Recessions & Property Values: Multifamily Lessons from the Global Financial Crisis

CBRE

EXECUTIVE SUMMARY

RECESSIONS & PROPERTY VALUES: MULTIFAMILY LESSONS FROM THE GLOBAL FINANCIAL CRISIS

-24.7%
Peak-to-Trough
Loss of Value
(From Q2 2008 to Q4 2009)

6 Quarters
Peak-to-Trough
Length of Decline
(From Q2 2008 to Q4 2009)

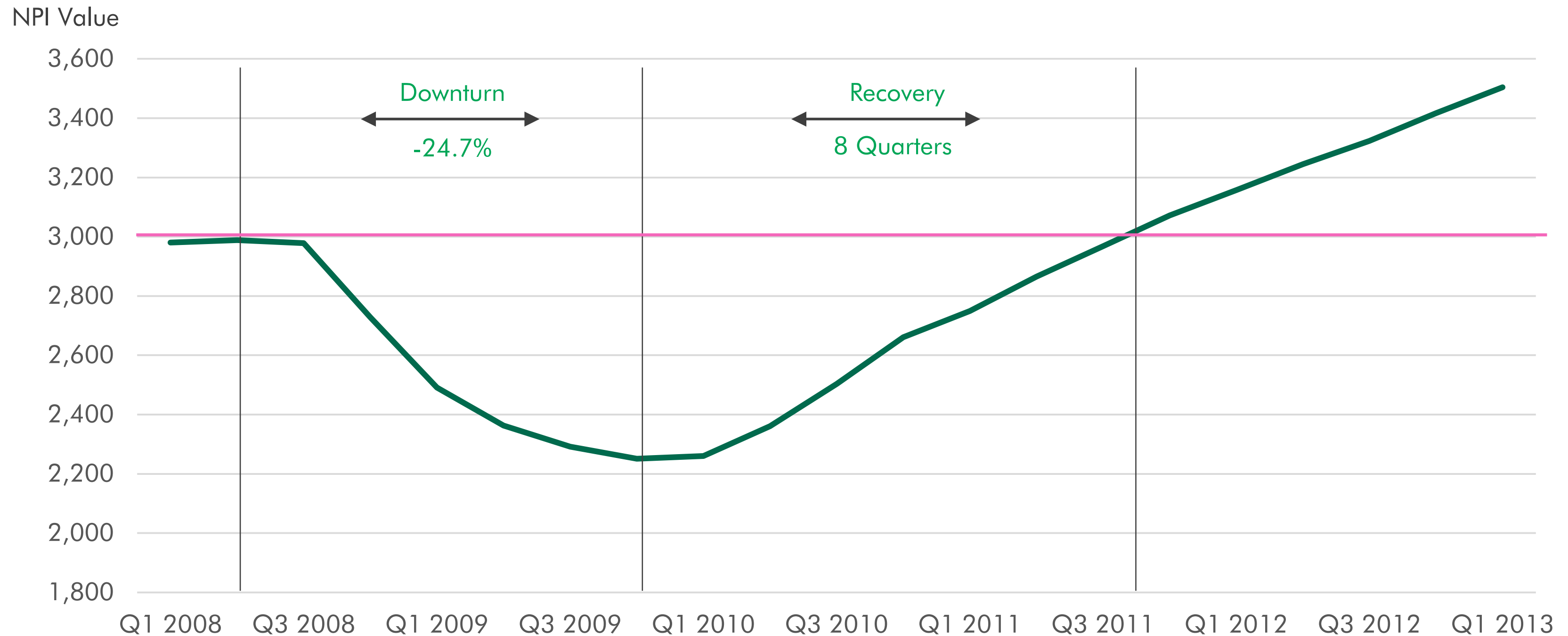
8 Quarters
Post-GFC
Recovery Period
(From Q4 2009 to Q4 2011)

- Multifamily institutional assets lost 24.7% in value* during the Global Financial Crisis (GFC), falling for six consecutive quarters after peaking in Q2 2008.
- It took eight quarters for multifamily values to reach their pre-recession peak—faster than all other property types except for retail.
- When comparing peak-to-trough declines during the GFC, primary markets were more deeply impacted than secondary markets. Recovery times were generally shorter for secondary markets.
- If declines in multifamily property values during the COVID-19 recession and their recovery periods were to follow a pattern similar to the GFC, then values would bottom out in Q3 2021 and fully recover by Q3 2023.
- Based on the current outlook for the economy and for property market fundamentals, CBRE Research expects that multifamily rents will bottom out in Q1 2021. As rents track closely with property values, CBRE Research expects the trough in values will be reached sooner than during the GFC.
- The capital markets will provide a boost to multifamily investment in three ways: plenty of available capital, less price sensitivity and adequate debt financing.

* Based on the NCREIF Property Index (NPI). The total index value represents value created from property income growth and from appreciation. References to these are often referred to as returns. While multifamily property values declined 24.7% on average, it does not necessarily reflect the change in values for actual properties that traded (see Appendix for definitions and methodology).

