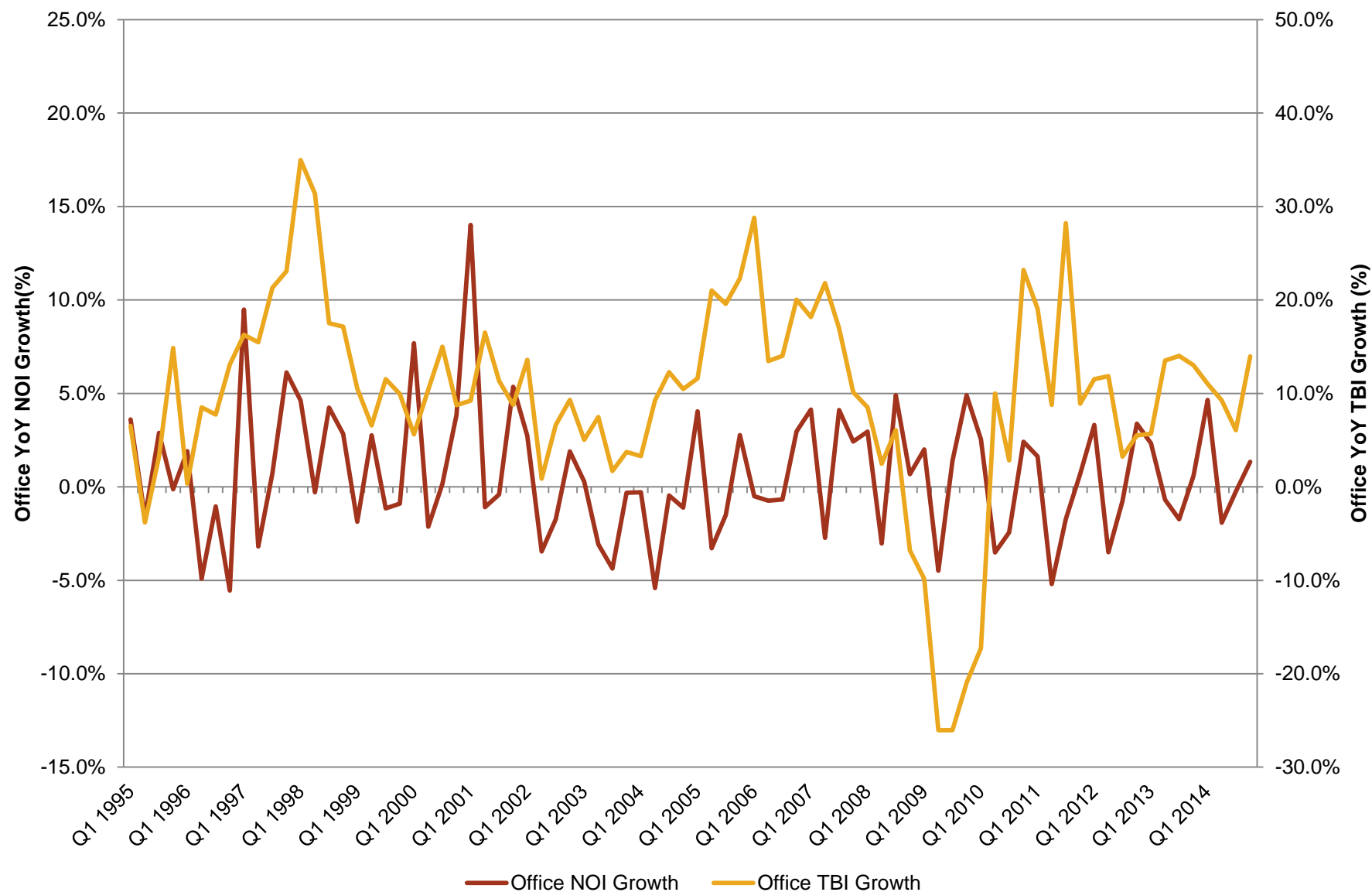
Source: Reis, Inc.; CBRE; RCLCO

## Apartment NOI Growth; Apartment TBI Growth



Source: NCREIF; RCLCO

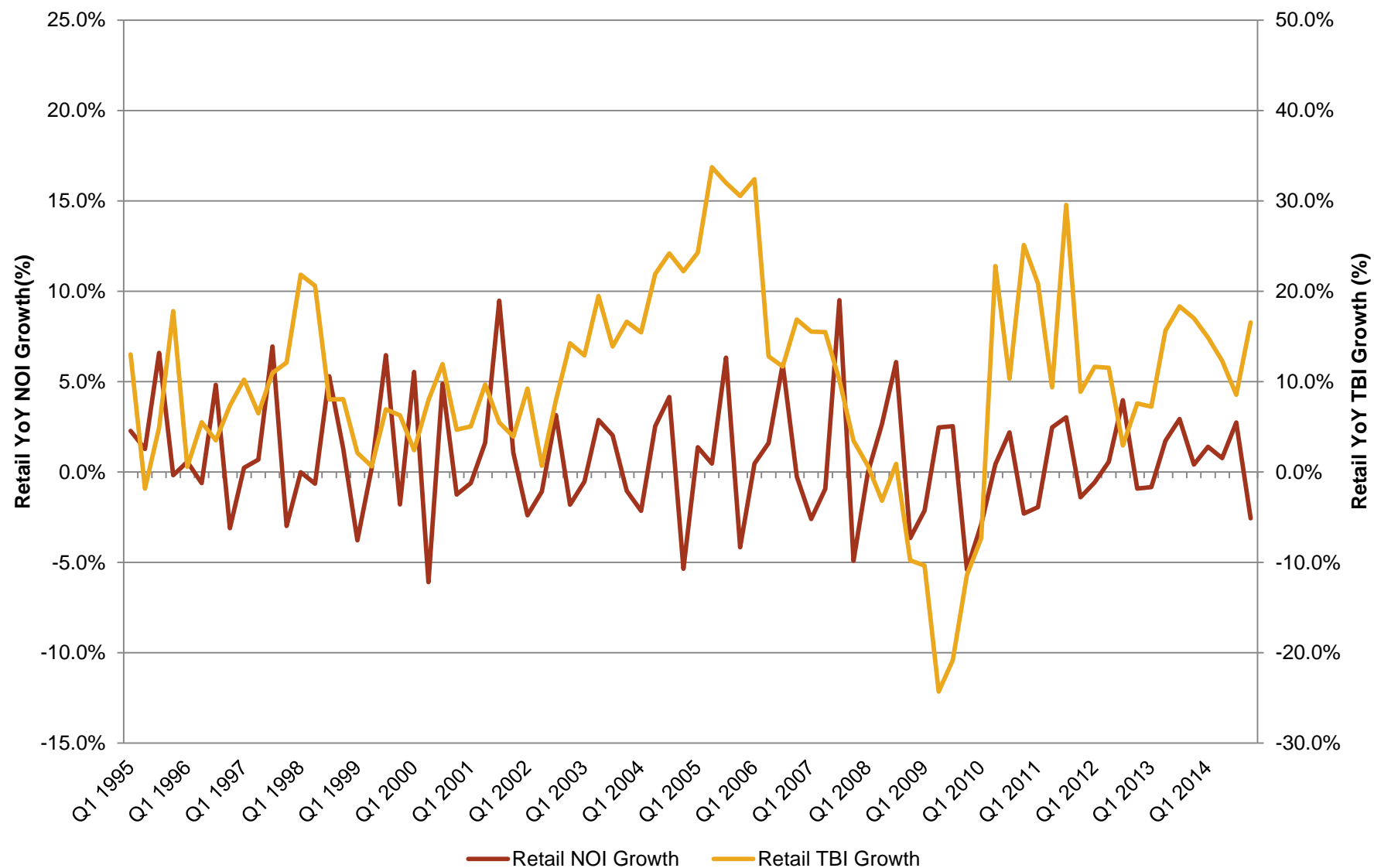
## Office NOI Growth; Office TBI Growth



Source: NCREIF; RCLCO

