Regional economic capitals and the Big Six

A data-driven approach to analyzing investment markets

by Stewart Rubin and Dakota Firenze

Boston, Chicago, Los Angeles, New York City, San Francisco, and Washington, D.C., are traditionally referred to as the "Big Six" U.S. investment markets. But is that really true? Our findings support the concept of the Big Six; however, we infer a larger theme. The nation's regional economic capitals, which also include Atlanta, Dallas, Denver, Seattle and Miami, have risen in importance and outperformed the top four investment markets (New York City, Los Angeles, San Francisco, and Washington, D.C.) as well as most of the rest of the United States over the past decade. Eight ascendant metros — Austin; Charlotte, N.C.; Denver; Nashville; Orlando; Phoenix; Portland, Ore.; and Raleigh/Durham, N.C. — have recorded exceptional performance over the past 15 years, reflecting their strong transformative growth.

"Regional economic capital" is not a governmental term and does not reflect any legal jurisdictional designation. It does represent, however, the central nexus of economic activity for a given region. It is typically the metro in which large national corporations set up their regional field offices and in which regional companies set up their headquarters. Regional economic capitals (RECs) have the largest economies as measured by gross domestic product by metro area in their respective regions and, in another reflection of their regional economic centrality and overall commercial activity, have the greatest number of commercial-aircraft passenger boardings in their section of the country.

U.S. metro areas, ranked by metro-level GDP, as of year ending 2017

Rank	Metro area	GDP ($b)
1	New York-Newark-Jersey City, NY-NJ-PA	$1,717.71
2	Los Angeles-Long Beach-Anaheim, CA	$1,043.74
3	Chicago-Naperville-Elgin, IL-IN-WI	$679.70
4	Dallas-Fort Worth-Arlington, TX	$535.50
5	Washington-Arlington-Alexandria, DC-VA-MD-WV	$529.99
6	San Francisco-Oakland-Hayward, CA	$500.71
7	Houston-The Woodlands-Sugar Land, TX	$490.07
8	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	$444.98
9	Boston-Cambridge-Newton, MA-NH	$438.68
10	Atlanta-Sandy Springs-Roswell, GA	$385.54
11	Seattle-Tacoma-Bellevue, WA	$356.57
12	Miami-Fort Lauderdale-West Palm Beach, FL	$344.88
13	San Jose-Sunnyvale-Santa Clara, CA	$275.29
14	Detroit-Warren-Dearborn, MI	$260.61
15	Minneapolis-St. Paul-Bloomington, MN-WI	$260.11
16	Phoenix-Mesa-Scottsdale, AZ	$242.95
17	San Diego-Carlsbad, CA	$231.85
18	Denver-Aurora-Lakewood, CO	$208.87
19	Baltimore-Columbia-Towson, MD	$192.18
20	Portland-Vancouver-Hillsboro, OR-WA	$171.77

Source: U.S. Bureau of Economic Analysis

New York City and, to a lesser extent, Los Angeles are not only premier international metropolises and the center of U.S. finance, trade, media and entertainment, but also function as RECs for the Mid-Atlantic and Southern California regions, respectively. Washington, D.C. (U.S. Capital), San Francisco (Northern California–area capital), Chicago (Midwest), Atlanta (Southeast), Dallas (Southwest), Seattle (Pacific Northwest), Boston (New England), Miami (South Florida, Caribbean, Central and South America) and Denver (Intermountain West) are RECs. The other top metro economies are Houston and Philadelphia.

Putting the REC label on specific U.S. metros seems intuitive for most observers of the national economy. Nevertheless, we present two heuristics that confirm our assumptions: GDP and airline passenger boardings.

Ten of the top 12 economies in the U.S. are RECs. The Big Six take six of the top 10 rungs, with the list rounded out by Dallas, Atlanta, Philadelphia and Houston. RECs have the largest economies in their respective regions (see table to the left).

Airline passenger boardings typically reflect a given metro's position as an REC. The center of economic activity is frequently an airline hub. In addition to GDP, we use passenger boardings as a proxy for economic activity. RECs are first in airline passenger boardings in each of their respective regions (see table below).

