



FALL CONFERENCE 2026

Walt Disney World Swan – Orlando, FL
October 13-14





RESEARCH DAY 1

1. Welcome & Intro to Incoming Vice Chairs
2. Thesis Driven (Brad Hargraves)

Break

3. JLL Transparency Index (Lauro Ferroni)
4. Research Survey (Brad Doremus)

Session Code: Research101326

WELCOME NEW VICE-CHAIRS!

YASMINE KAMARUDDIN



MATT BIAGI





RESEARCH
DAY 2 AM

1. Economic Recap (Ryan Sweet)
2. Senior Housing (Caroline Clapp)
3. Returns Drivers (Gleb Nechayev)

Session Code: Research101426

POLL QUESTIONS

What will the 10yr treasury be on Dec 31?

- < 4.5%
- 4.5%-5%
- 5%-5.5%
- 5.5%-6.0%
- > 6.0%

What will the price of oil (WTI Crude) be on Dec 31?

- Below \$60
- \$60-80
- \$80-90
- \$90-100
- \$100-110
- \$110+

POLL QUESTIONS

On average across property types, where will cap rates be in 2 years' time?

- Lower
- At current levels
- 0-50 bps higher
- 51-100 bps higher
- 100+ bps higher

What property type in the NCREIF Property Index will record the strongest total return over the next 5 years?

- Apartment
- Industrial
- Office
- Retail

NCREIF White Paper

Investing in Senior Housing

October 2026

Topics

- Industry History & Overview
- Market Penetration and Demand Drivers
- Inventory and Construction
- Operating Economics
- Investment & Financing Characteristics
- Industry Outlook

Additions from Spring Meeting

- Active adult data
- Property definitions and resident profiles
- Market penetration rates
- Common area ratios by community type
- CCRC / LPC data
- Volatility
- Canadian cap rates
- Investment Risks

Active Adult (AA) Definition

Age-eligible, market-rate, multifamily rental properties focused on enhanced lifestyle programming without providing meals

Active Adult (AA) Residents

- Profile: Singles and couples age upper 60s to early 70s seeking lifestyle, amenities, and maintenance-free convenience from downsizing
- Decision to Move: Made by resident
- Primary Payment: Resident income and monetized assets
- Average Length of Stay: 2.9 years but can see longer stays of 6-9 years





Avenida Carrollton
Active Adult Hybrid of Villas and Flats

Independent Living (IL) Definition

The part or section of a property that provides independent living services, or Instrumental Activities of Daily Living (IADLs).

As part of the monthly fee, access to meals and other services, such as housekeeping, transportation, and social and recreational activities, is provided to residents.

Independent Living (IL) Residents

- Profile: Relatively healthy 83-year-old widowed female seeking lifestyle and convenience
- Decision to Move: Made by resident
- Primary Payment: Resident income and monetized assets
- Median Length of Stay: 2.1 years





Broadview Purchase College
Independent Living Unit

Assisted Living (AL) Definition

The part or section of a property that provides supportive care from trained employees to residents who are unable to live independently and require assistance with Activities of Daily Living (ADLs).

Assisted living residences, not including memory care, typically have state licensure requirements for the delivery of assisted living services.

Assisted Living (AL) Residents

- Profile: 85-year-old widowed female requiring assistance with two ADLs
- Decision to Move: Made by residents and their adult children and often need-driven or event-driven
- Primary Payment: Resident income and monetized assets and may include financial assistance from adult children
- Median Length of Stay: 2.2 years





Atria Senior Living
Assisted Living Dining

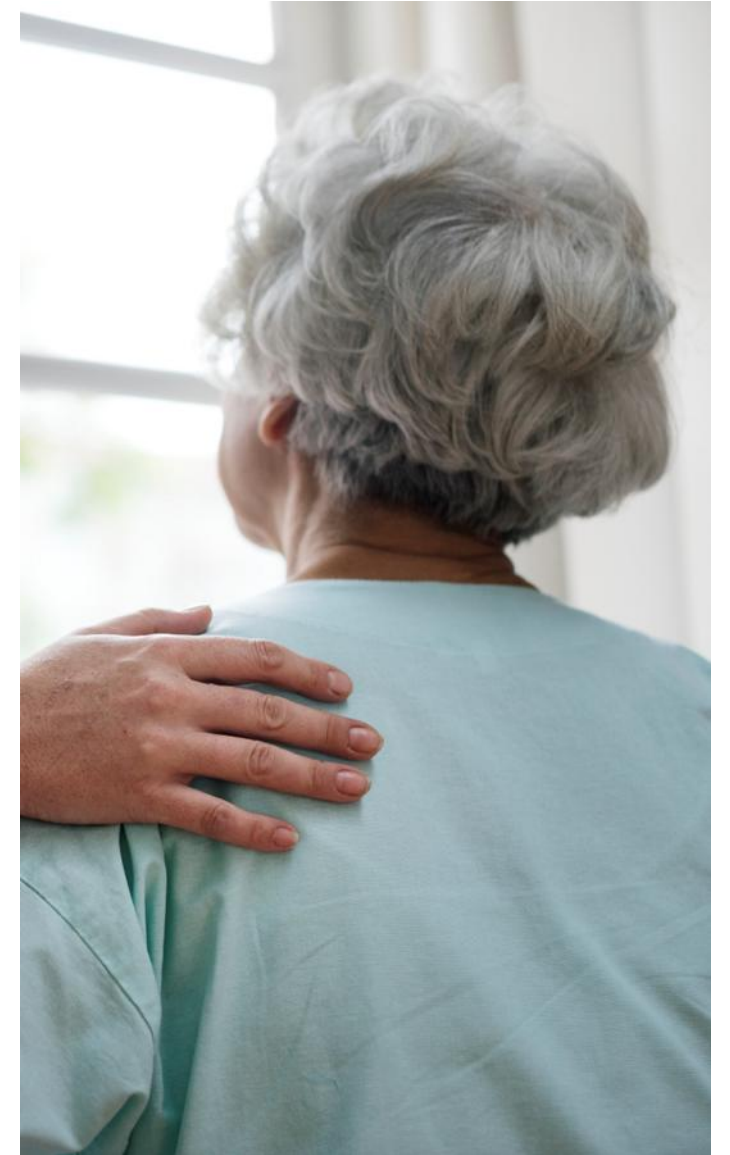
Memory Care (MC) Definition

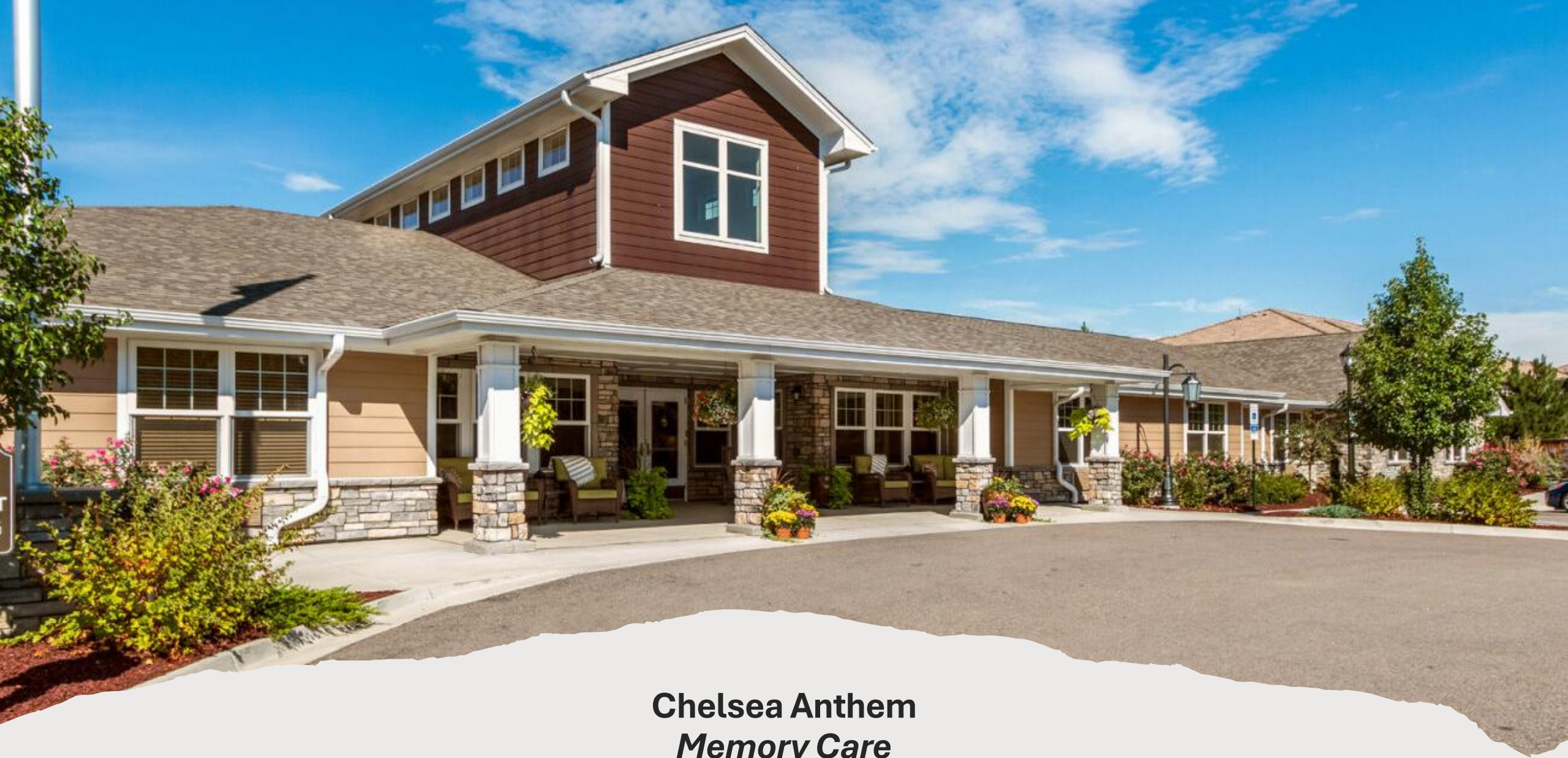
The part or section of a property that provides services to persons with Alzheimer's disease or other forms of dementia.

These are generally separate or secured areas, with specific programming for persons with memory impairment in addition to services provided for persons in assisted living.

Memory Care (MC) Residents

- Profile: Age 75 and older and require two or more ADLs and beginning to suffer from episodes of memory loss or severe confusion that threatens safety
- Decision to Move: Made by family members and staff to maintain resident safety and care
- Primary Payment: Resident income and monetized assets and may include financial assistance from adult children
- Median Length of Stay: 1.5 years





Chelsea Anthem
Memory Care

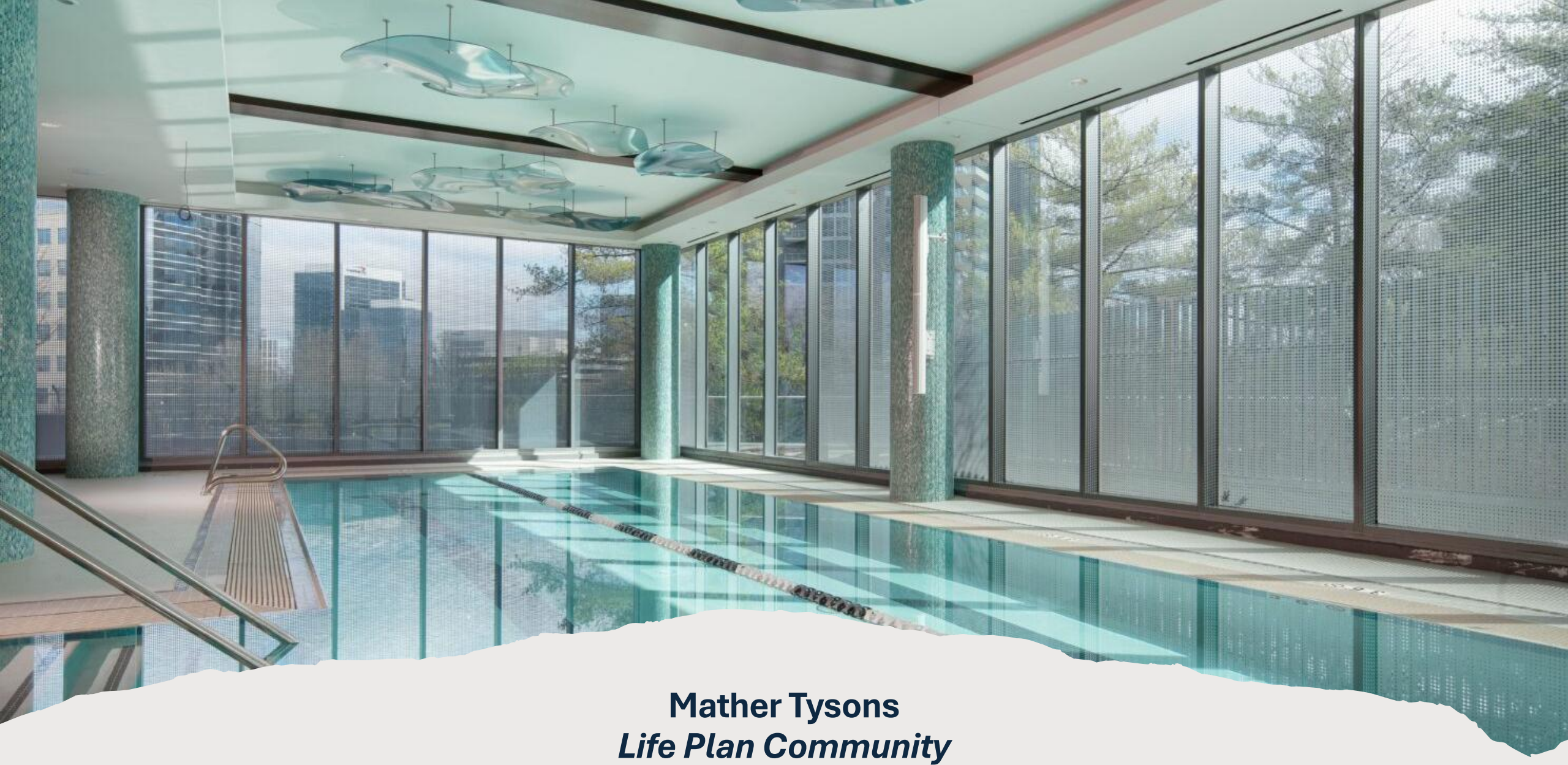
Continuing Care Retirement Communities (CCRCs) or Life Plan Communities (LPCs)

Age-restricted properties that offer at least independent living and nursing care and may include a full continuum of care including assisted living, memory care, and other supportive services to residents all on one campus.