FIGURE 1

MULTIFAMILY PROPERTY VALUES LOSE 24.7%; FULLY RECOVER IN EIGHT QUARTERS

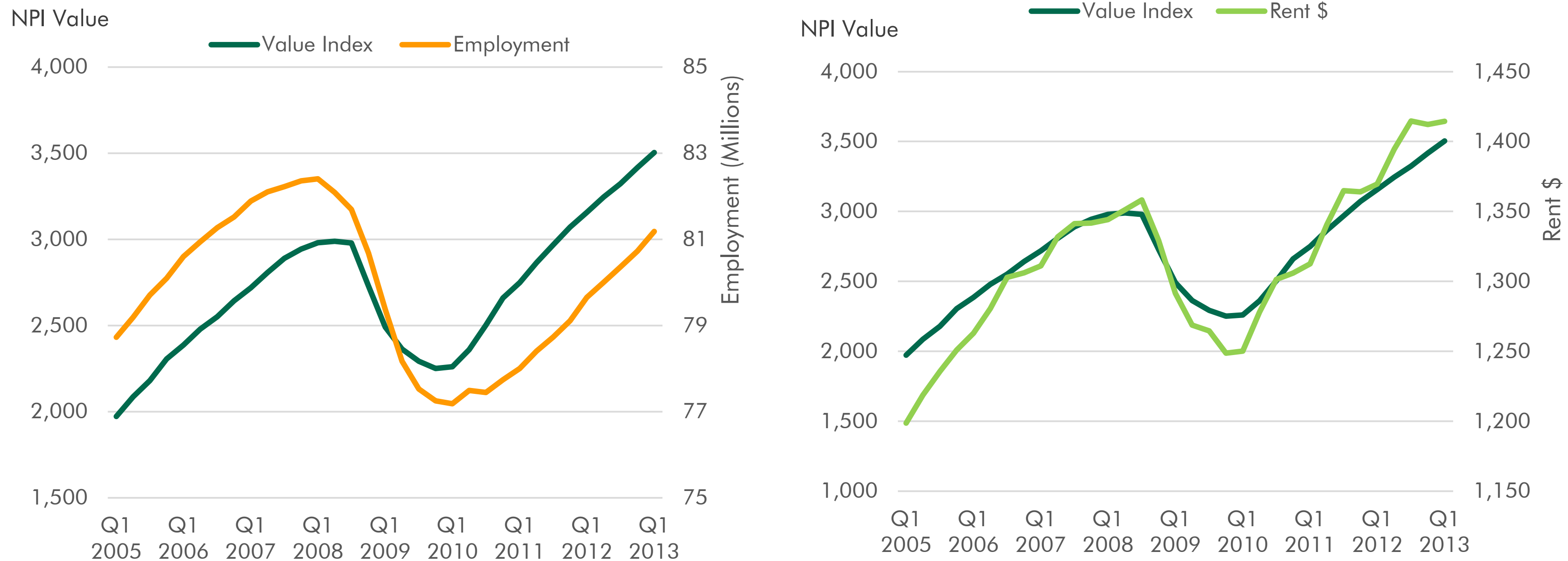


Source: CBRE Research, NCREIF, Q2 2020.

- During the GFC, multifamily property values peaked in Q2 2008 and declined for six consecutive quarters, falling by 24.7%. However, values did not start truly eroding until the start of Q3 2008.
- It took eight quarters for multifamily values to reach their pre-recession peak in Q4 2011, although values had nearly recovered by Q3 2011.

FIGURE 2

DECLINE IN PROPERTY VALUES LAGGED JOB LOSSES

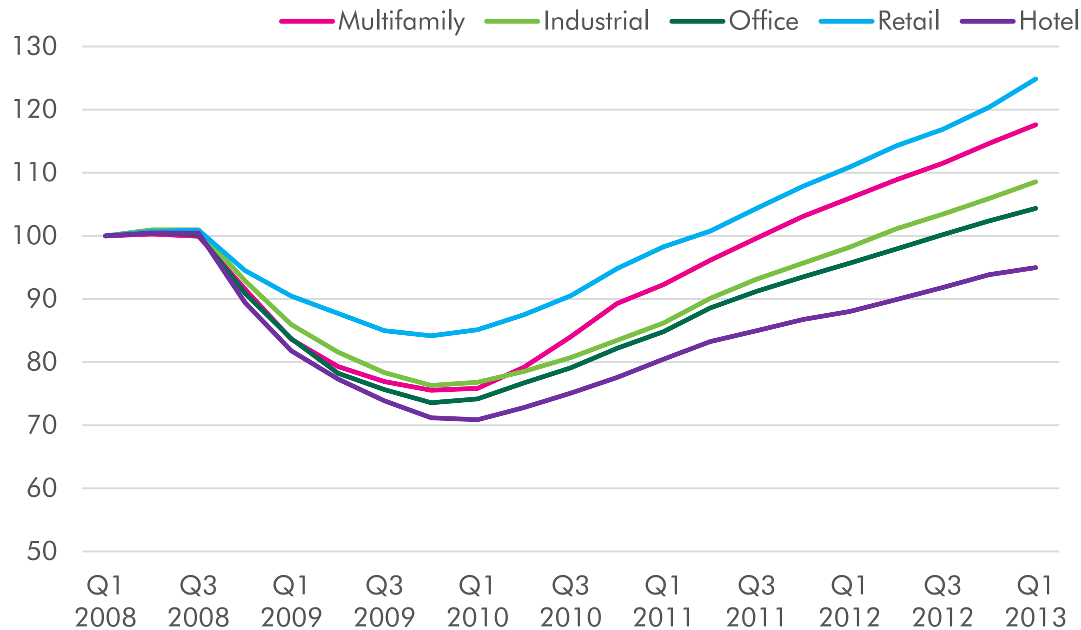


Source: CBRE Econometric Advisors, NCREIF, Q2 2020. Note: Employment is seasonally adjusted.

- Employment is a major driver of demand and is closely correlated with multifamily pricing. The erosion of multifamily property values during the GFC lagged job losses by two quarters. While property values for multifamily assets peaked in Q2 2008, values did not start truly eroding until Q3 2008—lagging employment losses by two quarters.
- Employment bottomed out in Q1 2010, one quarter after NCREIF index values reached a trough (Q4 2009).
- Rents peaked in Q3 2008 and started declining during the same quarter as multifamily values (although the technical peak for multifamily values was in Q2 2008).

FIGURE 3

MULTIFAMILY PROPERTY VALUES WERE MOST RESILIENT EXCEPT FOR RETAIL



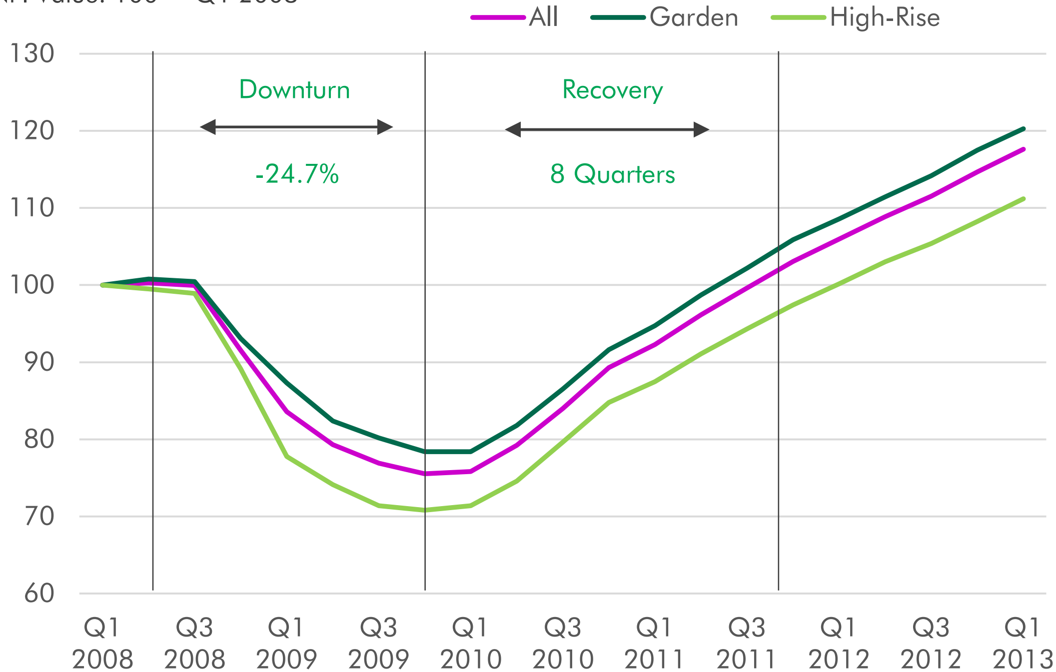
Property Type	Pre-GFC Peak	GFC Trough	Index Value Change (%)	Post GFC Recovery	Recovery Period (Quarters)
Multifamily	Q2 2008	Q4 2009	-24.7	Q4 2011	8
Industrial	Q2 2008	Q4 2009	-24.4	Q2 2012	10
Office	Q2 2008	Q4 2009	-26.8	Q4 2012	12
Retail	Q3 2008	Q4 2009	-16.6	Q3 2011	7
Hotel	Q3 2008	Q1 2010	-29.4	Q4 2013	15