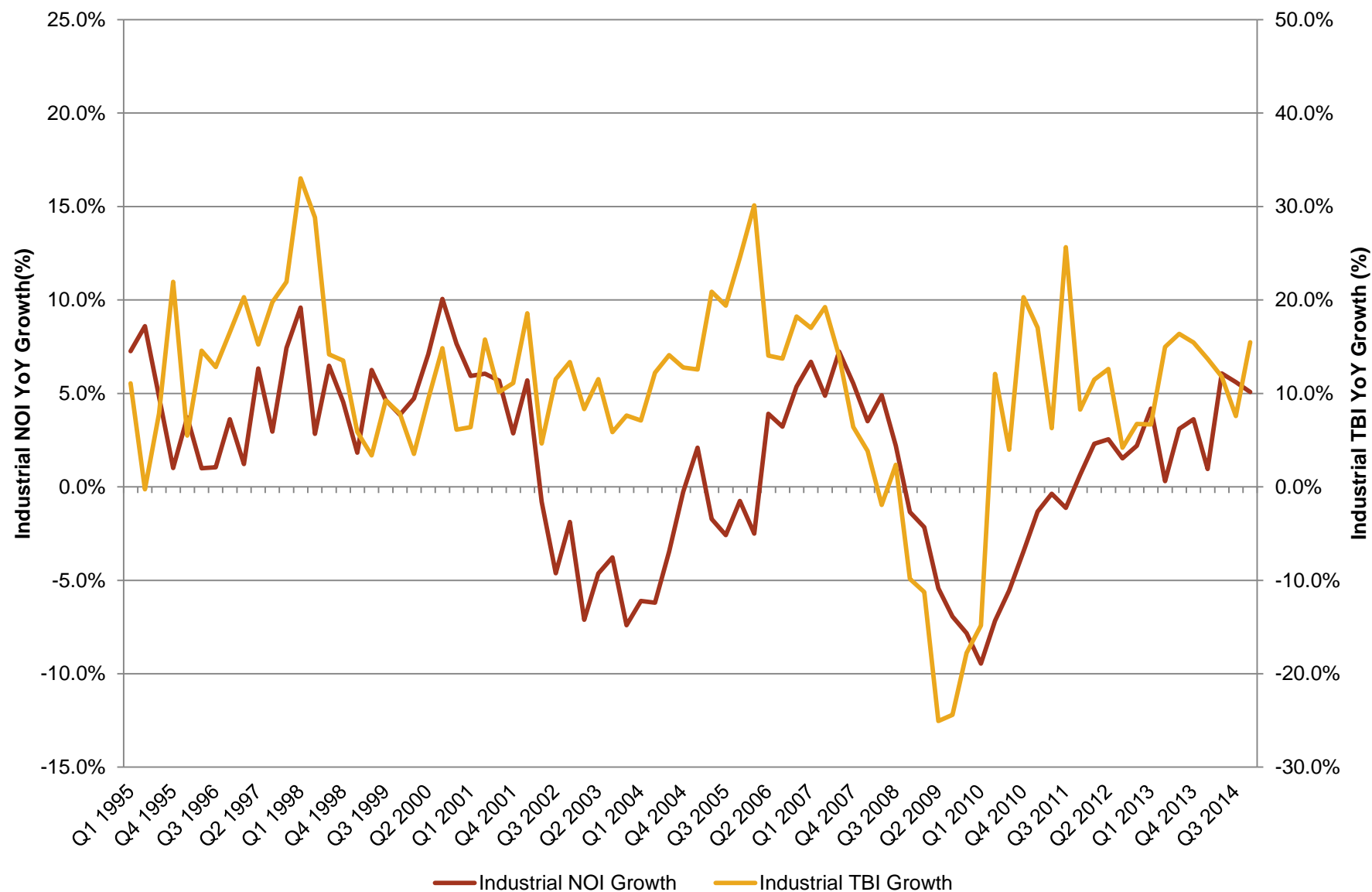


## Retail NOI Growth; Retail TBI Growth



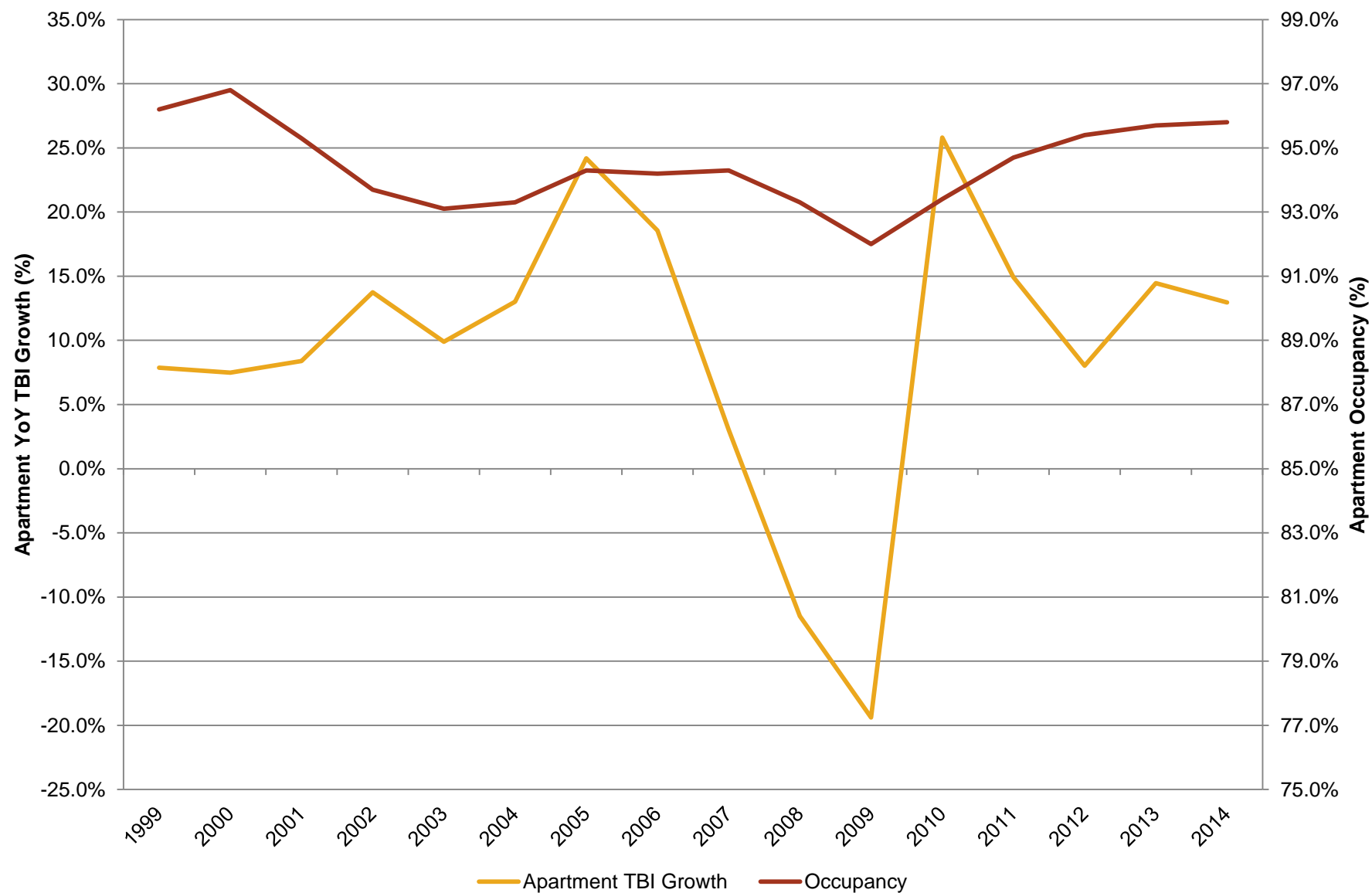
Source: NCREIF; RCLCO

# Industrial NOI Growth; Industrial TBI Growth



Source: NCREIF; RCLCO