Continuing Care Retirement Communities (CCRCs) or Life Plan Communities (LPCs)

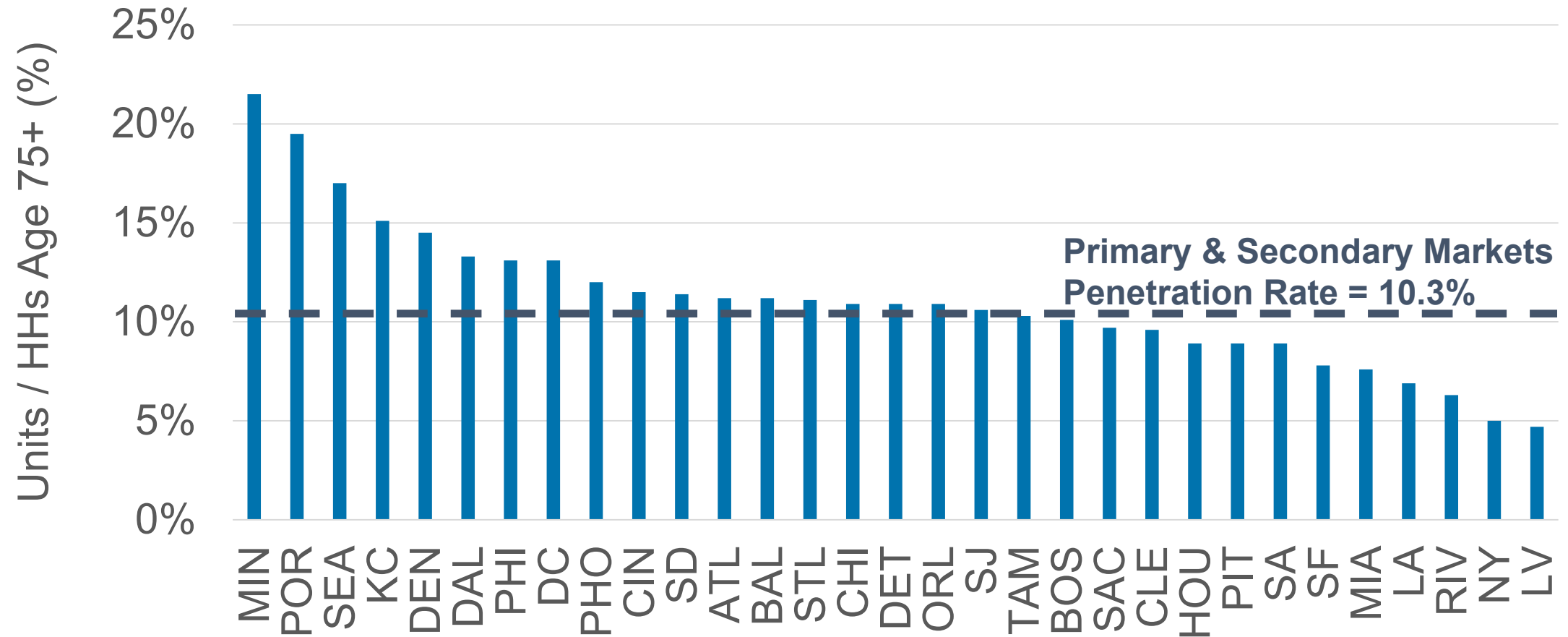
- Resident Profile: IL customer seeking hospitality-style amenities and services with eye toward future care needs
- Decision to Move: Made by resident
- Primary Payment: Resident income and monetized assets
- Median Length of Stay (excluding skilled nursing beds): 7.7 years