Source: CBRE Research, NCREIF, Q2 2020.

- The value index starts at 100 in Q1 2008 and the graph shows the change in the level of the index through the downcycle and recovery.
- Pre-recession values peaked in Q2 2008 then lost 24.7% in value over the following six quarters.
- After multifamily values hit a trough in Q4 2009, it took eight quarters to recover to the pre-recession peak–faster than all property types except for retail.
- The decline in multifamily values was on par with industrial's -24.4% but was less than that for the office and hotel sectors.

FIGURE 4

GARDEN PROPERTIES OUTPERFORMED HIGH-RISE



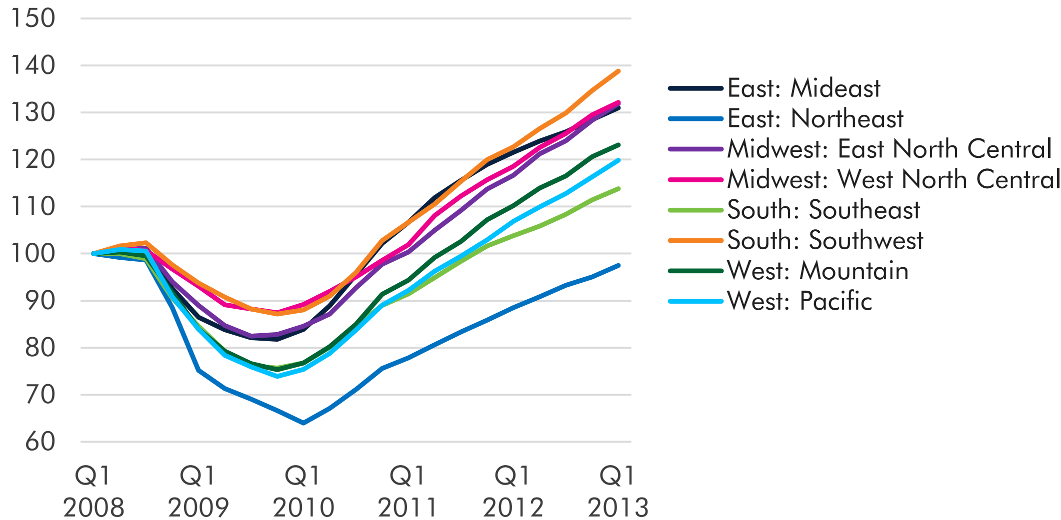
Property Type	Pre-GFC Peak	GFC Trough	Index Value Change (%)	Post-GFC Recovery	Recovery Period (Quarters)
All	Q2 2008	Q4 2009	-24.7	Q4 2011	8
Garden	Q2 2008	Q1 2010	-22.2	Q3 2011	6
High-Rise	Q1 2008	Q4 2009	-29.2	Q1 2012	9

Source: CBRE Research, NCREIF, Q2 2020.
Note: Timeline on graph represents "All" multifamily.

- Values of high-rise multifamily assets peaked in Q1 2008.
- High-rise values fell 29.2% and recovered slower than garden values, taking nine quarters to reach their pre-recession peak.
- Garden values fell 22.2% and took only six quarters to recover.
- Garden assets constituted most of the multifamily supply. They accounted for roughly 75% of all transactions in 2008 (2,882 properties) and about 80% (7,491 properties) in 2019, according to Real Capital Analytics.

FIGURE 5

WEST NORTH CENTRAL LEADS DIVISIONS; NORTHEAST MOST IMPACTED



- The West North Central and Southwest regional divisions had the lowest drops in multifamily property values during the GFC—13.6% and 14.8%, respectively—and the shortest recovery periods of five and four quarters.
- The Northeast (dominated by New York City) was hit the hardest, with multifamily values declining by 36.0%—well above the national average of 24.7%. It took 14 quarters for values to reach their pre-recession peak.

Division	Pre-GFC Peak	GFC Trough	Index Value Change (%)	Post-GFC Recovery	Recovery Period (Quarters)
Northeast	Q1 2008	Q1 2010	-36.0	Q3 2013	14
Pacific	Q2 2008	Q4 2009	-26.7	Q4 2011	8
Mountain	Q2 2008	Q4 2009	-24.9	Q3 2011	7
Southeast	Q2 2008	Q4 2009	-24.3	Q4 2011	8
Mideast	Q2 2008	Q4 2009	-18.6	Q4 2010	4
East North Central	Q3 2008	Q3 2009	-18.4	Q2 2011	7
Southwest	Q3 2008	Q4 2009	-14.8	Q4 2010	4
West North Central	Q2 2008	Q4 2009	-13.6	Q1 2011	5

Source: CBRE Research, NCREIF, Q2 2020.