## Apartment Occupancy Growth Begins to Level Off



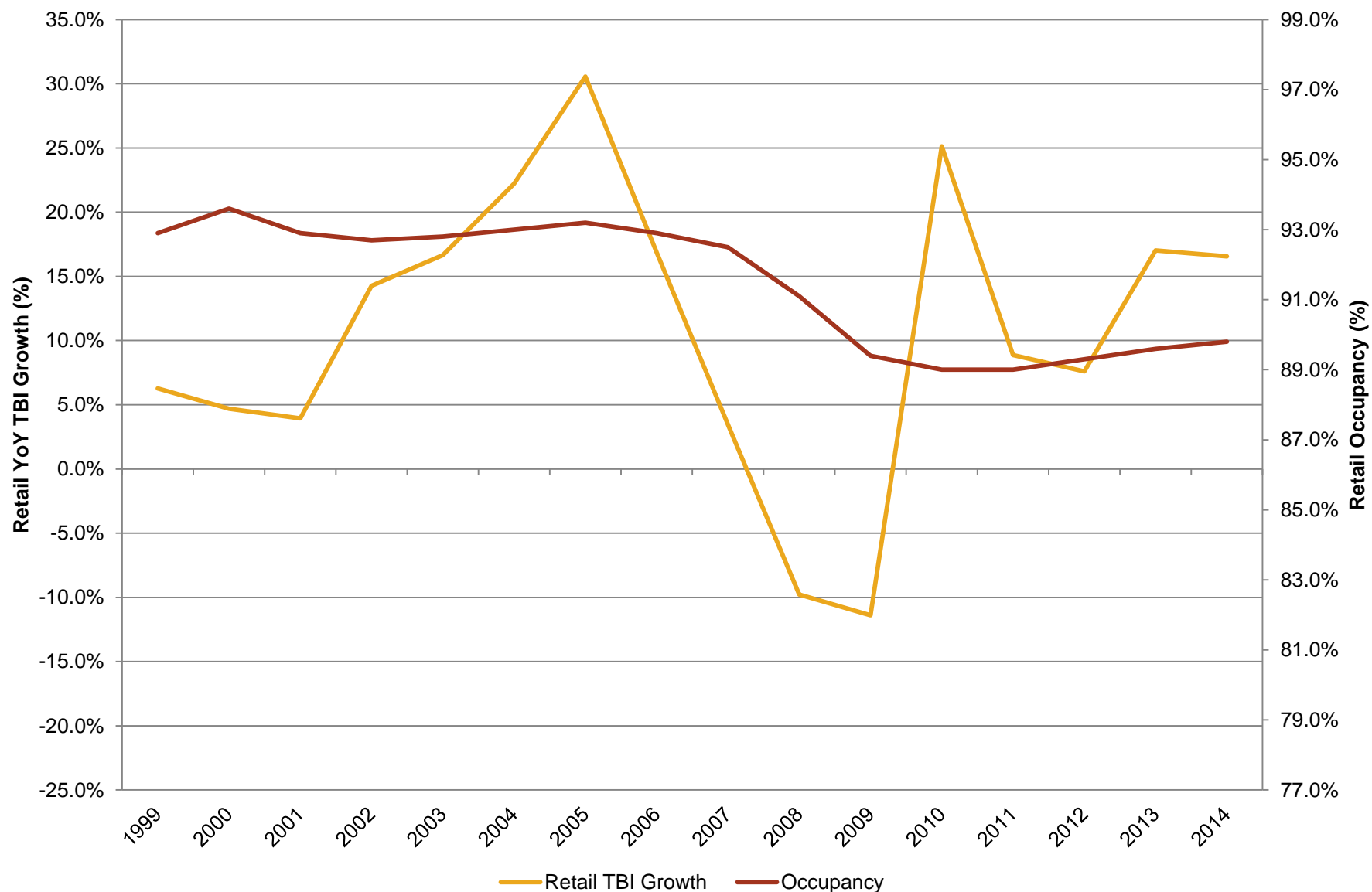
Source: Reis, Inc.; NCREIF; RCLCO

## Overall Office Occupancy Rates Slow to Recover



Source: Reis, Inc.; NCREIF; RCLCO

## Retail Occupancy Continues to