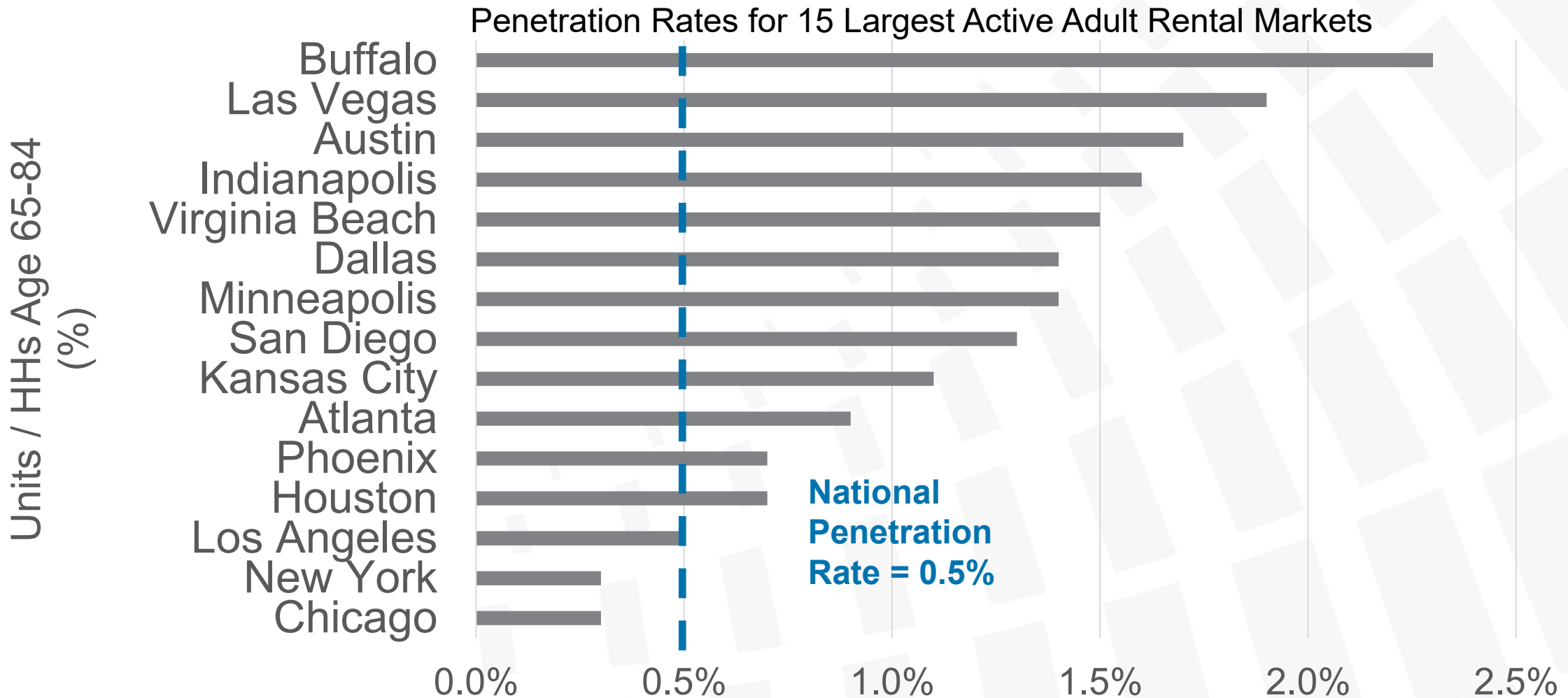


Mather Tysons
Life Plan Community

Senior Housing More Widely Accepted in Certain Markets

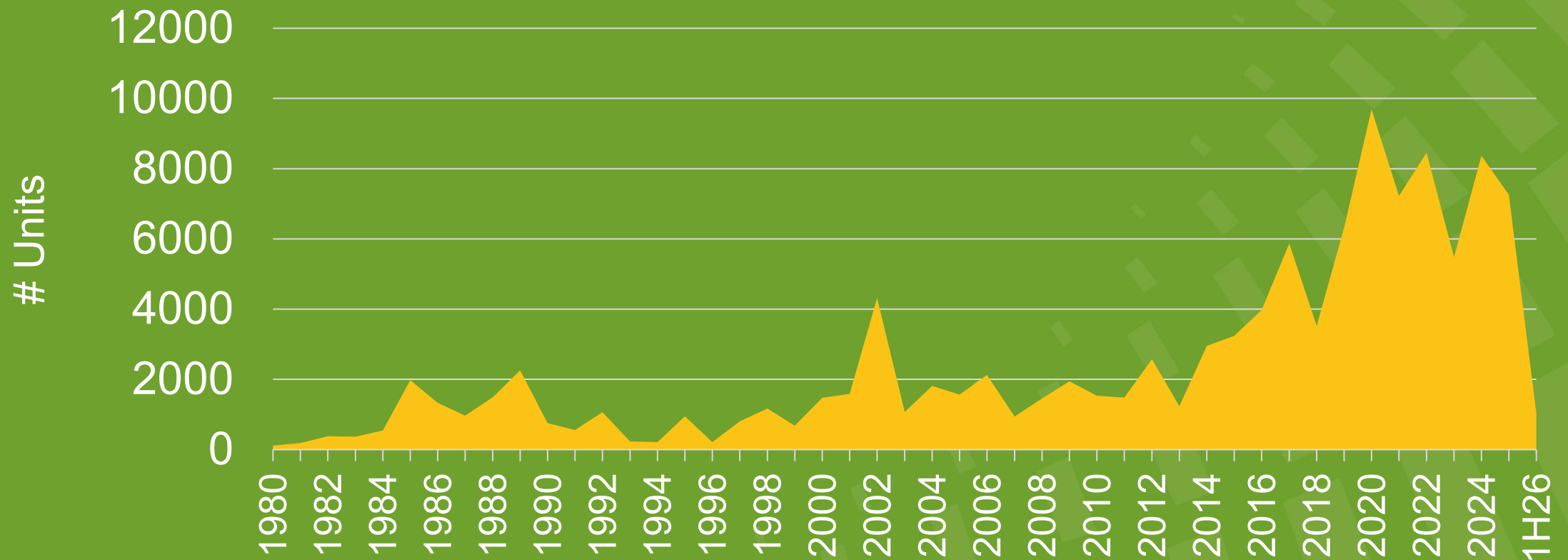


Active Adult is Available for Only 0.5% of Older Adult Households

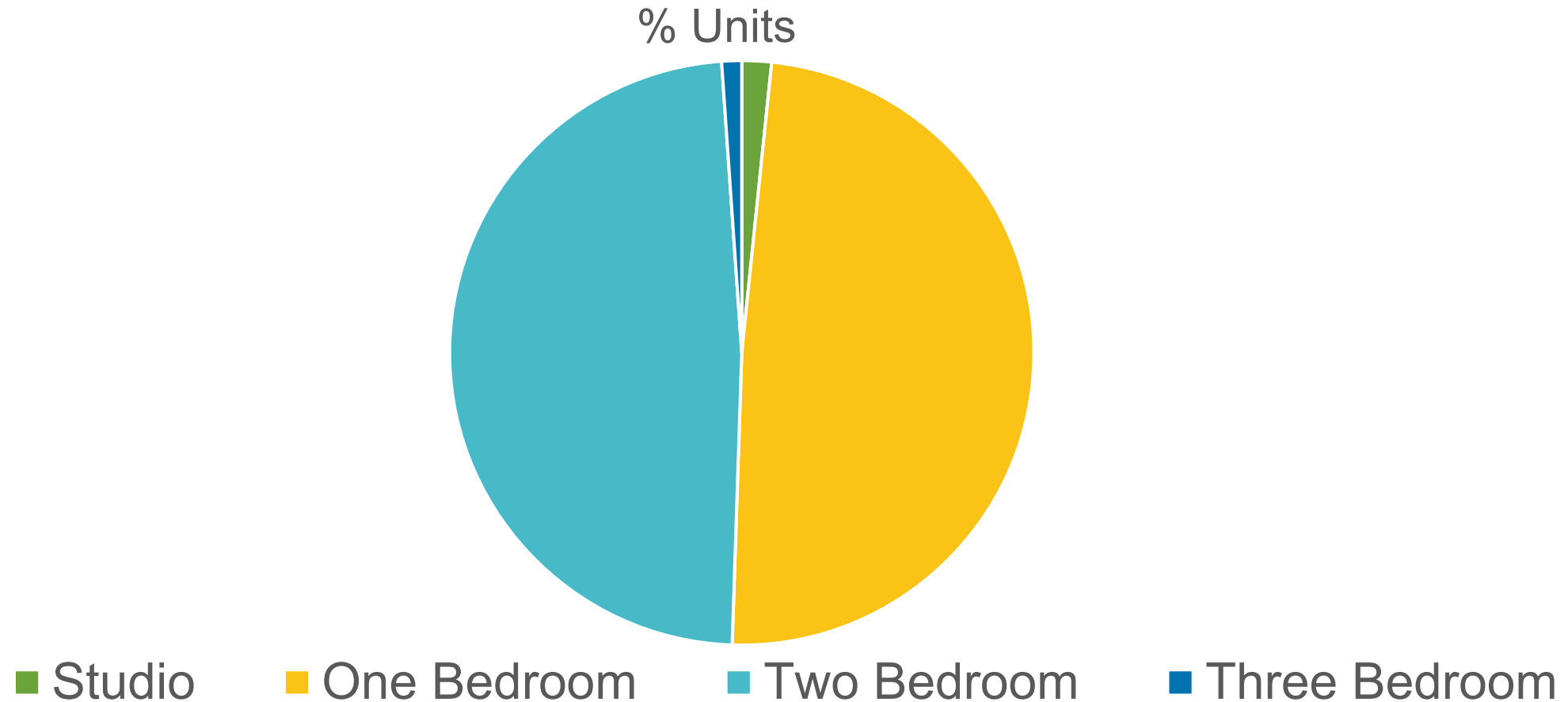


Active Adult Rental Market is Relatively Small and Recently Built

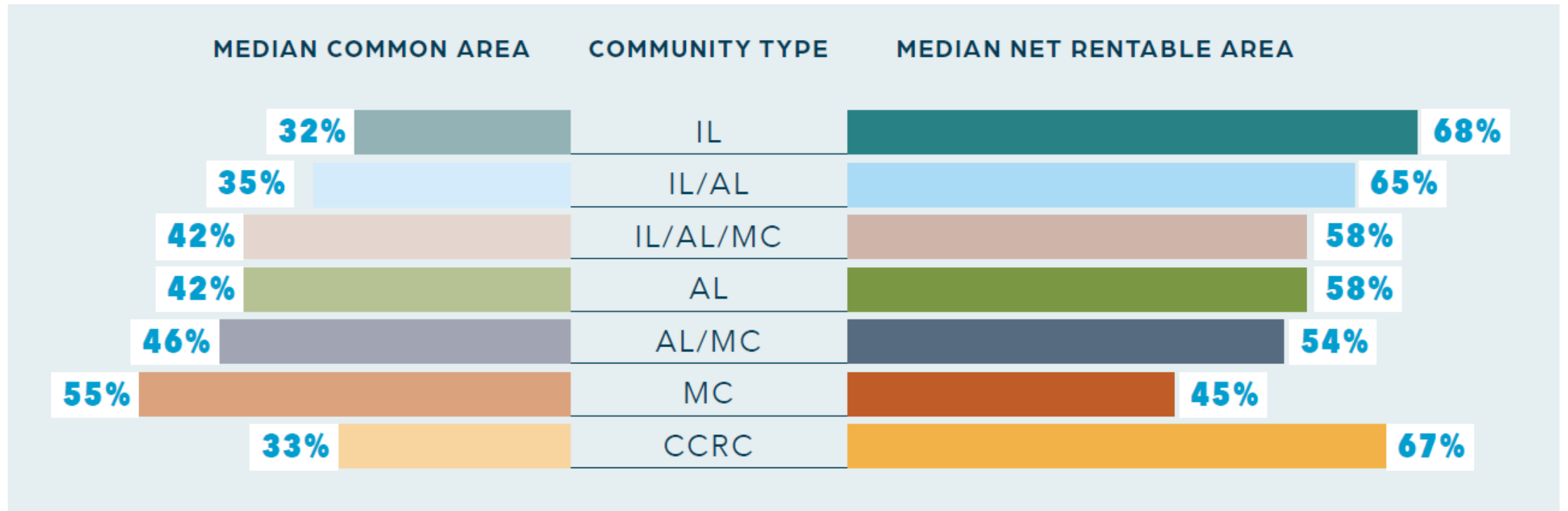
Inventory by Year Opened



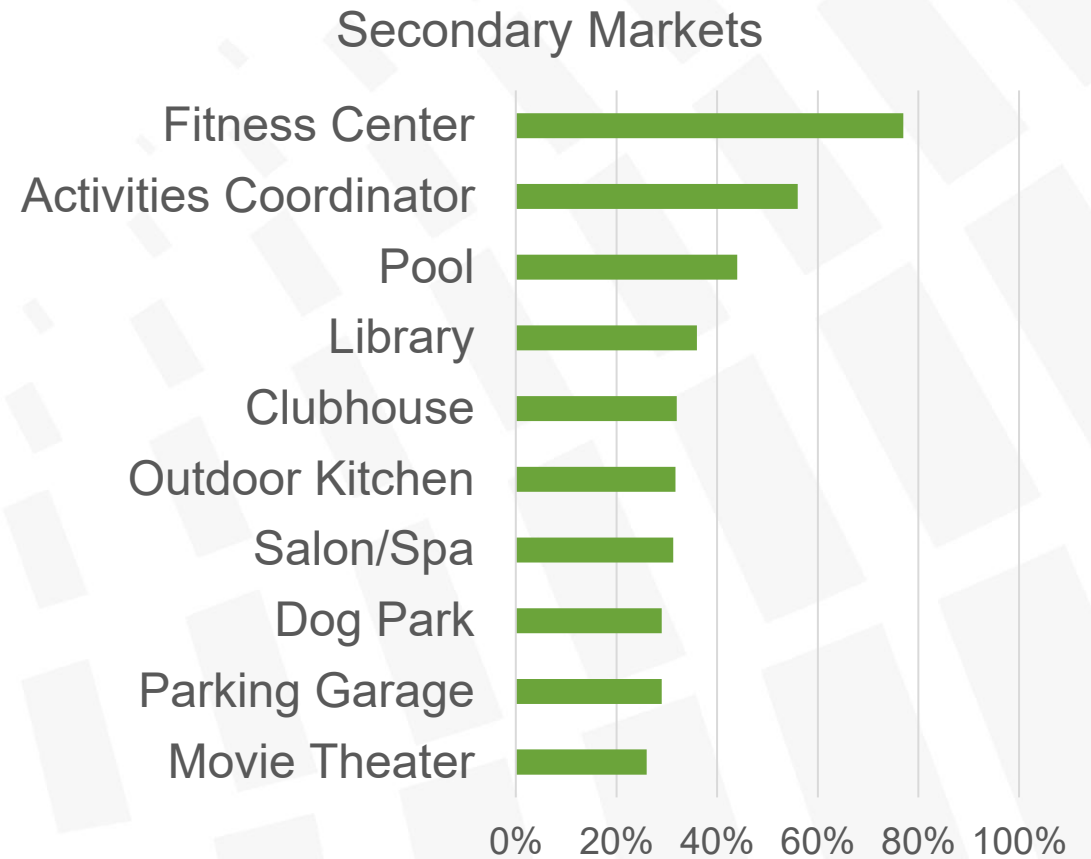
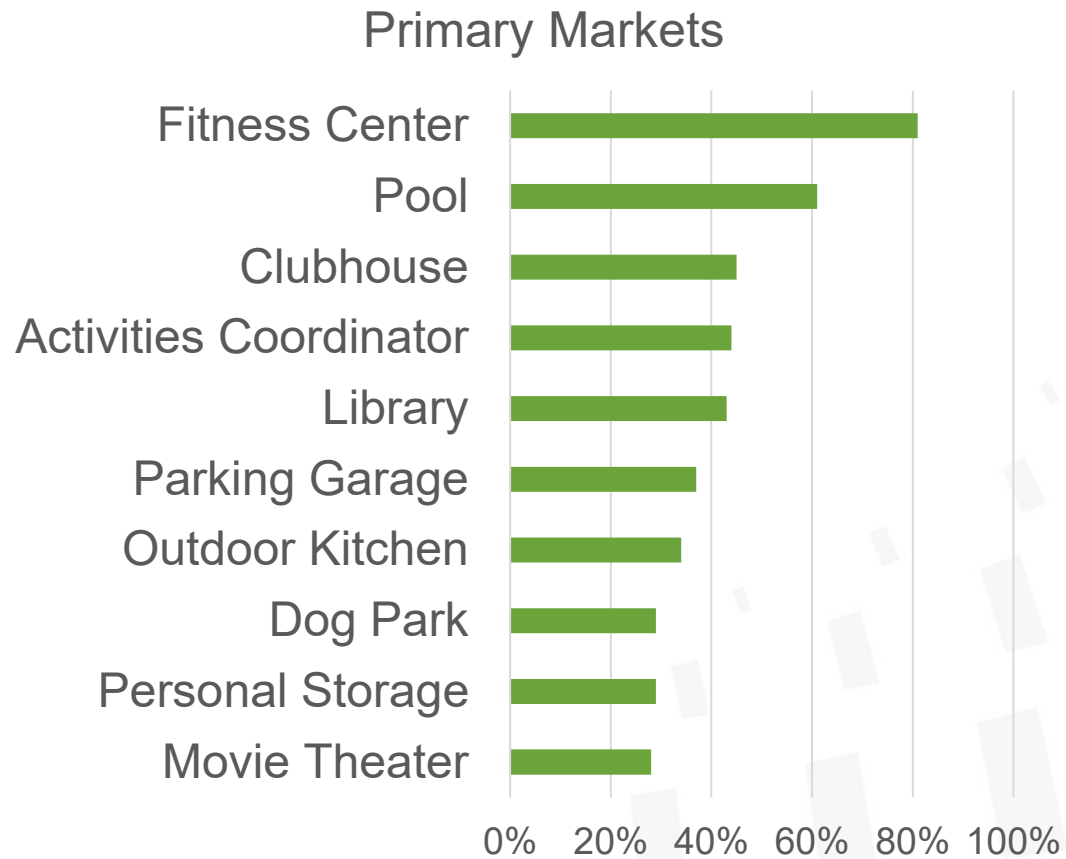
Inventory is Roughly Evenly Split Between One- and Two-Bedroom Units



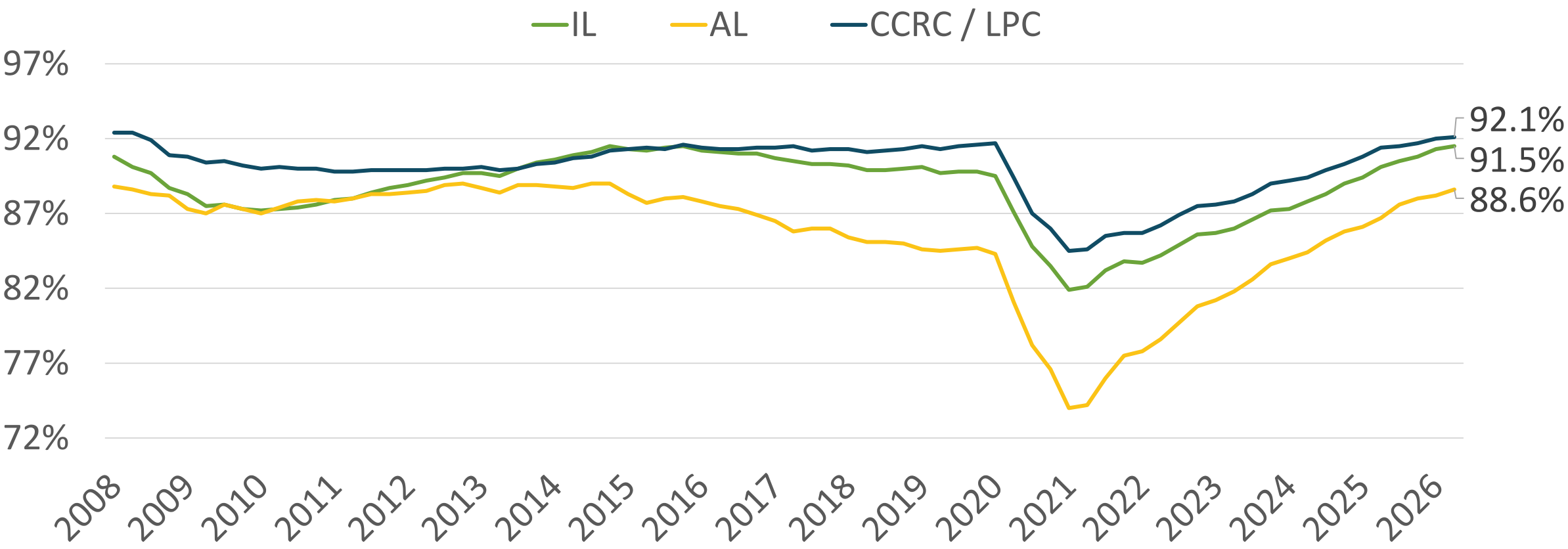
Senior Housing Common Area Ratios Vary by Community Type



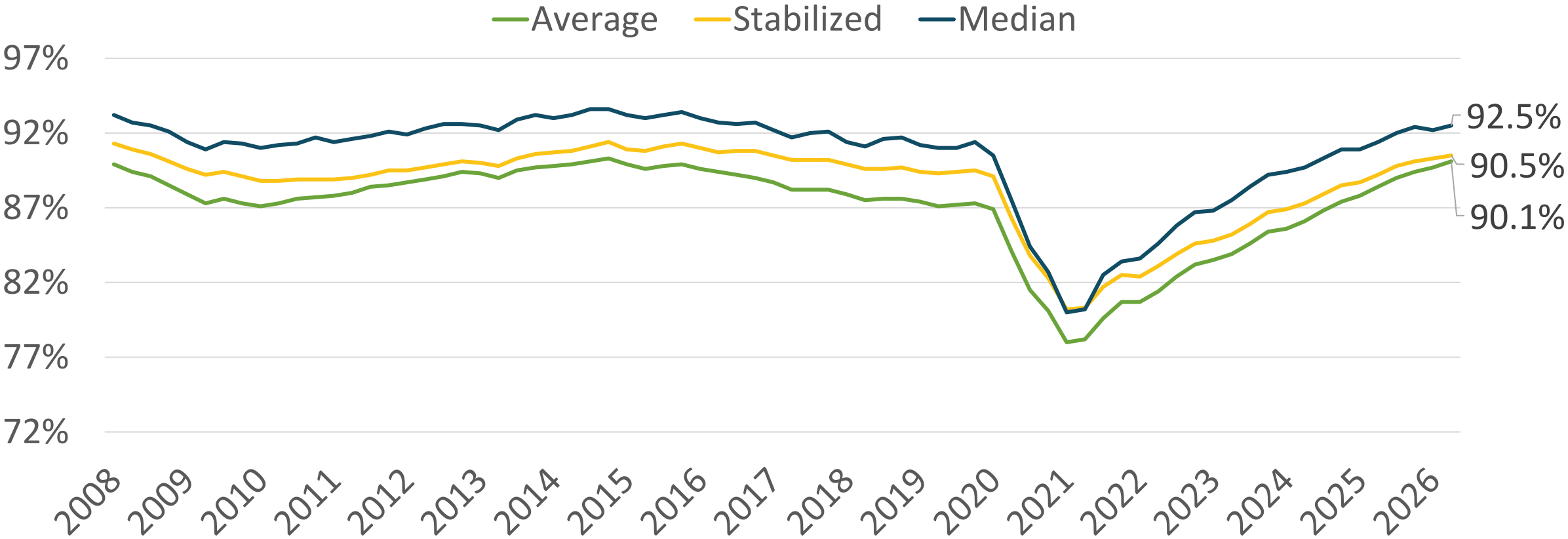
Most Popular Active Adult Amenities Focus on Lifestyle and Wellness



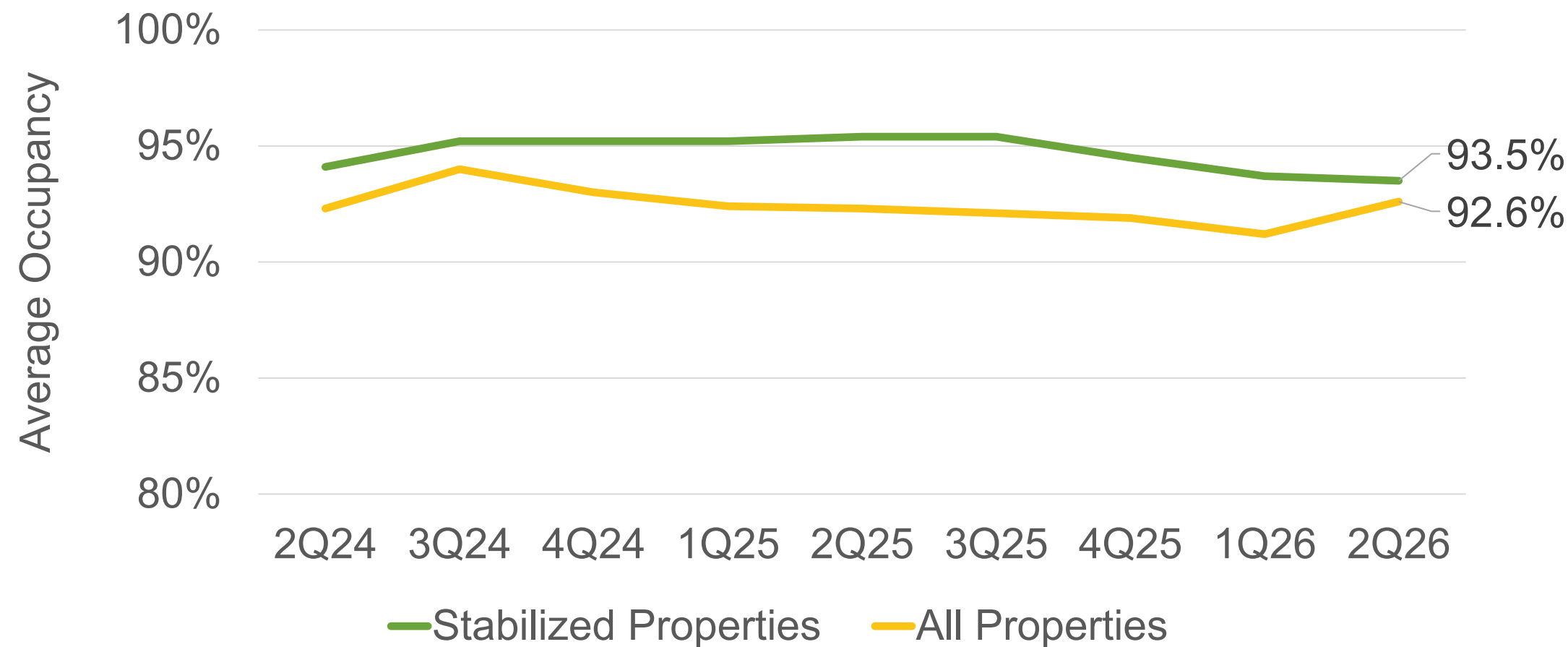
Occupancy Rates Typically Highest in CCRC / LPC



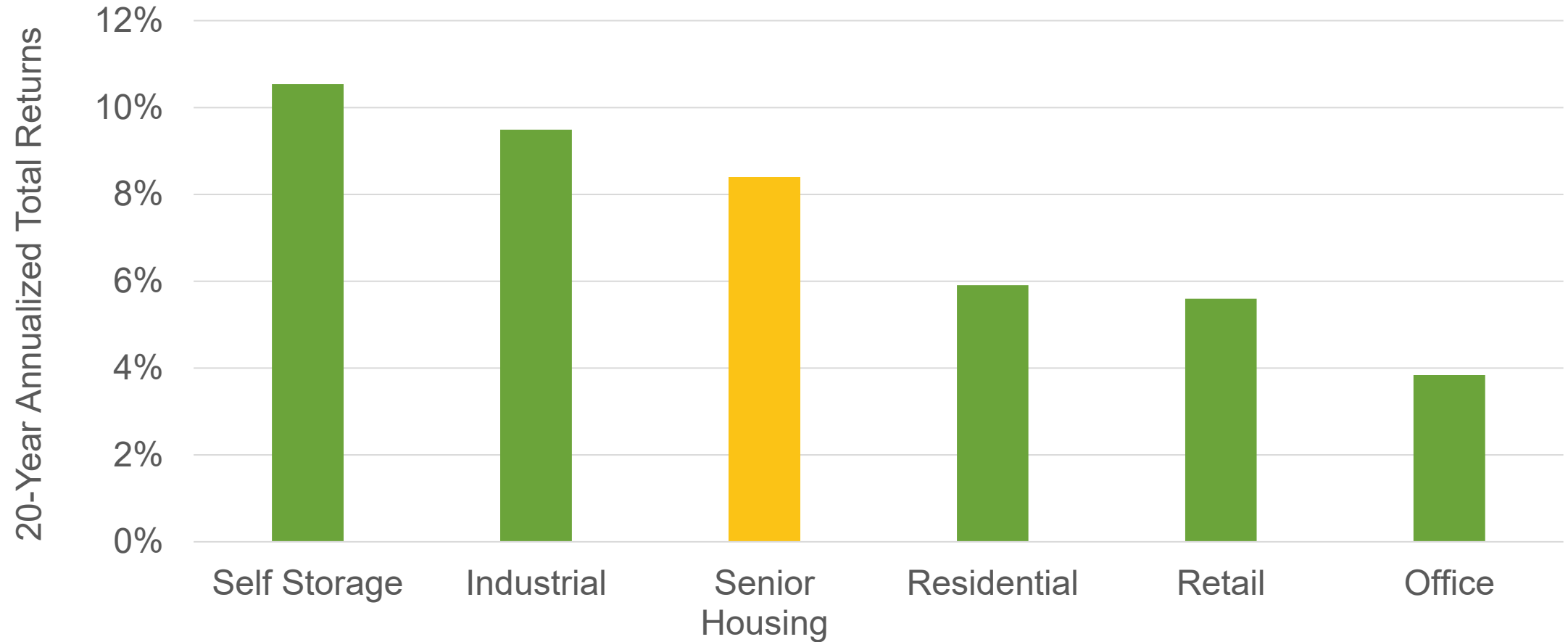
Senior Housing Occupancy Rate Spreads Are Narrower Than Historical Averages