FIGURE 6

HISTORICAL VOLATILITY OF INVESTMENT RETURNS FOR MULTIFAMILY ASSETS ON PAR WITH INDUSTRIAL

Property Type	Average One-Year Total Return (%)	Standard Deviation (%)
Retail	6.14	7.44
Industrial	3.98	7.62
Multifamily	5.13	7.69
Office	3.68	8.62
Hotel	1.81	11.27
Garden	5.36	7.06
High Rise	4.54	9.30

Division	Average One-Year Total Return (%)	Standard Deviation (%)
Southwest	8.04	5.70
West North Central	6.81	5.90
East North Central	7.03	6.65
Mideast	6.58	7.59
Mountain	5.83	8.11
Southeast	4.19	8.29
Pacific	5.57	9.14
Northeast	2.53	9.62

- Return volatility as measured by standard deviation provides the best gauge of changes in property values during the GFC. Lower volatility is considered more favorable for long-term investment (less risk).
- Retail had the lowest standard deviation in returns over the past 25 years, with multifamily closely following. When comparing average total returns during and after the GFC (Q1 2008 to Q4 2013), multifamily was behind retail with annual returns of 5.13% and 6.13%, respectively.
- By regional division, the Southwest fared the best with the highest return and second-lowest standard deviation. The Northeast had the lowest returns and highest standard deviation of any division.

Source: CBRE Research, NCREIF, Q2 2020.
Notes: Average return period is from 2008 to 2013. Standard deviations calculated over past 25 years.

FIGURE 7

VOLATILITY OF INVESTMENT RETURNS LOWEST AMONG SECONDARY MARKETS

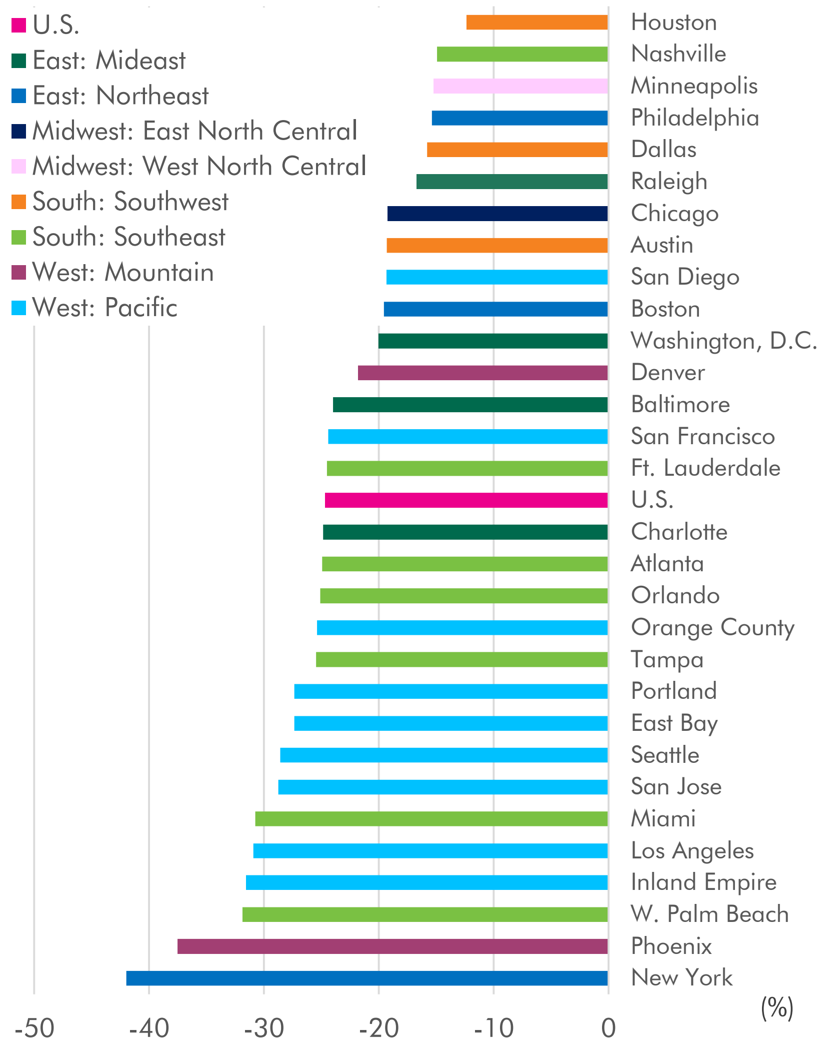
Rank by Market Size*	Tier	MSA or Metropolitan Division	Average Total Return (%)	Standard Deviation (%)
12	II	Houston	8.38	6.13
6	II	Dallas	7.79	6.27
33	II	Raleigh	8.33	6.33
17	II	Philadelphia	7.06	6.84
20	II	Minneapolis	7.33	6.84
31	II	Nashville	7.67	6.88
9	I	Boston	6.62	7.22
7	I	Chicago	7.24	7.31
19	II	Austin	7.59	7.32
		U.S.	**5.13**	**7.67**
13	II	Atlanta	4.17	7.67
25	II	Charlotte	6.21	7.81
14	II	Denver	8.55	8.09
10	I	San Diego	6.91	8.62
3	I	Washington, D.C.	6.68	9.07
15	I	East Bay	6.44	9.17
2	I	Los Angeles	4.27	9.39
26	II	Tampa	4.04	9.47
27	I	Ft. Lauderdale	5.06	9.58
18	II	Portland	7.97	9.81
11	I	San Jose	8.25	9.94
4	I	Seattle	6.35	10.14
1	I	New York	0.90	10.34
22	I	Inland Empire	3.60	10.48
5	I	San Francisco	10.37	10.88
23	II	Baltimore	6.84	10.88
24	II	Orlando	2.46	10.91
16	II	Phoenix	1.63	11.33
8	I	Orange County	5.05	11.36
21	I	Miami	7.75	11.52
37	I	W. Palm Beach	3.49	12.28

- Houston, Dallas and Raleigh had the lowest standard deviations over the past 25 years. During the GFC, these markets had the smallest declines in property values and the fastest recovery times.
- Florida and California markets showed the most volatility. West Palm Beach and Miami had the largest standard deviations over the long term. New York, which had the lowest returns of any market, also had a standard deviation well above the national average.

Source: CBRE Research, NCREIF, Q2 2020.
Notes: Average return period is from 2008 to 2013. Returns represent a one-year change in the NPI. Standard deviations calculated over past 25 years. Tiering based on CBRE North America Cap Rate Survey.
*Ranking by asset value (CoStar Group).