Increase Slowly



Source: Reis, Inc.; NCREIF; RCLCO

# Industrial Occupancy Continues to Increase



Source: Reis, Inc.; NCREIF; RCLCO



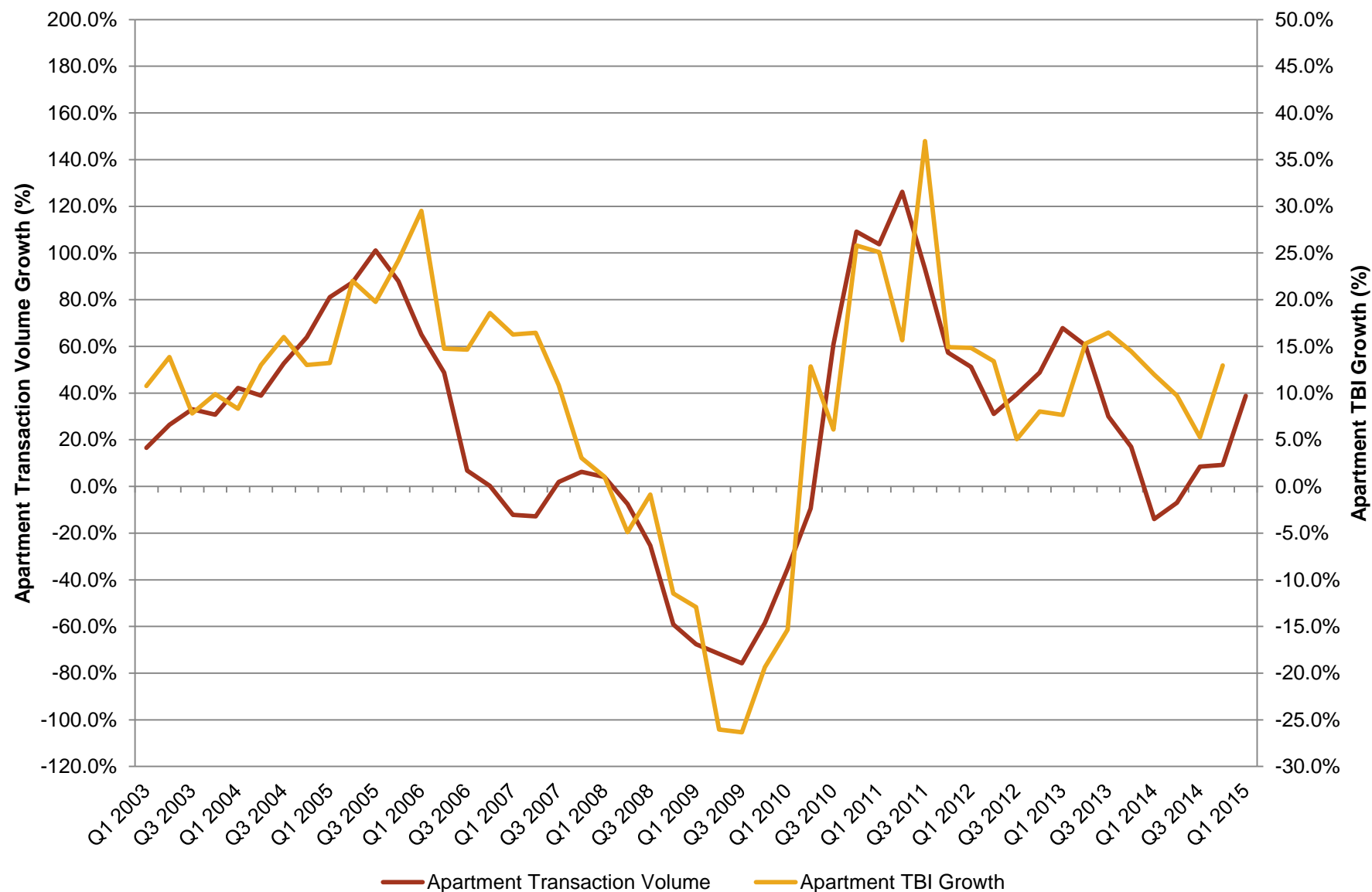
## Apartment Construction Cost Growth Slowing With Rental Rates