The metros were analyzed by a number of parameters to explore the hierarchy of invest-

Annual airline passenger boardings, 2017

Rank	Metro area	Passenger boardings (m)	Rank	Metro area	Passenger boardings (m)
1	New York City	65.9	11	Las Vegas	23.4
2	Los Angeles	52.8	12	Seattle	22.6
3	Atlanta	50.3	13	Charlotte, N.C.	22.0
4	Chicago	49.5	14	Orlando	21.6
5	Miami	39.6	15	Phoenix	21.2
6	Dallas/Fort Worth	39.4	16	Boston	18.8
7	San Francisco	39.4	17	Minneapolis/St. Paul	18.4
8	Washington, D.C.	35.5	18	Detroit	17.0
9	Denver	29.8	19	Philadelphia	14.3
10	Houston	26.1	20	Salt Lake City	11.6

Sources: U.S. Federal Aviation Administration, New York Life Real Estate Investors

Average annual commercial real estate investment volume, domestic and foreign (Q1 2015–Q2 2018)								
		Share of transaction volume						Average annual volume ($b)
Rank	Metro area	Office	Industrial	Retail	Apartment	Hotel	Other	
1	New York City	***39%***	8%	14%	26%	8%	6%	$69.84
2	Los Angeles	***28%***	21%	16%	25%	6%	3%	$45.61
3	San Francisco	***41%***	17%	10%	16%	10%	6%	$33.94
4	Washington, D.C.	***39%***	9%	11%	31%	7%	3%	$22.69
5	Dallas	24%	15%	10%	***44%***	5%	3%	$20.49
6	Chicago	***32%***	20%	17%	21%	7%	3%	$20.06
7	Atlanta	25%	14%	10%	***44%***	5%	2%	$17.13
8	Miami/South Florida	22%	12%	21%	***28%***	10%	7%	$16.68
9	Boston	***51%***	11%	7%	21%	7%	3%	$15.44
10	Seattle	***35%***	12%	10%	34%	5%	3%	$14.51
U.S. metro average		**19%**	**15%**	**20%**	**33%**	**10%**	**4%**	**–**

Source: Real Capital Analytics
Note: The leading property type investment in each metro is highlighted.

ment markets, including investment volume, RCA – Capital Liquidity Scores, RCA CPPI value increase and NCREIF indexes.

Investment volume

An important metric in determining investment market importance is the total investment volume. The table above details the average annual investment over the past 3.5 years for the top U.S. metros.

In terms of overall investment, except for Boston, the top five investment metros include the Big Six. Interestingly, the three metro areas in which investment exceeded Boston — Dallas, Atlanta and Miami/South Florida — did so primarily via apartment investments. Office was the No. 1 commercial real estate investment type for New York City; Los Angeles; San Francisco; Washington, D.C.; and Chicago. Boston rejoins the Big Six when only office investment is considered (see table to the right). The other RECs take the remaining four slots.

When analyzing the top metros for foreign investment, the traditional Big Six reappear in the top spots, followed by the other RECs (see table on page 42). As an examination of investment volume, these three tables include the Big Six as well as Miami, Dallas, Atlanta and Seattle. The top 10 in all three charts are RECs.

For the top 10 markets (3.5-year average, international and domestic), office and apartment investment constitute 61.8 percent of total volume. The other property types are more widely distributed. New York City, Chicago and Los Angeles are the top three retail markets, while New York City, Chicago, Los Angeles,

Average annual office investment volume (Q1 2015–Q2 2018)		
Rank	Metro area	Annual volume ($b)
1	New York City	$27.26
2	San Francisco	$13.83
3	Los Angeles	$12.84
4	Washington, D.C.	$8.90
5	Boston	$7.80
6	Chicago	$6.40
7	Seattle	$5.04
8	Dallas	$4.83
9	Atlanta	$4.34
10	Miami/South Florida	$3.59

Source: Real Capital Analytics

Dallas and Atlanta top the industrial sector. The tourism magnets of Las Vegas, New York City and Orlando take the first three spots for the lodging sector.

A clear theme of investment activity is the high placement of the RECs, with particular emphasis on the Big Six.

RCA – Capital Liquidity Scores

According to Real Capital Analytics, their Capital Liquidity Scores "not only quantify the depth and breadth of capital in a market, they also impart the value that investors place on liquidity worldwide." RCA uses two absolute measures, volume (25 percent weight) and number of unique buyers (25 percent), and four relative measures: percentage share of global cross-border investment (20 percent),

Average annual commercial real estate investment volume, foreign only (Q1 2015–Q2 2018)								
		Share of transaction volume						Average annual volume ($b)
Rank	Metro area	Office	Industrial	Retail	Apartment	Hotel	Other	
1	New York City	***54%***	3%	10%	15%	13%	5%	$18.78
2	Los Angeles	***32%***	21%	22%	15%	10%	1%	$5.96
3	San Francisco	***44%***	11%	9%	9%	17%	9%	$5.30
4	Washington, D.C.	***66%***	2%	6%	18%	7%	0%	$4.93
5	Chicago	***40%***	28%	9%	7%	16%	0%	$3.01
6	Boston	***60%***	2%	3%	19%	9%	7%	$2.56
7	Miami/South Florida	***24%***	13%	21%	22%	16%	4%	$2.44
8	Dallas	29%	30%	5%	***31%***	4%	1%	$2.40
9	Atlanta	24%	30%	7%	***36%***	2%	1%	$2.36
10	Seattle	***54%***	20%	8%	10%	6%	3%	$1.95
U.S. metro average		**13%**	**25%**	**15%**	**23%**	**18%**	**1%**	**–**

Source: Real Capital Analytics
Note: The leading property type investment in each metro is highlighted.