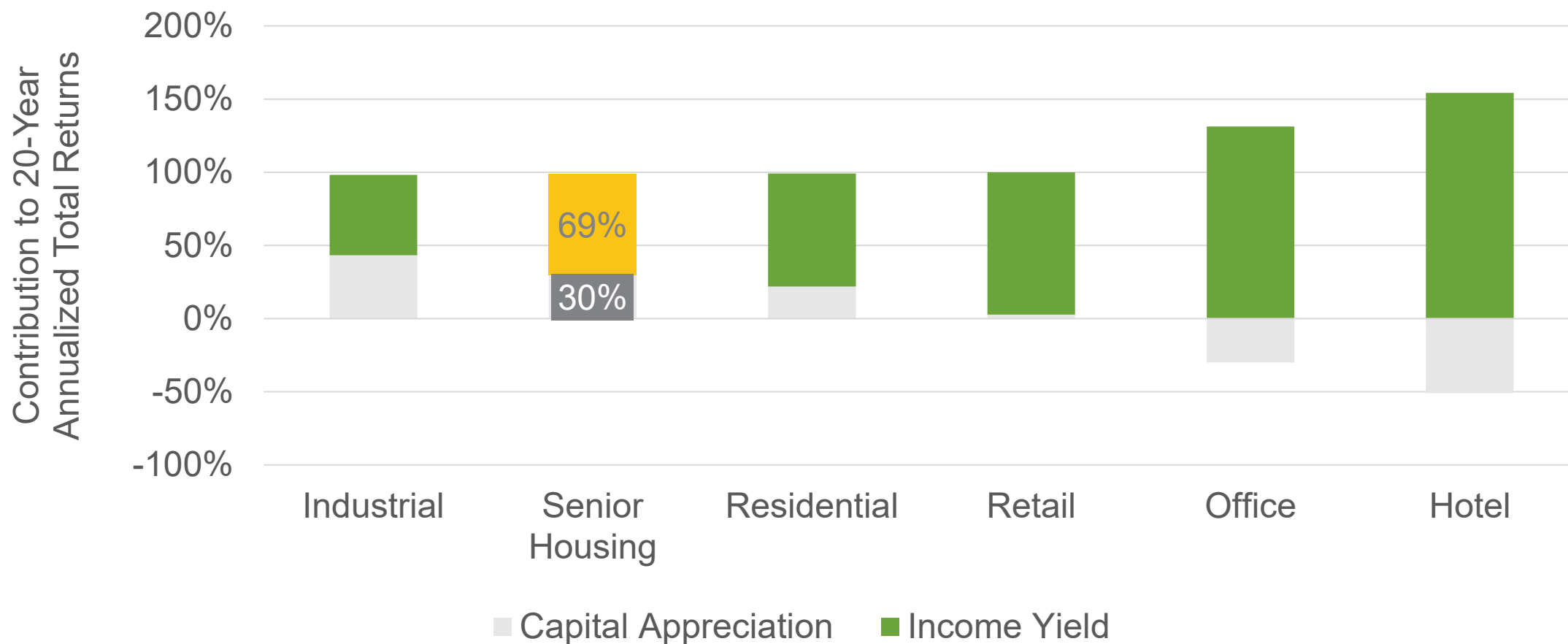
Active Adult Occupancy Above 90%



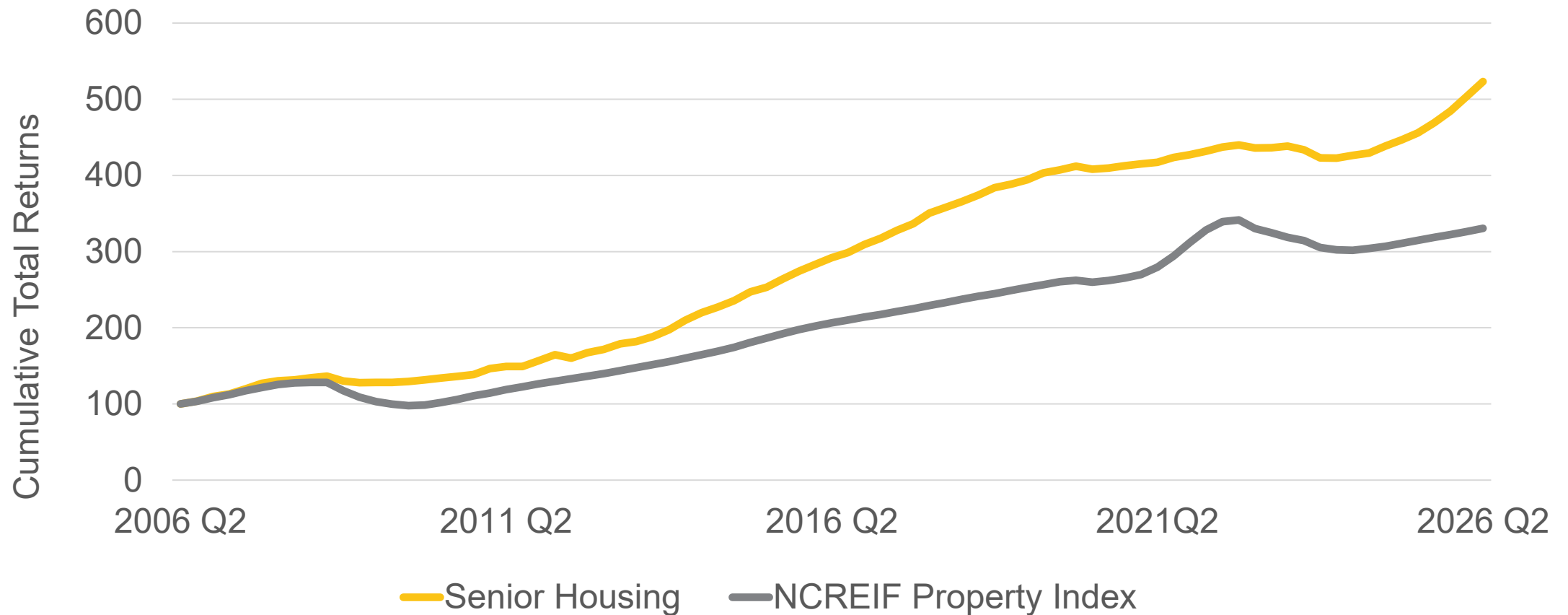
Senior Housing Investment Returns Have Been Competitive With Other Real Estate...



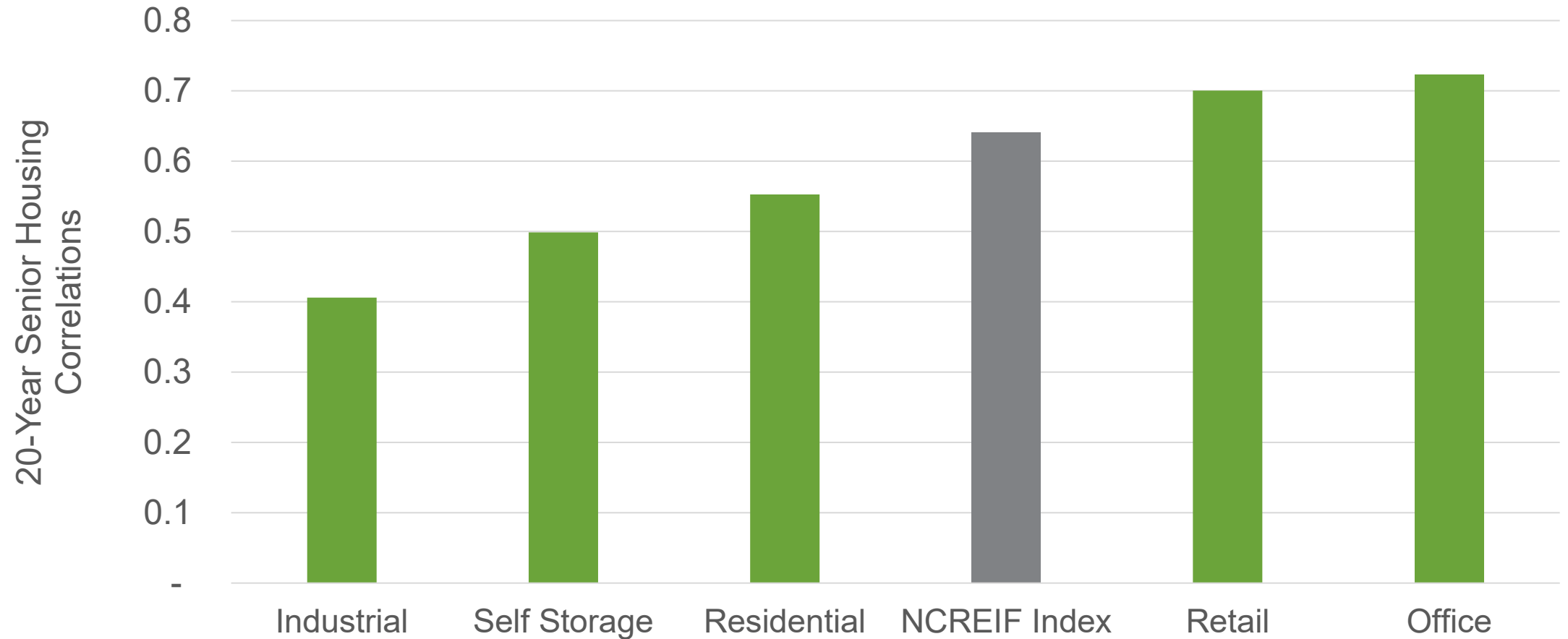
...Providing Both Yield & Appreciation



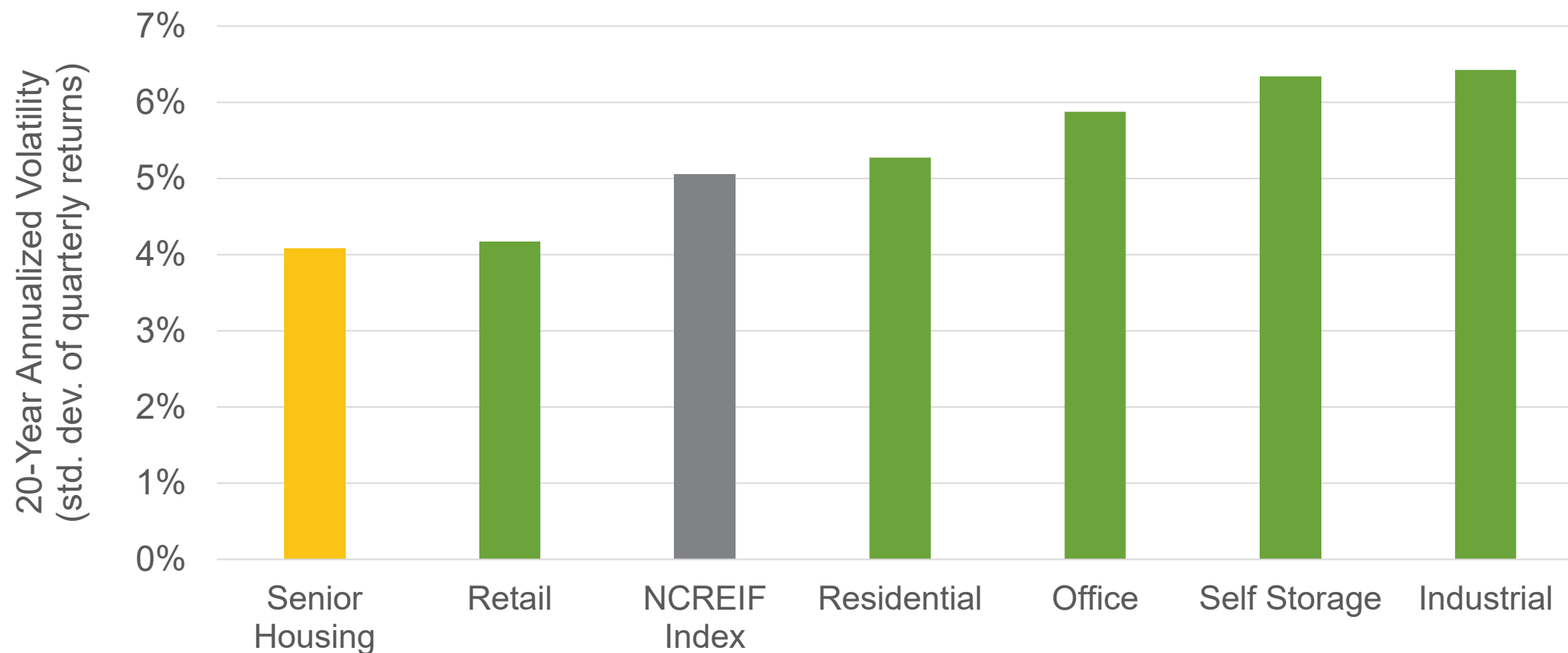
Senior Housing Has Outperformed Its Broader Real Estate Index...



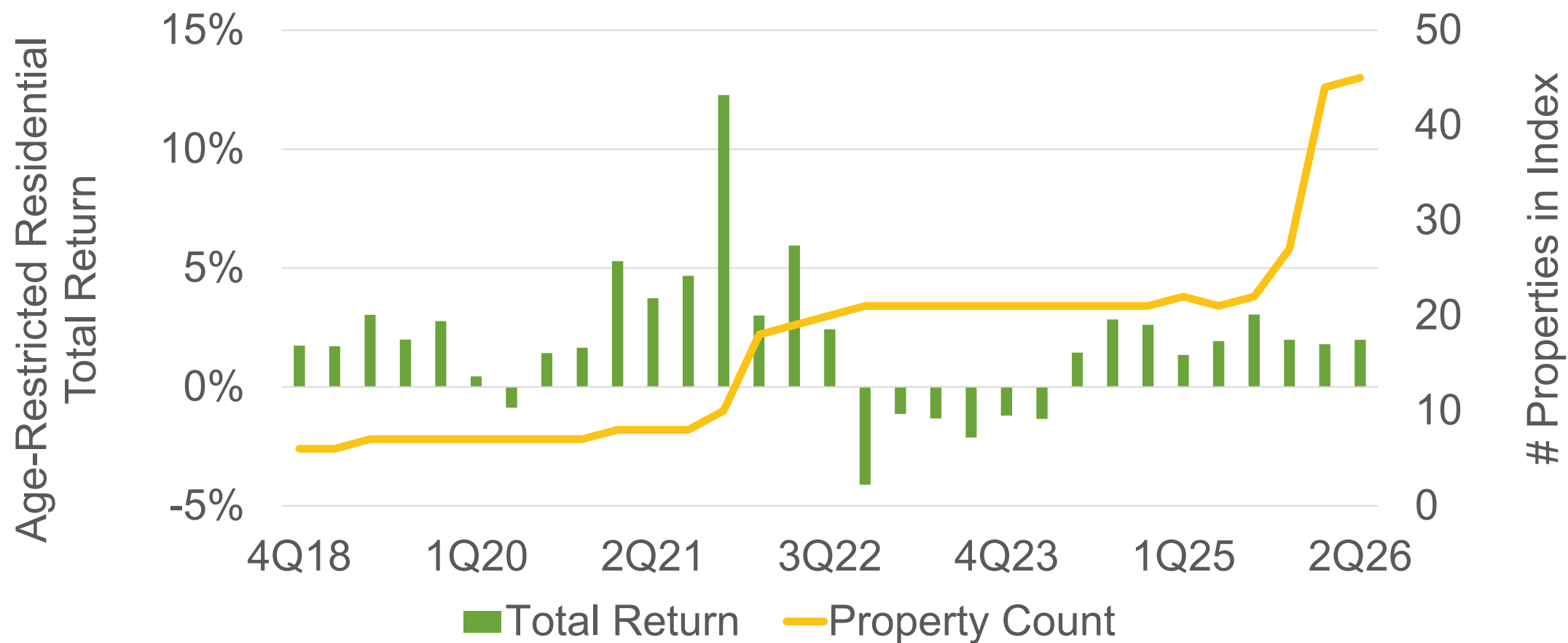
...While Offering Diversification Benefits With Other Real Estate...