*NOTE: While construction cost and apartment rent figures in the above graph reflect the situation in the Seattle MSA, we believe that they adequately reflect the situation in the U.S. apartment market as a whole.*

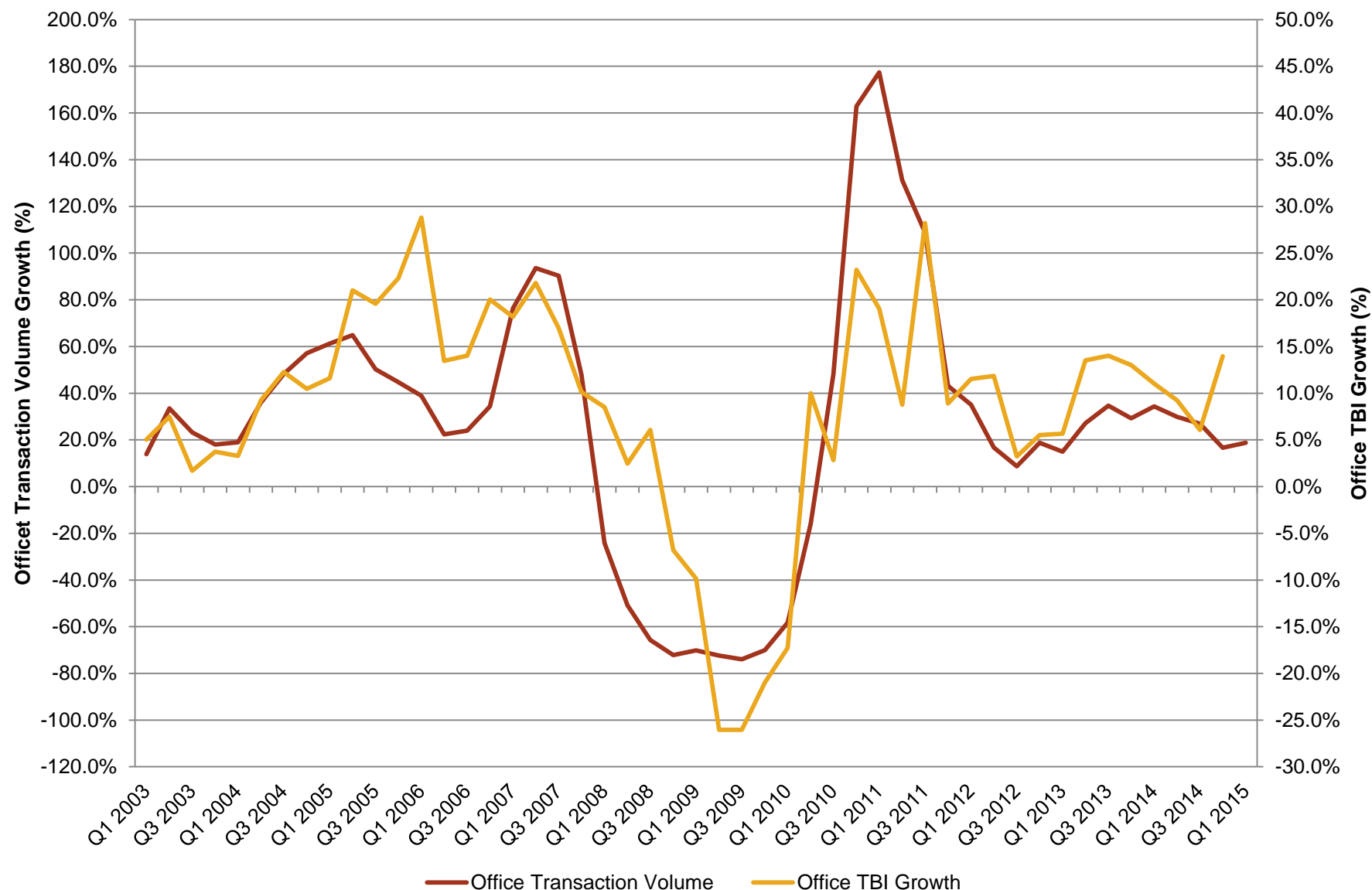
*Source: Reis, Inc.; NCREIF; Marshall & Swift RCLCO*