FIGURE 8

CHANGE IN PROPERTY VALUES DURING GFC BY METRO

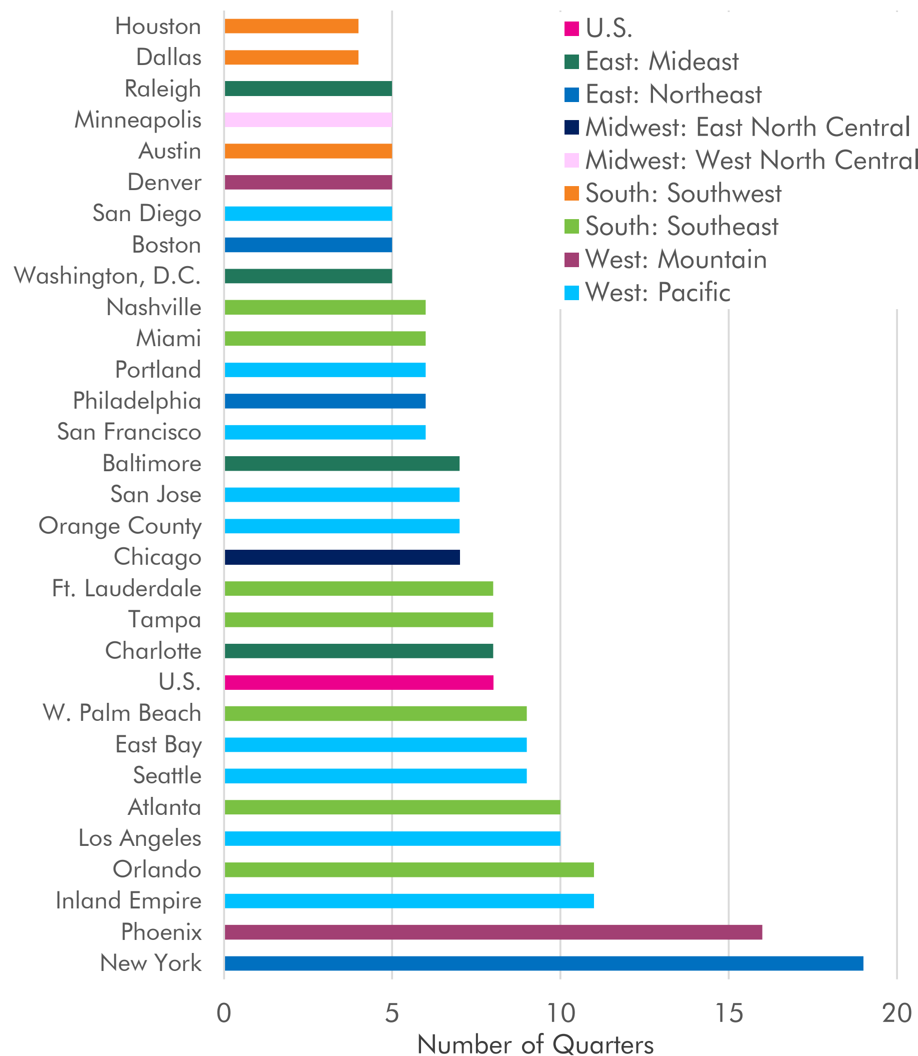


- Multifamily property values fell by varying degrees in both gateway and secondary markets. Florida and California markets were hit the hardest.
- Of the 30 markets for which data is available, 11 declined by 20% or less.
- Houston and Nashville were least impacted by the GFC, contracting by 12.4% and 14.9%, respectively. Minneapolis (-15.3%), Philadelphia (-15.4%) and Dallas (-15.8%) closely followed.
- Six markets lost more than 30% in value from peak to trough: New York (-42.0%), Phoenix (-37.5%), West Palm Beach (-31.9%), the Inland Empire (-31.6%), Los Angeles (-30.9%) and Miami (-30.8%).

Source: CBRE Research, NCREIF, Q2 2020. Note: Metros are both metropolitan divisions and metropolitan statistical areas.

FIGURE 9

RECOVERY TIME FOR PROPERTY VALUES BY METRO

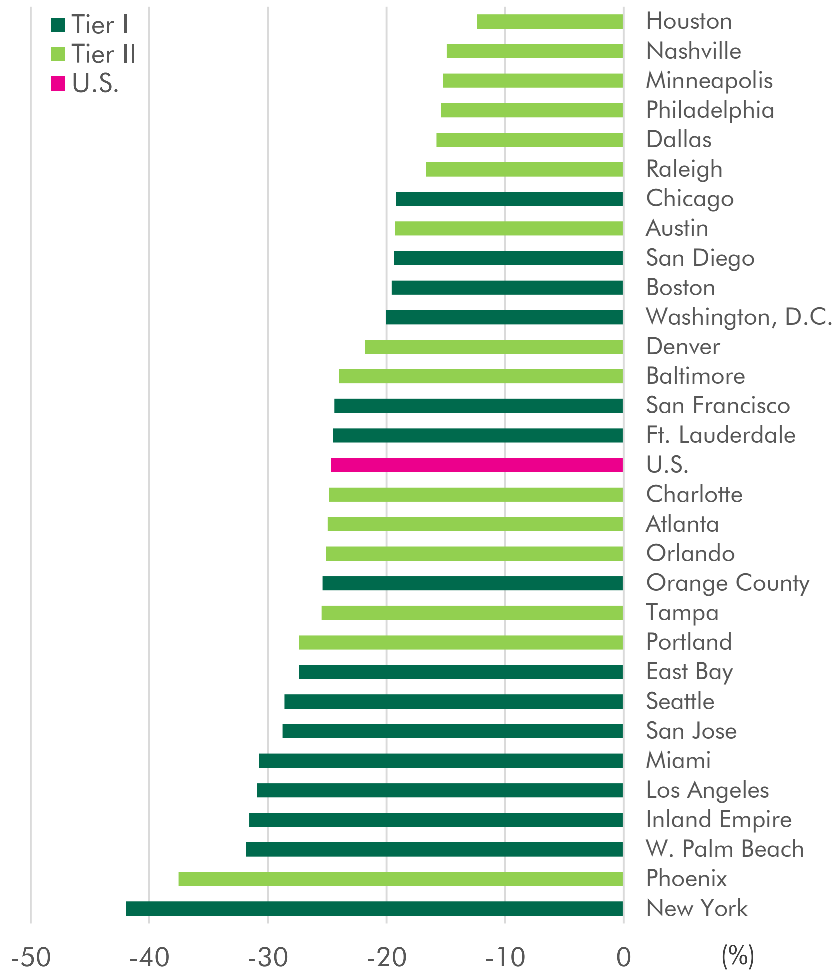


Source: CBRE Research, NCREIF, Q2 2020.

- Recovery times after the GFC were generally shorter for markets that had shallower drops in value.
- Of the 30 markets for which data is available, nine recovered in less than six quarters. Twelve markets took at least two years to recover.
- Houston and Dallas had the shortest recovery periods (both four quarters), while Phoenix and New York had the longest (16 and 19 quarters, respectively).