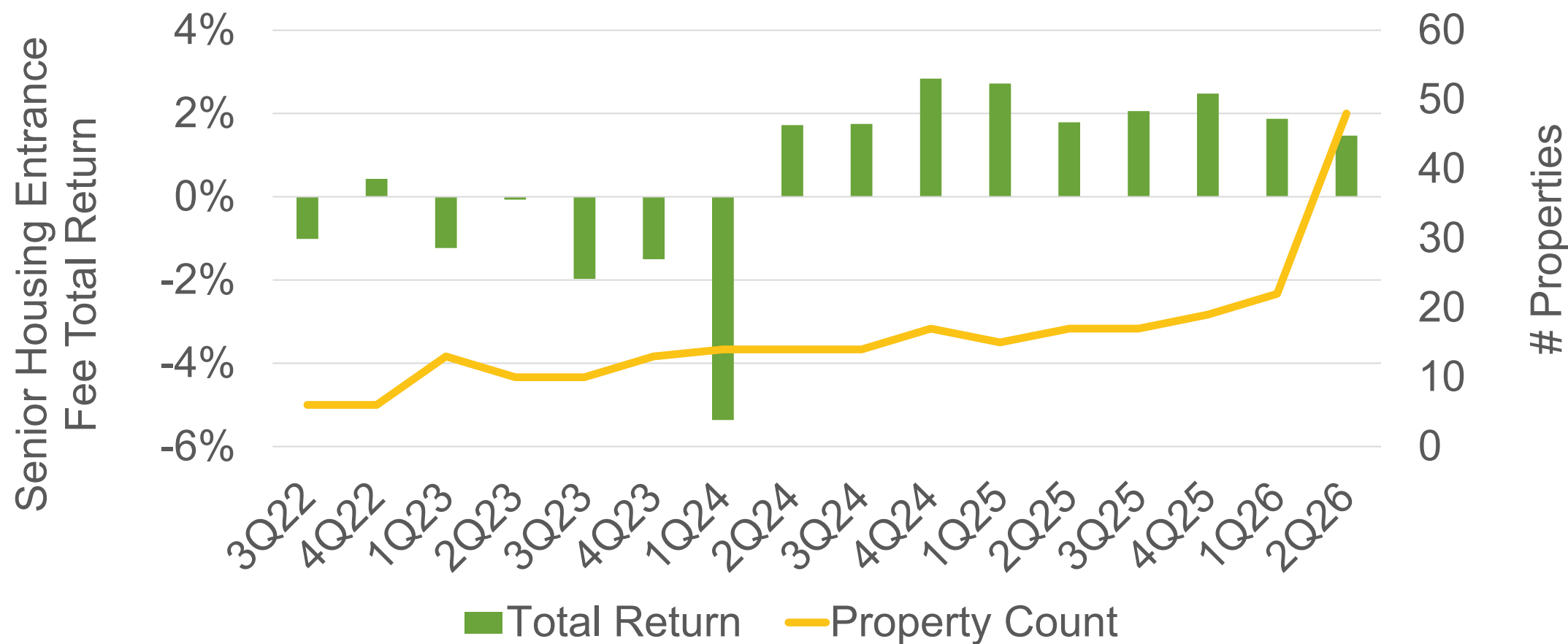
...and Below Average Volatility...



NCREIF Growing Active Adult Coverage



More Entrance Fee CCRCs Also Added



Canadian Cap Rates Slightly Lower Than the U.S.

Canada Property Type	Cap Rate, Investment Class A (%)
Multifamily High Rise	4.5
Multifamily Low Rise	4.7
Independent Living / Assisted Living	6.0
Long Term Care	7.1

Investment Risks

- Actuarial risks
 - Entry ages are stable for now – will wellness / prevention delay in the future?
- Operator risk
 - Investor alignment is key
- Regulatory risk
 - Government intervention in operations, e.g., staffing ratios
 - Immigration law's impact on the labor pool
- Headline risk
 - Media influence on demand vs. avoidance
- Obsolescence
 - Role of technology in residential in-home care
 - Significant evolution in consumer preferences

NCREIF Research Committee

Market, Product, or Asset?

What drives asset-level returns in the NPI
1990–2026

Jeffrey D. Fisher, PhD

Professor Emeritus, Indiana University
President, Homer Hoyt Institute
Consultant, NCREIF

Gleb Nechayev, CRE

Head of Research
Berkshire Residential Investments

Summary of the working paper - Fall 2026



How much does each component of the investment decision actually drive returns?

How investors organize the decision

Sector selection/allocation

how much to office, industrial, apartments...

Market selection

which metros

Product / submarket selection

garden vs high-rise, CBD vs suburban, warehouse vs flex

Asset selection

which asset — and how it is run

Each layer has a research apparatus behind it — house views, market rankings, product strategies, acquisition committees

What we set out to measure

- Take the annual total return of every asset in the NPI and split its variation across those layers — an asset-level analog of Brinson–Hood–Beebower attribution
- **The predecessor:** Chervachidze, Fisher & Wheaton (2012), office only, 1989–2011 — asset quality, market rent growth and the national cycle together explained 47%; **53% was idiosyncratic**
- **This study:** all sectors, 1990–2026, and the layers made **time-varying** — because a market matters as an exposure to its cycle, not as a permanent premium
- The residual is the arena where underwriting, operating skill and execution earn their keep — so its size matters as much as the pieces

Data, and the original study replicated on the full panel

Data

- NCREIF Property Index, current universe applied historically, 1990Q1–2026Q2
- Annual asset total return = the four quarters chain-linked (all four required), unleveraged, winsorized 1/99
- **≈193,000** asset-years; **32,618** assets; **474** CBSAs
- Layers from NCREIF's own classifications: sector (8 types), sub-type (the product), CBSA, location class
- Appraisal-based returns, so common factors are damped relative to transaction prices — the residual share is conservative

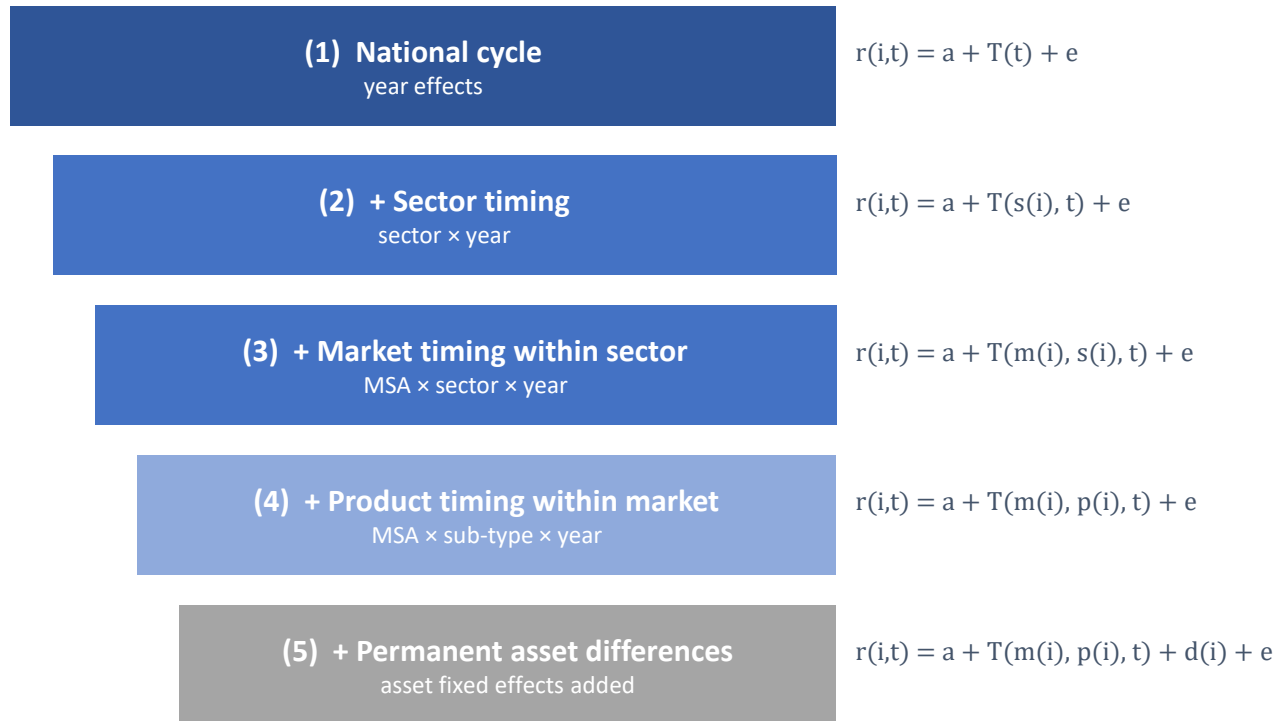
Backdrop: the two-stage attribution of the original paper, re-run

Share of total-return variation (R^2)	Original 1990–2011	Updated 1990–2011	Updated 1990–2026
Asset fixed effects only (permanent quality)	20%	25%	22%
Market rent growth only (proxy in the update)	13%	2%	2%
Year effects only (national cycle)	31%	40%	29%
All three combined	47%	59%	49%
Unexplained — dynamic, local, idiosyncratic ($100 - R^2$)	53%	41%	51%

- **The headline reproduces:** about half of asset-year return variation is unexplained in every sector (42–52% by type); income is more asset-specific than appreciation
- **Stage 2 reproduces:** observable characteristics (size, type, fund type, renovation) explain under 9% of the asset fixed effects — permanent quality is mostly latent
- The market-rent layer is the weak link — the external MSA rent series is not in the data — which is what motivated the time-varying design

Method: a nested ladder of time-varying effects, read by the increment in adjusted R^2

Each rung refines the partition of the previous one



increments in adjusted R^2 attribute variation to sector timing, market timing, product timing and permanent asset differences

Two things that matter

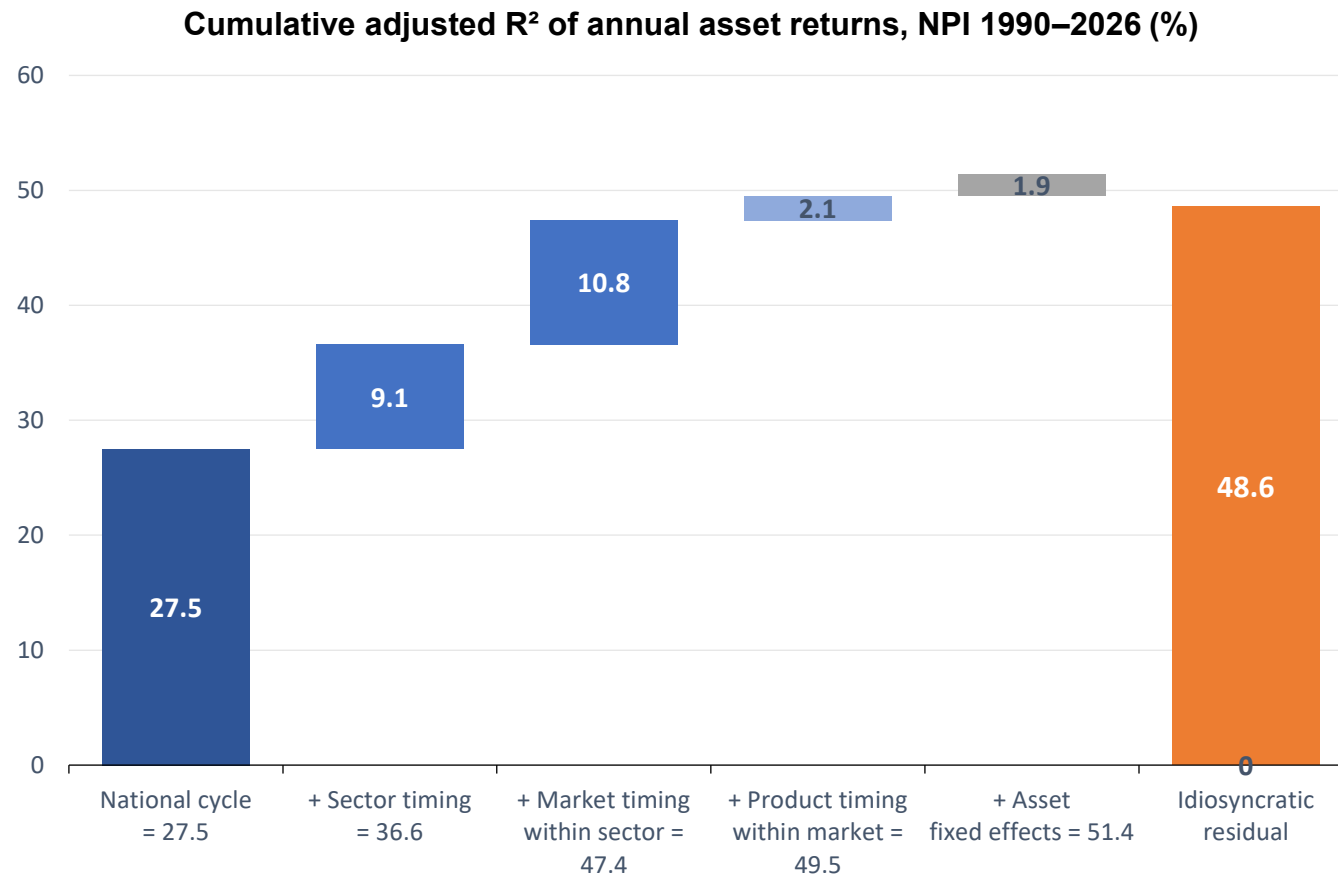
- **Nesting.** Any static classification — an MSA dummy, a submarket dummy — is constant within an asset, so asset fixed effects already contain it. Static market selection adds nothing to a model with asset effects; selection can only matter as time-varying exposure. That is why every rung is interacted with year
- **Degrees of freedom.** The finest cells average about six assets, so raw R^2 absorbs noise. All attribution uses adjusted R^2 :

$$\text{adj } R^2 = 1 - (1 - R^2) \cdot (N - 1) / (N - k)$$

Estimated by within-transformation (absorbing least squares). Order matters where partitions are not nested; the ladder is the primary ordering.