# Apartment Transaction Volume Growth; Apartment TBI Growth



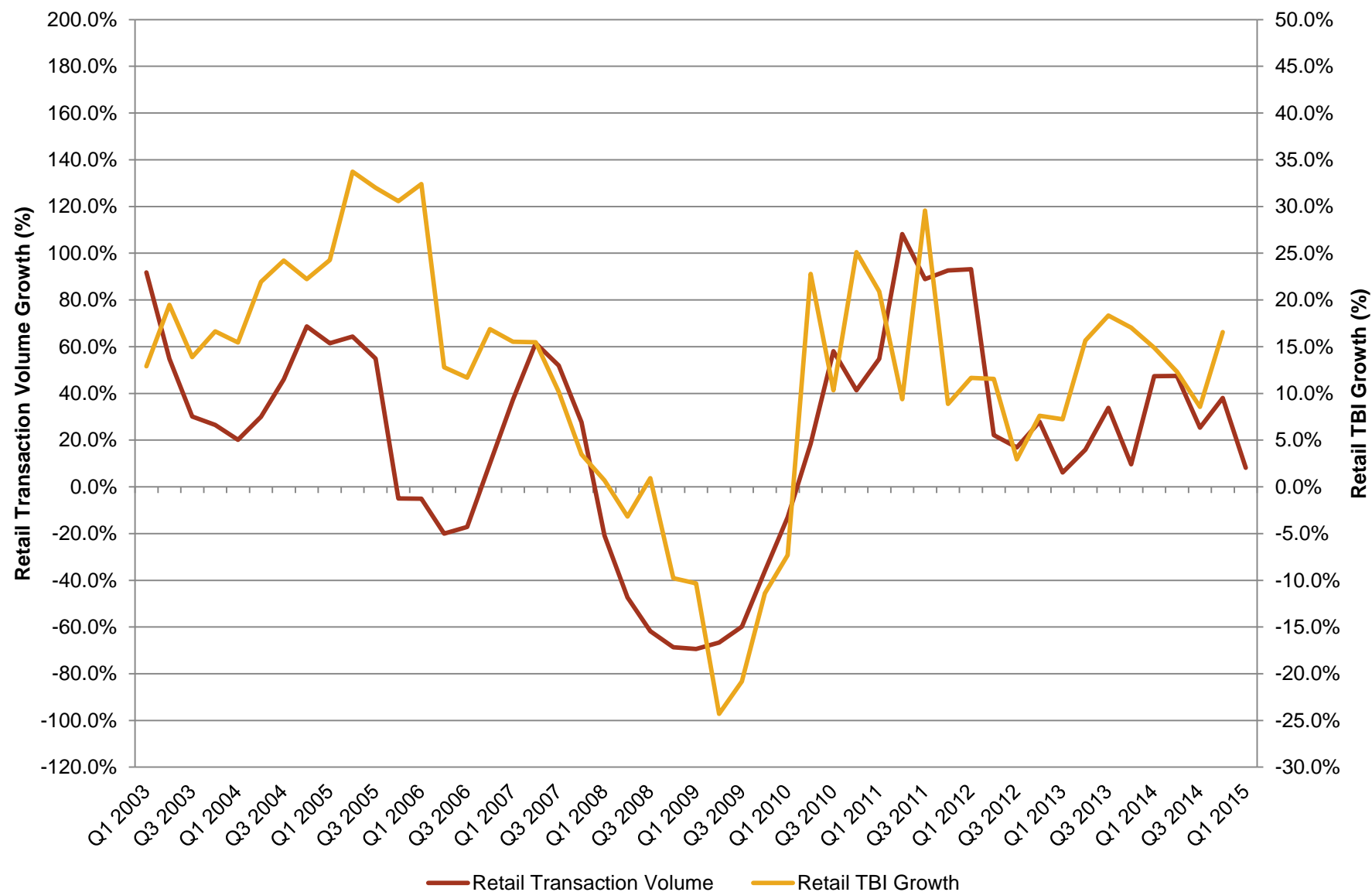
Source: RCA; NCREIF; RCLCO

# Office Transaction Volume Growth; Office TBI Growth



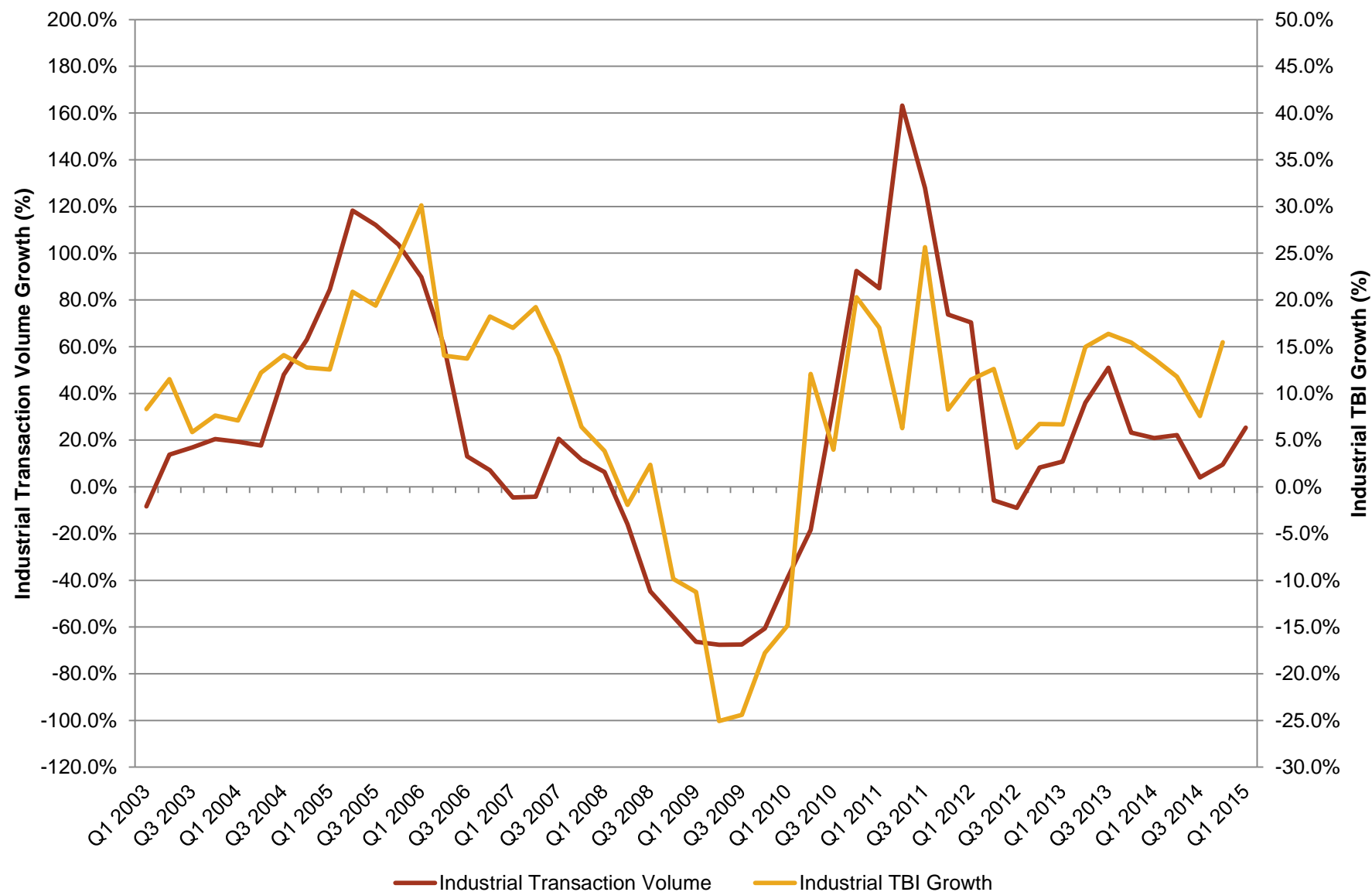
Source: RCA; NCREIF; RCLCO

## Retail Transaction Volume Growth; Retail TBI Growth



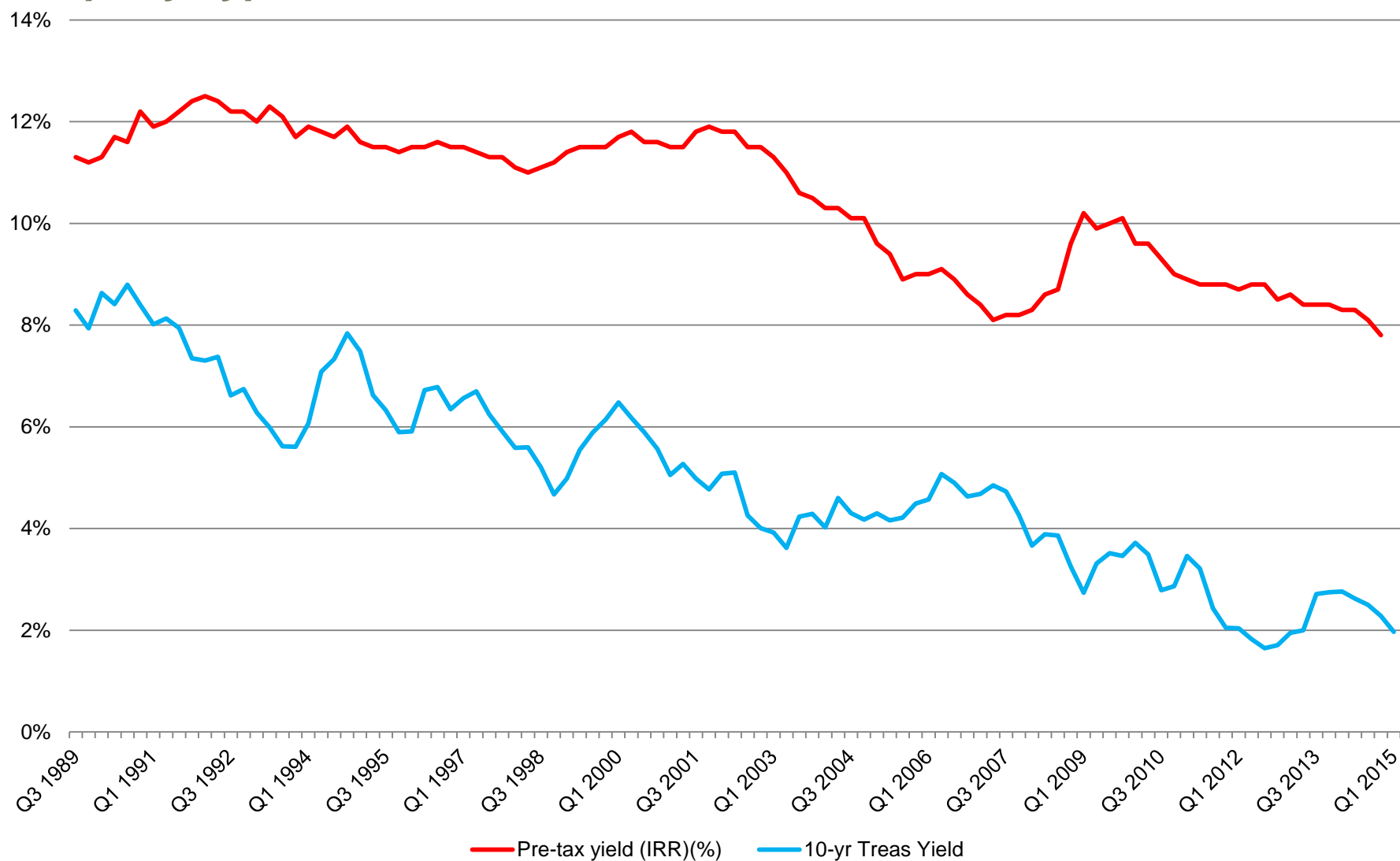