FIGURE 10

INDEX VALUE CHANGE DURING GFC BY METRO



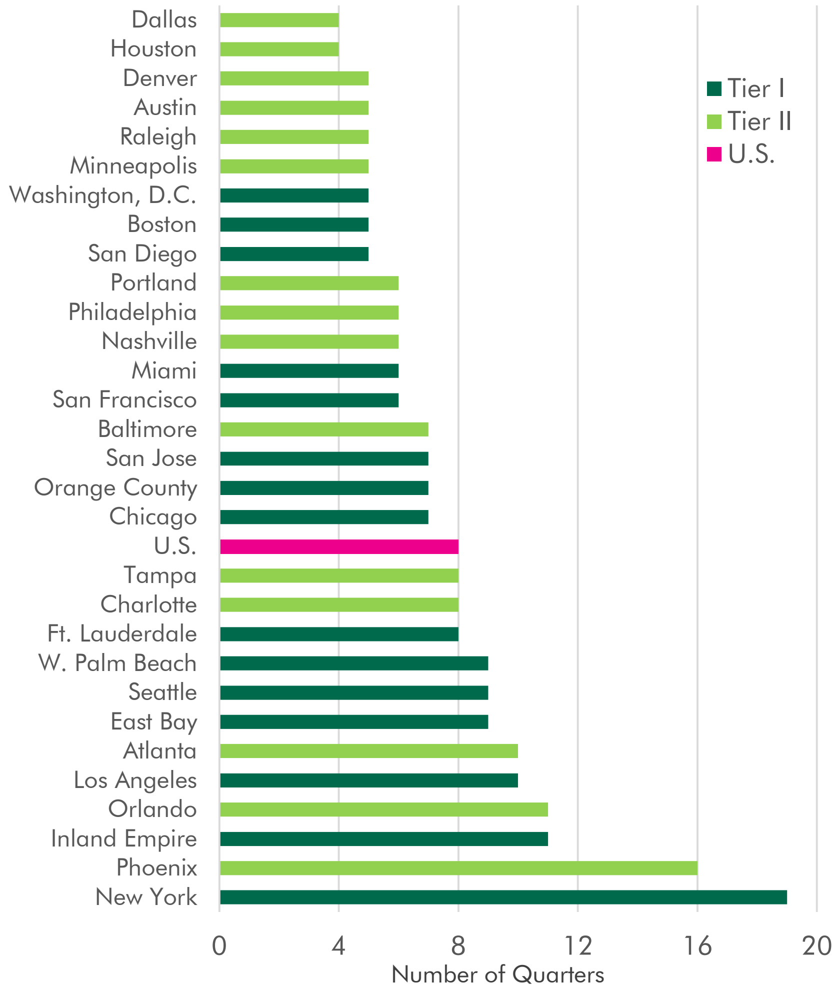
- Markets are grouped into tiers based on CBRE's Cap Rate Survey methodology, which includes recent rents, long-term investment volume and cap rates.
- Comparing peak-to-trough declines by tier, there is clearly a concentration of Tier I markets that had bigger declines in property values during the GFC.
- Tier I markets lost 27.0% in value, while Tier II markets lost 21.4%.
- Of the 10 markets that had the biggest declines in value, eight were Tier I markets. Seven of the 10 least impacted were Tier II markets.

Tier	Number of Markets	Average* Value Change (%)
Tier I	15	-27.0
Tier II	15	-21.4
U.S.		-24.7

Source: CBRE Research, NCREIF, Q2 2020. Note: Tiering based on CBRE North America Cap Rate Survey.
*Averages in table are unweighted.

FIGURE 11

RECOVERY TIME FOR INDEX VALUES BY METRO



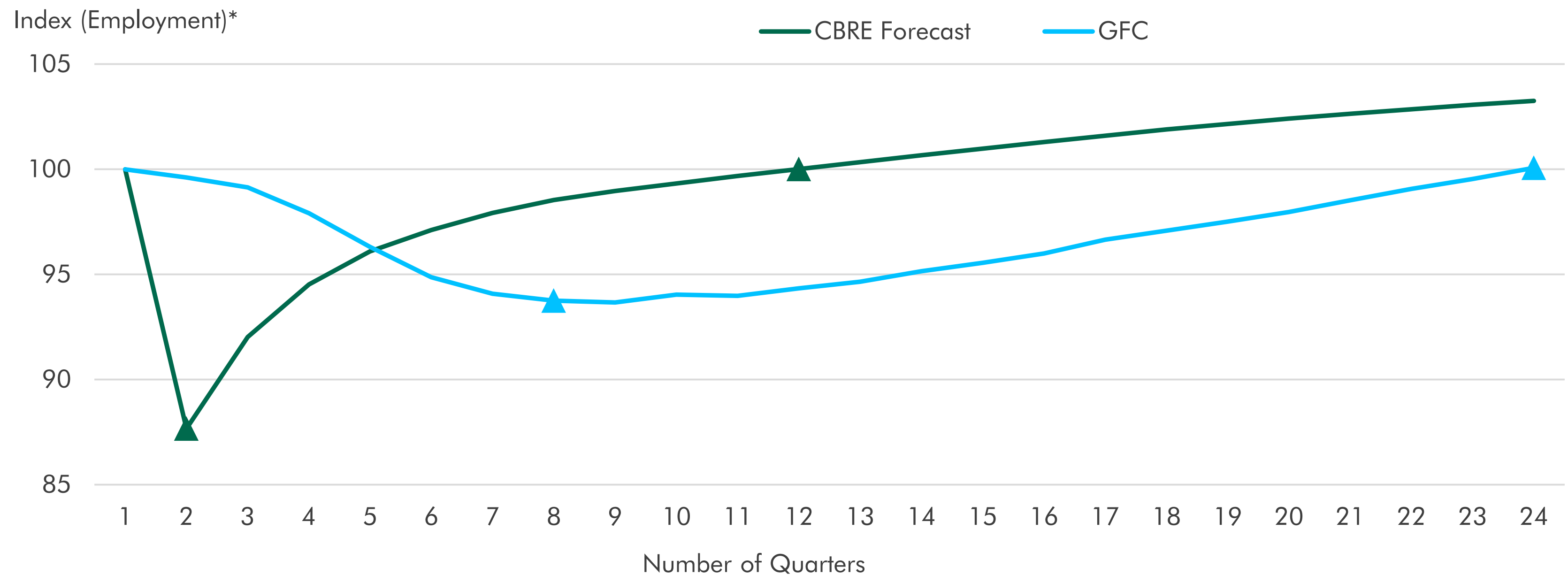
- Tier I markets took an average of 8.2 quarters to reach their pre-recession peaks in property values, while Tier II markets took 7.1 quarters.
- Of the 10 markets that had the longest recovery periods, seven were Tier I markets. Seven of the 10 markets that recovered the fastest were Tier II markets.