RCA – Capital Liquidity Scores, as of Q4 2017					
Metro area	5-year avg.	Q4 2017	1 year ago	5 years ago	Minimum
Manhattan	89.3	91.3	91.4	89.7	75.8
Boston	79.2	88.6	88.3	79.5	58.8
Los Angeles	79.0	84.5	87.3	77.7	59.2
San Francisco	75.7	84.9	87.5	79.0	39.7
Chicago	75.5	85.4	87.5	73.0	48.6
Washington, D.C.	73.7	81.8	82.5	73.5	47.5
Houston	73.5	73.3	73.3	78.6	49.1
D.C. – Virginia suburbs	72.9	74.6	76.3	70.2	49.5
Seattle	71.3	81.0	83.2	73.7	39.4
Atlanta	70.3	77.1	77.7	70.6	49.2
Dallas	69.6	77.5	78.1	70.8	44.8
San Jose	69.1	75.6	78.6	69.6	39.5
San Diego	65.7	69.5	71.3	65.4	44.4
Denver	65.0	72.4	73.8	69.4	39.4
Phoenix	64.6	71.5	75.0	65.4	37.6
Orange County, Calif.	64.4	71.6	72.7	65.5	47.3
Northern New Jersey	64.2	71.0	71.1	63.4	43.0
Miami/Dade County, Fla.	64.0	70.7	72.5	63.8	43.9
East Bay, Calif.	63.2	69.9	76.8	59.5	38.5
Austin	60.8	70.6	73.9	61.4	25.2

Source: Real Capital Analytics

Note: The RCA liquidity scores use a combination of absolute and relative measures to calculate market liquidity. All quarterly inputs use 12-month trailing figures, and all measures are ranked using percentile calculations to create final inputs. The inputs are then weighed to create final market scores. Liquidity analysis is based on office, industrial, retail, apartment and hotel properties $10 million or greater.

Change in CPPI through August 2018								
Property type	**1-year**	**2-year**	**3-year**	**4-year**	**5-year**	**7-year**	**10-year**	**15-year**
Office	7.8%	13.8%	22.0%	34.5%	50.3%	67.7%	18.7%	63.4%
Office – CBD	1.7%	8.8%	20.3%	33.6%	55.7%	82.4%	46.2%	120.2%
Office – Suburban	9.1%	15.4%	22.5%	36.2%	50.4%	68.8%	14.4%	54.0%
Industrial	5.4%	16.0%	24.8%	36.9%	53.2%	72.1%	25.1%	75.2%
Retail	2.1%	3.6%	8.3%	18.6%	31.3%	50.8%	10.1%	41.0%
Commercial	5.4%	11.3%	18.6%	30.4%	45.1%	64.1%	17.9%	59.1%
Apartment	12.3%	23.6%	40.6%	57.7%	79.3%	116.3%	81.7%	133.5%
All types	7.7%	15.8%	27.2%	41.4%	57.8%	83.8%	39.6%	84.3%
Six major metros, all types	6.1%	14.9%	25.0%	40.1%	58.7%	83.9%	51.5%	116.0%
Nonmajor metros, all types	8.3%	16.1%	27.8%	41.7%	57.7%	85.4%	33.1%	69.5%

Source: Real Capital Analytics

percentage share of investment-grade investment (10 percent), percentage share of global market-maker investment (5 percent), and percentage share of zone market-maker investment (15 percent).

Based on the liquidity scores detailed for the five-year average and fourth quarter 2017, markets representing the Big Six take the first six places on the liquidity table (see table on page 42). Interestingly, Houston takes seventh place in the five-year average table. Based on the rankings of one year ago, Seattle displaces Washington, D.C. When looking at the state of the market five years prior, Houston and Seattle displace Chicago and Washington, D.C., in the top six positions.

RCA CPPI value increase relative to other markets

Collectively, the major markets of Boston, Chicago, Los Angeles, New York City, San Francisco, and Washington, D.C., experienced all-property-type value appreciation of 116 percent versus 70 percent in nonmajor markets over the past 15 years (see table above). The differences are similarly striking over a 10-year period, at 52 percent versus 33 percent. Over the past five years, however, the rates have narrowed to 59 percent versus 58 percent, and over the past four years it has reversed, at 42 percent for nonmajor and 40 percent for major markets. Over the past year, it was 8.3 percent versus 6.1 percent in favor of nonmajor markets. Aside from the availability of low-cost capital, major-market commercial real estate benefited from foreign investment. U.S. gateway cities have attracted investors pursuing stable investments and, in the case of foreign capital, safety. As U.S. gateway cities became more expensive, investors pursued secondary markets and bid up prices, resulting in the growth convergence exhibited in the table above.