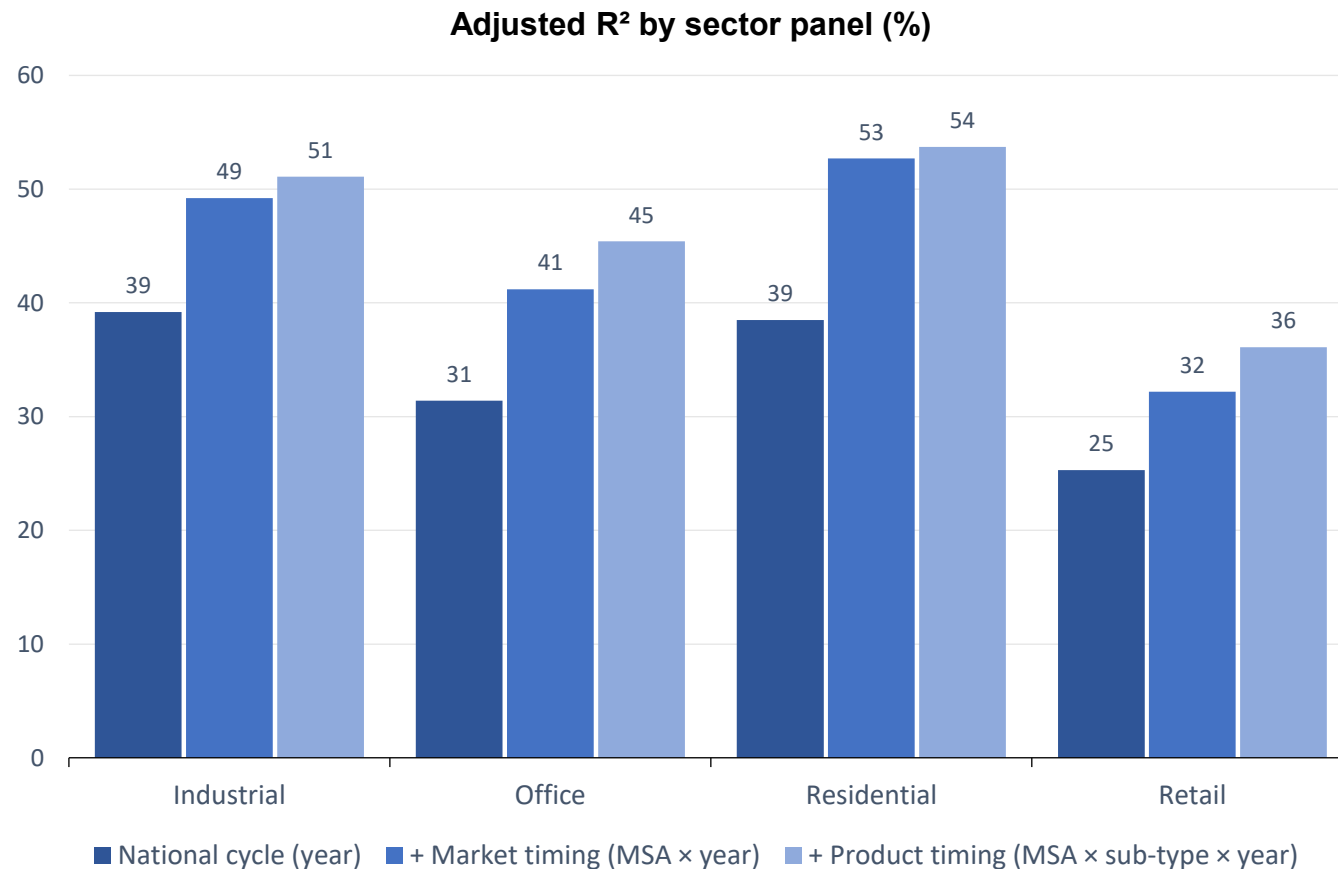
Headline: timing explains half; static selection explains almost nothing

Reading the ladder



- **The national cycle is the largest single piece** (27.5 points)
- **Sector timing (+9) and market timing within sector (+11) are comparable and substantial**
- Product timing within market adds about 2; permanent asset differences about 2 more
- **Static selection $\approx$ nothing:** MSA dummies alone explain 1.1%; only 2.6% of the variance of asset fixed effects is between markets
- **Just over half explained (51.4%);** nearly half of what happens to an asset in a year is its own story
- *Preliminary panel — figures within about a point of the archived panel; to be re-estimated before publication*

The same ladder within each sector: market timing adds 10–13 points, product 1–4

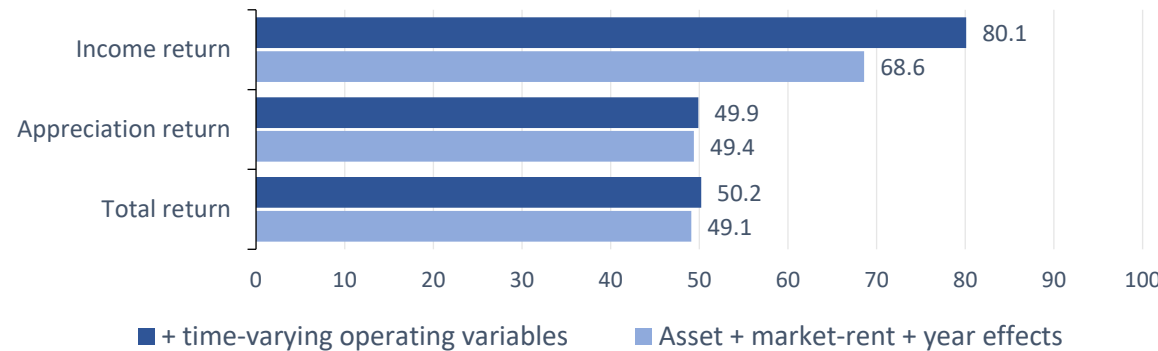


What differs by sector

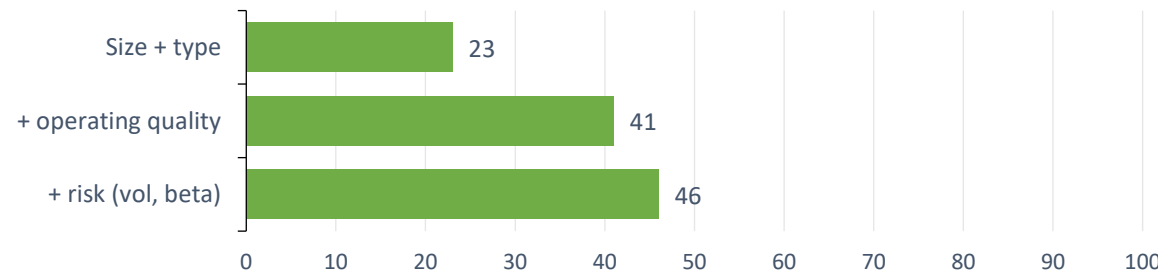
- **Residential and Industrial** have the strongest common cycle — apartment markets move together, and the national cycle alone explains 38–39%
- **Retail** is the least explained at every rung (36% with everything in) — the most asset-level heterogeneity
- **Office** is where product timing matters most (+4 points): CBD and suburban cycles genuinely diverge
- Market timing within sector is worth 10–13 points everywhere — the one layer that is large and consistent across sectors
- **Order matters:** put product before market and product looks as big as market — because sub-types nest within sectors. Granting sector its own rung first is what puts product at ~2

What is in the other half? Mostly idiosyncratic revaluation — Not operating performance

R² of the combined model before and after adding operating variables (%)



Permanent cross-asset differences ARE explainable: R² on the fixed effects (%)



Three things the residual analysis showed

- **Appreciation is 88% of total-return variance** (σ 13.8% vs 2.8% for income). NOI growth, expense ratios, occupancy change, capex intensity and momentum lift the income R² by 11.5 points but total by 1 — the residual is idiosyncratic revaluation
- **Risk is priced, but weakly:** an asset's mean return correlates +0.16 with its own volatility and +0.14 with its beta; together they explain about 3% of cross-asset differences in mean return
- **Who is good on average is explainable; why an asset deviates in a given year is not.** Size and type explain 23% of the permanent effects, operating quality takes it to 41%, risk to 46%

What it means, and what to keep in mind

Implications for investment organizations

- **Market research earns its keep as cycle research.** There are no permanently better markets in the data; there are markets at the right point in their cycle
- **Sector timing and market timing are comparable levers** — each worth about ten points of explained variation on top of the national cycle
- **Product strategy matters where product cycles genuinely diverge** (office CBD vs suburban); elsewhere it adds little once sector and market are set
- **The largest single "factor" is the asset's own story.** Underwriting, lease outcomes, capital projects and execution differentiate realized performance more than allocation policy alone

Caveats and next steps

- **Preliminary panel:** the ladder was run on a quick rebuild within about a point of the archived panel; publication numbers will be re-estimated with the folder's scripts
- Appraisal smoothing damps the common factors, so the idiosyncratic share is conservative; a transaction-based replication is a natural extension
- Sub-type definitions have drifted (data centers, life science, SFR), which flatters the product layer recently; the ordering of layers survives restricting to stable classes
- Fine cells absorb noise — only adjusted R^2 is quoted; the decomposition is order-dependent where partitions are not nested
- **Next:** persistence of asset effects out of sample (do past winners keep winning?); an external MSA rent series to restore the market-rent layer; pre/post-GFC split

POLL QUESTIONS

Which risk category poses the greatest downside to today's commercial real estate values over the next 3-10 years?

- Geopolitics
- Immigration policy
- Climate impacts
- Artificial intelligence
- Fiscal outlook
- Monetary policy



RESEARCH
DAY 2 PM

1. Dispersion Study (Bryan Reid)
2. Quick Hits

Session Code: Research1014262

What 218,000 Loan Valuations Say About CRE Debt Since 2022

Moody's-Stout CREDX™ tracks the total return of first-lien commercial mortgages held by over 300 bank, life company, and agency lenders. Figures are from the September 2026 data.

217,941

loans valued individually each month

\$845 billion

current principal balance

Feb 2006

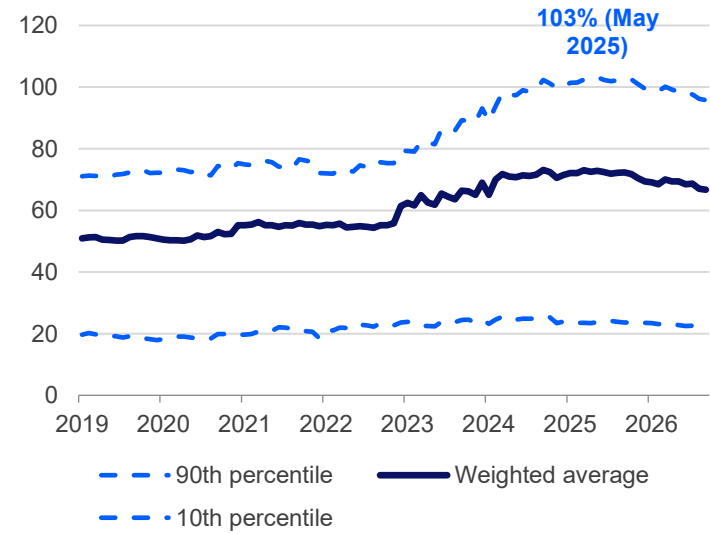
start of the monthly national history

3,300+

index series, cut by property type, metro, state, lender, loan size, tenor and more

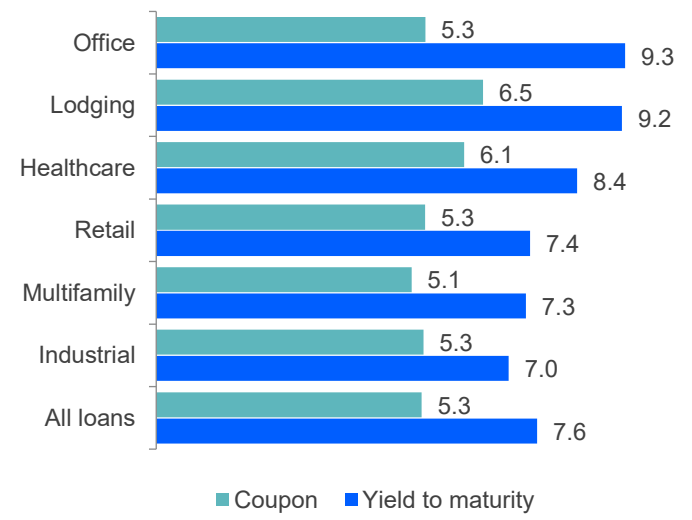
The Riskiest Tenth of Office Loans Reached 103% LTV

Office loan-to-value ratio, %



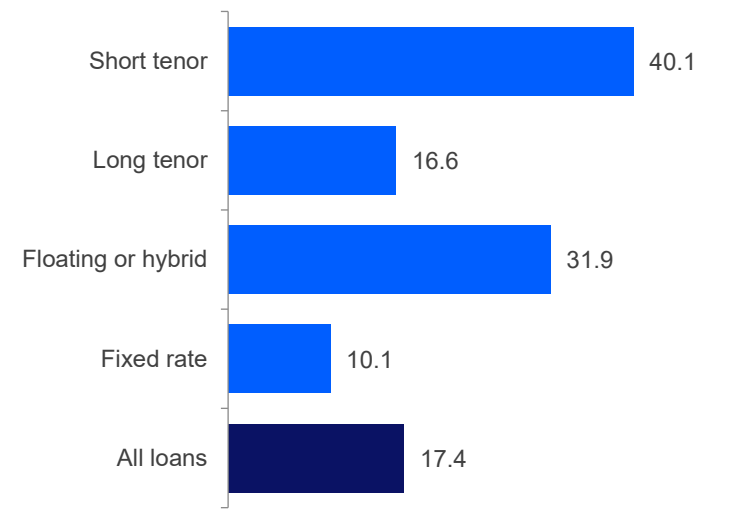
Office Loans Pay 5.3% but Are Priced to Yield 9.3%

Coupon vs. yield to maturity at modeled value, Sep 2026, %



Short-Term and Floating-Rate Loans Returned the Most

Cumulative total return, Dec 2021 to Sep 2026, %



Sources: Moody's-Stout CREDX™, Moody's Analytics. Loan values are Stout DXMark® model-based fair values, not trade prices. Percentiles are unweighted across loans; averages are balance-weighted.

Rent control appears to add a small but measurable valuation risk signal

Broader market effects

Rent control legislation has multiple macro impacts:

- 1 Declines in overall supply of rental housing
- 2 Reduced real estate tax revenue
- 3 Underinvestment or building deterioration
- 4 Lower transaction volume
- 5 Stifled development pipelines

KEY QUESTION

How does rent-control affect valuation assumptions?

Modeled valuation impact

Average difference during the four quarters after implementation

+8 bps

**Discount rate
vs. counterfactual**

+10 bps

**Terminal cap rate
vs. counterfactual**

Institutional multifamily | U.S. county panel, 2015–2025 | Masked valuation data | Ridge regression counterfactual MAE 3bps

NCREIF Research Committee

Does CapEx Pay?

Do major renovation campaigns earn back more than they cost?

Jeffrey D. Fisher, PhD

All-sectors study · five-minute summary · 11 October 2026

Why this study: major CapEx comes in regimes, and no one has measured it that way

CapEx is lumpy, not a flow

A major renovation is an episode. It starts, runs two or three years, and ends. It is not a smooth annual expense, and a calendar year rarely contains one cleanly.

The owner's question is marginal. Did this campaign earn back more than it cost — over and above what a comparable property earned anyway, without the campaign?

That question needs the episode. You cannot answer it with a yes/no flag covering a whole holding period, or with an annual capex line that mixes a renovation into routine upkeep.

The data fights you. CapEx is accrual-based, can go negative on reversals, and improvement and expansion get posted to each other's buckets.

What the prior work did — and did not — do

Peng & Thibodeau (2013). One flag per property: any building improvement at any point in the hold. The median "value-added" property spent 4% of purchase price over six years — roughly 0.7% a year. Properties that expanded the building were excluded entirely.

Ambrose & Steiner (2017). Quarterly appreciation regressed on capex accumulated since the property entered the sample, across 207,000 property-quarters. **Nothing marks when a renovation begins**, so no campaign exists in the design; appreciation only, never NOI; and no ratio of return to what was spent.

Ghosh & Petrova (2016). One observation per property over its whole holding period, against an average annualized capex rate per square foot — so a renovation is smeared across the hold, and per square foot says nothing about spending relative to value. Sample ends 2011.