Tier	Number of Markets	Average* Recovery Time (Quarters)
Tier I	15	8.2
Tier II	15	7.1
U.S.		8.0

Source: CBRE Research, NCREIF, Q2 2020. Note: Tiering based on CBRE North America Cap Rate Survey.
*Averages in table are unweighted.

FIGURE 12

COMPARING EMPLOYMENT CYCLES: GFC & COVID-19

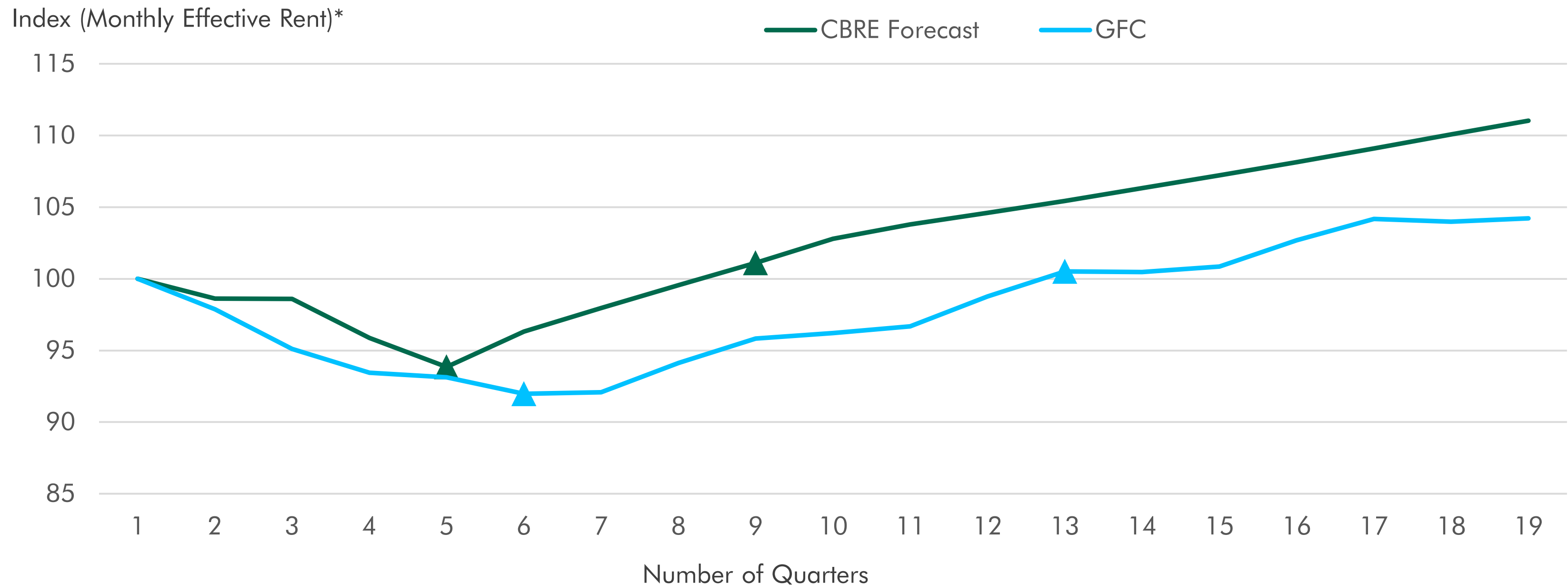


Source: CBRE Econometric Advisors, Q2 2020.
* Graph indexes U.S. employment levels at 100 at the peak of GFC employment (Q1 2008) and at the start of COVID-19 (Q1 2020).
Note: Triangle markers indicate trough and recovery points.

- For the current recession, CBRE Econometric Advisors expects that the downturn and recovery will be faster. During the GFC, it took six years for jobs to fully recover to pre-recession levels. CBRE EA predicts a complete job recovery in less than three years, by Q4 2022.
- Multifamily property values during and after the GFC fell by 24.7% over six quarters and took eight quarters to fully recover to the pre-recession peak.
- By applying the GFC experience to the current recession, values would fall for six quarters from Q1 2020 through Q3 2021. After reaching a bottom in Q3 2021, values would rise steadily and reach their former peak values in Q3 2023.

FIGURE 13

COMPARING MULTIFAMILY RENT CYCLES: GFC & COVID-19



Source: CBRE Econometric Advisors, Q2 2020.
* Graph indexes monthly effective rents at 100 at the start of GFC rent declines (Q3 2008) and at the start of COVID-19 (Q1 2020).
Note: Triangle markers indicate trough and recovery points.

- CBRE EA projects that U.S. multifamily rents will decline through Q1 2021, followed by a steady recovery. Rents should stabilize and reach pre-COVID levels by Q1 2022.
- During the last economic downturn, it took 13 quarters for rents to return to pre-recession levels. For this recession, CBRE EA is forecasting rent recovery in nine quarters. If rent and value cycles are concurrent, and if forecast rents have a shallower downturn and faster recovery than the last cycle, then property values likely will follow suit.
- The capital markets will provide a boost to multifamily investment in three ways: plenty of available capital, less price sensitivity and adequate debt financing.