Source: RCA; NCREIF; RCLCO

# Industrial Transaction Volume Growth; Industrial TBI Growth



Source: RCA; NCREIF; RCLCO

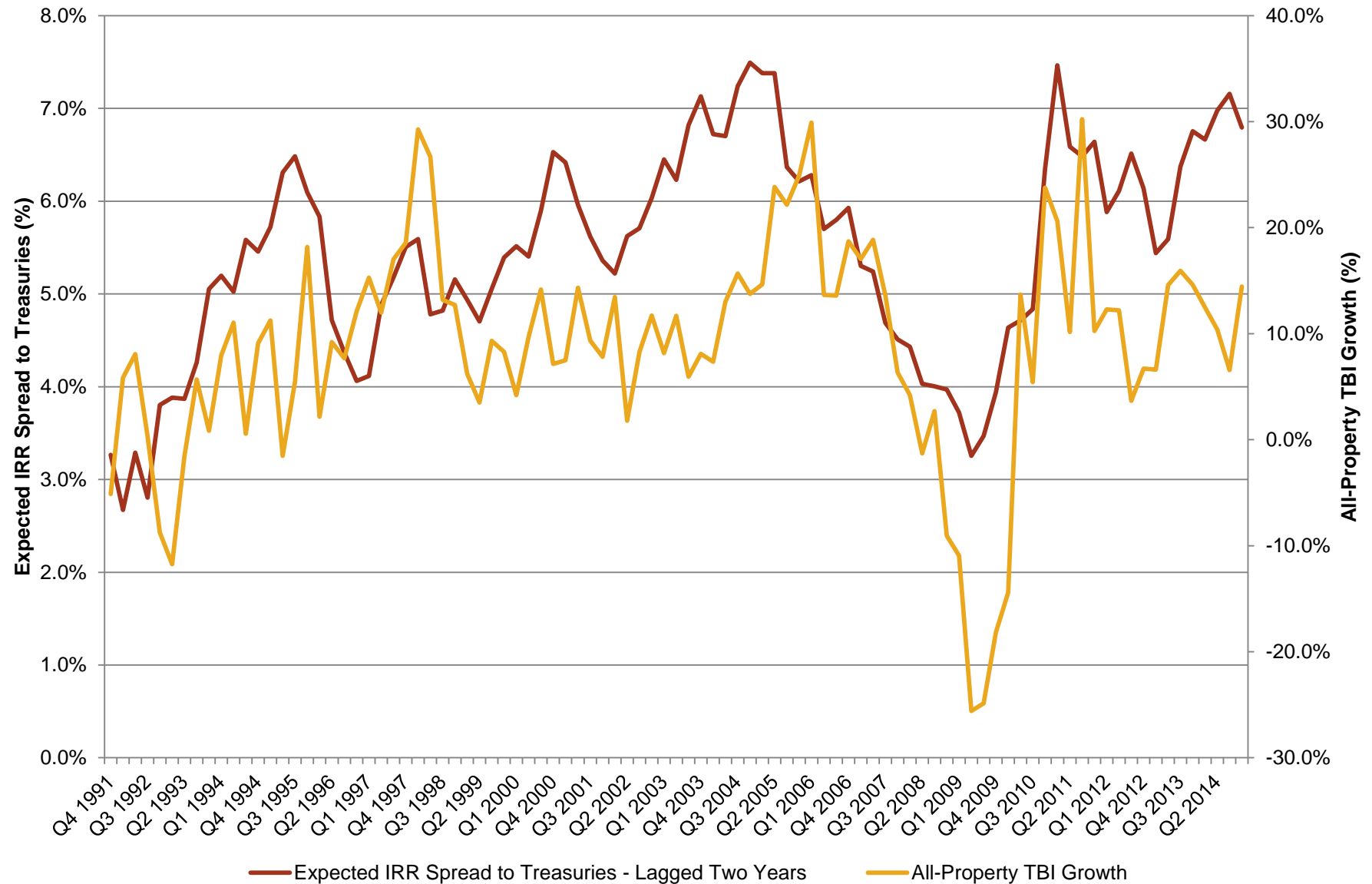
# Expected IRR and 10 Year Treasury Yields, 1989 – 2015 Q1, All Property Types



Source: RERC; Federal Reserve; RCLCO



## Expected IRR Spread to 10 Year Treasury Yields – Lagged Two Years; NPI and TPI Index Growth



Source: RERC; Federal Reserve; NCREIF; RCLCO

## Historical US Cap Rates; RCLCO Regression Estimated Cap Rate



Source: Moody's Analytics; RCA; Federal Reserve; BLS; RCLCO

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