None of the three can test a single campaign. Their estimates average over a whole holding period, dominated by routine upkeep — 0.3% to 0.7% of value a year. **This study adds a start date, a magnitude, and a payoff per dollar spent.**

How a CapEx regime is identified, and what is in the sample

Sample

NCREIF NPI-Plus, 2000Q1–2025Q4

Residential, Office, Industrial, Retail

758,678 property-quarters on 32,511 properties

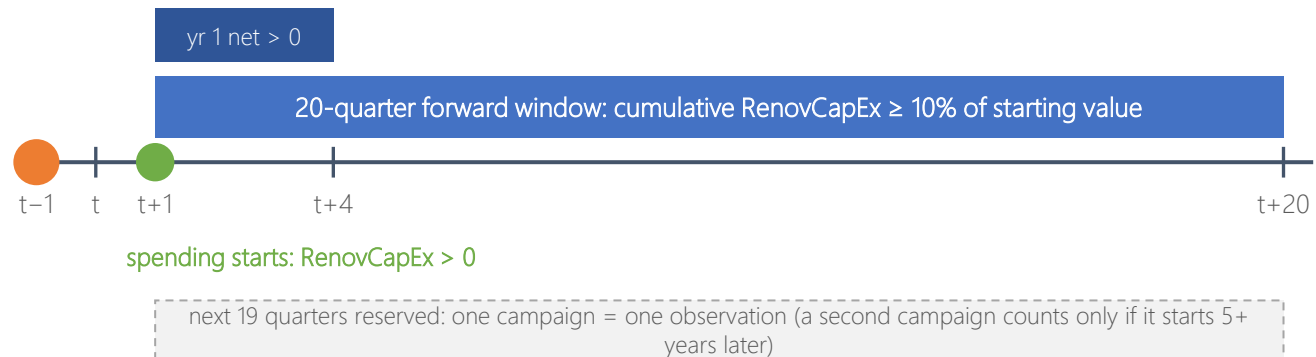
RenovCapEx = Building Improvements + Building Expansion. No tenant improvements, no leasing commissions.

2,310 regimes on 2,104 properties — 179 have a second regime starting 5+ years later

2,246 of the 2,310 have every control variable; that is the regression sample

The CapEx window ("Rule C")

value and NOI baseline
measured at $t-1$



What the 10% trigger is. Walk forward through a property's history. When a quarter first shows positive renovation or expansion capex, ask whether that quarter and the next 19 add up to at least 10% of what the building was worth just before. If they do, it is a campaign. If not, it was routine upkeep, and we keep walking.

Anchored at the quarter spending begins, so the start date is the renovation — not a window that happens to contain one. The first year must also be net positive, so a reversed accrual cannot start a campaign.

Sold inside the window → the window ends at the sale and the sale price is the terminal value. No survivorship bias.

What we measure: the dollars the campaign added, above what the sector gave anyway

Excess return, in one sentence. What the property actually produced over five years — the NOI it collected plus the change in its value — minus what it would have produced had it simply tracked its own sector from the same starting point. The sector baseline is built from same-property median growth, so the peer we measure against is already doing routine capex.

1 Per-project payoff ratio

Excess return $\div$ capex spent. One vote per campaign, large and small alike.

Break-even = \$1.00 per \$1 of capex

We report the median and the share of campaigns clearing \$1.

Answers: did the typical campaign pay off?

2 Percent-of-value regression

Excess return and capex both expressed as a share of starting value; controls for value, age and square footage.

Break-even = a slope of 1.00

Equal-weights campaigns, so a handful of giant projects cannot drive the answer.

The number to quote when comparing sectors.

3 Matched difference-in-differences

Two subtractions. Difference 1: the renovated building, before versus after — say NOI +24% over five years. Difference 2: its matched peers over the same five years — +12%.

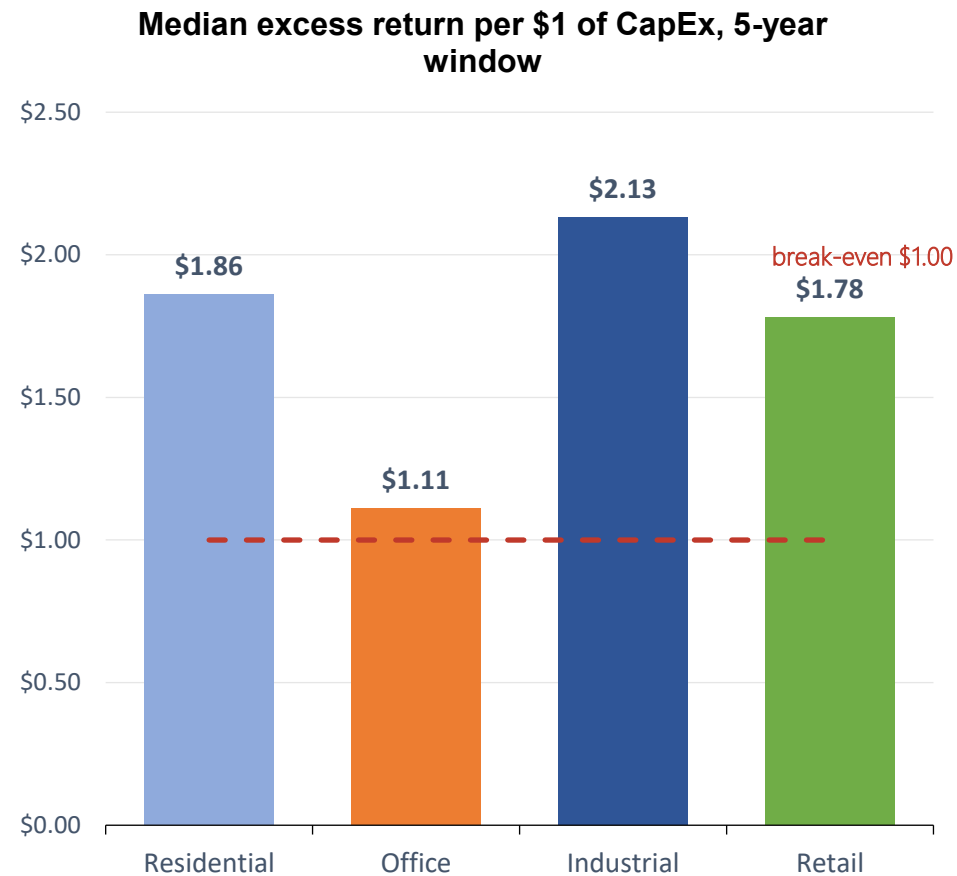
The renovation gets the gap: +12 points. Break-even = 0.

The first subtraction removes everything permanent about the building; the second removes the market cycle.

Peers: up to three never-renovated properties, matched on sector, size, age and market-quarter.

A worked example. A \$100M warehouse earning \$5M of NOI spends \$10M on renovation over five years. It collects \$28M of NOI and ends up appraised at \$120M, so it produced $\$28\text{M} + \$20\text{M} = \$48\text{M}$. A peer that merely tracked the sector (+15% NOI, +15% value) would have produced about $\$26\text{M} + \$15\text{M} = \$41\text{M}$. The campaign's excess return is therefore **\$7M**, and per dollar of capex that is **$\$7\text{M} \div \$10\text{M} = \$0.70$ — below break-even**. The raw, un-benchmarked ratio on the same project would read \$4.80, which is why it is not the measure.

What pays: the typical regime clears a dollar in all four sectors — barely, in Office



Sector	N	% clearing \$1	β (per V)	CapEx % of V	DiD NOI	DiD value
Residential	563	65%	1.07	12.4%	-1.9%	+6.3%
Office	590	51%	0.80 *	13.4%	+5.5%	+13.4%
Industrial	733	69%	1.16	13.8%	+8.5%	+10.1%
Retail	360	67%	1.09	15.7%	+17.3%	+21.4%
Pooled	2,246	63%	1.00	13.6%		

N is the regression sample: 2,310 regimes detected, 2,246 with every control variable. CapEx % of V is the median campaign as a share of value at $t-1$. * Office slope is statistically below break-even ($t = -2.28$ against 1.00); pooled slope 1.00.

Why the ranking changes: the DiD is the only measure that compares each building with untreated peers — and apartment peers gained 21.7% over the five years against 0.9% for office peers. Read either DiD column against the capex column: a +13.4% lift that cost 13.4% of value is break-even, not a win.

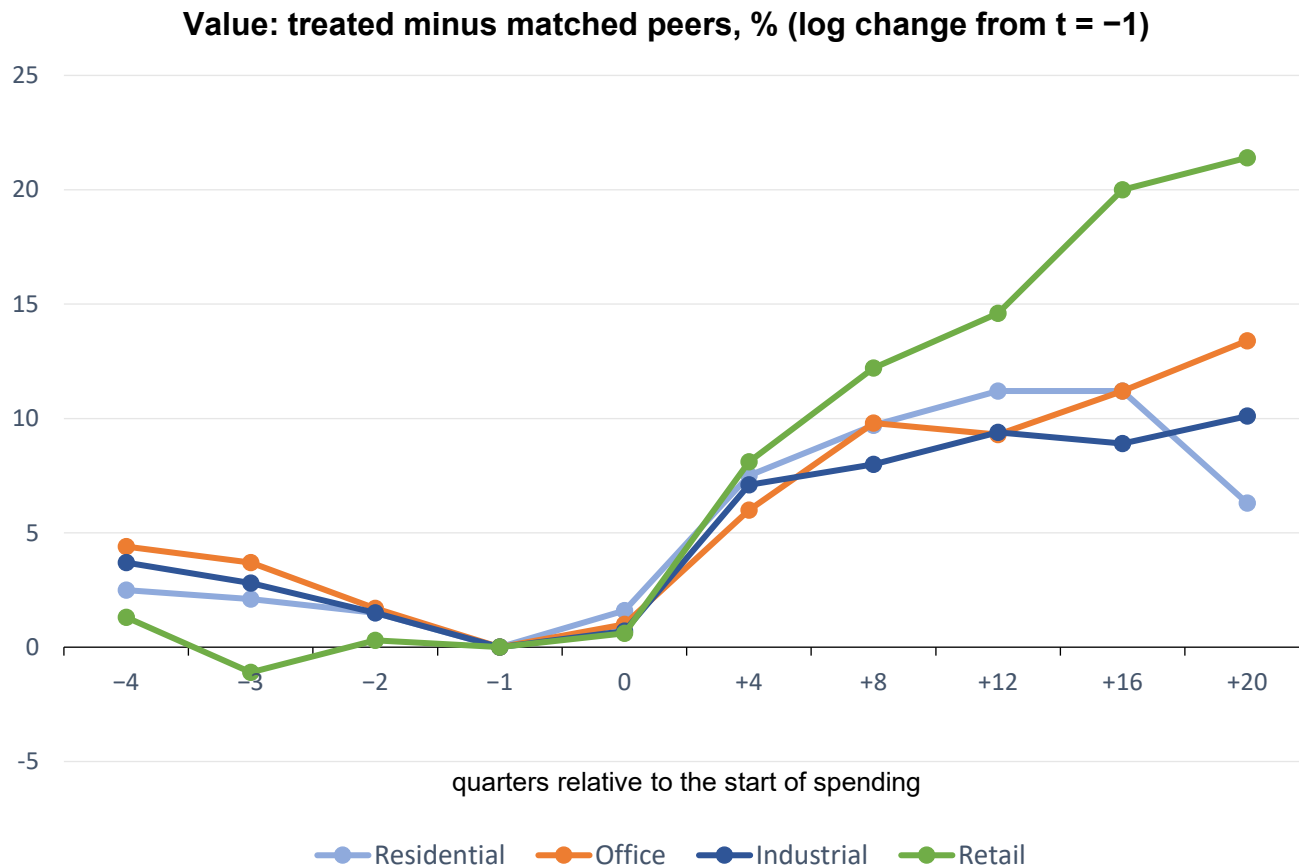
The first three columns share one benchmark — the sector index — and agree: Industrial and Retail strongest, Office weakest.

Office is the only sector below break-even. Its typical campaign still clears a dollar (\$1.11 median), but the slope is 0.80 and only half of its campaigns pay off.

The DiD ranks Residential lowest instead, because it is the only measure that swaps the index for real buildings that did not renovate. Same campaigns, tougher competition.

Where this sits against the literature. Ghosh & Petrova found capex positive everywhere but apartments; Peng & Thibodeau a penalty for heavier spending. We reproduce both.

Are the results consistent? Renovated buildings do pull ahead of matched peers



What the peer comparison adds

No sign of treated buildings pulling ahead before spending began. If anything Office buildings were slipping into the event.

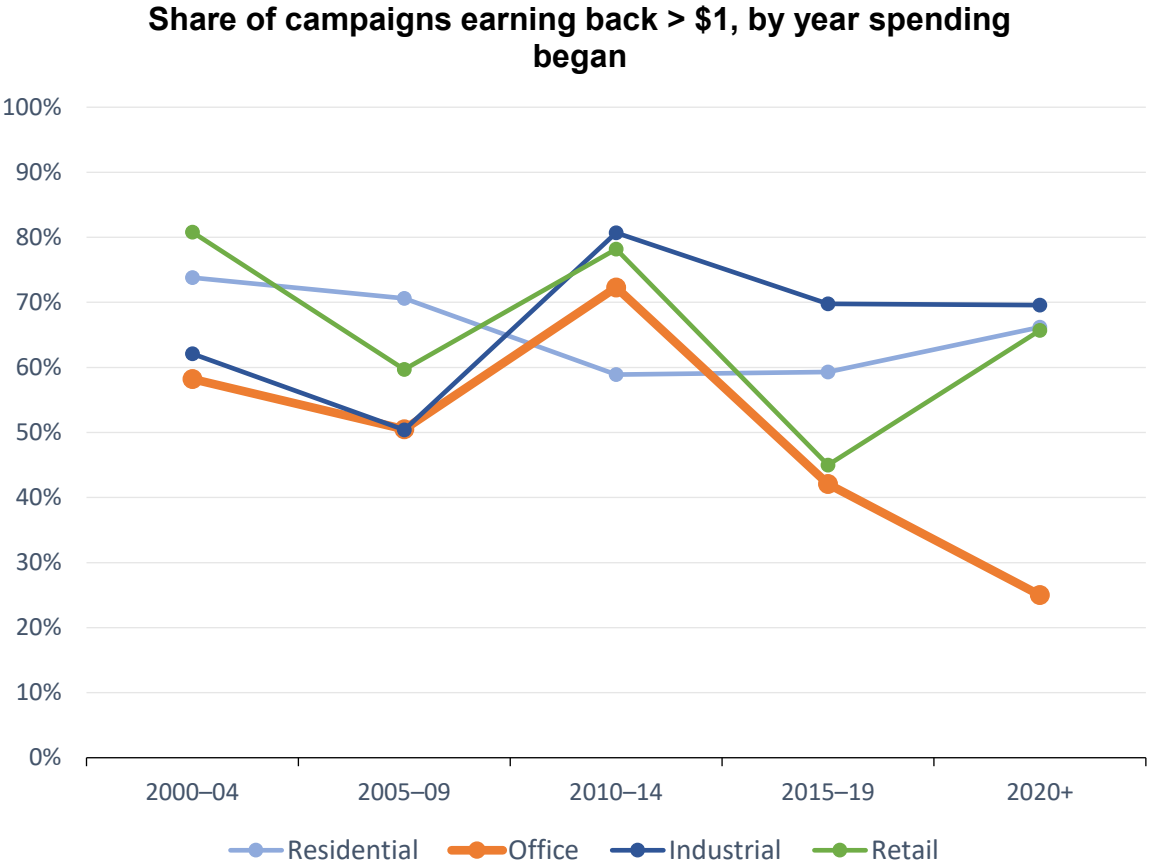
Value after five years. Retail +21%, Office +13%, Industrial +10%, Residential +6%. All significant.

NOI after five years. Retail +17%, Industrial +9%, Office +6%, Residential -2% (n.s.) — apartment capex shows up in value more than in measured NOI.

But a lift is not a payoff. Treated Office gained 14.3% while matched peers were flat — and the median Office campaign cost 13.4% of value. A +13.4% gap is roughly break-even, which is why half still fail the \$1 test.

The DiD never subtracts what the renovation cost. That is what the other two tests do.