APPENDIX: SUMMARY ANALYSIS

MULTIFAMILY PROPERTY VALUES – CHANGE BY METRO DURING GFC

Market Size Ranking*	Tier	MSA or Metropolitan Division	Pre-GFC Peak	GFC Trough	Post-GFC Recovery	Value Change (%)	Recovery Period (Quarters)	Property Count Q1 2008
1	I	New York	Q1 2008	Q1 2010	Q4 2014	-42.0	19	79
2	I	Los Angeles	Q2 2008	Q4 2009	Q2 2012	-30.9	10	51
3	I	Washington, D.C.	Q2 2008	Q3 2009	Q4 2010	-20.0	5	46
4	I	Seattle	Q3 2008	Q4 2009	Q1 2012	-28.6	9	45
5	I	San Francisco	Q3 2008	Q4 2009	Q2 2011	-24.4	6	6
6	II	Dallas	Q3 2008	Q1 2010	Q1 2011	-15.8	4	71
7	I	Chicago	Q3 2008	Q3 2009	Q2 2011	-19.2	7	55
8	I	Orange County	Q2 2008	Q4 2009	Q3 2011	-25.4	7	19
9	I	Boston	Q3 2008	Q4 2009	Q1 2011	-19.6	5	17
10	I	San Diego	Q3 2008	Q3 2009	Q4 2010	-19.4	5	22
11	I	San Jose	Q2 2008	Q3 2009	Q2 2011	-28.8	7	11
12	II	Houston	Q3 2008	Q4 2009	Q4 2010	-12.4	4	72
13	II	Atlanta	Q2 2008	Q4 2009	Q2 2012	-25.0	10	108
14	II	Denver	Q2 2008	Q4 2009	Q1 2011	-21.8	5	44
15	I	East Bay	Q3 2008	Q4 2009	Q1 2012	-27.4	9	20

Source: CBRE Research, NCREIF, Q2 2020.
* Current ranking by total asset value (CoStar Group).
Note: Analysis based on NCREIF Property Index. Tiering based on CBRE North America Cap Rate Survey.

APPENDIX: SUMMARY ANALYSIS - CONTINUED

MULTIFAMILY PROPERTY VALUES – CHANGE BY METRO DURING GFC

Market Size Ranking*	Tier	MSA or Metropolitan Division	Pre-GFC Peak	GFC Trough	Post-GFC Recovery	Value Change (%)	Recovery Period (Quarters)	Property Count Q1 2008
16	II	Phoenix	Q3 2007	Q4 2009	Q4 2013	-37.5	16	38
17	II	Philadelphia	Q3 2008	Q4 2009	Q2 2011	-15.4	6	4
18	II	Portland	Q3 2008	Q1 2010	Q3 2011	-27.3	6	16
19	II	Austin	Q3 2008	Q4 2009	Q1 2011	-19.3	5	55
20	II	Minneapolis	Q2 2008	Q4 2009	Q1 2011	-15.3	5	28
21	I	Miami	Q3 2008	Q4 2009	Q2 2011	-30.8	6	6
22	I	Inland Empire	Q4 2007	Q4 2009	Q3 2012	-31.6	11	31
23	II	Baltimore	Q1 2008	Q2 2009	Q1 2011	-24.0	7	18
24	II	Orlando	Q1 2008	Q4 2009	Q3 2012	-25.1	11	27
25	II	Charlotte	Q3 2008	Q1 2010	Q1 2012	-24.9	8	22
26	II	Tampa	Q1 2008	Q4 2009	Q4 2011	-25.5	8	40
27	I	Ft. Lauderdale	Q1 2008	Q3 2009	Q3 2011	-24.5	8	34
28	II	Nashville	Q3 2008	Q4 2009	Q2 2011	-14.9	6	21
29	II	Raleigh	Q3 2008	Q4 2009	Q1 2011	-16.7	5	15
30	I	West Palm Beach	Q3 2007	Q3 2009	Q4 2011	-31.9	9	28
		United States	Q2 2008	Q4 2009	Q4 2011	-24.7	8	1419

Source: CBRE Research, NCREIF, Q2 2020.
* Current ranking by total asset value (CoStar Group).
Note: Analysis based on NCREIF Property Index. Tiering based on CBRE North America Cap Rate Survey.

APPENDIX: METHODOLOGY

Overview

- Determining how much multifamily property values fell during the last recession and how long it took for them to recover can be a gauge for what may happen during the current economic downturn, but certainly does not necessarily predict the future.
- This analysis focuses on how much values fell (not why they fell), the length of the recovery period and the variations of those changes by product type and geography.
- Although the U.S. officially went into an economic recession in December 2007, multifamily property values peaked in Q2 2008 but the downturn really picked up momentum in Q3 2008. Property values are considered recovered when they reach their pre-recession peak.

NCREIF Property Index

The National Council of Real Estate Investment Fiduciaries (NCREIF) is the leading source for investment returns. The NCREIF Property Index (NPI) is an industry benchmark for institutionally-owned properties in the U.S.

As of Q2 2020, the NPI covered 1,895 multifamily properties worth $179 billion, up from 1,419 properties worth $77 billion in Q1 2008.

The total index value represents both income and appreciation returns. The term “change in value” can be used interchangeably: It can represent a change in the total index value or a change in appreciation returns. This analysis uses the term to refer to the change in the total index value.

NPI Limitations

The calculation of the NPI market value index is based on appraisal values—and not transaction prices. The appraised values are the owners’ best estimates of what the property value is at the time of appraisal but does not necessarily reflect where sales prices are. Often if there is an estimated loss of value, owners will not transact. Therefore sales activity will rarely reflect the same level of value declines in the NPI.

The benefit of using an appraisal-based index is less volatility and lag changes (investment managers do not always fully revaluate a property every quarter).* For example, in this analysis, property values in New York City fell 42% during the GFC, however the mathematical value of the decline may be deeper when using transaction prices which factor in the Net Operating Income (NOI) of an asset.

NCREIF Asset Types

NCREIF defines garden apartments as properties under one management and situated on a sizable landscaped plot. NCREIF also has a “low-rise” category but it is excluded from this analysis due to similarities to garden.

High-rise assets are properties that are four stories or more in height.

Market Tiers

Metropolitan areas in the CBRE North America Cap Rate Survey are divided into three peer groups: primary (Tier I), secondary (Tier II) and tertiary (Tier III). Tier groupings are based on three metrics: recent rents, long-term cap rate averages and long-term investment volumes.

* Jeffrey Fisher, “US commercial real estate indices: the NCREIF property index,” BIS Papers No. 21, page 362.

FOR MORE INFORMATION, PLEASE CONTACT:

RICHARD BARKHAM, PH.D. MRICS
Global Chief Economist &
Head of Americas Research
+1 617 912 5215
richard.barkham@cbre.com
Follow Richard on Twitter: @RichardJBarkham

SPENCER G. LEVY
Chairman of Americas Research
& Senior Economic Advisor
+1 617 912 5236
spencer.levy@cbre.com
Follow Spencer on Twitter: @SpencerGLevy

JEANETTE I. RICE, CRE®
Americas Head of Multifamily Research
+1 214 979 6169
jeanette.rice@cbre.com
Follow Jeanette on Twitter: @RiceJeanette

GEORGE ENTIS
Senior Analyst, Multifamily Research
+1 831 402 7828
george.entis@cbre.com
Follow George on Twitter: @GeorgeEntis

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