NCREIF indexes

Another way of analyzing the data is with the NCREIF Property Index. Whereas RCA CPPI tracks actual sales, NCREIF relies on appraisals and rents. The NCREIF advantage is it includes a large universe of properties in all the major markets, and the analysis can be more granular.

As can be seen in the table on page 44, the analysis divided U.S. commercial real estate investment performance as measured by the NCREIF Property Index into five categories:

1. Big Six markets
2. Regional economic capitals (the Big Six plus Atlanta, Dallas/Fort Worth, Miami, Seattle and Denver)
3. Ascendant markets (Austin, Charlotte, Denver, Nashville, Orlando, Phoenix, Portland, Raleigh/Durham)
4. Other markets (excluding RECs and Big Six)
5. Other markets (excluding RECs, Big Six and ascendant markets)

A clear theme of investment activity is the high placement of the regional economic capitals, with particular emphasis on the Big Six.

Overall, ascendant markets outperformed other markets during every investment period. Regional economic capitals provided similar returns to the Big Six over the 15-year timeframe and outperformed them in every other

NCREIF Property Index total return, as of Q2 2018								
Market group	**1-year**	**2-year**	**3-year**	**4-year**	**5-year**	**7-year**	**10-year**	**15-year**
Big Six markets	6.5%	13.3%	25.1%	41.6%	56.9%	97.8%	78.6%	278.3%
RECs including Big Six	7.3%	15.2%	28.0%	45.6%	63.1%	106.1%	91.8%	277.4%
Ascendant markets	8.4%	17.4%	32.7%	51.5%	71.1%	115.8%	106.7%	288.7%
Other markets (ex-RECs, Big Six)	8.2%	16.5%	29.1%	45.1%	61.3%	97.3%	84.9%	246.6%
Other markets (ex-RECs, Big Six and AMs)	8.1%	16.2%	28.2%	43.6%	58.8%	92.5%	79.3%	236.7%

Source: NCREIF

investment period. We observe as investors piled into Big Six markets looking for safety and appreciation, returns narrowed. Investors sought other RECs and ascendant markets, which rewarded them mightily. Over the past few years, as all of these markets became more expensive, investors started shifting more to other markets. Richmond, Va., for example, has emerged as a smaller market that offers apartment investors an alternative to nearby Washington, D.C., where prices are high, and returns are low and getting lower.

Takeaways from the analysis

1. Regional economic capitals, including the Big Six, are the real story. A more expansive characterization of the top investment markets includes the Big Six plus Dallas, Atlanta, Miami, Seattle and Denver.

Overall … the Big Six lead in the majority of categories and represent a rarefied investment class. This is particularly true as it relates to office properties and foreign investors.

These 11 RECs are leading by almost all the parameters. Their metrics show favorably in terms of investment volume, liquidity and total returns. The REC theme is almost as pervasive as the Big Six leitmotif and is an alternative way of defining the top investment markets.

2. The Big Six are, by most relevant metrics, The Big Six. In terms of overall investment, except for Boston, the top five investment metros include the Big Six. Boston rejoins the Big Six, however, when only office investment is considered. In addition, when analyzing the top metros for foreign investment, the traditional Big Six reappear. These markets lead when it comes to total office inventory and, with the exception of Dallas, lead when it comes to apartment inventory as well. Based on the liquidity scores detailed for the five-year average and fourth quarter 2017, markets representing the Big Six take the first six places on the liquidity table. Some of the lowest cap rates for office and apartment buildings were recorded in five of the traditional Big Six metro areas. Big Six markets have more rent volatility, but much of that is to the upside. Collectively, the major markets of Boston, Chicago, Los Angeles, New York City, San Francisco, and Washington, D.C., experienced all-property-type value appreciation of 115 percent versus 68 percent in nonmajor markets over the past 15 years. Over the past several years, that differentiation has narrowed and even changed to favor the nonmajor markets, as investors search for higher yields. Overall, when considering the aforementioned factors, the Big Six lead in the majority of categories and represent a rarefied investment class. This is particularly true as it relates to office properties and foreign investors.

3. Ascendant metros, by definition, outperformed all others over the past 10 years. Ascendant metros generally exhibit transformative characteristics in terms of demographic, educational and technological growth. Office rent growth and potential future upside are manifest in Austin, Nashville, Charlotte and Raleigh. These eight markets — Austin, Charlotte, Denver, Nashville, Orlando, Phoenix, Portland and Raleigh/Durham — have recorded exceptional total-rate-of-return performance in all the time period categories detailed above, reflecting their strong transformative growth. ❖

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