When it worked: 2010–14 was the good era, and Office broke before the pandemic



Office, by year spending began

Start year	N	Median per \$1	% > \$1	Value vs peers
2018	33	+\$0.24	27%	+11%
2019	28	–\$0.35	14%	–5%
2020	28	–\$1.68	14%	–21%
2021	13	–\$0.55	15%	+3%
2022	7	+\$0.42	29%	–14%
2023	11	+\$0.74	45%	+17%
2024	8	+\$0.88	38%	+11%

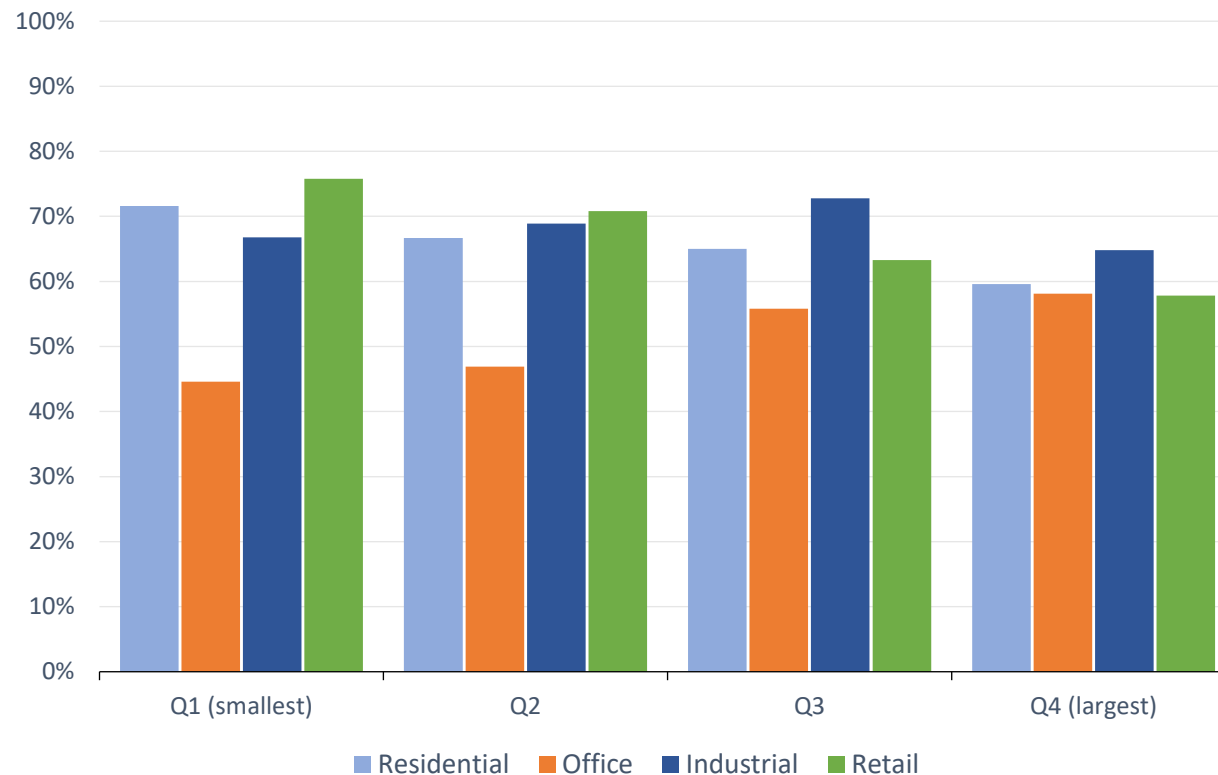
2010–14 starts were the best era in three sectors (post-GFC cap-rate compression); 81% of Industrial campaigns paid off.

Office weakened from 2018 — before COVID — and collapsed for 2020–21 starts. 2023–24 look better, but N is small and the windows are incomplete.

Retail's 2015–19 starts ran into the e-commerce dislocation; 2020+ survivors are back to 66%.

Where it bites: smaller buildings, leaner campaigns — and "value-add" is not a premium

Share of campaigns earning back > \$1, by starting-value quartile within sector



Building size, and how much you spend on it

Smaller buildings pay off more reliably in Residential and Retail: pooled odds of clearing \$1 fall from about 70% at \$10M to 60% at \$200M.

Office runs the other way — but not significantly ($z = 1.65$), and capex intensity does not explain it.

The heaviest campaigns are the worst in every sector.

Residential falls from a \$2.89 median to \$0.77, and from 72% to 48% clearing \$1, once spending passes a third of value. Peng & Thibodeau found the same gradient.

"Value-add" is not a premium

Below-peer-occupancy campaigns do not beat routine ones: the gap in % clearing \$1 is +1 to +4 pp in three sectors and -8 pp in Industrial, and the apparent premium in the dollar regression vanishes when the top 5% of projects are trimmed.

The levered value-add premium in the literature is a leverage result (Shilling & Wurtzebach 2012), not a per-dollar capex effect.

What it means — and what to push back on

For capital allocation

CapEx productivity differs enormously by sector. Industrial and Retail earn the most per dollar; Office needs the hardest look, above all for campaigns begun after 2017.

More, smaller campaigns beat a few large ones — and leaner campaigns relative to value beat heavy ones in every sector.

Do not underwrite "value-add" as a per-dollar premium. Below-peer-occupancy campaigns do not systematically outperform routine ones.

Read the era. 2010–14 was unusually good; post-2018 Office capex should be underwritten against a structurally weaker baseline.

Caveats, and what is next

The measured payoff is probably a lower bound: appraisal smoothing, the J-curve inside a five-year window, and windows cut off at the panel edge all push it down.

Excess is measured over a peer that already does routine capex. A slope below 1 means the extra dollar did not cover itself, not that capex destroyed value.

Owners choose which buildings to renovate — and that is the question. We measure whether the campaigns managers actually undertook earned their cost, so their judgment is part of what is being evaluated. The narrower caveat: we cannot fully separate "capex pays" from "these managers picked well."

Scope. Five-year window; building improvements and expansion only; Self Storage and Hotel excluded for sample size. Window-length and capex-subtype sensitivity still to run.

Quick Hit: Apartment rent growth battles cost pressure

Dakota Firenze, Lead Economist - Real Estate Economics

October 2026



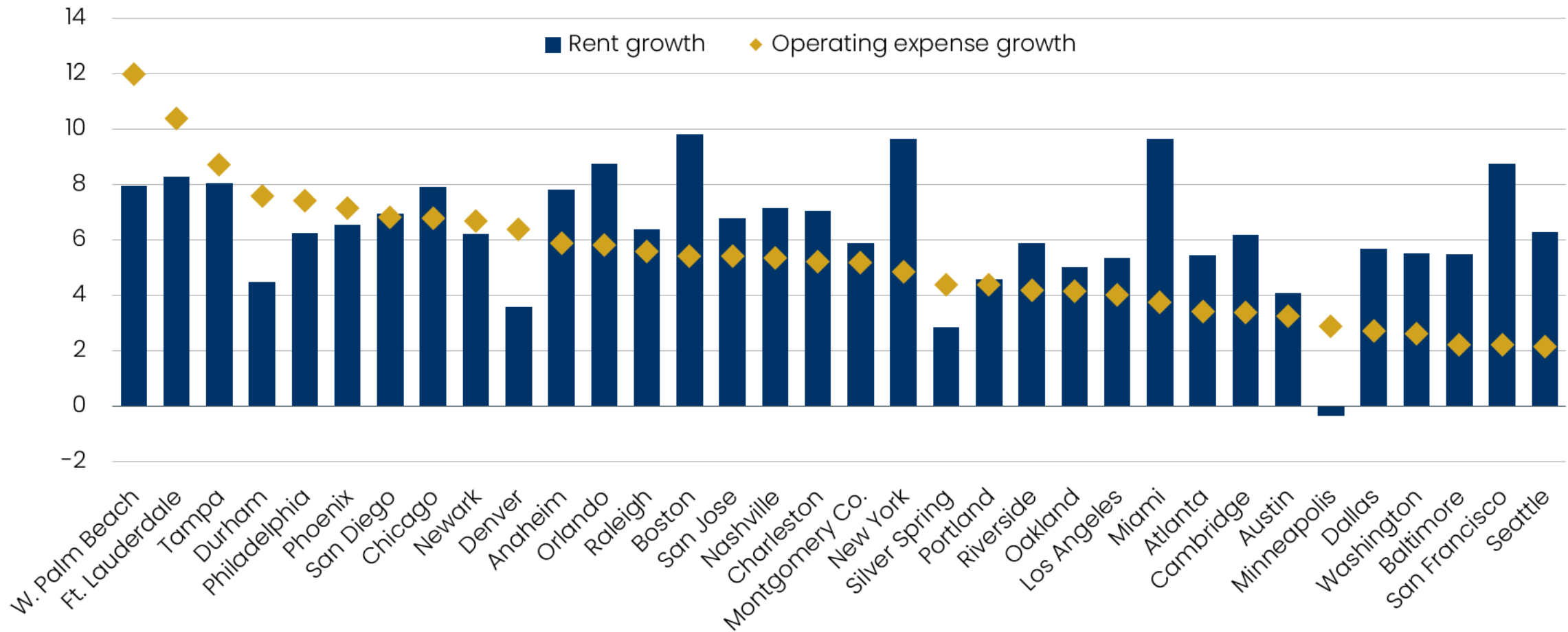
UNLOCK THE POWER
OF ECONOMICS

Rising costs eroded apartment rent gains despite strong demand

Operating expenses outpaced rents in several markets since 2020, including some where rents rose 6-8% annually

US apartment sector rent and expense growth, 2020-2025

% average annual change



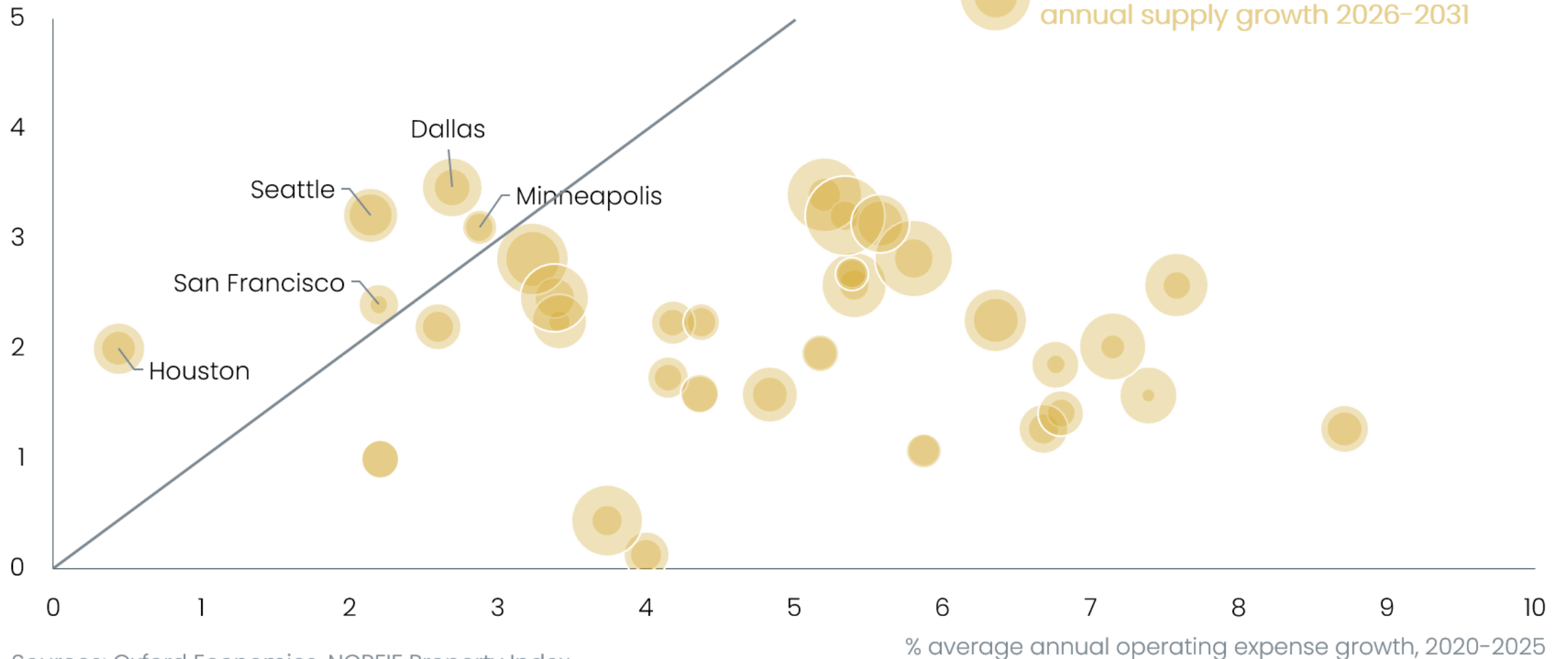
Sources: Oxford Economics, NCREIF Property Index

Few markets will see rent growth outpace recent expense pressure

Supply growth will slow, but most markets still face rent growth below 5-year average pace of expense growth

US apartment rent and expense growth

% average annual forecasted rent growth, 2026-2031

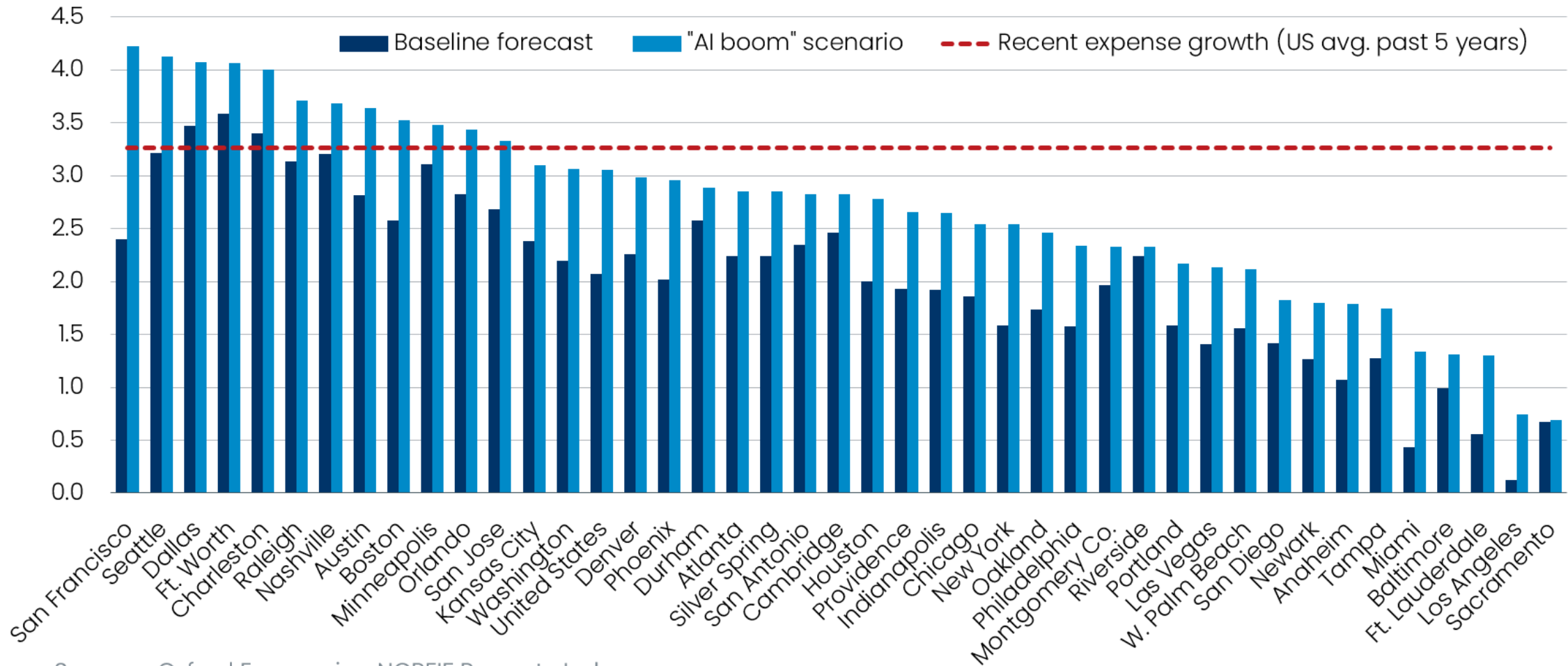


AI-led upside could lift more markets above recent expense growth

Our "AI boom" scenario raises rent growth above recent expenses in 12 markets, versus just 3 under baseline

US apartment rent growth forecasts, 2026-2031

% average annual change



Sources: Oxford Economics, NCREIF Property Index

POLL QUESTION

Who nailed the quick hit?

- Yasmine
- Matt
- Sally
- Jeff
- Dakota
- Mike
- Erin



THANK YOU!

Questions?

